Usenet Newsgroup Archive: rec.radio.amateur.antenna

2010

These Usenet messages were preserved as a plain-text archive. This PDF was generated by Digital Library of Amateur Radio & Communications from the source text file in 2026.

Date span: 2010-01-01 through 2010-12-31

Source text: rec.radio.amateur.antenna.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 5,401

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: Motorola Connectors?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 00:00:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <qaSdnYjeqYmVpqDWnZ2dnUVZ_qydnZ2d@giganews.com>
Source record: 11401

Ed wrote:
>
> Well, there IS a bit of a "zazzy" way... I have seen done on a very
> few factory connectors..... the connector is installed with very short
> braid...the short braid is fanned out a bit... the connector back end is
> pushed under the braid about 1/4", and the braid brought down tight over
> the back end... then a small bit of tinned copper wire is wrapped over that
> braid ... you will note that the back end of othe connector is bent in a
> fashion that makes this easy. Then that wire and braid is all soldered to
> the connector. A lot of work for really no gain, I think.... but it looks
> nice.
>
> Ed K7AAT

There actually are benefits to soldering the shield all around the shell. If you don't, an impedance increase occurs where the field is allowed to escape the region between the center conductor and shield. This isn't a problem in most amateur applications, and likely not a problem in other applications, either, if a non-constant impedance connector is being used in the first place. Possibly more important, though, is that you've allowed a path for common mode current, that is, current on the outside of the shield. In addition, the increased impedance of the desired current path encourages the flow of common mode current. The main effects of the common mode current are radiation from the coax when transmitting, and pickup of local noise when receiving. These might or might not present a problem, depending on individual circumstances.

Roy Lewallen, W7EL

2. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 02:28:06 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <Et-dnelSh-8hwKDWnZ2dnUVZ8madnZ2d@bt.com>
Source record: 11402

```
"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:f98e3103-6fcd-4ace-b243-ffdeade04353@21g2000yqj.googlegroups.com...
On Dec 31, 11:57 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 31, 9:12 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 31, 7:06 am, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > "K7ITM" <k7...@msn.com> wrote in message
>
> > >news:048430af-7515-4017-b7d3-41e5a6a72f8a@c34g2000yqn.googlegroups.com...
> > > On Dec 28, 6:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > Gauss's boundary contains static particles
>
> > > > Faraday cage contains static particles
>
> > > > Both have a boundary that is conductive and thus can radiate.
>
> > > > Both radiate when a time varying field is applied
>
> > > > Both receive when transformed into a time varying field
> > > > provided when the magnetic and electric moves to cancellation
>
> > > > Both are applicable to Maxwell's equations for radiation
>
> > > > Both start and finish with a time varient current.
>
> > > > Both produce a charge by accelerating or removal of a charge via
> > > > deceleration of a particle.
>
> > > > The accelerant in both cases is the intersection of two closed
> > > > fields.
> > > > ( Electric field and a static field encircled by
> > > > the displacement current)
>
> > > > In both cases the particle has a straight line projection with spin
>
> > > > In both cases the particle vector angles equate exactly with that of
> > > > gravity and the Earth's rotation
>
> > > > Question ;
> > > > How does the particle ( singular) referred to in each case act like
```

> > > > a
> > > > wave or become a wave as stated in Classical Physics?
>
> > > Something for you to ponder, Art:
>
> > > If we shine monochromatic light source through a pinhole, some
> > > distance behind which there is a white screen, we'll see that the
> > > light is diffracted by the pinhole. If we have two such pinholes near
> > > each other, we'll see an interference pattern on the screen. If we
> > > replace the screen with a sensitive detector such as a photomuliplier
> > > with a small aperature which we can move over the area of the screen
> > > it replaces, we can quantitatively map the intensity versus location
> > > in that plane. If we reduce the intensity of the light source enough,
> > > we can get to the point where the photomultiplier detects individual
> > > photons at even the locations of greatest intensity. Eventually, we
> > > can get to an intensity where apparently there is almost never more
> > > than one photon at a time on a path from the source to the plane where
> > > the detector is located. If we count photons for long enough, though,
> > > we can map the intensity at that plane just as we did above. Now,
> > > will we see the same pattern, the same interference, the same
> > > _relative_ intensities, as we did when there were lots and lots of
> > > photons arriving at that plane? If so, why? If not, why not?
>
> > > Cheers,
> > > Tom
>
> > > Art,
>
> > > The same phenomena can also be demonstrated using microwaves. At UHF
> > > and VHF
> > > it allows signals to be received even though there is a solid mass
> > > between
> > > the transmitter and the receiver - signals can be received directly
> > > behind a
> > > tower block or skyscraper due purely to diffraction effects (so long
> > > as you
> > > are far enough behind the building). Hills and mountains can also be
> > > used as
> > > a diffraction edge at lower frequencies enabling reliable long range
> > > communications without direct line of sight.
>
> > > Electromagnetic waves, photons and electrons, are all inextricably
> > > linked.
> > > The electromagnetic wave is constantly varying as it propogates so
> > > that
> > > measuring it at one point reveals the magnetic element and half a
> > > wavelength
> > > later, the electrical element.
>
> > > For example, water is made up of hydrogen and oxygen atoms combined as

> > > H2O
> > > but displays properties that are completely different to either
> > > element in
> > > isolation. Why should electromagnetic waves be any different? The
> > > combination of electricity and magnetism as a "compound" would
> > > logically be
> > > expected to display properties that are different to electricity or
> > > magnetism in isolation. Hence the observed properties of
> > > electromagnetic
> > > radiation.
>
> > > Regards
>
> > > Mike G0ULI
>
> > Happy new year Mike
> > Again I cannot do justice to a debate in optics. At the same time I
> > recognise that different things can exhibit similar properties and
> > thus, like many others, I can state that they act like the same while
> > at the same time state that "they are NOT the same."
> > With respect to radiation I stick with the aproach of Newton and do
> > not see enough evidence that suggest that a wave and a particle are
> > interchangeable in terms of mass with that of a particle.
> > From my own point of view I liken it to the standard model where only
> > two forces in combination with mass make up all of the Universe as we
> > see it in that the particle of mass is the same but the propertise
> > bestowed on it are different.
> > Thus I come back to the radiation aspect and see a clear path to a
> > particle of mass where additional properties are added in line with
> > the exchange of kinetic to potential energies. So I am back in
> > interpreting
> > results from the same experiment without the two leaps required to
> > jump the Grand Canyon. This is why I have gone back to the times that
> > mathematics did not rule all and provide two instances where
> > the properties of the particle are one and the same and present them
> > for others to determine how and why Newton was wrong. AS YET
> > no body has explained the properties of waves with respect to
> > radiation.
> > Cheers
> > Ar in
>
> Mike
> Picking up from your point regarding H20and parts in isolation.
> H2o is a compound or so where the electrons or particles of a bound
> form. In other words they have a energty constituent added.
> Now let us look at the surface of water which is diamagnetic where the
> surface is completely covered by Unbound particles such that insects
> can walk across it. These unbound particles or electrons are so
> tenacious in finding a place to rest that they are able to form a hoop
> stress around a droplet. We know that updraft imposes a charge on such

> an arrangement when that same surface disipates and the charge
> returned to earth bring the same particle or electron with it
> In each case the difference in the particles in isolation is purely in
> its energy component. Ala bound versus unbound.
> Looking at a football at rest at the beginning of a match. When the
> whistle blows various characteristics are applied to the football by
> the addition or removal of energy. When the ball finally becomes to
> rest
> it reverts to equilibrium where the energy flow as stopped and the
> ball no longer has the characteristics observed and is at rest.
> Thus we see how the same analogy can be applied to a Faraday cage
> where the characteristics show the extent of energy change but where
> the carrier of such is always the same, an unbound electron.
> Regards
> Art

While I am on a roll let me compare a Faraday cage with what is known
about radiators
Aperture in the books is a relative measure of gain. In otgher words
the shere thatr encircles a radiator or array is symbiolic of total
gain
(poyntings vector) and where with respoect to a sphere the energy
contained within the sphere is equal to the energty outside of the
sphere.
In the Faraday cage the outside surface is covered in charges carried
by particles as is the inside surface so the areas can be considered
equal and 100% efficient energy transfer. The total energy is
realisable ONLY when transfered as a time varying current from the
inside of the sphere.This being the addition of the charges carried by
the particles on the inside and the outside of the conductive surface.
Thus this is the experimental results o0f Faraday that leads from
Gauss to Maxwell.
With respect to radiators the analogy between the surface area of a
sphere equates with the circle that encloses a radiator, say a yagi.
This is provided by Jasik as a approximation of gain by visualisation.
This same analogy was applied by Steven Guest on his antenna paper
presented to the IEEE for an electrically small radiator' where he
showed that by "crushing" a radiator into a state of equilibrium for
insertion into a half hemisphere as per Gauss.
Thus with all this interlocking of facts when comparing a Faraday
shield with a radiator opponents of the particle aproach are now in a
position of showing an electrical field cancelling a magnetic field
both of which are a measure of energy alone and not mass to produce
a addition of fields so that somehow a time varying current is
obtained
which a receiver can use.
Compare this with the proposition that a photon is a relatively
unknown,assumed to be without mass in terms of mathematics that
apparently is a breakaway of energy from mass in a similar form to a
fireball. Frankly the idea of the eyeball being a small Faraday cage

to manufacture a signal to the brain is a much better supposition by
those who rule physics of the day.
Art

Happy New Year to you too Art,

Interesting ideas, as ever. I don't see anything to disagree with in the above as you have stated it. As you say, the exact nature of the photon is relatively unknown and by virtue of the fact that there is a formula that allows energy to be converted to mass and vice versa, there is the possibility that photons will one day be discovered to have an infinitesimally small mass.

I suspect the missing ingredient in my water analogy is the bond that binds the atoms together. The ancient concept of an all pervading ether throughout space may substitute in electromagnetic waves providing a substrate to bind the electric and magnetic fields and perhaps also be the reason for the limit of the speed of propogation of radio and light waves. In universal terms 186,000 miles per second is not very fast. Perhaps there is a slight pause in propagation as the photons transition between electrical and magnetic fields, at the moment of transition? It seems there may be an 'ether' after all.

Reports of experiments that appear to demonstrate faster than light propogation is possible in the laboratory indicate that we are still missing something vital in our understanding of electromagnetic waves in all their forms.

You are not alone in your frustration at modern physics using pure maths to arrive at an explanation for the way things work. Many mathematicians in the Victorian era were unhappy with quaternions and the use of imaginary numbers to arrive at the solution to previously insoluble problems. The use of imaginary numbers (like the square root of minus 1) to balance equations divorced mathematics from the everyday world in which things could be directly physically verified at each step by measurement. Of course this math is used everyday in radio to calculate standing wave ratios and for antenna matching. It works in as much as you calculate the values according to the formulae and get an answer that matches (generally) what is found when you build the antenna and feedline. I have never quite got over the disquiet that an imaginary number is vital to solve the formulae myself, even though I have been taught how and why it is required.

Perhaps it is time for a newer new mathematics to address these problems and not resort to string theory which seemingly gives the answer to everything and nothing unless you already know what the answer is. Just like Douglas Adams book Hitchhikers Guide to the Galaxy when the computer answers that the solution to life, the universe and everything is 42.

Have a great 2010

Mike G0ULI

3. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 03:20:48 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <110b7ff9-899d-4544-ba51-22c75e68a940@o28g2000yqh.googlegroups.com>
Source record: 11403

```
On Dec 31, 8:28 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:f98e3103-6fcd-4ace-b243-ffdeade04353@21g2000yqj.googlegroups.com...
> On Dec 31, 11:57 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > On Dec 31, 9:12 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 31, 7:06 am, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > > "K7ITM" <k7...@msn.com> wrote in message
>
> > > >news:048430af-7515-4017-b7d3-41e5a6a72f8a@c34g2000yqn.googlegroups.com...
> > > > On Dec 28, 6:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > Gauss's boundary contains static particles
>
> > > > > Faraday cage contains static particles
>
> > > > > Both have a boundary that is conductive and thus can radiate.
>
> > > > > Both radiate when a time varying field is applied
>
> > > > > Both receive when transformed into a time varying field
> > > > > provided when the magnetic and electric moves to cancellation
>
> > > > > Both are applicable to Maxwell's equations for radiation
>
> > > > > Both start and finish with a time varient current.
>
> > > > > Both produce a charge by accelerating or removal of a charge via
> > > > > deceleration of a particle.
>
> > > > > The accelerant in both cases is the intersection of two closed
> > > > > fields.
> > > > > ( Electric field and a static field encircled by
> > > > > the displacement current)
>
> > > > > In both cases the particle has a straight line projection with spin
>
> > > > > In both cases the particle vector angles equate exactly with that of
> > > > > gravity and the Earth's rotation
>
> > > > > Question ;
```

> > > > > How does the particle (singular) referred to in each case act like
> > > > > a
> > > > > wave or become a wave as stated in Classical Physics?
>
> > > > Something for you to ponder, Art:
>
> > > > If we shine monochromatic light source through a pinhole, some
> > > > distance behind which there is a white screen, we'll see that the
> > > > light is diffracted by the pinhole. If we have two such pinholes near
> > > > each other, we'll see an interference pattern on the screen. If we
> > > > replace the screen with a sensitive detector such as a photomuliplier
> > > > with a small aperature which we can move over the area of the screen
> > > > it replaces, we can quantitatively map the intensity versus location
> > > > in that plane. If we reduce the intensity of the light source enough,
> > > > we can get to the point where the photomultiplier detects individual
> > > > photons at even the locations of greatest intensity. Eventually, we
> > > > can get to an intensity where apparently there is almost never more
> > > > than one photon at a time on a path from the source to the plane where
> > > > the detector is located. If we count photons for long enough, though,
> > > > we can map the intensity at that plane just as we did above. Now,
> > > > will we see the same pattern, the same interference, the same
> > > > _relative_ intensities, as we did when there were lots and lots of
> > > > photons arriving at that plane? If so, why? If not, why not?
>
> > > > Cheers,
> > > > Tom
>
> > > > Art,
>
> > > > The same phenomena can also be demonstrated using microwaves. At UHF
> > > > and VHF
> > > > it allows signals to be received even though there is a solid mass
> > > > between
> > > > the transmitter and the receiver - signals can be received directly
> > > > behind a
> > > > tower block or skyscraper due purely to diffraction effects (so long
> > > > as you
> > > > are far enough behind the building). Hills and mountains can also be
> > > > used as
> > > > a diffraction edge at lower frequencies enabling reliable long range
> > > > communications without direct line of sight.
>
> > > > Electromagnetic waves, photons and electrons, are all inextricably
> > > > linked.
> > > > The electromagnetic wave is constantly varying as it propogates so
> > > > that
> > > > measuring it at one point reveals the magnetic element and half a
> > > > wavelength
> > > > later, the electrical element.
>

> > > > For example, water is made up of hydrogen and oxygen atoms combined as
> > > > H2O
> > > > but displays properties that are completely different to either
> > > > element in
> > > > isolation. Why should electromagnetic waves be any different? The
> > > > combination of electricity and magnetism as a "compound" would
> > > > logically be
> > > > expected to display properties that are different to electricity or
> > > > magnetism in isolation. Hence the observed properties of
> > > > electromagnetic
> > > > radiation.
>
> > > > Regards
>
> > > > Mike G0ULI
>
> > > Happy new year Mike
> > > Again I cannot do justice to a debate in optics. At the same time I
> > > recognise that different things can exhibit similar properties and
> > > thus, like many others, I can state that they act like the same while
> > > at the same time state that "they are NOT the same."
> > > With respect to radiation I stick with the aproach of Newton and do
> > > not see enough evidence that suggest that a wave and a particle are
> > > interchangeable in terms of mass with that of a particle.
> > > From my own point of view I liken it to the standard model where only
> > > two forces in combination with mass make up all of the Universe as we
> > > see it in that the particle of mass is the same but the propertise
> > > bestowed on it are different.
> > > Thus I come back to the radiation aspect and see a clear path to a
> > > particle of mass where additional properties are added in line with
> > > the exchange of kinetic to potential energies. So I am back in
> > > interpreting
> > > results from the same experiment without the two leaps required to
> > > jump the Grand Canyon. This is why I have gone back to the times that
> > > mathematics did not rule all and provide two instances where
> > > the properties of the particle are one and the same and present them
> > > for others to determine how and why Newton was wrong. AS YET
> > > no body has explained the properties of waves with respect to
> > > radiation.
> > > Cheers
> > > Ar in
>
> > Mike
> > Picking up from your point regarding H20and parts in isolation.
> > H2o is a compound or so where the electrons or particles of a bound
> > form. In other words they have a energty constituent added.
> > Now let us look at the surface of water which is diamagnetic where the
> > surface is completely covered by Unbound particles such that insects
> > can walk across it. These unbound particles or electrons are so
> > tenacious in finding a place to rest that they are able to form a hoop

> > stress around a droplet. We know that updraft imposes a charge on such
> > an arrangement when that same surface disipates and the charge
> > returned to earth bring the same particle or electron with it
> > In each case the difference in the particles in isolation is purely in
> > its energy component. Ala bound versus unbound.
> > Looking at a football at rest at the beginning of a match. When the
> > whistle blows various characteristics are applied to the football by
> > the addition or removal of energy. When the ball finally becomes to
> > rest
> > it reverts to equilibrium where the energy flow as stopped and the
> > ball no longer has the characteristics observed and is at rest.
> > Thus we see how the same analogy can be applied to a Faraday cage
> > where the characteristics show the extent of energy change but where
> > the carrier of such is always the same, an unbound electron.
> > Regards
> > Art
>
> While I am on a roll let me compare a Faraday cage with what is known
> about radiators
> Aperture in the books is a relative measure of gain. In otgher words
> the shere thatr encircles a radiator or array is symbiolic of total
> gain
> (poyntings vector) and where with respoect to a sphere the energy
> contained within the sphere is equal to the energty outside of the
> sphere.
> In the Faraday cage the outside surface is covered in charges carried
> by particles as is the inside surface so the areas can be considered
> equal and 100% efficient energy transfer. The total energy is
> realisable ONLY when transfered as a time varying current from the
> inside of the sphere.This being the addition of the charges carried by
> the particles on the inside and the outside of the conductive surface.
> Thus this is the experimental results o0f Faraday that leads from
> Gauss to Maxwell.
> With respect to radiators the analogy between the surface area of a
> sphere equates with the circle that encloses a radiator, say a yagi.
> This is provided by Jasik as a approximation of gain by visualisation.
> This same analogy was applied by Steven Guest on his antenna paper
> presented to the IEEE for an electrically small radiator' where he
> showed that by "crushing" a radiator into a state of equilibrium for
> insertion into a half hemisphere as per Gauss.
> Thus with all this interlocking of facts when comparing a Faraday
> shield with a radiator opponents of the particle aproach are now in a
> position of showing an electrical field cancelling a magnetic field
> both of which are a measure of energy alone and not mass to produce
> a addition of fields so that somehow a time varying current is
> obtained
> which a receiver can use.
> Compare this with the proposition that a photon is a relatively
> unknown,assumed to be without mass in terms of mathematics that
> apparently is a breakaway of energy from mass in a similar form to a

> fireball. Frankly the idea of the eyeball being a small Faraday cage
> to manufacture a signal to the brain is a much better supposition by
> those who rule physics of the day.
> Art
>
> Happy New Year to you too Art,
>
> Interesting ideas, as ever. I don't see anything to disagree with in the
> above as you have stated it. As you say, the exact nature of the photon is
> relatively unknown and by virtue of the fact that there is a formula that
> allows energy to be converted to mass and vice versa, there is the
> possibility that photons will one day be discovered to have an
> infinitesimally small mass.
>
> I suspect the missing ingredient in my water analogy is the bond that binds
> the atoms together. The ancient concept of an all pervading ether throughout
> space may substitute in electromagnetic waves providing a substrate to bind
> the electric and magnetic fields and perhaps also be the reason for the
> limit of the speed of propogation of radio and light waves. In universal
> terms 186,000 miles per second is not very fast. Perhaps there is a slight
> pause in propagation as the photons transition between electrical and
> magnetic fields, at the moment of transition? It seems there may be an
> 'ether' after all.
>
> Reports of experiments that appear to demonstrate faster than light
> propogation is possible in the laboratory indicate that we are still missing
> something vital in our understanding of electromagnetic waves in all their
> forms.
>
> You are not alone in your frustration at modern physics using pure maths to
> arrive at an explanation for the way things work. Many mathematicians in the
> Victorian era were unhappy with quaternions and the use of imaginary numbers
> to arrive at the solution to previously insoluble problems. The use of
> imaginary numbers (like the square root of minus 1) to balance equations
> divorced mathematics from the everyday world in which things could be
> directly physically verified at each step by measurement. Of course this
> math is used everyday in radio to calculate standing wave ratios and for
> antenna matching. It works in as much as you calculate the values according
> to the formulae and get an answer that matches (generally) what is found
> when you build the antenna and feedline. I have never quite got over the
> disquiet that an imaginary number is vital to solve the formulae myself,
> even though I have been taught how and why it is required.
>
> Perhaps it is time for a newer new mathematics to address these problems and
> not resort to string theory which seemingly gives the answer to everything
> and nothing unless you already know what the answer is. Just like Douglas
> Adams book Hitchhikers Guide to the Galaxy when the computer answers that
> the solution to life, the universe and everything is 42.
>
> Have a great 2010

>
> Mike G0ULI

One final note
When mass changes state there is a loss or gain in energy at a near static temperature! If energy has mass then it should be measurable at both ends of a liquid state change stages. I have heard nothing that relates to that which knocks my thoughts of energy measurement in terms of temperature, into a mess. Looking at it from mechanical "work done" angle is way beyond my pay grade.
I have just made a 6foot sphere of aluminum mesh which I will try to attach a Bernoli type nozzle so I can try to measure the half power width as well as the Take off angle as I raise the ground mounted apparatus from horizontal to some where above the grazing angle. Forcast for weather in the next two weeks is negative temperatures (F) so all activities have come to a close. Now I can muse about the nozzle being in the confines of the sphere versus outside of the sphere. Certainly inside means an increase in Eddy currents which constituts losses. On the other hand outside suggests a loss because it requires a larger sphere..... Maybe a comparison against just an opening is called for
Cheers
Art
Cheers
Art

4. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 04:14:01 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <3ZWdnY0u4MsN66DWnZ2dnUVZ7o6dnZ2d@bt.com>
Source record: 11404

```
"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:110b7ff9-899d-4544-ba51-22c75e68a940@o28g2000yqh.googlegroups.com...
On Dec 31, 8:28 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:f98e3103-6fcd-4ace-b243-ffdeade04353@21g2000yqj.googlegroups.com...
> On Dec 31, 11:57 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > On Dec 31, 9:12 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 31, 7:06 am, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > > "K7ITM" <k7...@msn.com> wrote in message
>
> > > >news:048430af-7515-4017-b7d3-41e5a6a72f8a@c34g2000yqn.googlegroups.com...
> > > > On Dec 28, 6:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > Gauss's boundary contains static particles
>
> > > > > Faraday cage contains static particles
>
> > > > > Both have a boundary that is conductive and thus can radiate.
>
> > > > > Both radiate when a time varying field is applied
>
> > > > > Both receive when transformed into a time varying field
> > > > > provided when the magnetic and electric moves to cancellation
>
> > > > > Both are applicable to Maxwell's equations for radiation
>
> > > > > Both start and finish with a time varient current.
>
> > > > > Both produce a charge by accelerating or removal of a charge via
> > > > > deceleration of a particle.
>
> > > > > The accelerant in both cases is the intersection of two closed
> > > > > fields.
> > > > > ( Electric field and a static field encircled by
> > > > > the displacement current)
>
> > > > > In both cases the particle has a straight line projection with
> > > > > spin
>
> > > > > In both cases the particle vector angles equate exactly with that
```

> > > > > of
> > > > > gravity and the Earth's rotation
>
> > > > > Question ;
> > > > > How does the particle (singular) referred to in each case act
> > > > > like
> > > > > a
> > > > > wave or become a wave as stated in Classical Physics?
>
> > > > Something for you to ponder, Art:
>
> > > > If we shine monochromatic light source through a pinhole, some
> > > > distance behind which there is a white screen, we'll see that the
> > > > light is diffracted by the pinhole. If we have two such pinholes
> > > > near
> > > > each other, we'll see an interference pattern on the screen. If we
> > > > replace the screen with a sensitive detector such as a
> > > > photomuliplier
> > > > with a small aperature which we can move over the area of the screen
> > > > it replaces, we can quantitatively map the intensity versus location
> > > > in that plane. If we reduce the intensity of the light source
> > > > enough,
> > > > we can get to the point where the photomultiplier detects individual
> > > > photons at even the locations of greatest intensity. Eventually, we
> > > > can get to an intensity where apparently there is almost never more
> > > > than one photon at a time on a path from the source to the plane
> > > > where
> > > > the detector is located. If we count photons for long enough,
> > > > though,
> > > > we can map the intensity at that plane just as we did above. Now,
> > > > will we see the same pattern, the same interference, the same
> > > > _relative_ intensities, as we did when there were lots and lots of
> > > > photons arriving at that plane? If so, why? If not, why not?
>
> > > > Cheers,
> > > > Tom
>
> > > > Art,
>
> > > > The same phenomena can also be demonstrated using microwaves. At UHF
> > > > and VHF
> > > > it allows signals to be received even though there is a solid mass
> > > > between
> > > > the transmitter and the receiver - signals can be received directly
> > > > behind a
> > > > tower block or skyscraper due purely to diffraction effects (so long
> > > > as you
> > > > are far enough behind the building). Hills and mountains can also be
> > > > used as
> > > > a diffraction edge at lower frequencies enabling reliable long range

> > > > communications without direct line of sight.
>
> > > > Electromagnetic waves, photons and electrons, are all inextricably
> > > > linked.
> > > > The electromagnetic wave is constantly varying as it propogates so
> > > > that
> > > > measuring it at one point reveals the magnetic element and half a
> > > > wavelength
> > > > later, the electrical element.
>
> > > > For example, water is made up of hydrogen and oxygen atoms combined
> > > > as
> > > > H2O
> > > > but displays properties that are completely different to either
> > > > element in
> > > > isolation. Why should electromagnetic waves be any different? The
> > > > combination of electricity and magnetism as a "compound" would
> > > > logically be
> > > > expected to display properties that are different to electricity or
> > > > magnetism in isolation. Hence the observed properties of
> > > > electromagnetic
> > > > radiation.
>
> > > > Regards
>
> > > > Mike G0ULI
>
> > > Happy new year Mike
> > > Again I cannot do justice to a debate in optics. At the same time I
> > > recognise that different things can exhibit similar properties and
> > > thus, like many others, I can state that they act like the same while
> > > at the same time state that "they are NOT the same."
> > > With respect to radiation I stick with the aproach of Newton and do
> > > not see enough evidence that suggest that a wave and a particle are
> > > interchangeable in terms of mass with that of a particle.
> > > From my own point of view I liken it to the standard model where only
> > > two forces in combination with mass make up all of the Universe as we
> > > see it in that the particle of mass is the same but the propertise
> > > bestowed on it are different.
> > > Thus I come back to the radiation aspect and see a clear path to a
> > > particle of mass where additional properties are added in line with
> > > the exchange of kinetic to potential energies. So I am back in
> > > interpreting
> > > results from the same experiment without the two leaps required to
> > > jump the Grand Canyon. This is why I have gone back to the times that
> > > mathematics did not rule all and provide two instances where
> > > the properties of the particle are one and the same and present them
> > > for others to determine how and why Newton was wrong. AS YET
> > > no body has explained the properties of waves with respect to
> > > radiation.

> > > Cheers
> > > Ar in
>
> > Mike
> > Picking up from your point regarding H20and parts in isolation.
> > H2o is a compound or so where the electrons or particles of a bound
> > form. In other words they have a energty constituent added.
> > Now let us look at the surface of water which is diamagnetic where the
> > surface is completely covered by Unbound particles such that insects
> > can walk across it. These unbound particles or electrons are so
> > tenacious in finding a place to rest that they are able to form a hoop
> > stress around a droplet. We know that updraft imposes a charge on such
> > an arrangement when that same surface disipates and the charge
> > returned to earth bring the same particle or electron with it
> > In each case the difference in the particles in isolation is purely in
> > its energy component. Ala bound versus unbound.
> > Looking at a football at rest at the beginning of a match. When the
> > whistle blows various characteristics are applied to the football by
> > the addition or removal of energy. When the ball finally becomes to
> > rest
> > it reverts to equilibrium where the energy flow as stopped and the
> > ball no longer has the characteristics observed and is at rest.
> > Thus we see how the same analogy can be applied to a Faraday cage
> > where the characteristics show the extent of energy change but where
> > the carrier of such is always the same, an unbound electron.
> > Regards
> > Art
>
> While I am on a roll let me compare a Faraday cage with what is known
> about radiators
> Aperture in the books is a relative measure of gain. In otgher words
> the shere thatr encircles a radiator or array is symbiolic of total
> gain
> (poyntings vector) and where with respoect to a sphere the energy
> contained within the sphere is equal to the energty outside of the
> sphere.
> In the Faraday cage the outside surface is covered in charges carried
> by particles as is the inside surface so the areas can be considered
> equal and 100% efficient energy transfer. The total energy is
> realisable ONLY when transfered as a time varying current from the
> inside of the sphere.This being the addition of the charges carried by
> the particles on the inside and the outside of the conductive surface.
> Thus this is the experimental results o0f Faraday that leads from
> Gauss to Maxwell.
> With respect to radiators the analogy between the surface area of a
> sphere equates with the circle that encloses a radiator, say a yagi.
> This is provided by Jasik as a approximation of gain by visualisation.
> This same analogy was applied by Steven Guest on his antenna paper
> presented to the IEEE for an electrically small radiator' where he
> showed that by "crushing" a radiator into a state of equilibrium for

> insertion into a half hemisphere as per Gauss.
> Thus with all this interlocking of facts when comparing a Faraday
> shield with a radiator opponents of the particle aproach are now in a
> position of showing an electrical field cancelling a magnetic field
> both of which are a measure of energy alone and not mass to produce
> a addition of fields so that somehow a time varying current is
> obtained
> which a receiver can use.
> Compare this with the proposition that a photon is a relatively
> unknown,assumed to be without mass in terms of mathematics that
> apparently is a breakaway of energy from mass in a similar form to a
> fireball. Frankly the idea of the eyeball being a small Faraday cage
> to manufacture a signal to the brain is a much better supposition by
> those who rule physics of the day.
> Art
>
> Happy New Year to you too Art,
>
> Interesting ideas, as ever. I don't see anything to disagree with in the
> above as you have stated it. As you say, the exact nature of the photon is
> relatively unknown and by virtue of the fact that there is a formula that
> allows energy to be converted to mass and vice versa, there is the
> possibility that photons will one day be discovered to have an
> infinitesimally small mass.
>
> I suspect the missing ingredient in my water analogy is the bond that
> binds
> the atoms together. The ancient concept of an all pervading ether
> throughout
> space may substitute in electromagnetic waves providing a substrate to
> bind
> the electric and magnetic fields and perhaps also be the reason for the
> limit of the speed of propogation of radio and light waves. In universal
> terms 186,000 miles per second is not very fast. Perhaps there is a slight
> pause in propagation as the photons transition between electrical and
> magnetic fields, at the moment of transition? It seems there may be an
> 'ether' after all.
>
> Reports of experiments that appear to demonstrate faster than light
> propogation is possible in the laboratory indicate that we are still
> missing
> something vital in our understanding of electromagnetic waves in all their
> forms.
>
> You are not alone in your frustration at modern physics using pure maths
> to
> arrive at an explanation for the way things work. Many mathematicians in
> the
> Victorian era were unhappy with quaternions and the use of imaginary
> numbers

> to arrive at the solution to previously insoluble problems. The use of
> imaginary numbers (like the square root of minus 1) to balance equations
> divorced mathematics from the everyday world in which things could be
> directly physically verified at each step by measurement. Of course this
> math is used everyday in radio to calculate standing wave ratios and for
> antenna matching. It works in as much as you calculate the values
> according
> to the formulae and get an answer that matches (generally) what is found
> when you build the antenna and feedline. I have never quite got over the
> disquiet that an imaginary number is vital to solve the formulae myself,
> even though I have been taught how and why it is required.
>
> Perhaps it is time for a newer new mathematics to address these problems
> and
> not resort to string theory which seemingly gives the answer to everything
> and nothing unless you already know what the answer is. Just like Douglas
> Adams book Hitchhikers Guide to the Galaxy when the computer answers that
> the solution to life, the universe and everything is 42.
>
> Have a great 2010
>
> Mike G0ULI

One final note
When mass changes state there is a loss or gain in energy at a near
static temperature! If energy has mass then it should be measurable
at both ends of a liquid state change stages. I have heard nothing
that relates to that which knocks my thoughts of energy measurement in
terms of temperature, into a mess. Looking at it from mechanical "work
done" angle is way beyond my pay grade.
I have just made a 6foot sphere of aluminum mesh which I will try to
attach a Bernoli type nozzle so I can try to measure the half power
width as well as the Take off angle as I raise the ground mounted
apparatus from horizontal to some where above the grazing angle.
Forcast for weather in the next two weeks is negative temperatures
(F) so all activities have come to a close. Now I can muse about the
nozzle being in the confines of the sphere versus outside of the
sphere. Certainly inside means an increase in Eddy currents which
constituts losses. On the other hand outside suggests a loss because
it requires a larger sphere..... Maybe a comparison against just an
opening is called for
Cheers
Art
Cheers
Art

Hi Art,

Minus 2 Centigrade here with snow on the ground and more forecast, so not
the weather to be outside although tropical compared to your QTH. The energy
released and absorbed when mass changes state can be quite considerable but

may be unnoticed depending on the mass involved, its thermal conductivity and the environmental background temperature. The famous e = mc2 equation demonstrates that huge amounts of energy are required to equal a very small mass and that assumes 100% efficiency in the conversion. Much lower conversion efficiencies are observed in the real world so the effects are barely measurable. Burning materials in a sealed but transparent container should result in the container being lighter than an identical one containing unburnt material due to the emission of heat and light, the conversion of mass to energy. A famous Victorian experiment showed both containers to weigh exactly the same. Of course they weren't trying to demonstrate mass to energy conversion at the time, rather that the materials were being converted from one form into another and that in a sealed system nothing was lost or gained. In that respect the experiment was a success. The exquisite accuracy needed to measure such effects such as loss of mass due to conversion of matter into energy is beyond all but the best equipped modern labs.

Cheers

Mike

5. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 07:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1262329201@panix.com>
Source record: 11405
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

6. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 10:21:41 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF369641B68Ezoodlewurdle@216.196.109.145>
Source record: 11406

"Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:Et-dnelSh-8hwKDWnZ2dnUVZ8madnZ2d@bt.com:

> the solution to life, the universe and everything is 42.

All at sixes and sevens.

7. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 16:25:56 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <dbydneBBW-eLv6PWnZ2dnUVZ8l2dnZ2d@bt.com>
Source record: 11407

"Lostgallifreyan" <no-one@nowhere.net> wrote in message
news:Xns9CF369641B68Ezoodlewurdle@216.196.109.145...
> "Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:Et-dnelSh-
> 8hwKDWnZ2dnUVZ8madnZ2d@bt.com:
>
>> the solution to life, the universe and everything is 42.
>
> All at sixes and sevens.

As I recall, the question showed that the universe was truly screwed up...

Cheers

Mike G0ULI

8. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 16:35:08 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF3A8AEE264zoodlewurdle@216.196.109.145>
Source record: 11408

"Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:dbydneBBW-eLv6PWnZ2dnUVZ8l2dnZ2d@bt.com:

>
> "Lostgallifreyan" <no-one@nowhere.net> wrote in message
> news:Xns9CF369641B68Ezoodlewurdle@216.196.109.145...
>> "Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:Et-dnelSh-
>> 8hwKDWnZ2dnUVZ8madnZ2d@bt.com:
>>
>>> the solution to life, the universe and everything is 42.
>>
>> All at sixes and sevens.
>
> As I recall, the question showed that the universe was truly screwed up...
>
> Cheers
>
> Mike G0ULI
>
>

I don't remember if the question was ever settled. There were a couple of philosophers with Pythonesque silly names who asked Deep Thought the Meaning of Life, the Universe and Everything, and whose equally silly named decendents spent their final years cleaning up on the chat show circuit, but the computer designed to calculate the original question got thoroughly panned by a small fleet of yellow butter-pat shaped ships full of petulant Vogons and Dentrassi chefs.

But I sort of sense how Douglas Adams thinks, a small and persistent obervation blooming strangely. No-one ever spelled out that 42 came from seven sixes or six sevens, but 'all at sixes and sevens' is an English colloquailism that Douglas Adams would not have ignored. Basically the idea is chaos, but not exactly chaos, just an arbitrary collection is decreet entities that exist in no clear relation to each other, so all kinds of silly possibilities exist. Fits, no? :) And don't get me started on how I think he came up with 'The Long Dark Teatime Of The Soul'...

9. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 17:21:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ttasj597c9t5l7pvm9s80mm26hv6u8m9bg@4ax.com>
Source record: 11409

On Fri, 01 Jan 2010 10:35:08 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>> As I recall, the question showed that the universe was truly screwed up...

>I don't remember if the question was ever settled.

As the original poster (I presume it was Art) is in the habit of
quoting a German surveyor of the early 19th century; it should have
been settled by the Reichoffice of land boundaries.

These threads seem to be started in the vein of a breathless discovery
of an announcement tucked away in a locked file cabinet in the
janitor's closet in the third basement revealing plans for the "new"
hyper-Hohenzollern horse carriage expressway bypass - as much as the
original comment, responses and counter-responses are so distinctive
by fulfilling that metaphor.

73's
Richard Clark, KB7QHC

10. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 18:04:28 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF3B7DCEFCCCzoodlewurdle@216.196.109.145>
Source record: 11410

Richard Clark <kb7qhc@comcast.net> wrote in
news:ttasj597c9t5l7pvm9s80mm26hv6u8m9bg@4ax.com:

> As the original poster (I presume it was Art) is in the habit of
> quoting a German surveyor of the early 19th century; it should have
> been settled by the Reichoffice of land boundaries.
>
> These threads seem to be started in the vein of a breathless discovery
> of an announcement tucked away in a locked file cabinet in the
> janitor's closet in the third basement revealing plans for the "new"
> hyper-Hohenzollern horse carriage expressway bypass - as much as the
> original comment, responses and counter-responses are so distinctive
> by fulfilling that metaphor.
>

That reminds me of another great bit of writing, on military standards, I found it online somewhere, it explained how the Roman roads were decided based on uquestrian travel, went on to show how the same standard measures persisted through centuries of rail travel and ended up explaining why it is that the scale of the solid rocket booster of the most advanced form of orbital transport known was exactly correlated with the width of a horse's ass. :)

11. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-01 23:40:34 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <QsednVL2qpFpGqPWnZ2dnUVZ8qSdnZ2d@bt.com>
Source record: 11411

"Lostgallifreyan" <no-one@nowhere.net> wrote in message
news:Xns9CF3B7DCEFCCCzoodlewurdle@216.196.109.145...
> Richard Clark <kb7qhc@comcast.net> wrote in
> news:ttasj597c9t5l7pvm9s80mm26hv6u8m9bg@4ax.com:
>
>> As the original poster (I presume it was Art) is in the habit of
>> quoting a German surveyor of the early 19th century; it should have
>> been settled by the Reichoffice of land boundaries.
>>
>> These threads seem to be started in the vein of a breathless discovery
>> of an announcement tucked away in a locked file cabinet in the
>> janitor's closet in the third basement revealing plans for the "new"
>> hyper-Hohenzollern horse carriage expressway bypass - as much as the
>> original comment, responses and counter-responses are so distinctive
>> by fulfilling that metaphor.
>>
>
> That reminds me of another great bit of writing, on military standards, I
> found it online somewhere, it explained how the Roman roads were decided
> based on uquestrian travel, went on to show how the same standard measures
> persisted through centuries of rail travel and ended up explaining why it
> is
> that the scale of the solid rocket booster of the most advanced form of
> orbital transport known was exactly correlated with the width of a horse's
> ass. :)

Basically true. The ruts on Roman or older roads caused by wagons and carts meant that any cart not conforming to a standard wheel width would tip over or lose a wheel. Rail wagons were adapted from road carts and so the standard was maintained through the Victorian era. Modern machinery is still essentially set up to those standards to maintain compatibility with earlier equipment and so that older machinery can still be maintained. Bit like the DOS prompt still being available in Windows?

Mike G0ULI

12. Re: archer swr / fsm need schematic

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 00:21:12 UTC
From: walt <wbelsito@juno.com>
Message-ID: <9bbedf58-a419-4cb1-a26c-6b25f4a449ef@j24g2000yqa.googlegroups.com>
Source record: 11412

On Dec 16 2009, 6:23 pm, walt <wbels...@juno.com> wrote:
> i have a model # 21 - 575
>
> does anybody have the schematic ?
>
> WALT
>
> contact me at   wbelsito at aol dot com

i have the schematic c/o frank . thanks frank .

WALT

13. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 01:15:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fo6tj5d8k5sph54hcviearns0ehmcljvij@4ax.com>
Source record: 11413

On Fri, 1 Jan 2010 23:40:34 -0000, "Mike Kaliski"
<michael.kaliski@tesco.net> wrote:

>Bit like the DOS prompt still being available in Windows?

As a duality, it fits within the context of this thread.

C:\WINNT\$NtUnistall$\spuninst> spuninst.exe
? an instance of the DOS-Windows duality annihilation ?

What Would Chairman Bill Do?

73's
Richard Clark, KB7QHC

14. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 01:28:38 UTC
From: tom <news4792@taring.org>
Message-ID: <4b3ea0fe$0$33857$8046368a@newsreader.iphouse.net>
Source record: 11414

Lostgallifreyan wrote:
> "Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:dbydneBBW-
> eLv6PWnZ2dnUVZ8l2dnZ2d@bt.com:
>
>> "Lostgallifreyan" <no-one@nowhere.net> wrote in message
>> news:Xns9CF369641B68Ezoodlewurdle@216.196.109.145...
>>> "Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:Et-dnelSh-
>>> 8hwKDWnZ2dnUVZ8madnZ2d@bt.com:
>>>
>>>> the solution to life, the universe and everything is 42.
>>> All at sixes and sevens.
>> As I recall, the question showed that the universe was truly screwed up...
>>
>> Cheers
>>
>> Mike G0ULI
>>
>>
> least one of the books, and
> I don't remember if the question was ever settled. There were a couple of
> philosophers with Pythonesque silly names who asked Deep Thought the Meaning
> of Life, the Universe and Everything, and whose equally silly named
> decendents spent their final years cleaning up on the chat show circuit, but
> the computer designed to calculate the original question got thoroughly
> panned by a small fleet of yellow butter-pat shaped ships full of petulant
> Vogons and Dentrassi chefs.
>
> But I sort of sense how Douglas Adams thinks, a small and persistent
> obervation blooming strangely. No-one ever spelled out that 42 came from
> seven sixes or six sevens, but 'all at sixes and sevens' is an English
> colloquailism that Douglas Adams would not have ignored. Basically the idea
> is chaos, but not exactly chaos, just an arbitrary collection is decreet
> entities that exist in no clear relation to each other, so all kinds of silly
> possibilities exist. Fits, no? :) And don't get me started on how I think he
> came up with 'The Long Dark Teatime Of The Soul'...

Actually it comes out during the TV play and at
least one of the books that it's "what is 9 times 6?"

Adams denied what many here should quickly figure out.

tom
K0TAR

15. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 09:19:11 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF45EC9ED69Azoodlewurdle@216.196.109.145>
Source record: 11415

```
"Mike Kaliski" <michael.kaliski@tesco.net> wrote in
news:QsednVL2qpFpGqPWnZ2dnUVZ8qSdnZ2d@bt.com:

>
> "Lostgallifreyan" <no-one@nowhere.net> wrote in message
> news:Xns9CF3B7DCEFCCCzoodlewurdle@216.196.109.145...
>> Richard Clark <kb7qhc@comcast.net> wrote in
>> news:ttasj597c9t5l7pvm9s80mm26hv6u8m9bg@4ax.com:
>>
>>> As the original poster (I presume it was Art) is in the habit of
>>> quoting a German surveyor of the early 19th century; it should have
>>> been settled by the Reichoffice of land boundaries.
>>>
>>> These threads seem to be started in the vein of a breathless discovery
>>> of an announcement tucked away in a locked file cabinet in the
>>> janitor's closet in the third basement revealing plans for the "new"
>>> hyper-Hohenzollern horse carriage expressway bypass - as much as the
>>> original comment, responses and counter-responses are so distinctive
>>> by fulfilling that metaphor.
>>>
>>
>> That reminds me of another great bit of writing, on military standards,
>> I found it online somewhere, it explained how the Roman roads were
>> decided based on uquestrian travel, went on to show how the same
>> standard measures persisted through centuries of rail travel and ended
>> up explaining why it is
>> that the scale of the solid rocket booster of the most advanced form of
>> orbital transport known was exactly correlated with the width of a
>> horse's ass. :)
>
> Basically true. The ruts on Roman or older roads caused by wagons and
> carts meant that any cart not conforming to a standard wheel width would
> tip over or lose a wheel. Rail wagons were adapted from road carts and
> so the standard was maintained through the Victorian era. Modern
> machinery is still essentially set up to those standards to maintain
> compatibility with earlier equipment and so that older machinery can
> still be maintained. Bit like the DOS prompt still being available in
> Windows?
>
> Mike G0ULI
>
>

That prompt SHOULD be there. :) The real problems with M$ come when they try
to break with history, not when they honour it. Given that their initial
```

survival depended on direct inheritance that should be evident. OS's that have real security like OpenBSD don't reject their roots, they GROW on them properly. :)

Which reveals an interesting point... The size of standards can easily be arbitrary. So it makes good sense to go with something that has historical context. That way we can efficiently revert to whatever earlier form we need at will. The only way to improve this proces is to think ahead better at the outset. Not easy, given that ancient Rome was in no posotion to imagine a space flight program's requirements. Actually, of those it COULD have imagines, it provided the groundwork for extremely well despite not having any way to imagine them. Likewise, people underestimate older and simopler computer systems at their peril.

16. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 09:24:21 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF45FA9F88ADzoodlewurdle@216.196.109.145>
Source record: 11416

Richard Clark <kb7qhc@comcast.net> wrote in
news:fo6tj5d8k5sph54hcviearns0ehmcljvij@4ax.com:

> On Fri, 1 Jan 2010 23:40:34 -0000, "Mike Kaliski"
> <michael.kaliski@tesco.net> wrote:
>
>>Bit like the DOS prompt still being available in Windows?
>
> As a duality, it fits within the context of this thread.
>
> C:\WINNT\$NtUnistall$\spuninst> spuninst.exe
> ? an instance of the DOS-Windows duality annihilation ?
>
> What Would Chairman Bill Do?
>
> 73's
> Richard Clark, KB7QHC
>

Ha! I bet that only runs in 32 bit protected mode, too. >:)
(Which I could easily be wrong about but it's the kind of silliness that
might be true, as often happens when people think that plants continue to
grow when you cut their roots off, as M$ appear to do. For the record, I
stay with W98 for this reason, it was the latest M$ OS that grew firmly on
the roots that Windows was designed for (and a lot of stuff I need depends
on it anyway)).

17. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 09:28:40 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF460650AF2Bzoodlewurdle@216.196.109.145>
Source record: 11417

jimp@specsol.spam.sux.com wrote in news:puo217-5ae.ln1@mail.specsol.com:

> Mike Kaliski <michael.kaliski@tesco.net> wrote:
>>
>> "Lostgallifreyan" <no-one@nowhere.net> wrote in message
>> news:Xns9CF3B7DCEFCCCzoodlewurdle@216.196.109.145...
>>> Richard Clark <kb7qhc@comcast.net> wrote in
>>> news:ttasj597c9t5l7pvm9s80mm26hv6u8m9bg@4ax.com:
>>>
>>>> As the original poster (I presume it was Art) is in the habit of
>>>> quoting a German surveyor of the early 19th century; it should have
>>>> been settled by the Reichoffice of land boundaries.
>>>>
>>>> These threads seem to be started in the vein of a breathless
>>>> discovery of an announcement tucked away in a locked file cabinet in
>>>> the janitor's closet in the third basement revealing plans for the
>>>> "new" hyper-Hohenzollern horse carriage expressway bypass - as much
>>>> as the original comment, responses and counter-responses are so
>>>> distinctive by fulfilling that metaphor.
>>>>
>>>
>>> That reminds me of another great bit of writing, on military
>>> standards, I found it online somewhere, it explained how the Roman
>>> roads were decided based on uquestrian travel, went on to show how the
>>> same standard measures persisted through centuries of rail travel and
>>> ended up explaining why it is
>>> that the scale of the solid rocket booster of the most advanced form
>>> of orbital transport known was exactly correlated with the width of a
>>> horse's ass. :)
>>
>> Basically true. The ruts on Roman or older roads caused by wagons and
>> carts meant that any cart not conforming to a standard wheel width
>> would tip over or lose a wheel. Rail wagons were adapted from road
>> carts and so the standard was maintained through the Victorian era.
>> Modern machinery is still essentially set up to those standards to
>> maintain compatibility with earlier equipment and so that older
>> machinery can still be maintained. Bit like the DOS prompt still being
>> available in Windows?
>>
>> Mike G0ULI
>
> "There is an urban legend that Julius Caesar specified a legal width for
> chariots at the width of standard gauge, causing road ruts at that
> width, so all later wagons had to have the same width or else risk

> having one set of wheels suddenly fall into one deep rut but not the
> other.
>
> In fact, the origins of the standard gauge considerably predate the
> Roman Empire, and may even predate the invention of the wheel. The width
> of prehistoric vehicles was determined by number of interacting factors
> which gave rise to a fairly standard vehicle width of a little under 2
> metres (6.6 ft) These factors have changed little over the millenia, and
> are still reflected in today's motor vehicles."
>
> http://en.wikipedia.org/wiki/Rail_gauge
>
>

I'll buy that it's a lot older, that's the thing about roots, they trace out further than any effort to cut them does. And given how much they cover, it seems unwise to consider them a limiting factor. Sure, if you want to fly, can't stay rooted, but even that little homily doesn't mean that Arthur Clarke wasn't right about the space elevator. :) We won't go far until we build one. And what's the betting its tramlines will still be the width of a horse's ass or two?

18. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 09:36:42 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF461C206645zoodlewurdle@216.196.109.145>
Source record: 11418

tom <news4792@taring.org> wrote in
news:4b3ea0fe$0$33857$8046368a@newsreader.iphouse.net:

> Lostgallifreyan wrote:
>> "Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:dbydneBBW-
>> eLv6PWnZ2dnUVZ8l2dnZ2d@bt.com:
>>
>>> "Lostgallifreyan" <no-one@nowhere.net> wrote in message
>>> news:Xns9CF369641B68Ezoodlewurdle@216.196.109.145...
>>>> "Mike Kaliski" <michael.kaliski@tesco.net> wrote in news:Et-dnelSh-
>>>> 8hwKDWnZ2dnUVZ8madnZ2d@bt.com:
>>>>
>>>>> the solution to life, the universe and everything is 42.
>>>> All at sixes and sevens.
>>> As I recall, the question showed that the universe was truly screwed
>>> up...
>>>
>>> Cheers
>>>
>>> Mike G0ULI
>>>
>>>
>> least one of the books, and
>> I don't remember if the question was ever settled. There were a couple
>> of philosophers with Pythonesque silly names who asked Deep Thought the
>> Meaning of Life, the Universe and Everything, and whose equally silly
>> named decendents spent their final years cleaning up on the chat show
>> circuit, but the computer designed to calculate the original question
>> got thoroughly panned by a small fleet of yellow butter-pat shaped
>> ships full of petulant Vogons and Dentrassi chefs.
>>
>> But I sort of sense how Douglas Adams thinks, a small and persistent
>> obervation blooming strangely. No-one ever spelled out that 42 came
>> from seven sixes or six sevens, but 'all at sixes and sevens' is an
>> English colloquailism that Douglas Adams would not have ignored.
>> Basically the idea is chaos, but not exactly chaos, just an arbitrary
>> collection is decreet entities that exist in no clear relation to each
>> other, so all kinds of silly possibilities exist. Fits, no? :) And
>> don't get me started on how I think he came up with 'The Long Dark
>> Teatime Of The Soul'...
>
> Actually it comes out during the TV play and at
> least one of the books that it's "what is 9 times 6?"
>

> Adams denied what many here should quickly figure out.
>
> tom
> K0TAR
>

I never saw that one.. Read the books, but I don't remember that, at least not with much meaning. Maybe just to indicate human capacity for coming up with wrong answers from wrong questions? I doubt he ever spelled out what the real roots were. A good magician doesn't deliberately and publicly spoil the illusion (or in his case, allusion, perhaps). The one thing I'm fairly sure of is thet the references were cultural, colloquial, and that's why so many people got it. Without that it might have just been another impenetratable space opera with humour thrown in.

19. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 11:16:54 UTC
From: tom <news4792@taring.org>
Message-ID: <4b3f2ad9$0$33860$8046368a@newsreader.iphouse.net>
Source record: 11419

Lostgallifreyan wrote:
>> Actually it comes out during the TV play and at
>> least one of the books that it's "what is 9 times 6?"
>>
>> Adams denied what many here should quickly figure out.
>>
>> tom
>> K0TAR
>>
>
> I never saw that one.. Read the books, but I don't remember that, at least
> not with much meaning. Maybe just to indicate human capacity for coming up
> with wrong answers from wrong questions? I doubt he ever spelled out what the
> real roots were. A good magician doesn't deliberately and publicly spoil the
> illusion (or in his case, allusion, perhaps). The one thing I'm fairly sure
> of is thet the references were cultural, colloquial, and that's why so many
> people got it. Without that it might have just been another impenetratable
> space opera with humour thrown in.

Ok, a hint. 9 times 6 IS 42.

tom
K0TAR

20. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 11:53:39 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <41788f08-70d0-443a-b212-7e74f49774fb@22g2000yqr.googlegroups.com>
Source record: 11420

On Jan 2, 11:16 am, tom <news4...@taring.org> wrote:
> Lostgallifreyan wrote:
> >> Actually it comes out during the TV play and at
> >> least one of the books that it's "what is 9 times 6?"
>
> >> Adams denied what many here should quickly figure out.
>
> >> tom
> >> K0TAR
>
> > I never saw that one.. Read the books, but I don't remember that, at least
> > not with much meaning. Maybe just to indicate human capacity for coming up
> > with wrong answers from wrong questions? I doubt he ever spelled out what the
> > real roots were. A good magician doesn't deliberately and publicly spoil the
> > illusion (or in his case, allusion, perhaps). The one thing I'm fairly sure
> > of is thet the references were cultural, colloquial, and that's why so many
> > people got it. Without that it might have just been another impenetratable
> > space opera with humour thrown in.
>
> Ok, a hint. 9 times 6 IS 42.
>
> tom
> K0TAR

it wasn't when i went to school. but 7*6 was

21. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 11:59:57 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF47A0F2FD20zoodlewurdle@216.196.109.145>
Source record: 11421

tom <news4792@taring.org> wrote in
news:4b3f2ad9$0$33860$8046368a@newsreader.iphouse.net:

> Lostgallifreyan wrote:
>>> Actually it comes out during the TV play and at
>>> least one of the books that it's "what is 9 times 6?"
>>>
>>> Adams denied what many here should quickly figure out.
>>>
>>> tom
>>> K0TAR
>>>
>>
>> I never saw that one.. Read the books, but I don't remember that, at
>> least not with much meaning. Maybe just to indicate human capacity for
>> coming up with wrong answers from wrong questions? I doubt he ever
>> spelled out what the real roots were. A good magician doesn't
>> deliberately and publicly spoil the illusion (or in his case, allusion,
>> perhaps). The one thing I'm fairly sure of is thet the references were
>> cultural, colloquial, and that's why so many people got it. Without
>> that it might have just been another impenetratable space opera with
>> humour thrown in.
>
> Ok, a hint. 9 times 6 IS 42.
>
> tom
> K0TAR
>

Well, I wondered about non-euclidean geometry for a moment, then remembered
Greg House saying something about working smart, not hard, and no-one said I
couldn't plunder Wikipedia, so....

Actually, before I got there, I wasn't even sure if what Adams had denied was
that "six times nine equals thirteen is wrong", or that he denied the more
interesting case that it was its correctness in base 13 that explained the
'answer'. Apparently he did deny it. Which doesn't mean it isn't true. :) But
according to Wikipedia's stuff, he chose a small number that looked ordinary
and totally unprofound. Which means that he let whim, i.e. unconscious
conditioning hold sway, without attempt to mediate it. Given that the English
colloquilasm would never be entirely far from a writer wose native language
and culture was English, I stand by my 'theory'. :) Though I'd like to know
if he was ever directly questioned about the 'sixes and sevens' thing and
denied it. Even then, he would be telling the truth if it hadn't been
conscious. MUCH more like he was influence ny this that by base 13, no?

Maybe you should get me started on my idea for The Long Dark Teatime Of The Soul, you might like it. :) The only thing I'll say about it now, unprompted, is that in this case the allusion isn't English, it's French.

22. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 12:19:24 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF47D5932429zoodlewurdle@216.196.109.145>
Source record: 11422

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9CF47A0F2FD20zoodlewurdle@216.196.109.145:

> tom <news4792@taring.org> wrote in
> news:4b3f2ad9$0$33860$8046368a@newsreader.iphouse.net:
>
>> Lostgallifreyan wrote:
>>>> Actually it comes out during the TV play and at
>>>> least one of the books that it's "what is 9 times 6?"
>>>>
>>>> Adams denied what many here should quickly figure out.
>>>>
>>>> tom
>>>> K0TAR
>>>>
>>>
>>> I never saw that one.. Read the books, but I don't remember that, at
>>> least not with much meaning. Maybe just to indicate human capacity for
>>> coming up with wrong answers from wrong questions? I doubt he ever
>>> spelled out what the real roots were. A good magician doesn't
>>> deliberately and publicly spoil the illusion (or in his case,
>>> allusion, perhaps). The one thing I'm fairly sure of is that the
>>> references were cultural, colloquial, and that's why so many people
>>> got it. Without that it might have just been another impenetratable
>>> space opera with humour thrown in.
>>
>> Ok, a hint. 9 times 6 IS 42.
>>
>> tom
>> K0TAR
>>
>
> Well, I wondered about non-euclidean geometry for a moment, then
> remembered Greg House saying something about working smart, not hard,
> and no-one said I couldn't plunder Wikipedia, so....
>
> Actually, before I got there, I wasn't even sure if what Adams had
> denied was that "six times nine equals thirteen is wrong", or that he
> denied the more interesting case that it was its correctness in base 13
> that explained the 'answer'. Apparently he did deny it. Which doesn't
> mean it isn't true. :) But according to Wikipedia's stuff, he chose a
> small number that looked ordinary and totally unprofound. Which means
> that he let whim, i.e. unconscious conditioning hold sway, without
> attempt to mediate it. Given that the English colloquilasm would never

> be entirely far from a writer wose native language and culture was
> English, I stand by my 'theory'. :) Though I'd like to know if he was
> ever directly questioned about the 'sixes and sevens' thing and denied
> it. Even then, he would be telling the truth if it hadn't been
> conscious. MUCH more like he was influence ny this that by base 13, no?
>
> Maybe you should get me started on my idea for The Long Dark Teatime Of
> The Soul, you might like it. :) The only thing I'll say about it now,
> unprompted, is that in this case the allusion isn't English, it's
> French.
>

I also found this:
"Stephen Fry, a friend of Adams, claims that Adams told him "exactly why 42", and that the reason is[12] "fascinating, extraordinary and, when you think hard about it, completely obvious." However, Fry says that he has vowed not to tell anyone the secret, and that it must go with him to the grave."
http://en.wikipedia.org/wiki/Phrases_from_The_Hitchhiker's_Guide_to_the_Galaxy

I have never met Stephen Fry, and I suspect he wouldn't confirm my idea if I did ask him, but it would fit, given the way thoughts run if you ponder it for a while. Considering the phrase "all at sixes and sevens" in the context of the way HHGTTG works is revealing to the point that even if it really were the original basis, I wouldn't consider it a spoiler if I'd been told either before or after thinking of it for myself.

Can't help wondering when people are going to talk about antennas again. :)

23. Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 17:08:16 UTC
From: mr1956 <mr1956@comcast.net>
Message-ID: <39f0628c-9bc2-4978-bd79-c1ff4468cd57@m11g2000vbo.googlegroups.com>
Source record: 11423

I have posted on here before and found the member's comments very helpful so here it goes again.

I am trying to stack two Yagi antennas to form a ground station to receive GPS data from an experimental rocket. The rocket portion of the system has already been tested but now I have two antennas to couple together to make up the receiving end. The particulars are as follows:

I have two 11 db 900 MHz Yagis (Pacific Wireless), both of which have 50 ohm pigtails. I am trying to hook these together in a cross polarized fashion and need to insert two 75 ohm impedance matching cables so that I end up with 50 ohms at the cable end attached to the input of my receiver. Basically, there will be the two antennas, matching sections, a tee connector, then the single coax going to the receiver.

I figure that 75 ohm RG-11 coax should work for this purpose and am trying to calculate the correct length of these impedance matching sections. One formula I have found online is as follows:

Length (feet) = 246 * VF / Frequency (MHz)

The transmitter sends RF via Frequency Hopping Spread Spectrum from 910 to 918 MHz; consequently, I am using 914 MHz as a baseline.

When I plug in the numbers, I get a length of about 2.1" for the length of the 75 ohm matching sections. Needless to say, it will be difficult if not impossible to do a 2.1" length of RG-11 cable with two connectors. I have considered basically fabricating a "tee" section out of two short lengths of the 75 ohm coax and RG-8 going to the receiver (soldering the whole thing together), then connecting the two Yagi antennas to that.

I suppose my question is this: Is there a longer multiple of wavelength I can use for the impedance matching 75 ohm sections to develop a more practical design for what I need? Or, am I stuck with the 2.1" length due to the frequency?

Thanks,

Curt Newport

24. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 17:45:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9d0vj5tpnvgt9ka1m27ln248bfijtlmobj@4ax.com>
Source record: 11424

On Sat, 2 Jan 2010 09:08:16 -0800 (PST), mr1956 <mr1956@comcast.net>
wrote:

>I suppose my question is this: Is there a longer multiple of
>wavelength I can use for the impedance matching 75 ohm sections to
>develop a more practical design for what I need? Or, am I stuck with
>the 2.1" length due to the frequency?

Hi Curt,

To answer your last question first: you can use odd multiples (1, 3,
5, 7...) if your initial computation was correct. Consider, if your
computation contains errors, they, too, will multiply.

Computations aside, a receiver rarely needs exact matching when "close
is good enough." Two 50 Ohm antennas in parallel or series are not
seriously off. The mismatch loss would probably amount to less than 1
dB whereas your using two crossed antennas is in an effort to recover
from the loss of polarization mismatch that can exceed 20 to 30 dB.

As a practical matter, have you tried testing these antenna issues at
ground level? There are certainly complications that ground proximity
can introduce (reflection from ground being principle among them). As
a first pass approximation, however, you can come to some feeling for
many issues without having to loft anything into the air. Insofar as
polarization mismatch goes, ground's proximity would tend to dilute my
suggestion as ground and anything that is in proximity would tend to
offer many reflections some of which don't come anywhere near your
final application.

73's
Richard Clark, KB7QHC

25. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 18:12:51 UTC
From: mr1956 <mr1956@comcast.net>
Message-ID: <7956d4e3-3264-4b19-b3e0-29ae965b6807@s19g2000vbm.googlegroups.com>
Source record: 11425

On Jan 2, 12:45 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 2 Jan 2010 09:08:16 -0800 (PST), mr1956 <mr1...@comcast.net>
> wrote:
>
> >I suppose my question is this: Is there a longer multiple of
> >wavelength I can use for the impedance matching 75 ohm sections to
> >develop a more practical design for what I need? Or, am I stuck with
> >the 2.1" length due to the frequency?
>
> Hi Curt,
>
> To answer your last question first: you can use odd multiples (1, 3,
> 5, 7...) if your initial computation was correct. Consider, if your
> computation contains errors, they, too, will multiply.
>
> Computations aside, a receiver rarely needs exact matching when "close
> is good enough." Two 50 Ohm antennas in parallel or series are not
> seriously off. The mismatch loss would probably amount to less than 1
> dB whereas your using two crossed antennas is in an effort to recover
> from the loss of polarization mismatch that can exceed 20 to 30 dB.
>
> As a practical matter, have you tried testing these antenna issues at
> ground level? There are certainly complications that ground proximity
> can introduce (reflection from ground being principle among them). As
> a first pass approximation, however, you can come to some feeling for
> many issues without having to loft anything into the air. Insofar as
> polarization mismatch goes, ground's proximity would tend to dilute my
> suggestion as ground and anything that is in proximity would tend to
> offer many reflections some of which don't come anywhere near your
> final application.
>
> 73's
> Richard Clark, KB7QHC

Richard:

Yes I have tried testing one of the antennas at ground level but that
is not really representative of the reality. I suppose the bottom line
for me, is that how much of a loss and I looking at if I simply hook
these two 50 ohm antennas in parallel to a tee section, then on to the
receiver? The whole reason to have the two yagis to begin with is to
increase overall gain and insure that the polarization between the
transmitting and receiving antennas is good enough to maintain a link.

If I elect to do a multiple of 1/4 wave, then how does that work out with the formula regarding frequency?

Thanks,

Curt Newport

26. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 18:33:06 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3q2vj5t9gi1b6s7ut4gres6r4hm51kanih@4ax.com>
Source record: 11426

On Sat, 02 Jan 2010 06:26:42 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Einstein had no time for that kind of 'thinking', he
>directly asserted several times that clarity and simplicity will get you
>there better.

Yeah, but simplicity and sometimes clarity usually fail to get
funding. Seen any government money go to the myriad of simple fusion
schemes?
<http://www.fusor.net>
Nope, even though some of them may actually eventually work. It all
goes to gigantic fizzix experiments which are anything but simple and
to my limited intelligence, not very clear.

>If the public had a better understanding of engineering and science, things
>like Betamax, apparently better tech than VHS according to most who discuss
>this issue, would have won, to the advantage of most people, not just the few
>who forced the 'war'.

Beta is often used as the poster child of technology versus cost. Sony
wanted license fees for Beta, while VHS was essentially free. The
public voted with their dollars and VHS won.

Moral: The GUM (Great Unwashed Masses) are cheap.

Incidentally, the same thing sorta happened with the battle between
the RCA all electronic and CBS color wheel schemes for color
television. The FCC almost went with the color wheel scheme because
RCA hadn't really shaken all the bugs out of their system.

Fast forward a half century and we have the same FCC voting on digital
television standards. If technical superiority were the criteria,
COFDM should have won over 8VSB. However, such decisions are not made
on the basis of technical superiority. The public could have been
better educated on the issues, but the decision was made by a
committee of politicians, not the public.

AM stereo and HD radio, versus satellite radio (XM and Sirius) is an
oddity. HD Radio, AM stereo, and DRM should have been the winner,
because they are the cheapest and simplest. Yet, satellite radio is
far more popular. The real difference is that satellite radio started
out with no commericals, and slooooowly infested the programming with
them. People were willing to pay for what they preceived as
commercial free programming. I guess the GUM isn't very well educated
on the the technology, but it's certainly not stupid.

>Conflict is bad enough, but the one thing that can most
>effectively redeem it is if it is won by whatever was most right, or useful,
>or helpful. And if enough people grasp that well beforehand, the conflict
>probably wouldn't happen so much.

I presume you've never attended (online or in person) a standards committee discussion. It's fortunate that the technical debates are mostly done electronically or at a distance, as I'm fairly sure some of the proponents of extrememe technologies would settle their differences in the parking lot.

>Maybe I should shut up now, but this has got to be THE slowest day of the
>year. And I include most of the last one in this assessment.

Not for me. For some odd reason, I'm getting a series of customer calls asking for help with various Christmas toys and gadgets. They apparently have stared at them for a week, given up, and now call me for help. For example: "I got this iPod thing. How do I make it play tunes?" I just finished an over the phone Netflix appliance (Roku) setup. My guess is public understanding of engineering and science has a very long way to go.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

27. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 18:34:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t33vj597ol4oc0kplk7amiho7sli95js05@4ax.com>
Source record: 11427

On Sat, 19 Dec 2009 09:14:46 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>What I really want to know is whether the ATS-909 will work ok with a
>long(ish) wire outside feeding a 50 ohm coax via a 9:1 transformer, or if
>that would cause more bother than connecting a wire directly to it and
>putting up with local noise picked up from nearby buildings.

Hello Dr,

Well, I've been on the East Coast for several weeks and am just
catching up with your particular problem (which is not too uncommon
for SWL'ers who post here).

Many suggestions have been useful, but some contra-indicate others,
while some merely rely on lore and superstition.

One of the last suggestions, from JIMMIE, is probably the single
greatest boon for signal strength: Ground. Ground is always the least
appreciated component, and is always the single most important one.
Ground for RF is not always the same as the ground for safety. Worse
yet is that mixing them can sometimes introduce grief (AKA ground
loops). ALL grounds should eventually find their way to the service
ground. This advice serves both safety and engineering. More can be
said - but we move on.

One antenna does not always work for all bands (not without a lot of
work and the ability to change its polarization). As such, two or
more antennas are necessary for SWL'ing. They don't need to be
isolated to one band, but if any antenna is resonant for one, it will
probably be difficult on another band that is twice or half that
frequency. Thus you add another antenna that is half or twice the
first's dimension. The benefit here is that they can be wired to the
same feed point with little interaction between them. More can be
said here too.

Matching with a one-size-fits-all doohickey is pabulum for the masses.
When it is tossed into the mix, it usually forces the user to add the
components already described above that are responsible for most of
the benefit attributed to the doohickey. Hosanna's are misplaced.
More can be said here, to not good outcome.

Matching with an antenna tuner (yes, I am aware of the irony in its
name) satisfies all issues (except for the transmission line loss - if
it matters) of matching. The tuner's responsibility is to see to it
that an unknown source is matched to an unknown load (that is why it
has so many adjustments). You can use any Ham grade tuner, get one

without a meter to save the big bucks. Whatever product that is designed for the ham bands is satisfactory for the SWL bands. Of course, you could build your own (what a concept!).

Matching with a preselector takes the antenna tuner one step further, and protects your receiver from the scourge of these "modern" designs: intermod. The SWL-monkeys who demand the ability to "quickly" tune up different bands/frequencies usually whine and squeel about the difficulty of tuners and preselectors (and in the same breath praise the doohickey's font of blessings). I let them indulge in their illusions and say no more.

INTERMOD is the silent killer (as they used to say about high blood pressure). A strong station (a nearby AM transmitter in town) can easily close down your 31M listening experience by simply driving the AGC into overload without you being aware of it. Preselectors and Tuners will drive down that off-band signal, peak the selected frequency, and give you what you tuned for in that band. Beware of imitations that suggest they do the same without tuning (what a crock).

As for that antenna impedance. Others have suggested a myriad of possibilities. The first active component's shunt reactance (often the base-emitter capacitance) is the limiting factor even when humongous resistance bridges those same points. Resistance is for bias folks. More can be said, but enough has been said here.

Feel free to ask for more to be said.

73's
Richard Clark, KB7QHC

28. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 18:46:29 UTC
From: kb9rqz@yahoooo.com
Message-ID: <345vj5husbe73eq7qqi1tdhg9mhq8t7d3a@4ax.com>
Source record: 11428
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

29. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 19:21:03 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF4C4D2F6CDDzoodlewurdle@216.196.109.145>
Source record: 11429

Richard Clark <kb7qhc@comcast.net> wrote in
news:t33vj597ol4oc0kplk7amiho7sli95js05@4ax.com:

> On Sat, 19 Dec 2009 09:14:46 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>What I really want to know is whether the ATS-909 will work ok with a
>>long(ish) wire outside feeding a 50 ohm coax via a 9:1 transformer, or if
>>that would cause more bother than connecting a wire directly to it and
>>putting up with local noise picked up from nearby buildings.
>
> Hello Dr,
>
> Well, I've been on the East Coast for several weeks and am just
> catching up with your particular problem (which is not too uncommon
> for SWL'ers who post here).
>
> Many suggestions have been useful, but some contra-indicate others,
> while some merely rely on lore and superstition.
>
> One of the last suggestions, from JIMMIE, is probably the single
> greatest boon for signal strength: Ground. Ground is always the least
> appreciated component, and is always the single most important one.
> Ground for RF is not always the same as the ground for safety. Worse
> yet is that mixing them can sometimes introduce grief (AKA ground
> loops). ALL grounds should eventually find their way to the service
> ground. This advice serves both safety and engineering. More can be
> said - but we move on.
>
> One antenna does not always work for all bands (not without a lot of
> work and the ability to change its polarization). As such, two or
> more antennas are necessary for SWL'ing. They don't need to be
> isolated to one band, but if any antenna is resonant for one, it will
> probably be difficult on another band that is twice or half that
> frequency. Thus you add another antenna that is half or twice the
> first's dimension. The benefit here is that they can be wired to the
> same feed point with little interaction between them. More can be
> said here too.
>
> Matching with a one-size-fits-all doohickey is pabulum for the masses.
> When it is tossed into the mix, it usually forces the user to add the
> components already described above that are responsible for most of
> the benefit attributed to the doohickey. Hosanna's are misplaced.
> More can be said here, to not good outcome.

>
> Matching with an antenna tuner (yes, I am aware of the irony in its
> name) satisfies all issues (except for the transmission line loss - if
> it matters) of matching. The tuner's responsibility is to see to it
> that an unknown source is matched to an unknown load (that is why it
> has so many adjustments). You can use any Ham grade tuner, get one
> without a meter to save the big bucks. Whatever product that is
> designed for the ham bands is satisfactory for the SWL bands. Of
> course, you could build your own (what a concept!).
>
> Matching with a preselector takes the antenna tuner one step further,
> and protects your receiver from the scourge of these "modern" designs:
> intermod. The SWL-monkeys who demand the ability to "quickly" tune up
> different bands/frequencies usually whine and squeel about the
> difficulty of tuners and preselectors (and in the same breath praise
> the doohickey's font of blessings). I let them indulge in their
> illusions and say no more.
>
> INTERMOD is the silent killer (as they used to say about high blood
> pressure). A strong station (a nearby AM transmitter in town) can
> easily close down your 31M listening experience by simply driving the
> AGC into overload without you being aware of it. Preselectors and
> Tuners will drive down that off-band signal, peak the selected
> frequency, and give you what you tuned for in that band. Beware of
> imitations that suggest they do the same without tuning (what a
> crock).
>
> As for that antenna impedance. Others have suggested a myriad of
> possibilities. The first active component's shunt reactance (often
> the base-emitter capacitance) is the limiting factor even when
> humongous resistance bridges those same points. Resistance is for
> bias folks. More can be said, but enough has been said here.
>
> Feel free to ask for more to be said.
>
> 73's
> Richard Clark, KB7QHC
>

Thanks. :) Well, my plan is to use a ground at the antenna end, right underneath it. My neighbourhood problems recently were solved when a guy on the first floor pissed off someone enough that said someone blew their flat door in with a shotgun! So the whole problem ended with a neat flameout a few days ago. I couldn't go out there rigging antennae while paranoid criminals were still active, it's seriously asking for BAD trouble. Right now I have the lesser problems of dental and other bills imminent, but I'll get a good 4' ground rod and rig up an 18' vertical whip as I learned of in details I posted about earlier. I understand that good reception depends on a good compromise between selectivity and sensitivity, and no doubt the antenna 'tuner' helps with that, though I'll mainly be concerned with good ground and

local common mode noise rejection. My first attempt at the line between antenna and receiver will be a balanced line with a toroid at each end for current isolation and possibly the suggested Norton preamp on the receiver input, but I'll try without it first as I suspect I'll get enough signal strength to satisfy me for a while. If I have to use coax I will but I'll try the easier options first. This basic plan does involve a 10:1 ratio in windings on the far end toroid which should help smooth out peaks of resonance as described by John Doty and others as mentioned before, and if nothing else, drives a stronger current in the balanced line part of the system. I'm no longer much concerned about matching impedances, but I will be watching for results of changing antenna length if resonance seems to be an issue. My interest in the 'doohickey' or any other widget was mainly in what appeared to be a means of reducing the difference in signal strength extremes due to resonance. I understand that if I subsequently have to select the weaker of two close stations I'll either have to add some 'trap' for a specific offender, such as a trimmed lengh of unterminated coax (though as far as I know, that trick is usually reserved for much higher frequencies), or use a manually tuned system which I'll explore if it becomes a dominant concern.

30. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 19:51:28 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF4CA00E7A55zoodlewurdle@216.196.109.145>
Source record: 11430

Jeff Liebermann <jeffl@cruzio.com> wrote in
news:3q2vj5t9gi1b6s7ut4gres6r4hm51kanih@4ax.com:

> On Sat, 02 Jan 2010 06:26:42 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Einstein had no time for that kind of 'thinking', he
>>directly asserted several times that clarity and simplicity will get you
>>there better.
>
> Yeah, but simplicity and sometimes clarity usually fail to get
> funding. Seen any government money go to the myriad of simple fusion
> schemes?
> <http://www.fusor.net>
> Nope, even though some of them may actually eventually work. It all
> goes to gigantic fizzix experiments which are anything but simple and
> to my limited intelligence, not very clear.
>

Gubmint won't touch it till private efforts start working. Was the same with canals and railways. :) And mining. And hospitals. And, perhaps, large scale space explorations. Very cool site, I'll try to follow some of that stuff. I suspect small scale fusion will be the answer to many problems, far more than it's likely to cause.

>>If the public had a better understanding of engineering and science,
>>things like Betamax, apparently better tech than VHS according to most
>>who discuss this issue, would have won, to the advantage of most people,
>>not just the few who forced the 'war'.
>
> Beta is often used as the poster child of technology versus cost. Sony
> wanted license fees for Beta, while VHS was essentially free. The
> public voted with their dollars and VHS won.
>
> Moral: The GUM (Great Unwashed Masses) are cheap.
>

Gubmint by GUMint? :) I amuse myself.... I guess FireWire might suffer the same way, it wants royalties in the price of every plug. I think that one will be a survivor though, it is very good. But it won't be as common as USB which doesn't.

> Incidentally, the same thing sorta happened with the battle between
> the RCA all electronic and CBS color wheel schemes for color
> television. The FCC almost went with the color wheel scheme because
> RCA hadn't really shaken all the bugs out of their system.

>
> Fast forward a half century and we have the same FCC voting on digital
> television standards. If technical superiority were the criteria,
> COFDM should have won over 8VSB. However, such decisions are not made
> on the basis of technical superiority. The public could have been
> better educated on the issues, but the decision was made by a
> committee of politicians, not the public.
>

That never helps, but people are getting very wary of politicians, which might help, if they realise they have to think that bit more for themselves. I can accept that pure technical superority isn't always a vital justification, too. For example, cost, to me, is a vital engineering parameter. As in not over-riding, but never to be ignored. Substitute 'cost' with 'ease', 'readiness', and it quickly gets convoluted. Even 'self-interest' creeps in obviously, but I guess it depends on whether it's enlightened or not that matters most. The other main problem is short-sightedness. Most really successful tech-driven economies are LONG sighted, they don't make expensive errors they can't fix later. That said, even the best of those can rest on their laurels and lose ground, as Japan seems to have done.

> AM stereo and HD radio, versus satellite radio (XM and Sirius) is an
> oddity. HD Radio, AM stereo, and DRM should have been the winner,
> because they are the cheapest and simplest. Yet, satellite radio is
> far more popular. The real difference is that satellite radio started
> out with no commericals, and slooooowly infested the programming with
> them. People were willing to pay for what they preceived as
> commercial free programming. I guess the GUM isn't very well educated
> on the the technology, but it's certainly not stupid.
>

Interesting. I sometimes use a similar argument in my defence of Usenet when debating with people who think it's dying. Given how fast it loads, I think we can expect many 'web2' refugees, as it happens.

>>Conflict is bad enough, but the one thing that can most
>>effectively redeem it is if it is won by whatever was most right, or
>>useful, or helpful. And if enough people grasp that well beforehand, the
>>conflict probably wouldn't happen so much.
>
> I presume you've never attended (online or in person) a standards
> committee discussion. It's fortunate that the technical debates are
> mostly done electronically or at a distance, as I'm fairly sure some
> of the proponents of extrememe technologies would settle their
> differences in the parking lot.
>

Nope. :) But I have seen infighting over ideas in forums. I've seen experts stamp on good ideas then try to assert their own ideas which were weaker, and because they had a strong academic background, most bystanders were quick to curry favour with them. I figured the best answer was to go alone when I have

a good idea. First, they muscle in only when someone's already staked a pitch, so the easiest way to undermine that is to break camp and move out. Second, asking them for assistance will either result in conflict, or stolen credit. Even systems like patenting invented to solve such issues fails because legalistic presentations seem more to do with emotive attempts at squatters' rights than any real defence that might as easily be done with copyright law. None of which stops acrimonious court squabbles. So things like those small scale fusion experiments will only reach success by being done, repeated, by those who will do it without waiting for support. I think the main reason 'big' science gets the funding is actually simple: it's too big to actually be done at all without it.

>>Maybe I should shut up now, but this has got to be THE slowest day of
>>the year. And I include most of the last one in this assessment.
>
> Not for me. For some odd reason, I'm getting a series of customer
> calls asking for help with various Christmas toys and gadgets. They
> apparently have stared at them for a week, given up, and now call me
> for help. For example: "I got this iPod thing. How do I make it play
> tunes?" I just finished an over the phone Netflix appliance (Roku)
> setup. My guess is public understanding of engineering and science
> has a very long way to go.
>

Yep. Though given the speed, I have to sympathise with both 'sides'. I loved to take stuff apart and put it together (especially when the latter saved me from punishment if the former would otherwise have gotten noticed), but when confronted with bloated complex operating systems that have been cleaved from the roots that led to their existence, I balk too, the same way many do when told that only maths, and not human observations, will tell them anything new about reality. And I'd rather stay with something whose engineering I can grasp well enough to stand some chance of maintenance.

Actually I strongly suspect that this distance between science and tech development and public comprehension won't be reduced until the tools enabled by quantum mechanics start showing us things that shift the current paradigm so much as a result of their new obervations, that people have something really big and new to think about instead of being compelled to beleive that all is run by chance. I think quantum theory largely got us into this mess, but I also think it will get us out. But I have no clue how, other than what I just said.

31. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 20:37:28 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <ttadncn4RY8XM6LWnZ2dnUVZ7oGdnZ2d@bt.com>
Source record: 11431

"Lostgallifreyan" <no-one@nowhere.net> wrote in message
news:Xns9CF47D5932429zoodlewurdle@216.196.109.145...
> Lostgallifreyan <no-one@nowhere.net> wrote in
> news:Xns9CF47A0F2FD20zoodlewurdle@216.196.109.145:
>
>> tom <news4792@taring.org> wrote in
>> news:4b3f2ad9$0$33860$8046368a@newsreader.iphouse.net:
>>
>>> Lostgallifreyan wrote:
>>>>> Actually it comes out during the TV play and at
>>>>> least one of the books that it's "what is 9 times 6?"
>>>>>
>>>>> Adams denied what many here should quickly figure out.
>>>>>
>>>>> tom
>>>>> K0TAR
>>>>>
>>>>
>>>> I never saw that one.. Read the books, but I don't remember that, at
>>>> least not with much meaning. Maybe just to indicate human capacity for
>>>> coming up with wrong answers from wrong questions? I doubt he ever
>>>> spelled out what the real roots were. A good magician doesn't
>>>> deliberately and publicly spoil the illusion (or in his case,
>>>> allusion, perhaps). The one thing I'm fairly sure of is that the
>>>> references were cultural, colloquial, and that's why so many people
>>>> got it. Without that it might have just been another impenetratable
>>>> space opera with humour thrown in.
>>>
>>> Ok, a hint. 9 times 6 IS 42.
>>>
>>> tom
>>> K0TAR
>>>
>>
>> Well, I wondered about non-euclidean geometry for a moment, then
>> remembered Greg House saying something about working smart, not hard,
>> and no-one said I couldn't plunder Wikipedia, so....
>>
>> Actually, before I got there, I wasn't even sure if what Adams had
>> denied was that "six times nine equals thirteen is wrong", or that he
>> denied the more interesting case that it was its correctness in base 13
>> that explained the 'answer'. Apparently he did deny it. Which doesn't
>> mean it isn't true. :) But according to Wikipedia's stuff, he chose a
>> small number that looked ordinary and totally unprofound. Which means

>> that he let whim, i.e. unconscious conditioning hold sway, without
>> attempt to mediate it. Given that the English colloquilasm would never
>> be entirely far from a writer wose native language and culture was
>> English, I stand by my 'theory'. :) Though I'd like to know if he was
>> ever directly questioned about the 'sixes and sevens' thing and denied
>> it. Even then, he would be telling the truth if it hadn't been
>> conscious. MUCH more like he was influence ny this that by base 13, no?
>>
>> Maybe you should get me started on my idea for The Long Dark Teatime Of
>> The Soul, you might like it. :) The only thing I'll say about it now,
>> unprompted, is that in this case the allusion isn't English, it's
>> French.
>>
>
> I also found this:
> "Stephen Fry, a friend of Adams, claims that Adams told him "exactly why
> 42",
> and that the reason is[12] "fascinating, extraordinary and, when you think
> hard about it, completely obvious." However, Fry says that he has vowed
> not
> to tell anyone the secret, and that it must go with him to the grave."
> http://en.wikipedia.org/wiki/Phrases_from_The_Hitchhiker's_Guide_to_the_Galax
> y
>
> I have never met Stephen Fry, and I suspect he wouldn't confirm my idea if
> I
> did ask him, but it would fit, given the way thoughts run if you ponder it
> for a while. Considering the phrase "all at sixes and sevens" in the
> context
> of the way HHGTTG works is revealing to the point that even if it really
> were
> the original basis, I wouldn't consider it a spoiler if I'd been told
> either
> before or after thinking of it for myself.
>
> Can't help wondering when people are going to talk about antennas again.
> :)
>

A 42 metre long, inverted V, fed through an ATU makes for an effective and
cheap all band antenna, although perhaps not the ultimate antenna. :-)
Perhaps an antenna array mounted 42 metres above ground? That would be some
tower system to have in the backyard.

Mike G0ULI

32. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 21:33:12 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF4DB2E62E5Azoodlewurdle@216.196.109.145>
Source record: 11432

"Mike Kaliski" <michael.kaliski@tesco.net> wrote in
news:ttadncn4RY8XM6LWnZ2dnUVZ7oGdnZ2d@bt.com:

> A 42 metre long, inverted V, fed through an ATU makes for an effective
> and cheap all band antenna, although perhaps not the ultimate antenna.
> :-) Perhaps an antenna array mounted 42 metres above ground? That would
> be some tower system to have in the backyard.
>

My vertical whip might be close to 42 decimetres in length. Does this count?
:)

33. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 21:42:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9q4vj55ocgr5begfjom34cg9nj7sumjvt1@4ax.com>
Source record: 11433

On Sat, 2 Jan 2010 10:12:51 -0800 (PST), mr1956 <mr1956@comcast.net>
wrote:

>Yes I have tried testing one of the antennas at ground level but that
>is not really representative of the reality. I suppose the bottom line
>for me, is that how much of a loss and I looking at if I simply hook
>these two 50 ohm antennas in parallel to a tee section, then on to the
>receiver? The whole reason to have the two yagis to begin with is to
>increase overall gain and insure that the polarization between the
>transmitting and receiving antennas is good enough to maintain a link.
>
>If I elect to do a multiple of 1/4 wave, then how does that work out
>with the formula regarding frequency?

Hi Curt,

To your last question: frequency and wavelength are inversely related.
Compute at any frequency, convert to wavelength and use any odd
multiple of 1/4th wavelength. This, I presume, you are already are
familiar with. What I further presume is the basis of your question
is more oriented to the span of frequency involved
>>910 to 918 MHz; consequently, I am using 914 MHz as a baseline.
which is good as it is going to get.

As for using a T, as I posted earlier, the loss there (more for
transmitting than reception) would be less than 1dB. The additional
complexity of more lines, more connections, more components could
easily equal this OR you could find optimal results = more loss than
0dB, but less loss than something less than 1dB.

The difference between more than 0dB and less than 1dB is pretty slim.
If you feel you need to go there, you should be looking at working on
a path loss and power budget. I don't think you've offered that here
in the past. Two yagis set in cross polarity (at right angles) does
not increase "overall gain" except in the sense of insuring that all
polarizations are covered. In fact, given the random orientation, you
stand to lose "overall gain" on average when comparing one fixed yagi
to a known polarized source. In fact more than 1dB (probably 3).

Again if 1 to 3 dB is important, other solutions need to be considered
and you really need a more elaborate analysis.

73's
Richard Clark, KB7QHC

34. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 22:32:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tmfvj5lhjin52ce2g7pdm50vdmt229klon@4ax.com>
Source record: 11434

On Sat, 02 Jan 2010 13:21:03 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Well, my plan is to use a ground at the antenna end, right
>underneath it.

This bodes ill if you do not tie that ground directly to the service ground. Further, a "ground" as you describe it (incompletely) sounds suspiciously like a ground rod. This is NOT the same thing as RF ground - not even close unless you live within several meters of low tide along a major ocean shore.

>I'll get a
>good 4' ground rod and rig up an 18' vertical whip as I learned of in details
>I posted about earlier.

Suspicions confirmed....

> I understand that good reception depends on a good
>compromise between selectivity and sensitivity, and no doubt the antenna
>'tuner' helps with that, though I'll mainly be concerned with good ground and
>local common mode noise rejection.

This does not acknowledge the significance of INTERMOD problems. Experience may have to teach that (when you make all these improvements and have poor results for your effort).

>My first attempt at the line between
>antenna and receiver will be a balanced line with a toroid at each end for
>current isolation

This is a very, very curious novelty. You do not describe a "balanced" system with a ground rod and vertical, so any effort at "balanced" lines is window dressing only. The reason for placing "balanced" within quotes is due to the inordinate care and skill required in obtaining a balanced design. It is more often achieved with coax. Too often, "balanced line" is approached with the mysticism of universal relief for whatever ails a listener.

>and possibly the suggested Norton preamp on the receiver
>input,

I must have missed that posting. Sounds like another elaboration.

>but I'll try without it first as I suspect I'll get enough signal
>strength to satisfy me for a while. If I have to use coax I will but I'll try
>the easier options first. This basic plan does involve a 10:1 ratio in
>windings on the far end toroid which should help smooth out peaks of

>resonance as described by John Doty and others as mentioned before, and if
>nothing else, drives a stronger current in the balanced line part of the
>system.

This is the doohickey I spoke of. It is basically the refuge
accessory of the lowfers where the span of frequencies is, maybe,
three to one and not like the ten to one of HF SWLing.

>I'm no longer much concerned about matching impedances, but I will be
>watching for results of changing antenna length if resonance seems to be an
>issue.

This is at cross purposes. You don't have many realistic options of
changing antenna length (height) as you do with a simple tuner when it
comes to matching.

>My interest in the 'doohickey' or any other widget was mainly in what
>appeared to be a means of reducing the difference in signal strength extremes
>due to resonance. I understand that if I subsequently have to select the
>weaker of two close stations I'll either have to add some 'trap' for a
>specific offender, such as a trimmed lengh of unterminated coax (though as
>far as I know, that trick is usually reserved for much higher frequencies),
>or use a manually tuned system which I'll explore if it becomes a dominant
>concern.

Traps don't work very well for adjacent AM/SSB stations, you need
cascade XTAL ladders to do that. Tuners, also, can only operate
within the combination of number of reactive elements and Q.

Please respond to your perception of the problem of INTERMOD as it is,
as I said, the silent killer of reception.

73's
Richard Clark, KB7QHC

35. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 22:53:54 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <29a231c1-bca7-407a-a360-3d57d27ba290@j19g2000yqk.googlegroups.com>
Source record: 11435

On Jan 2, 11:08 am, mr1956 <mr1...@comcast.net> wrote:
> I have posted on here before and found the member's comments very
> helpful so here it goes again.
>
> I am trying to stack two Yagi antennas to form a ground station to
> receive GPS data from an experimental rocket. The rocket portion of
> the system has already been tested but now I have two antennas to
> couple together to make up the receiving end. The particulars are as
> follows:
>
> I have two 11 db 900 MHz Yagis (Pacific Wireless), both of which have
> 50 ohm pigtails. I am trying to hook these together in a cross
> polarized fashion and need to insert two 75 ohm impedance matching
> cables so that I end up with 50 ohms at the cable end attached to the
> input of my receiver. Basically, there will be the two antennas,
> matching sections, a tee connector, then the single coax going to the
> receiver.
>
> I figure that 75 ohm RG-11 coax should work for this purpose and am
> trying to calculate the correct length of these impedance matching
> sections. One formula I have found online is as follows:
>
> Length (feet) = 246 * VF / Frequency (MHz)
>
> The transmitter sends RF via Frequency Hopping Spread Spectrum from
> 910 to 918 MHz; consequently, I am using 914 MHz as a baseline.
>
> When I plug in the numbers, I get a length of about 2.1" for the
> length of the 75 ohm matching sections. Needless to say, it will be
> difficult if not impossible to do a 2.1" length of RG-11 cable with
> two connectors. I have considered basically fabricating a "tee"
> section out of two short lengths of the 75 ohm coax and RG-8 going to
> the receiver (soldering the whole thing together), then connecting the
> two Yagi antennas to that.
>
> I suppose my question is this: Is there a longer multiple of
> wavelength I can use for the impedance matching 75 ohm sections to
> develop a more practical design for what I need? Or, am I stuck with
> the 2.1" length due to the frequency?
>
> Thanks,
>
> Curt Newport

Sir
If you have the time to try, make a sphere about 4 Ft diameter of aluminum window mesh. This gives you total coverage of all polarities and you don't need a rotor as you have full sky coverage. 6 panes 2 foot wide stapled or riveted together will do the job. This is a Faraday cage where you ground the outside and connect the inside to your radio. Cost of alum window mesh is minimal and it does not take a lot of time to make.Nothing ventured nothing gained! Hula hoops inside will help to keep its shape.
I assume that the idea of total sky coverage with total polarity coverage will provide you with worthwhile advantages over the route you are contemplating making it worthwile to spend a day making one.

36. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 22:58:11 UTC
From: mr1956 <mr1956@comcast.net>
Message-ID: <6783c165-7978-48ec-9b0c-1aacdad78075@x15g2000vbr.googlegroups.com>
Source record: 11436

Richard:

Your reply is noted and let me do some figuring and see what I come up
with.

I agree, that the cross-polarization of the two yagis is more critical
than the overall gain as this is the greatest unknown. In other words,
I have no idea as to the orientation of the transmitting antenna
relative to the receiving antenna, except during the boost and descent
phases. Those are fairly predictable because the rocket goes generally
straight up, arcs at apogee, then descends with the bottom end down on
the large drogue chute.

I have found a power divider made by Cushcraft but am wondering
whether or not it is worth the investment.

Regards,

Curt Newport

On Jan 2, 4:42 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 2 Jan 2010 10:12:51 -0800 (PST), mr1956 <mr1...@comcast.net>
> wrote:
>
> >Yes I have tried testing one of the antennas at ground level but that
> >is not really representative of the reality. I suppose the bottom line
> >for me, is that how much of a loss and I looking at if I simply hook
> >these two 50 ohm antennas in parallel to a tee section, then on to the
> >receiver? The whole reason to have the two yagis to begin with is to
> >increase overall gain and insure that the polarization between the
> >transmitting and receiving antennas is good enough to maintain a link.
>
> >If I elect to do a multiple of 1/4 wave, then how does that work out
> >with the formula regarding frequency?
>
> Hi Curt,
>
> To your last question: frequency and wavelength are inversely related.
> Compute at any frequency, convert to wavelength and use any odd
> multiple of 1/4th wavelength. This, I presume, you are already are
> familiar with. What I further presume is the basis of your question
> is more oriented to the span of frequency involved>>910 to 918 MHz; consequently, I am
using 914 MHz as a baseline.
>
> which is good as it is going to get.
>

> As for using a T, as I posted earlier, the loss there (more for
> transmitting than reception) would be less than 1dB. The additional
> complexity of more lines, more connections, more components could
> easily equal this OR you could find optimal results = more loss than
> 0dB, but less loss than something less than 1dB.
>
> The difference between more than 0dB and less than 1dB is pretty slim.
> If you feel you need to go there, you should be looking at working on
> a path loss and power budget. I don't think you've offered that here
> in the past. Two yagis set in cross polarity (at right angles) does
> not increase "overall gain" except in the sense of insuring that all
> polarizations are covered. In fact, given the random orientation, you
> stand to lose "overall gain" on average when comparing one fixed yagi
> to a known polarized source. In fact more than 1dB (probably 3).
>
> Again if 1 to 3 dB is important, other solutions need to be considered
> and you really need a more elaborate analysis.
>
> 73's
> Richard Clark, KB7QHC

37. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 23:20:24 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF4ED6B8F052zoodlewurdle@216.196.109.145>
Source record: 11437

Richard Clark <kb7qhc@comcast.net> wrote in
news:tmfvj5lhjin52ce2g7pdm50vdmt229klon@4ax.com:

> On Sat, 02 Jan 2010 13:21:03 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Well, my plan is to use a ground at the antenna end, right
>>underneath it.
>
> This bodes ill if you do not tie that ground directly to the service
> ground. Further, a "ground" as you describe it (incompletely) sounds
> suspiciously like a ground rod. This is NOT the same thing as RF
> ground - not even close unless you live within several meters of low
> tide along a major ocean shore.
>
>>I'll get a
>>good 4' ground rod and rig up an 18' vertical whip as I learned of in
>>details I posted about earlier.
>
> Suspicions confirmed....
>
>> I understand that good reception depends on a good
>>compromise between selectivity and sensitivity, and no doubt the antenna
>>'tuner' helps with that, though I'll mainly be concerned with good
>>ground and local common mode noise rejection.
>
> This does not acknowledge the significance of INTERMOD problems.
> Experience may have to teach that (when you make all these
> improvements and have poor results for your effort).
>
>>My first attempt at the line between
>>antenna and receiver will be a balanced line with a toroid at each end
>>for current isolation
>
> This is a very, very curious novelty. You do not describe a
> "balanced" system with a ground rod and vertical, so any effort at
> "balanced" lines is window dressing only. The reason for placing
> "balanced" within quotes is due to the inordinate care and skill
> required in obtaining a balanced design. It is more often achieved
> with coax. Too often, "balanced line" is approached with the
> mysticism of universal relief for whatever ails a listener.
>
>>and possibly the suggested Norton preamp on the receiver
>>input,

>
> I must have missed that posting. Sounds like another elaboration.
>
>>but I'll try without it first as I suspect I'll get enough signal
>>strength to satisfy me for a while. If I have to use coax I will but
>>I'll try the easier options first. This basic plan does involve a 10:1
>>ratio in windings on the far end toroid which should help smooth out
>>peaks of resonance as described by John Doty and others as mentioned
>>before, and if nothing else, drives a stronger current in the balanced
>>line part of the system.
>
> This is the doohickey I spoke of. It is basically the refuge
> accessory of the lowfers where the span of frequencies is, maybe,
> three to one and not like the ten to one of HF SWLing.
>
>>I'm no longer much concerned about matching impedances, but I will be
>>watching for results of changing antenna length if resonance seems to be
>>an issue.
>
> This is at cross purposes. You don't have many realistic options of
> changing antenna length (height) as you do with a simple tuner when it
> comes to matching.
>
>>My interest in the 'doohickey' or any other widget was mainly in what
>>appeared to be a means of reducing the difference in signal strength
>>extremes due to resonance. I understand that if I subsequently have to
>>select the weaker of two close stations I'll either have to add some
>>'trap' for a specific offender, such as a trimmed lengh of unterminated
>>coax (though as far as I know, that trick is usually reserved for much
>>higher frequencies), or use a manually tuned system which I'll explore
>>if it becomes a dominant concern.
>
> Traps don't work very well for adjacent AM/SSB stations, you need
> cascade XTAL ladders to do that. Tuners, also, can only operate
> within the combination of number of reactive elements and Q.
>
> Please respond to your perception of the problem of INTERMOD as it is,
> as I said, the silent killer of reception.
>
> 73's
> Richard Clark, KB7QHC
>

I haven't a clue about intermod, yet. One thing at a time. Right now I see at least three contradictions (re ground rods, transformers, and feedlines) with advice from several people, one of which (the guy who wrote the description of the antenna and balanced line I mentioned) is part of a group of hams who is turned to for advice by the others. No guarantee of correctness, perhaps, but if I keep on being told I'm wrong when my stuff is coming as directly as I can get it from others with experience, then as far as I'm concerned I'll

do what I think best and get out of the crossfire. Specifically, many times I've seen advice that service grounds are not adequate because of common mode noise and local currents, hence the ground rod you vehemently negate. I can ground to service ground at near end but if the receiver is on batteries, not connected to anything except a transformer coupling RF from the antenna, then the ground only needs to be at the antenna end, according to advice I've seen in several places. Even if I do ground to a water pipe or other local ground, all advice I see until now insists on having a ground rod as close to the antenna as possible, no matter what else I do, yet now you urge against this. I will stop asking for advice if all I see is vigorous contradiction between people who claim knowledge I do not have. Diverting that disagreement to one with me doesn't alter this, I did not originate the info behind the choices I am considering. Even if all the various contributors come here and duke it out between them it appears I'll be none the wiser.

38. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 23:33:03 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF4EF8F07F06zoodlewurdle@216.196.109.145>
Source record: 11438

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9CF4ED6B8F052zoodlewurdle@216.196.109.145:

> ...several people, one of which (the guy who wrote the description
> of the antenna and balanced line I mentioned) is part of a group of hams
> who is turned to for advice by the others.

To save time:
"http://www.kongsfjord.no/dl/Antennas/The%20Best%20Small%20Antennas%20For%20M
W,%20LW,%20And%20SW%20rev%202.pdf

The start page for that link is here;
http://www.kongsfjord.no/dl/dl.htm"

(Copied from a post by 'amdx' earlier in this thread). The line IS balanced,
as it carries only its own internal current, driven by an isolated coupling
with the antenna circuit. Anyway, if he's wrong, there's not much point in
taking it up with me, for obvious reasons. He wrote that. I didn't.

39. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-02 23:34:51 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF4EFDCF8D74zoodlewurdle@216.196.109.145>
Source record: 11439

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9CF4EF8F07F06zoodlewurdle@216.196.109.145:

> He wrote that. I didn't.

Sorry amdx, potential for confusion there... I mean the guy who wrote what
you linked to..

40. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 00:46:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <noovj55fjv82203s7aud4mm0ln1fq2ukdr@4ax.com>
Source record: 11440

On Sat, 02 Jan 2010 17:20:24 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>I haven't a clue about intermod, yet. One thing at a time.

The term Intermod is probably mis-direction if you research it.
Basically, if an nearby AM/FM/TV transmitter (and nearby can be on the
scale of several miles) happens to excite your antenna; then its
developed voltage will overload the frontend (Intermod follows, but
the products are not what I am emphasizing here). This overload can
be many, many kHz, or MHz from the intended and tuned signal; and yet
this frequency remote signal will develop an AGC that drives down gain
on your intended signal.

This characteristic is VERY common for untuned frontends in modern
receivers. It is not often noted for poor antennas (those whips, when
they are used for SW), but when a real antenna is attached *BINGO*
sensitivity goes down the toilet. By providing a tuned input, the
side-signal that would otherwise silently drive AGC is attenuated, and
AGC is developed only by the in-band signals.

>Right now I see at
>least three contradictions (re ground rods, transformers, and feedlines) with
>advice from several people, one of which (the guy who wrote the description
>of the antenna and balanced line I mentioned) is part of a group of hams who
>is turned to for advice by the others. No guarantee of correctness, perhaps,
>but if I keep on being told I'm wrong when my stuff is coming as directly as
>I can get it from others with experience, then as far as I'm concerned I'll
>do what I think best and get out of the crossfire.

A reasonable posture.

>Specifically, many times
>I've seen advice that service grounds are not adequate because of common mode
>noise and local currents, hence the ground rod you vehemently negate.

I don't negate its use, I say that it is NOT RF ground. If you tie
this ground rod to the service ground, then that wire will probably
act more in your behalf than either "ground." There is a world of
difference between safety grounds (what those rod-thingies are) and RF
grounds (which often don't go into ground at all).

Ground is a long and rich story that has been celebrated in this group
for years. It deserves respect and attention well beyond these few
words.

>I can
>ground to service ground at near end but if the receiver is on batteries, not
>connected to anything except a transformer coupling RF from the antenna, then
>the ground only needs to be at the antenna end, according to advice I've seen
>in several places.

To your specific arrangement - quite true. However, many who have claimed to have made every precaution then connect their receiver to an amplifier, computer, what-you-might-call-it and a new path to ground winds its way through interesting environments that are RF rich.

>Even if I do ground to a water pipe or other local ground,
>all advice I see until now insists on having a ground rod as close to the
>antenna as possible, no matter what else I do, yet now you urge against this.

I urge against mixing grounds. Such things arrive by the most benign and seemingly inconsequential actions.

>I will stop asking for advice if all I see is vigorous contradiction between
>people who claim knowledge I do not have. Diverting that disagreement to one
>with me doesn't alter this, I did not originate the info behind the choices I
>am considering. Even if all the various contributors come here and duke it
>out between them it appears I'll be none the wiser.

Attention to one detail at a time helps, but a lot of this arrived through responding to the query for antenna port Z. Those adjuncts that massage input/output Z also fold in the discussion of ground.

Convention has it that you start a new thread for each side-topic that drives you into conniptions. Asking about the facts and foibles of ground would be a good start on a new thread - especially when Art's wet-dreams descend into discussion of particle duality self annihilation driving all participation away from antenna design. For instance "Why are ground rods considered insufficient for RF application?"

I am content to respond to either discussion.

73's
Richard Clark, KB7QHC

41. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 00:55:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lbqvj59ci2c1dlb0jc9e0jujj6mivmpjnn@4ax.com>
Source record: 11441

On Sat, 02 Jan 2010 17:33:03 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>To save time:
>"http://www.kongsfjord.no/dl/Antennas/The%20Best%20Small%20Antennas%20For%20M
>W,%20LW,%20And%20SW%20rev%202.pdf

An example of invention driving the discussion rather than the need
being satisfied.

Simply put, there is absolutely no reason to use a "balanced" line. It
is window dressing for the circuit which IS balanced (and balanced for
no apparent reason for this unbalanced source). Metaphorically, it is
like adding a clutch to an automatic shift. Yes, you can do it. It
might appear to be elegant. It will certainly work. But why?

Try asking why the trappings of this novel design don't bring some
solution in a new thread. You might stumble at offering the problem
it pretends to solve. (I will anticipate it has something to do with
noise, THIS will certainly raise a lot of catcalls.)

73's
Richard Clark, KB7QHC

42. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 01:09:52 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <NZCdnRc0Svn-c6LWnZ2dnUVZ7v6dnZ2d@bt.com>
Source record: 11442

"Lostgallifreyan" <no-one@nowhere.net> wrote in message
news:Xns9CF4EFDCF8D74zoodlewurdle@216.196.109.145...
> Lostgallifreyan <no-one@nowhere.net> wrote in
> news:Xns9CF4EF8F07F06zoodlewurdle@216.196.109.145:
>
>> He wrote that. I didn't.
>
> Sorry amdx, potential for confusion there... I mean the guy who wrote what
> you linked to...

The Sangean ATS-909 along with similar radios are designed to resolve signals from the whip antenna or in built ferrite antenna. Attaching 8 to 10 feet of wire to the whip will bring in more stations but depending on location may well pick up so much extra signal as to cause intermodulation and AGC limiting preventing reception of the weak signals you want to receive.

As stated earlier, the front end of these receivers is wide open and the front end is exposed to the complete spectrum of transmissions received by the antenna.

There is nothing inherently wrong with the receiving system you have decided upon but it will undoubtably overload your receiver with signals and you will be puzzled as to why the reception seems poorer with more noise pickup rather than less.

As Richard has stated you need some form of preselection to filter out the unwanted signals before they get into your radio. Basically this is a tuneable filter which only allows through a single band of frequencies at a time. The following site explains the essentials.

http://www.dxing.com/tnotes/tnote07.pdf

You can buy commercial preselectors but they will probably cost as much as your radio. As they are generally passive devices built from a set of switched coils and a variable capacitor they last forever and old ones do come up from time to time at junk sales and the like. It is possible to make a simple filter to cover just one or two bands that interest you.

By all means, try the external antenna system but be prepared to buy a 'better' receiver with front end band pass filters or a preselector.

You can have too much of a good thing when it comes to receiving antennas. A bigger receiving antenna won't bring in signals from further away. If they are there, the receiver is probably sufficiently sensitive to pick them up already. What the bigger antenna will do is raise the level of all the signals it is picking up and feeding into the receiver and that includes

noise, and other unwanted stations. That is why you need additional filtering to cut down the unwanted signals and allow your receiver a fair chance of demodulating what you actually want to hear.

Regards

Mike G0ULI

43. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 01:15:00 UTC
From: tom <news4792@taring.org>
Message-ID: <4b3fef44$0$33862$8046368a@newsreader.iphouse.net>
Source record: 11443

Dave wrote:
> On Jan 2, 11:16 am, tom <news4...@taring.org> wrote:
>> Lostgallifreyan wrote:
>>>> Actually it comes out during the TV play and at
>>>> least one of the books that it's "what is 9 times 6?"
>>>> Adams denied what many here should quickly figure out.
>>>> tom
>>>> K0TAR
>>> I never saw that one.. Read the books, but I don't remember that, at least
>>> not with much meaning. Maybe just to indicate human capacity for coming up
>>> with wrong answers from wrong questions? I doubt he ever spelled out what the
>>> real roots were. A good magician doesn't deliberately and publicly spoil the
>>> illusion (or in his case, allusion, perhaps). The one thing I'm fairly sure
>>> of is thet the references were cultural, colloquial, and that's why so many
>>> people got it. Without that it might have just been another impenetratable
>>> space opera with humour thrown in.
>> Ok, a hint. 9 times 6 IS 42.
>>
>> tom
>> K0TAR
>
> it wasn't when i went to school. but 7*6 was

Argh! OK, another "hint".

Has anyone ever heard of anything besides base 10 arithmetic?

tom
K0TAR

44. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 01:37:18 UTC
From: tom <news4792@taring.org>
Message-ID: <4b3ff480$0$47480$8046368a@newsreader.iphouse.net>
Source record: 11444

Lostgallifreyan wrote:
>>
>
> Well, I wondered about non-euclidean geometry for a moment, then remembered
> Greg House saying something about working smart, not hard, and no-one said I
> couldn't plunder Wikipedia, so....
>
> Actually, before I got there, I wasn't even sure if what Adams had denied was
> that "six times nine equals thirteen is wrong", or that he denied the more
> interesting case that it was its correctness in base 13 that explained the
> 'answer'. Apparently he did deny it. Which doesn't mean it isn't true. :) But
> according to Wikipedia's stuff, he chose a small number that looked ordinary
> and totally unprofound. Which means that he let whim, i.e. unconscious
> conditioning hold sway, without attempt to mediate it. Given that the English
> colloquilasm would never be entirely far from a writer wose native language
> and culture was English, I stand by my 'theory'. :) Though I'd like to know
> if he was ever directly questioned about the 'sixes and sevens' thing and
> denied it. Even then, he would be telling the truth if it hadn't been
> conscious. MUCH more like he was influence ny this that by base 13, no?
>
> Maybe you should get me started on my idea for The Long Dark Teatime Of The
> Soul, you might like it. :) The only thing I'll say about it now, unprompted,
> is that in this case the allusion isn't English, it's French.

Someone I have had as a boss at 3 companies is totally convinced that
Adams meant it's all a throw of the dice since you get 42 when you add
up all sides of two dice.

tom
K0TAR

45. Maybe Art Will Explain...?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 11:07:38 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <207e00f9-be3f-4edd-ba07-b58cff35b2ed@m25g2000yqc.googlegroups.com>
Source record: 11445

http://antwrp.gsfc.nasa.gov/apod/ap100103.html

46. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 11:26:32 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF57465220EEzoodlewurdle@216.196.109.145>
Source record: 11446

Richard Clark <kb7qhc@comcast.net> wrote in
news:noovj55fjv82203s7aud4mm0ln1fq2ukdr@4ax.com:

> On Sat, 02 Jan 2010 17:20:24 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>I haven't a clue about intermod, yet. One thing at a time.
>
> The term Intermod is probably mis-direction if you research it.
> Basically, if an nearby AM/FM/TV transmitter (and nearby can be on the
> scale of several miles) happens to excite your antenna; then its
> developed voltage will overload the frontend (Intermod follows, but
> the products are not what I am emphasizing here). This overload can
> be many, many kHz, or MHz from the intended and tuned signal; and yet
> this frequency remote signal will develop an AGC that drives down gain
> on your intended signal.
>
> This characteristic is VERY common for untuned frontends in modern
> receivers. It is not often noted for poor antennas (those whips, when
> they are used for SW), but when a real antenna is attached *BINGO*
> sensitivity goes down the toilet. By providing a tuned input, the
> side-signal that would otherwise silently drive AGC is attenuated, and
> AGC is developed only by the in-band signals.
>

Ok, this is cool, I understand that, and I also see that it doesn't really
concern intermodulation products as the initial problem is a bigger one if it
occurs. Can't help wondering why a receiver doesn't do some tuning before the
AGC for exactly this reason, but never mind...

>>Right now I see at
>>least three contradictions (re ground rods, transformers, and feedlines)
>>with advice from several people, one of which (the guy who wrote the
>>description of the antenna and balanced line I mentioned) is part of a
>>group of hams who is turned to for advice by the others. No guarantee of
>>correctness, perhaps, but if I keep on being told I'm wrong when my
>>stuff is coming as directly as I can get it from others with experience,
>>then as far as I'm concerned I'll do what I think best and get out of
>>the crossfire.
>
> A reasonable posture.
>
>>Specifically, many times
>>I've seen advice that service grounds are not adequate because of common
>>mode noise and local currents, hence the ground rod you vehemently

>>negate.
>
> I don't negate its use, I say that it is NOT RF ground. If you tie
> this ground rod to the service ground, then that wire will probably
> act more in your behalf than either "ground." There is a world of
> difference between safety grounds (what those rod-thingies are) and RF
> grounds (which often don't go into ground at all).
>
> Ground is a long and rich story that has been celebrated in this group
> for years. It deserves respect and attention well beyond these few
> words.
>

True, I don't doubt that for an instant, but it's also a question of what is practical, and what is recomended by most people I've read words from at times during the last 30 years or more. While I know that CB'ers would just stick a magmount on their car's steel rooftop as often as not, and have read of other schemes that place some small horizontal plate below the antenna, there's a lot of scope between that and a rod driven into salty ocean shoreline. Most people I ever came across asserted the importance of a ground rod local to the antenna to couple with the local water table which is as close as most ever get to the ocean unless they really like getting their feet wet while they sit around at home. The proximity is as close to the point where they want to pick up RF as they're going to get, and means less noise from buildings full of electrical stuff picked up on metal between antenna and whatever other ground might be provided elsewhere. This has been the ONE common factor in pretty much everything I've seen on land-based AM reception. Anything that directly appears to negate that advice makes it hard to know what to trust, and certainly needs to be clearly explained.

>>I can
>>ground to service ground at near end but if the receiver is on
>>batteries, not connected to anything except a transformer coupling RF
>>from the antenna, then the ground only needs to be at the antenna end,
>>according to advice I've seen in several places.
>
> To your specific arrangement - quite true. However, many who have
> claimed to have made every precaution then connect their receiver to
> an amplifier, computer, what-you-might-call-it and a new path to
> ground winds its way through interesting environments that are RF
> rich.
>

I agree. The moment I try to connect to a system that includes a computer, mixer, multiple supply grounds, as mine does, I'll be using a local service ground and improving it the same as I would for audio, though it's currently ok for that, at least. It already uses a star grounding system where possible, as recommended by audio studio designers and others. There's actually a supply ground rod outside the front door too, which presumably helps more than the original wiring 15 years ago which didn't have that. (But note below, where I mention isolation).

>>Even if I do ground to a water pipe or other local ground,
>>all advice I see until now insists on having a ground rod as close to
>>the antenna as possible, no matter what else I do, yet now you urge
>>against this.
>
> I urge against mixing grounds. Such things arrive by the most benign
> and seemingly inconsequential actions.
>

Hence the star network I mentioned, advised for audio setups.. It's kind of why I wonder about what many suggest, grounding a coax at both ends, and even in the middle if you want, and certainly to bury it. More importantly it's why the Dallas Lankford design appeals to me. Isolation baluns that transfer energy rather than use direct contact coupling look like a good way to avoid the ground problems while also avoiding local noise pickup because the twin cable will have good common mode rejection as it passes into the electrically noisy bulding. (Though I can't help wondering if Dallas Lankford also tried balanced microphone cable with a screen grounded at one end, just to see what happened) Such methods have long been used in audio; is RF below 30 MHz really so different in this case? So long as that line doesn't have dire resonances of it's own, isn't attenuation the only big risk? Dallas Lankford certainly thinks it works after working with it for at least 2 years. He says that if you do it as described it will be low noise. (As opposed to 'reducing'). I don't think he's claiming any means of reduction, just saying it's lower relative to inherently noisier systems, if wired as decribed. Based on what I know, the claim seems good.

>>I will stop asking for advice if all I see is vigorous contradiction
>>between people who claim knowledge I do not have. Diverting that
>>disagreement to one with me doesn't alter this, I did not originate the
>>info behind the choices I am considering. Even if all the various
>>contributors come here and duke it out between them it appears I'll be
>>none the wiser.
>
> Attention to one detail at a time helps, but a lot of this arrived
> through responding to the query for antenna port Z. Those adjuncts
> that massage input/output Z also fold in the discussion of ground.
>

Agreed. But this is why instead of asking more questions whose answers I am probably not prepared for, I described the simplest and apparently best scheme I'd learned of so people see it whole and work from there...

> Convention has it that you start a new thread for each side-topic that
> drives you into conniptions.

Ah. :) Well, I thought that's exactly what would annoy people most. If something directly arises from discussion in a thread, most people tend to keep it there. I already do start a new one if I'm certain the issue is different, and if I'm originating it.

> Asking about the facts and foibles of
> ground would be a good start on a new thread - especially when Art's

> wet-dreams descend into discussion of particle duality self
> annihilation driving all participation away from antenna design. For
> instance "Why are ground rods considered insufficient for RF
> application?"
>
> I am content to respond to either discussion.
>
> 73's
> Richard Clark, KB7QHC
>

Well, sure, if I am asking a direct technical or practical question. But while I'm still slightly reeling from what appears to be a dissention with what otherwise appears to be good advice, I like to keep the discussion in one place, otherwise confusion reigns and spreads to many threads. Trust me, that might annoy people. :) At least in this thread it might be useful to anyone who has that radio.

47. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 11:38:54 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5767CC57A6zoodlewurdle@216.196.109.145>
Source record: 11447

"Mike Kaliski" <michael.kaliski@tesco.net> wrote in
news:NZCdnRc0Svn-c6LWnZ2dnUVZ7v6dnZ2d@bt.com:

> There is nothing inherently wrong with the receiving system you have
> decided upon but it will undoubtably overload your receiver with signals
> and you will be puzzled as to why the reception seems poorer with more
> noise pickup rather than less.
>

One reason I chose it is that it isn't trying that hard for extreme signal capture. It appeared to be small, easy to use where I have limited space, and include a transformer that I have read in numerous places partially solves one of the main reasons for strongly differing signal strength with frequency.

> As Richard has stated you need some form of preselection to filter out
> the unwanted signals before they get into your radio. Basically this is
> a tuneable filter which only allows through a single band of frequencies
> at a time. The following site explains the essentials.
>
> http://www.dxing.com/tnotes/tnote07.pdf
>

Looks good, I'm not keen on lots of widgets as it happens, fewer and better widgets that co-operate well works better for me.

> You can buy commercial preselectors but they will probably cost as much
> as your radio. As they are generally passive devices built from a set of
> switched coils and a variable capacitor they last forever and old ones
> do come up from time to time at junk sales and the like. It is possible
> to make a simple filter to cover just one or two bands that interest
> you.
>
> By all means, try the external antenna system but be prepared to buy a
> 'better' receiver with front end band pass filters or a preselector.
>

The pre-selection thing isn't a problem, I can see why that helps, and did so much earlier than now. The point that disconcerts me strongly is what appears to be significant difference of opinion between experts, especially when it applies to things as well established as ground rods. Again, this is why I won;t just ask questions. Context is clearly everything, so instead I describe the whole scheme I'm considering. Ultimately it's quicker that way.

48. Re: Science update,particle wave duality

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 11:44:03 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5775C4FC58zoodlewurdle@216.196.109.145>
Source record: 11448

tom <news4792@taring.org> wrote in
news:4b3ff480$0$47480$8046368a@newsreader.iphouse.net:

> Lostgallifreyan wrote:
>>>
>>
>> Well, I wondered about non-euclidean geometry for a moment, then
>> remembered Greg House saying something about working smart, not hard,
>> and no-one said I couldn't plunder Wikipedia, so....
>>
>> Actually, before I got there, I wasn't even sure if what Adams had
>> denied was that "six times nine equals thirteen is wrong", or that he
>> denied the more interesting case that it was its correctness in base 13
>> that explained the 'answer'. Apparently he did deny it. Which doesn't
>> mean it isn't true. :) But according to Wikipedia's stuff, he chose a
>> small number that looked ordinary and totally unprofound. Which means
>> that he let whim, i.e. unconscious conditioning hold sway, without
>> attempt to mediate it. Given that the English colloquilasm would never
>> be entirely far from a writer wose native language and culture was
>> English, I stand by my 'theory'. :) Though I'd like to know if he was
>> ever directly questioned about the 'sixes and sevens' thing and denied
>> it. Even then, he would be telling the truth if it hadn't been
>> conscious. MUCH more like he was influence ny this that by base 13, no?
>>
>> Maybe you should get me started on my idea for The Long Dark Teatime Of
>> The Soul, you might like it. :) The only thing I'll say about it now,
>> unprompted, is that in this case the allusion isn't English, it's
>> French.
>
> Someone I have had as a boss at 3 companies is totally convinced that
> Adams meant it's all a throw of the dice since you get 42 when you add
> up all sides of two dice.
>
> tom
> K0TAR
>

Yep, that's a nice one. I still like mine better though. Adams liked to play
with language directly, it would have appealed to him even if it wasn't how
he got there.

Any thoughts on tea? That was another mild obsession with him, and extends
obviously, though strangely, into the Teatime thing. Consider it a hint. :)

49. Re: Maybe Art Will Explain...?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 13:31:47 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <749a4f22-6091-4ea0-8337-a8245752024e@d20g2000yqh.googlegroups.com>
Source record: 11449

On Jan 3, 11:07 am, Richard Fry <r...@adams.net> wrote:
> http://antwrp.gsfc.nasa.gov/apod/ap100103.html

yes, i am sure he will. and it will include something about the weak
force and the earth's rotation.

50. Re: Maybe Art Will Explain...?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 14:49:21 UTC
From: IanT <noemail@email.co.uk>
Message-ID: <hhqapoqht1@news.eternal-september.org>
Source record: 11450

"Richard Fry" <rfry@adams.net> wrote in message
news:207e00f9-be3f-4edd-ba07-b58cff35b2ed@m25g2000yqc.googlegroups.com...

Explain what? Your message is incomplete and looks blank.
Although you might know what you're thinking and talking about - no one else
does.

HTML-STRIP v1.4b

51. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 15:13:09 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4b40b409$0$1134$4fafbaef@reader1.news.tin.it>
Source record: 11301

"mr1956" <mr1956@comcast.net> ha scritto nel messaggio
news:39f0628c-9bc2-4978-bd79-c1ff4468cd57@m11g2000vbo.googlegroups.com...
>I have posted on here before and found the member's comments very
> helpful so here it goes again.
>
> I am trying to stack two Yagi antennas to form a ground station to
> receive GPS data from an experimental rocket. The rocket portion of
> the system has already been tested but now I have two antennas to
> couple together to make up the receiving end. The particulars are as
> follows:
>
> I have two 11 db 900 MHz Yagis (Pacific Wireless), both of which have
> 50 ohm pigtails. I am trying to hook these together in a cross
> polarized fashion and need to insert two 75 ohm impedance matching
> cables so that I end up with 50 ohms at the cable end attached to the
> input of my receiver. Basically, there will be the two antennas,
> matching sections, a tee connector, then the single coax going to the
> receiver.
>
> I figure that 75 ohm RG-11 coax should work for this purpose and am
> trying to calculate the correct length of these impedance matching
> sections. One formula I have found online is as follows:
>
> Length (feet) = 246 * VF / Frequency (MHz)
>
> The transmitter sends RF via Frequency Hopping Spread Spectrum from
> 910 to 918 MHz; consequently, I am using 914 MHz as a baseline.
>
> When I plug in the numbers, I get a length of about 2.1" for the
> length of the 75 ohm matching sections. Needless to say, it will be
> difficult if not impossible to do a 2.1" length of RG-11 cable with
> two connectors. I have considered basically fabricating a "tee"
> section out of two short lengths of the 75 ohm coax and RG-8 going to
> the receiver (soldering the whole thing together), then connecting the
> two Yagi antennas to that.
>
> I suppose my question is this: Is there a longer multiple of
> wavelength I can use for the impedance matching 75 ohm sections to
> develop a more practical design for what I need? Or, am I stuck with
> the 2.1" length due to the frequency?
>
> Thanks,
>
> Curt Newport

The answer to your question is yes. You can use odd multiples of the calcuated length (my calculation give 2.13" for PE-insulated cables like RG-11, or 2.25" for teflon insulated cables. For foam-insulated cables, calculation must take into account the actual cable velocity factor).

However, at 900 MHz, building the coax combiner you have described would be an headache, due to the difficulty of precisely calibrating the coax pieces length and to verify their performance.

For a receive-only system a solution you may consider is to use a small preamplifiers connected to each antenna connector, either directly if feasible, or using a very short piece of coax.

Doing so, the receive system signal-to-noise ratio would be set by the preamplifiers and not influenced by any loss occurring after them. So you could combine the two preamplifier output signals fully disregarding the impedance issue. You must only make sure that the two coax lengths joining the preamplifiers to the summation point are of identical length (whatever it is), so that the two signals get summed in phase. You could even use small coaxial cables (e.g. RG-58 or perhaps even RG-174 depending on length) that can be very easily handled, as any attenuation after the preamplifiers will not influence the receive system noise figure (within certain limits).

The above arrangement would be OK if using two antennas having the same polarization. But reading your post it seems to me that this is not the case. As a matter of fact, if I understood it correctly:

- you wish to mount one antenna on horizontal polarization and the other one on vertical polarization
- your objective is to receive a linearly polarized signal with a randomly slanted polarization plane.

If so, combining the two antennas using identical pieces of coax, you would obtain a system polarized on a 45-deg slanted plane, that would not help in receiving randomly polarized signals (signals that are orthogonal, or nearly so, to the antenna polarization plane would be strongly attenuated). You should instead aim at obtaining a circular polarization which causes a steady 3 dB loss independently of the signal polarization plane.

To do that you must introduce an extra 90-degree phase shift by adding a quarter-wavelength 50-ohm section to one of the two indentical-length 75-ohm coax pieces.

All this in theory. In practice I doubt that, at 900-MHz, a system like that would behave precisely as expected.

Regards.

Tony I0JX, Rome Italy

52. Re: Maybe Art Will Explain...?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 15:31:28 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF59DEC34F12zoodlewurdle@216.196.109.145>
Source record: 11302

"IanT" <noemail@email.co.uk> wrote in
news:hhqapoqht1@news.eternal-september.org:

>
> "Richard Fry" <rfry@adams.net> wrote in message
> news:207e00f9-be3f-4edd-ba07-b58cff35b2ed@m25g2000yqc.googlegroups.com...
>
> Explain what? Your message is incomplete and looks blank.
> Although you might know what you're thinking and talking about - no one
> else does.
>
>
> HTML-STRIP v1.4b
>
>
>

Prepend the needed http thinger to antwrp.gsfc.nasa.gov/apod/ap100103.html or maybe adapt your HTML filter to write direct links as plain text. Seems to me it deleted it entirely.

53. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 16:52:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ufh1k5li577s9m8d26jj1l9ta3hmnokjrm@4ax.com>
Source record: 11303

On Sun, 03 Jan 2010 05:26:32 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>
>Most people I ever came across asserted the importance of a ground
>rod local to the antenna to couple with the local water table which is as
>close as most ever get to the ocean unless they really like getting their
>feet wet while they sit around at home.

In fact, this almost always NEVER happens. Skin effect defines the
layer depth of RF in ground. An 8 foot rod is like a splinter when
you are trying to harpoon a Blue Whale.

Ground rod engineering has been discussed in this forum to great depth
(pun intended, or not). The rods are as well understood as water
witching forks. In the HF region, single or several rods have no
practical RF use whatever. Above HF, absolutely no one gives them any
thought.

>The proximity is as close to the
>point where they want to pick up RF as they're going to get, and means less
>noise from buildings full of electrical stuff picked up on metal between
>antenna and whatever other ground might be provided elsewhere. This has been
>the ONE common factor in pretty much everything I've seen on land-based AM
>reception. Anything that directly appears to negate that advice makes it hard
>to know what to trust, and certainly needs to be clearly explained.

When you can't do anything else that is effective, a ground rod seems
like more than enough. It is certainly a need for safety's sake,
especially when your vertical could be a lightning magnet. Consider
that same antenna: is it directly GROUNDED? Or is it floating? If
ground is a panacea, I bet most of your advisors immediately isolate
their antenna from it. One has to wonder about faith....

Either design works with equal efficiency. You simply need a coupling
system to the grounded antenna design. One method is using a folded
monopole. Other methods abound (which are often confined to yagi
driven element discussion, but are eminently applicable here).

>The moment I try to connect to a system that includes a computer,
>mixer, multiple supply grounds, as mine does, I'll be using a local
>service ground and improving it the same as I would for audio, though it's
>currently ok for that, at least. It already uses a star grounding system
>where possible, as recommended by audio studio designers and others. There's
>actually a supply ground rod outside the front door too, which presumably
>helps more than the original wiring 15 years ago which didn't have that. (But

>note below, where I mention isolation).

The Star system is great for exactly as you understand and describe it, but for antenna applications that remote ground could act as a suicide adapter if it does not have its own path to the service ground. Yes, this violates the star, but when path lengths include a lot of resistance and leakage current, voltages can become considerable when you supply a new avenue through your home. This is the story of the classic ground loop.

>Hence the star network I mentioned, advised for audio setups.. It's kind of
>why I wonder about what many suggest, grounding a coax at both ends, and even
>in the middle if you want, and certainly to bury it. More importantly it's
>why the Dallas Lankford design appeals to me. Isolation baluns that transfer
>energy rather than use direct contact coupling look like a good way to avoid
>the ground problems while also avoiding local noise pickup because the twin
>cable will have good common mode rejection as it passes into the electrically
>noisy bulding. (Though I can't help wondering if Dallas Lankford also tried
>balanced microphone cable with a screen grounded at one end, just to see what
>happened) Such methods have long been used in audio; is RF below 30 MHz
>really so different in this case? So long as that line doesn't have dire
>resonances of it's own, isn't attenuation the only big risk? Dallas Lankford
>certainly thinks it works after working with it for at least 2 years. He says
>that if you do it as described it will be low noise. (As opposed to
>'reducing'). I don't think he's claiming any means of reduction, just saying
>it's lower relative to inherently noisier systems, if wired as decribed.
>Based on what I know, the claim seems good.

I'm not familiar with Dallas Lankford, but isolation and shielding techniques are topics I have visited professionally throughout the years and they are not simple. Without a concommitant discussion of the noise source, one wrong ground selection can wipe out all pursued benefits. Let's revisit one of your statements above:
>balanced microphone cable with a screen grounded at one end
Which end? Any choice stands an equal chance of being the wrong choice.

73's
Richard Clark, KB7QHC

54. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 18:30:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <70o1k5dmnfvmsjpqhdnl61pqqo6bp1m370@4ax.com>
Source record: 11304

On Sun, 03 Jan 2010 08:52:46 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>I'm not familiar with Dallas Lankford

I have since visited your suggested page to casually view his works.
Interesting set of circuits too (although, some of the phasing systems
have been superceded with shift registers - I used to use
bucket-brigade chips).

I was especially touched to see wide coverage of the R390A. It was
the subject of my first class that I taught in the Navy (along with
the Collins URC-32). Cadillac equipment. I note in his discussion of
stabilizing the BFO, he uses a Rubidium standard for comparison. I
calibrated quite a few of those Rubidium standards too with my Cesium
Beam whenever a Boomer came along side. An URQ-12 would have worked
as easily, but this discussion no doubt exceeds the capacity of your
wallet (the Navy provided such a candy store for my Metrology Lab).

73's
Richard Clark, KB7QHC

55. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 18:50:09 UTC
From: mr1956 <mr1956@comcast.net>
Message-ID: <2559c7aa-9179-4943-9479-c1a1a16103d4@s19g2000vbm.googlegroups.com>
Source record: 11305

This is all good information and I can appreciate the difficulty of
creating the 75 ohm matchings sections due to the precision involved.
I have however found a power divider for this frequency that should do
what I need with respect to stacking the two yagis.

That is probably the easiest solution in this case.

C. Newport

On Jan 3, 10:13 am, "Antonio Vernucci" <vernu...@tin.it> wrote:
> "mr1956" <mr1...@comcast.net> ha scritto nel
messaggionews:39f0628c-9bc2-4978-bd79-c1ff4468cd57@m11g2000vbo.googlegroups.com...
>
>
>
>
>
> >I have posted on here before and found the member's comments very
> > helpful so here it goes again.
>
> > I am trying to stack two Yagi antennas to form a ground station to
> > receive GPS data from an experimental rocket. The rocket portion of
> > the system has already been tested but now I have two antennas to
> > couple together to make up the receiving end. The particulars are as
> > follows:
>
> > I have two 11 db 900 MHz Yagis (Pacific Wireless), both of which have
> > 50 ohm pigtails. I am trying to hook these together in a cross
> > polarized fashion and need to insert two 75 ohm impedance matching
> > cables so that I end up with 50 ohms at the cable end attached to the
> > input of my receiver. Basically, there will be the two antennas,
> > matching sections, a tee connector, then the single coax going to the
> > receiver.
>
> > I figure that 75 ohm RG-11 coax should work for this purpose and am
> > trying to calculate the correct length of these impedance matching
> > sections. One formula I have found online is as follows:
>
> > Length (feet) = 246 * VF / Frequency (MHz)
>
> > The transmitter sends RF via Frequency Hopping Spread Spectrum from
> > 910 to 918 MHz; consequently, I am using 914 MHz as a baseline.
>
> > When I plug in the numbers, I get a length of about 2.1" for the
> > length of the 75 ohm matching sections. Needless to say, it will be

> > difficult if not impossible to do a 2.1" length of RG-11 cable with
> > two connectors. I have considered basically fabricating a "tee"
> > section out of two short lengths of the 75 ohm coax and RG-8 going to
> > the receiver (soldering the whole thing together), then connecting the
> > two Yagi antennas to that.
>
> > I suppose my question is this: Is there a longer multiple of
> > wavelength I can use for the impedance matching 75 ohm sections to
> > develop a more practical design for what I need? Or, am I stuck with
> > the 2.1" length due to the frequency?
>
> > Thanks,
>
> > Curt Newport
>
> The answer to your question is yes. You can use odd multiples of the calcuated
> length (my calculation give 2.13" for PE-insulated cables like RG-11, or 2.25"
> for teflon insulated cables. For foam-insulated cables, calculation must take
> into account the actual cable velocity factor).
>
> However, at 900 MHz, building the coax combiner you have described would be an
> headache, due to the difficulty of precisely calibrating the coax pieces length
> and to verify their performance.
>
> For a receive-only system a solution you may consider is to use a small
> preamplifiers connected to each antenna connector, either directly if feasible,
> or using a very short piece of coax.
>
> Doing so, the receive system signal-to-noise ratio would be set by the
> preamplifiers and not influenced by any loss occurring after them. So you could
> combine the two preamplifier output signals fully disregarding the impedance
> issue. You must only make sure that the two coax lengths joining the
> preamplifiers to the summation point are of identical length (whatever it is),
> so that the two signals get summed in phase. You could even use small coaxial
> cables (e.g. RG-58 or perhaps even RG-174 depending on length) that can be very
> easily handled, as any attenuation after the preamplifiers will not influence
> the receive system noise figure (within certain limits).
>
> The above arrangement would be OK if using two antennas having the same
> polarization. But reading your post it seems to me that this is not the case. As
> a matter of fact, if I understood it correctly:
>
> - you wish to mount one antenna on horizontal polarization and the other one on
> vertical polarization
> - your objective is to receive a linearly polarized signal with a randomly
> slanted polarization plane.
>
> If so, combining the two antennas using identical pieces of coax, you would
> obtain a system polarized on a 45-deg slanted plane, that would not help in
> receiving randomly polarized signals (signals that are orthogonal, or nearly so,

> to the antenna polarization plane would be strongly attenuated). You should
> instead aim at obtaining a circular polarization which causes a steady 3 dB loss
> independently of the signal polarization plane.
>
> To do that you must introduce an extra 90-degree phase shift by adding a
> quarter-wavelength 50-ohm section to one of the two indentical-length 75-ohm
> coax pieces.
>
> All this in theory. In practice I doubt that, at 900-MHz, a system like that
> would behave precisely as expected.
>
> Regards.
>
> Tony I0JX, Rome Italy

56. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:07:26 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5C2891E191zoodlewurdle@216.196.109.145>
Source record: 11306

Richard Clark <kb7qhc@comcast.net> wrote in
news:ufh1k5li577s9m8d26jj1l9ta3hmnokjrm@4ax.com:

> On Sun, 03 Jan 2010 05:26:32 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>
>>
>>Most people I ever came across asserted the importance of a ground
>>rod local to the antenna to couple with the local water table which is
>>as close as most ever get to the ocean unless they really like getting
>>their feet wet while they sit around at home.
>
> In fact, this almost always NEVER happens. Skin effect defines the
> layer depth of RF in ground. An 8 foot rod is like a splinter when
> you are trying to harpoon a Blue Whale.
>
> Ground rod engineering has been discussed in this forum to great depth
> (pun intended, or not). The rods are as well understood as water
> witching forks. In the HF region, single or several rods have no
> practical RF use whatever. Above HF, absolutely no one gives them any
> thought.
>

True. I'm interested in using a single antenna for all of LW up to around 30
MHz as a simple starting point though, so Dallas Lankford's scheme seems to
fit the bill.

>>The proximity is as close to the
>>point where they want to pick up RF as they're going to get, and means
>>less noise from buildings full of electrical stuff picked up on metal
>>between antenna and whatever other ground might be provided elsewhere.
>>This has been the ONE common factor in pretty much everything I've seen
>>on land-based AM reception. Anything that directly appears to negate
>>that advice makes it hard to know what to trust, and certainly needs to
>>be clearly explained.
>
> When you can't do anything else that is effective, a ground rod seems
> like more than enough. It is certainly a need for safety's sake,
> especially when your vertical could be a lightning magnet. Consider
> that same antenna: is it directly GROUNDED? Or is it floating? If
> ground is a panacea, I bet most of your advisors immediately isolate
> their antenna from it. One has to wonder about faith....
>

Safety is important, even though lightning strike isn't that big a risk here. Actually it's risen because nearly all large trees have been removed in the last two years, and I'd be held reponsible for any damage caused that way.

If you look at that PDF you'll see the 15' whip antenna is directly connected to ground through 80 turns of wire on a ferrite toroid. I might add a spark gap in parallel as that wire is not a high current path. So long as it is much more likely to go to ground rather than along the line in to the house, I'll have done what I'm supposed to do. The trouble would only exist (other than unpreventable natural excesses) if it were evident that I had not done this.

> Either design works with equal efficiency. You simply need a coupling
> system to the grounded antenna design. One method is using a folded
> monopole. Other methods abound (which are often confined to yagi
> driven element discussion, but are eminently applicable here).
>

That PDF shows the coupling in this case. It's similar to other ideas recommended for similar small SW listening setups. Once I have all I need to try it I'm just as happy to try experimenting to see what happens as to try any plan. There are some limits though, the location is too built up to expect much from anything intended to be directional. I'm just intending to look around, not looking out there for something specific.

>>The moment I try to connect to a system that includes a computer,
>>mixer, multiple supply grounds, as mine does, I'll be using a local
>>service ground and improving it the same as I would for audio, though
>>it's currently ok for that, at least. It already uses a star grounding
>>system where possible, as recommended by audio studio designers and
>>others. There's actually a supply ground rod outside the front door too,
>>which presumably helps more than the original wiring 15 years ago which
>>didn't have that. (But note below, where I mention isolation).
>
> The Star system is great for exactly as you understand and describe
> it, but for antenna applications that remote ground could act as a
> suicide adapter if it does not have its own path to the service
> ground. Yes, this violates the star, but when path lengths include a
> lot of resistance and leakage current, voltages can become
> considerable when you supply a new avenue through your home. This is
> the story of the classic ground loop.
>

Well, a ground rod isn't going to cost much, and making and breaking connections to it is one of the easiest and cheapest things I'll be able to do, so I'll test that empirically when I'm ready. I won't try to predict it now. Whenever I find some new ground noise problem in anything I do here, I usually manage to isolate it and solve it acceptably within an hour or less, so I'll trust my chances. Usually the purpose hasn't been for RF, but quite often the sources did involve RF too so my instincts might help me more than my knowledge.

>>Hence the star network I mentioned, advised for audio setups.. It's kind
>>of why I wonder about what many suggest, grounding a coax at both ends,
>>and even in the middle if you want, and certainly to bury it. More
>>importantly it's why the Dallas Lankford design appeals to me. Isolation
>>baluns that transfer energy rather than use direct contact coupling look
>>like a good way to avoid the ground problems while also avoiding local
>>noise pickup because the twin cable will have good common mode rejection
>>as it passes into the electrically noisy bulding. (Though I can't help
>>wondering if Dallas Lankford also tried balanced microphone cable with a
>>screen grounded at one end, just to see what happened) Such methods have
>>long been used in audio; is RF below 30 MHz really so different in this
>>case? So long as that line doesn't have dire resonances of it's own,
>>isn't attenuation the only big risk? Dallas Lankford certainly thinks it
>>works after working with it for at least 2 years. He says that if you do
>>it as described it will be low noise. (As opposed to 'reducing'). I
>>don't think he's claiming any means of reduction, just saying it's lower
>>relative to inherently noisier systems, if wired as decribed. Based on
>>what I know, the claim seems good.
>
> I'm not familiar with Dallas Lankford, but isolation and shielding
> techniques are topics I have visited professionally throughout the
> years and they are not simple. Without a concommitant discussion of
> the noise source, one wrong ground selection can wipe out all pursued
> benefits. Let's revisit one of your statements above:
>>balanced microphone cable with a screen grounded at one end
> Which end? Any choice stands an equal chance of being the wrong
> choice.
>

Well, I did think of that. :) And I didn't state it because I didn't know for sure. As I imagine that local RF couplings from various digital devices might place small currents on the local ground, I imagine that grounding a shield at the remote ground makes sense. Doesn't matter to me though. It's far easier and faster to experiment than to try to predict because there are only two ways to try. Dallas Lankford directly states that no shield is even required, and I doubt he'd have said that if he couldn't demonstrate it, and as that line is a two-wire loop that has no direct contact with anything, it should reject any common mode noise that hits it. Even in audio this matters because the same method is used to reject RF pickup on audio lines. I think some people persist in baluns instead of op-amp common mode rejection specs for this reason, despite the chances of modest distortion in audio bands from the transformers used. Not entirely relevant but it illustrates how people can find themselves choosing between two less-than-ideal circumstances for best effect.

I understand that noise context matters for a real attempt to plan for it, but that's far more difficult that presenting the basic antenna scheme.

57. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:10:17 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5C304F98E7zoodlewurdle@216.196.109.145>
Source record: 11307

Richard Clark <kb7qhc@comcast.net> wrote in
news:70o1k5dmnfvmsjpqhdnl61pqqo6bp1m370@4ax.com:

> On Sun, 03 Jan 2010 08:52:46 -0800, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>>I'm not familiar with Dallas Lankford
>
> I have since visited your suggested page to casually view his works.
> Interesting set of circuits too (although, some of the phasing systems
> have been superceded with shift registers - I used to use
> bucket-brigade chips).
>
> I was especially touched to see wide coverage of the R390A. It was
> the subject of my first class that I taught in the Navy (along with
> the Collins URC-32). Cadillac equipment. I note in his discussion of
> stabilizing the BFO, he uses a Rubidium standard for comparison. I
> calibrated quite a few of those Rubidium standards too with my Cesium
> Beam whenever a Boomer came along side. An URQ-12 would have worked
> as easily, but this discussion no doubt exceeds the capacity of your
> wallet (the Navy provided such a candy store for my Metrology Lab).
>
> 73's
> Richard Clark, KB7QHC
>

Not just my wallet. :) This is cool though, I have encountered both bucket
brigade IC's and shift registers. Offtopic question: Did the bucket brigade
lead directly to the switched capacitor filter? I ask because they seem
related, and the BB seems to have become obsolete, but the SCF, anything but.

58. The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:11:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m7p1k55ejj5rp01pd8legqvbs1gv9uqv56@4ax.com>
Source record: 11308

>The gain of the 15 foot noise reducing vertical is about -15 dB
reference:
http://www.kongsfjord.no/dl/Antennas/The%20Best%20Small%20Antennas%20For%20MW,%20LW,%20And%20SW%20rev%202.pdf

In a brief review of the article by the name found in the Subject line, I came across this bare quote offered above. It contains not one, but two unsupported claims that seem to be commonly encountered in the Short Wave Listening community.

The first that is more easily supported or denied is the gain claim of -15 dB. Where does this loss come from? Without any substantiation beyond the inference of comparison to "active antennas," it seems to be lost to indirect references in other writings. However arrived at, this claim is suspicious in the extreme - unless it is a vague and offhand substitution for antenna system gain which goes to the heart of the matter of a poor ground system. If so (the loss is found in the absence of an adequate counterpoise), that is indeed low hanging fruit that has been left rotting on the limb.

As for the noise reducing claim, this, too, appears to arrive through indirection or muddied with discussion of active systems. I can only surmise that the lowered noise was the noise of the added circuitry of the active antennas. If you discard the amps, I suppose you can claim you've improved the noise which brings us to the Gordian knot of the low gain needing those amplifiers - most curious writing.

>At least one person has claimed that noise reducing antennas are
>noisy. But when I quizzed him about his implementation,
>it turned out that he had not implemented the antenna correctly.
>If you do not follow the instructions,
>then you may end up with a noise increasing antenna like he did.

Good reporting would have described the defect so that the solution could be observed as rational rather than prescribed.

>much to my amazement, that long coax (50 feet) lead
>often degrades 2nd order intercepts of active
>whip antennas by 20 dB or more and degrades
>3rd order intercepts of active whip antennas by up to
>10 dB, depending on the type of active whip antenna.

It would appear that "depending on the type of" antenna begs the question why coax is the culprit. I can see how this kind of writing spawns a new superstition of the superiority of twin lead.

More could be said about Common Mode suppression (which the designs on this page do NOT entirely address).

73's
Richard Clark, KB7QHC

59. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:12:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <31r1k5dmshhq7r9sbltvre03nbkenral0p@4ax.com>
Source record: 11309

On Sun, 03 Jan 2010 13:10:17 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Did the bucket brigade
>lead directly to the switched capacitor filter?

Same thing if I read you correctly.

73's
Richard Clark, KB7QHC

60. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:25:30 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5C59991511zoodlewurdle@216.196.109.145>
Source record: 11310

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9CF5C304F98E7zoodlewurdle@216.196.109.145:

> It was
>> the subject of my first class that I taught in the Navy

Curious... You might have experiences that give useful insight into something I'm discussing in another group, some off-the-wall topic I entered into during a quiet new-year's moment in alt.lasers... I can accept that you might not want to get into that at all once you see it but if you do I welcome the input because as I state there, one issue is to find helpful signals rather than the noise such discussions usually provoke. But it might be a lengthy misdirection if you're busy so I won't push the point. But I will say now that my dad was a naval officer when he was younger and he SAW that thing I described right there with me, and he had no clue either. I just keep thinking that some people in the navy might be better able to explain it than most, especially if they have a strong science or engineering background.

61. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:28:48 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5C628EF859zoodlewurdle@216.196.109.145>
Source record: 11311

Richard Clark <kb7qhc@comcast.net> wrote in
news:31r1k5dmshhq7r9sbltvre03nbkenral0p@4ax.com:

> On Sun, 03 Jan 2010 13:10:17 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Did the bucket brigade
>>lead directly to the switched capacitor filter?
>
> Same thing if I read you correctly.
>
> 73's
> Richard Clark, KB7QHC
>

Interesting. I guess fabrication accuracy and timing accuracy improvements led to its sharp cutoff and improved ability. I'm using one in some project I have on hold, a way to get pitched sounds to control MIDI signals for musical instrument control. I'll stop that line of thought there though, I'm not ready to go into that project for a while.

62. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:37:42 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5C7AB9AE7Bzoodlewurdle@216.196.109.145>
Source record: 11312

Richard Clark <kb7qhc@comcast.net> wrote in
news:m7p1k55ejj5rp01pd8legqvbs1gv9uqv56@4ax.com:

>
>>The gain of the 15 foot noise reducing vertical is about -15 dB
> reference:
> http://www.kongsfjord.no/dl/Antennas/The%20Best%20Small%20Antennas%20For%
> 20MW,%20LW,%20And%20SW%20rev%202.pdf
>
> In a brief review of the article by the name found in the Subject
> line, I came across this bare quote offered above. It contains not
> one, but two unsupported claims that seem to be commonly encountered
> in the Short Wave Listening community.
>
> The first that is more easily supported or denied is the gain claim of
> -15 dB. Where does this loss come from? Without any substantiation
> beyond the inference of comparison to "active antennas," it seems to
> be lost to indirect references in other writings. However arrived at,
> this claim is suspicious in the extreme - unless it is a vague and
> offhand substitution for antenna system gain which goes to the heart
> of the matter of a poor ground system. If so (the loss is found in
> the absence of an adequate counterpoise), that is indeed low hanging
> fruit that has been left rotting on the limb.
>
> As for the noise reducing claim, this, too, appears to arrive through
> indirection or muddied with discussion of active systems. I can only
> surmise that the lowered noise was the noise of the added circuitry of
> the active antennas. If you discard the amps, I suppose you can claim
> you've improved the noise which brings us to the Gordian knot of the
> low gain needing those amplifiers - most curious writing.
>
>>At least one person has claimed that noise reducing antennas are
>>noisy. But when I quizzed him about his implementation,
>>it turned out that he had not implemented the antenna correctly.
>>If you do not follow the instructions,
>>then you may end up with a noise increasing antenna like he did.
>
> Good reporting would have described the defect so that the solution
> could be observed as rational rather than prescribed.
>
>>much to my amazement, that long coax (50 feet) lead
>>often degrades 2nd order intercepts of active
>>whip antennas by 20 dB or more and degrades
>>3rd order intercepts of active whip antennas by up to

>>10 dB, depending on the type of active whip antenna.
>
> It would appear that "depending on the type of" antenna begs the
> question why coax is the culprit. I can see how this kind of writing
> spawns a new superstition of the superiority of twin lead.
>
> More could be said about Common Mode suppression (which the designs on
> this page do NOT entirely address).
>
> 73's
> Richard Clark, KB7QHC
>

I don't know enough to query actual figures there, but I see the scheme as simple worth a try even without the amps. I've seen the term 'noise reducing' questioned, and I think rightly, but if it's just relative, if he has found the scheme to be less noisy than other schemes, he might just be using the term to indicate that. I do think the writing leaves gaps that should be filled, but again I figured that building it was easy to try. And I can always ask him, but I won't do that without setting up enough of it to test what I learn. Similarly I don't know any reason to assume the twin line is superior to coax. My provisional assumption is that its lack of direct contact with anything means that it probably isn't any worse. If it was, I think he'd have discovered that so obviously that he wouldn't be sticking his neck out like this.

63. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:40:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k3r1k5lvm6cp7pbqot4tgs8dnbv15s9eai@4ax.com>
Source record: 11313

On Sun, 03 Jan 2010 13:07:26 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>If you look at that PDF you'll see the 15' whip antenna is directly connected
>to ground through 80 turns of wire on a ferrite toroid. I might add a spark
>gap in parallel as that wire is not a high current path. So long as it is
>much more likely to go to ground rather than along the line in to the house,
>I'll have done what I'm supposed to do. The trouble would only exist (other
>than unpreventable natural excesses) if it were evident that I had not done
>this.

Yes, it is a grounded design. The folded monopole is simpler, however
and you can deal with matching identically. 80 turns of wire on a
ferrite toroid is going to test the limits of self-resonance, poor Q,
and efficiency across so large a span of frequency.

>Well, a ground rod isn't going to cost much, and making and breaking
>connections to it is one of the easiest and cheapest things I'll be able to
>do, so I'll test that empirically when I'm ready. I won't try to predict it
>now. Whenever I find some new ground noise problem in anything I do here, I
>usually manage to isolate it and solve it acceptably within an hour or less,
>so I'll trust my chances. Usually the purpose hasn't been for RF, but quite
>often the sources did involve RF too so my instincts might help me more than
>my knowledge.

Sounds like a lot of faith and work that will eventually require more
investment in faith and work. A shallow buried radial system would
puncture these superstitions.

>>Let's revisit one of your statements above:
>>>balanced microphone cable with a screen grounded at one end
>> Which end? Any choice stands an equal chance of being the wrong
>> choice.
>>
>
>Well, I did think of that. :) And I didn't state it because I didn't know for
>sure.

That's why I tossed that hand grenade into the mix.

>As I imagine that local RF couplings from various digital devices might
>place small currents on the local ground, I imagine that grounding a shield
>at the remote ground makes sense.

It does, but that isn't the complete solution if you don't choke the
feedline. Again, ground is not found in the rod you drive into the
earth (which, by the way, will take years to "cure" to the ground

resistance you hope to achieve).

>Doesn't matter to me though. It's far
>easier and faster to experiment than to try to predict because there are only
>two ways to try.

This is about experience. You will find (and I have found) damn
little reference to grounding by connection to the earth. It has
taken me years to accumulate these rare references. They have been
topics of discussion here (use google to search the archives).

>Dallas Lankford directly states that no shield is even
>required, and I doubt he'd have said that if he couldn't demonstrate it, and
>as that line is a two-wire loop that has no direct contact with anything, it
>should reject any common mode noise that hits it.

Many people make direct statements (hard not to in this environment
that relies on textual postings). You need to find a better source of
study material as it relates to Common Mode. Twin line suffers it
equally. Again, all such discussion arrives through where the source
and load are, not in the line between.

>Even in audio this matters
>because the same method is used to reject RF pickup on audio lines. I think
>some people persist in baluns instead of op-amp common mode rejection specs
>for this reason, despite the chances of modest distortion in audio bands from
>the transformers used. Not entirely relevant but it illustrates how people
>can find themselves choosing between two less-than-ideal circumstances for
>best effect.

You are confusing topics here. BalUns and what are properly chokes
are not always the same, although their discussion is often co-mingled
to considerable misunderstanding. BalUns are NOT transformers as you
might imagine from the point of view of AF. It is regrettable that
BalUns are called transformers, as their full nomenclature is
Transmission Line Transformer - meaning the transform of Z by
transmission lines that have their ends isolated through choking
action.

Lest that sound too obtuse: The best BalUns do not operate through
magnetic flux linkage. You are not in Kansas anymore.

>I understand that noise context matters for a real attempt to plan for it,
>but that's far more difficult that presenting the basic antenna scheme.

Hence the novelty of individual threads. Noise arrives in the same
manner as RF - it is indistinguishable until you put on your
headphones. Noise is what arrives between your ears.

In regards to this last epithet, I noticed that Lankford wrote a piece
about quad detectors. I first designed one 40 years ago and the
critical component missing in Lankford's discussion (and probably from
many such discussions surrounding this method of detection) is that

the two channel output of a phase quadrature detector is meant to drive STEREO headphones so that the last step of detection is found in the brain's capacity to differentiate noise from signal.

73's
Richard Clark, KB7QHC

64. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:46:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3ts1k51kalbumrjhhkkepet1mnhjfp9vvc@4ax.com>
Source record: 11314

On Sun, 03 Jan 2010 13:37:42 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

> I see the scheme as simple worth a try

There are a world of such schemes, and very little time in the span of
our short visit to this vale of tears.

First principles always satisfy and should be given primacy.

73's
Richard Clark, KB7QHC

65. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 19:56:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <06t1k5d6apatvn8acqqgtiqaf8fekqo215@4ax.com>
Source record: 11315

On Sun, 03 Jan 2010 13:25:30 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Lostgallifreyan <no-one@nowhere.net> wrote in
>news:Xns9CF5C304F98E7zoodlewurdle@216.196.109.145:
>
>> It was
>>> the subject of my first class that I taught in the Navy
>
>Curious... You might have experiences that give useful insight into something
>I'm discussing in another group, some off-the-wall topic I entered into
>during a quiet new-year's moment in alt.lasers... I can accept that you might
>not want to get into that at all once you see it but if you do I welcome the
>input because as I state there, one issue is to find helpful signals rather
>than the noise such discussions usually provoke. But it might be a lengthy
>misdirection if you're busy so I won't push the point. But I will say now
>that my dad was a naval officer when he was younger and he SAW that thing I
>described right there with me, and he had no clue either. I just keep
>thinking that some people in the navy might be better able to explain it than
>most, especially if they have a strong science or engineering background.

Well, I'm not sure what you are trying to bring up here. As far as
I'm concerned, any topic is open for discussion. If others fume and
fulminate about this being an antenna group, I can easily turn the
discussion into one that is antenna specific.

What did your Dad see? (We used to joke that after the Pueblo
incident they put Marine guards outside of the radio shack for
security. If the ship was in danger of being boarded they were to
step into the shack and shoot the operators. Then I went into the
submarine navy, aboard a tender, the USS Holland, AS-32. We had an
escort sub that followed us at sea - to sink us if the Ruskies got too
close. Ah, the humor of those days.)

73's
Richard Clark, KB7QHC

66. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 20:19:05 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5CEAE5A445zoodlewurdle@216.196.109.145>
Source record: 11316

Richard Clark <kb7qhc@comcast.net> wrote in
news:k3r1k5lvm6cp7pbqot4tgs8dnbv15s9eai@4ax.com:

> On Sun, 03 Jan 2010 13:07:26 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>If you look at that PDF you'll see the 15' whip antenna is directly
>>connected to ground through 80 turns of wire on a ferrite toroid. I
>>might add a spark gap in parallel as that wire is not a high current
>>path. So long as it is much more likely to go to ground rather than
>>along the line in to the house, I'll have done what I'm supposed to do.
>>The trouble would only exist (other than unpreventable natural excesses)
>>if it were evident that I had not done this.
>
> Yes, it is a grounded design. The folded monopole is simpler, however
> and you can deal with matching identically. 80 turns of wire on a
> ferrite toroid is going to test the limits of self-resonance, poor Q,
> and efficiency across so large a span of frequency.
>

Ok, I'll definitely extend reaserch to cover folded monopoles. (Another
curious term given that there has to be some kind of polarity there, but
never mind..) I'll be making by own transformers and housings so I don't mind
plenty of messing around with those.

> Sounds like a lot of faith and work that will eventually require more
> investment in faith and work. A shallow buried radial system would
> puncture these superstitions.
>

The yard out there is partially covered by most of the trunk of a large
felled lime tree, along with lots of branch logs, as part of an effort to
retain nutrients on land that is part of a limited strategy to preserve
wildlife in an urban district. Burying anything out there is harder work than
sinking a ground rod. :) I think I'm going to have to take my chances.

>>>Let's revisit one of your statements above:
>>>>balanced microphone cable with a screen grounded at one end
>>> Which end? Any choice stands an equal chance of being the wrong
>>> choice.
>>>
>>
>>Well, I did think of that. :) And I didn't state it because I didn't
>>know for sure.
>
> That's why I tossed that hand grenade into the mix.

>
>>As I imagine that local RF couplings from various digital devices might
>>place small currents on the local ground, I imagine that grounding a
>>shield at the remote ground makes sense.
>
> It does, but that isn't the complete solution if you don't choke the
> feedline. Again, ground is not found in the rod you drive into the
> earth (which, by the way, will take years to "cure" to the ground
> resistance you hope to achieve).
>

Even if I add a little salt water or dilute acid to accelerate that? This is something I've been considering.. By choking the feedline, do you mean placing ferrite slugs round it like those used on VDU cables? That's something else that will be cheap and easy to test empirically.

>>Doesn't matter to me though. It's far
>>easier and faster to experiment than to try to predict because there are
>>only two ways to try.
>
> This is about experience. You will find (and I have found) damn
> little reference to grounding by connection to the earth. It has
> taken me years to accumulate these rare references. They have been
> topics of discussion here (use google to search the archives).
>

I'll do that. I gravited to Usenet for exactly this reason, I already collected a few rare sources of info this way in other matters. A lot of the best stuff is in web archives of usenet posts. (Although for audio I found a single magazine called Sound On Sound to deal with it efficiently. Not RF, but it's not exactly far removed technology). I think a lot of good references just never reached the net, except via postings by people who have read them. or if they have, they're in university archives I can't reach anyway.

>>Dallas Lankford directly states that no shield is even
>>required, and I doubt he'd have said that if he couldn't demonstrate it,
>>and as that line is a two-wire loop that has no direct contact with
>>anything, it should reject any common mode noise that hits it.
>
> Many people make direct statements (hard not to in this environment
> that relies on textual postings). You need to find a better source of
> study material as it relates to Common Mode. Twin line suffers it
> equally. Again, all such discussion arrives through where the source
> and load are, not in the line between.
>

There looks like one difference. Any signal hitting a coax screen if used in this scheme will have a corresponding return current in the core wire, but if there is any frequency dependent effect based on the nature of the coax braid's dimensions or in the difference between that and those of the core wire, then complexites beyond my ken might result (and maybe just as likely

be insignificant). The equality of nature in each half of a twin wire appeals to me, so long as it actually works. Should be cheap and easy to test that one...

>>Even in audio this matters
>>because the same method is used to reject RF pickup on audio lines. I
>>think some people persist in baluns instead of op-amp common mode
>>rejection specs for this reason, despite the chances of modest
>>distortion in audio bands from the transformers used. Not entirely
>>relevant but it illustrates how people can find themselves choosing
>>between two less-than-ideal circumstances for best effect.
>
> You are confusing topics here. BalUns and what are properly chokes
> are not always the same, although their discussion is often co-mingled
> to considerable misunderstanding. BalUns are NOT transformers as you
> might imagine from the point of view of AF. It is regrettable that
> BalUns are called transformers, as their full nomenclature is
> Transmission Line Transformer - meaning the transform of Z by
> transmission lines that have their ends isolated through choking
> action.
>

Very likely I am missing plenty. Thing is, I see an unbalanced antenna-to-ground on one winding and an isolated and balanced line that loops back on itself carrying induced current from the other. It seems to me that balun and transformer are terms that apply equally there. In other words, it appears that the distinctions are neatly avoided while I am directed to exploit the common nature of the thing being used. Once I see if it works my interest will grow and I'll explore it further.

> Lest that sound too obtuse: The best BalUns do not operate through
> magnetic flux linkage. You are not in Kansas anymore.
>
>>I understand that noise context matters for a real attempt to plan for
>>it, but that's far more difficult that presenting the basic antenna
>>scheme.
>
> Hence the novelty of individual threads. Noise arrives in the same
> manner as RF - it is indistinguishable until you put on your
> headphones. Noise is what arrives between your ears.
>

That's actually the single best argument for empirical testing. :) Something else that audio work has told me many times...

> In regards to this last epithet, I noticed that Lankford wrote a piece
> about quad detectors. I first designed one 40 years ago and the
> critical component missing in Lankford's discussion (and probably from
> many such discussions surrounding this method of detection) is that
> the two channel output of a phase quadrature detector is meant to
> drive STEREO headphones so that the last step of detection is found in
> the brain's capacity to differentiate noise from signal.

>

That's interesting. I've considered exploiting that idea before now. Not in much detail, just in principle because I've heard sounds that needed this to resolve them.

67. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 20:23:27 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5CF6CDE99Ezoodlewurdle@216.196.109.145>
Source record: 11317

Richard Clark <kb7qhc@comcast.net> wrote in
news:3ts1k51kalbumrjhhkkepet1mnhjfp9vvc@4ax.com:

> On Sun, 03 Jan 2010 13:37:42 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>> I see the scheme as simple worth a try
>
> There are a world of such schemes, and very little time in the span of
> our short visit to this vale of tears.
>
> First principles always satisfy and should be given primacy.
>

My aim is to find something in a practical situation that demands compromise.
Even if I learn all the principles I can't expect to apply an ideal, so I'm
looking for schemes that might save time in finding something that works for
me. They can't all be misses. At least this one consists of parts I can
easily reuse. :)

68. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 20:33:06 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5D1101267Dzoodlewurdle@216.196.109.145>
Source record: 11318

Richard Clark <kb7qhc@comcast.net> wrote in
news:06t1k5d6apatvn8acqqgtiqaf8fekqo215@4ax.com:

> On Sun, 03 Jan 2010 13:25:30 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Lostgallifreyan <no-one@nowhere.net> wrote in
>>news:Xns9CF5C304F98E7zoodlewurdle@216.196.109.145:
>>
>>> It was
>>>> the subject of my first class that I taught in the Navy
>>
>>Curious... You might have experiences that give useful insight into
>>something I'm discussing in another group, some off-the-wall topic I
>>entered into during a quiet new-year's moment in alt.lasers... I can
>>accept that you might not want to get into that at all once you see it
>>but if you do I welcome the input because as I state there, one issue is
>>to find helpful signals rather than the noise such discussions usually
>>provoke. But it might be a lengthy misdirection if you're busy so I
>>won't push the point. But I will say now that my dad was a naval officer
>>when he was younger and he SAW that thing I described right there with
>>me, and he had no clue either. I just keep thinking that some people in
>>the navy might be better able to explain it than most, especially if
>>they have a strong science or engineering background.
>
> Well, I'm not sure what you are trying to bring up here. As far as
> I'm concerned, any topic is open for discussion. If others fume and
> fulminate about this being an antenna group, I can easily turn the
> discussion into one that is antenna specific.
>
> What did your Dad see? (We used to joke that after the Pueblo
> incident they put Marine guards outside of the radio shack for
> security. If the ship was in danger of being boarded they were to
> step into the shack and shoot the operators. Then I went into the
> submarine navy, aboard a tender, the USS Holland, AS-32. We had an
> escort sub that followed us at sea - to sink us if the Ruskies got too
> close. Ah, the humor of those days.)
>
> 73's
> Richard Clark, KB7QHC
>

Antennas? In this case you'd have your work cut out for you. :) Wasn't just
him who saw it. I saw it first, for an hour and a half, before I decided it
would stick around long enough to justify getting my parents to look at it

too. I'm a bit embarrssed to mention it here other than to point to it there, but it was two crossed 'beams' in the sky. Trust me, it's hell of a misdirection if you're not up for it, you'd have to go to alt.lasers and take a shufti at the posts there.. But I agree, opening it to discussion is good. I spend about 99.999999% of the time keeping it to myself but I'm getting too old to want to leave it as unresolved as it is now. If it has to be, ok, but I ought to try..

Submarines? Those scare me. I never had to go in one, I don't know if claustrophobia would have beaten me. I have found the sound of water passing all round me as I waited for sleep in a crew cabin below decks in a ship's bow to be one of the most comforting sounds I ever knew, so maybe I wouldn't have.

69. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 20:57:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sc02k5dr2scsd9qhi813b4123e0d2qpsps@4ax.com>
Source record: 11319

On Sun, 03 Jan 2010 14:19:05 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Burying anything out there is harder work than
>sinking a ground rod. :) I think I'm going to have to take my chances.

Consider the significance of "shallow" inches, not feet; and sometimes
barely beneath the surface if you have to. If you don't have to (no
trip hazards to worry about) on the surface is equally suitable. You
don't need bare wire, but you can use it - it doesn't matter.

Radials need only be as long as your vertical is high. 16 to a couple
of dozen are sufficient.

>Even if I add a little salt water or dilute acid to accelerate that? This is
>something I've been considering..

Don't go there. Curing takes years and is an issue of soil
compaction.

>By choking the feedline, do you mean
>placing ferrite slugs round it like those used on VDU cables? That's
>something else that will be cheap and easy to test empirically.

That is exactly one very good solution. You need to research the
appropriate ferrite mix which is frequency specific when we are
talking about huge swaths of LF to HF coverage.

>There looks like one difference. Any signal hitting a coax screen if used in
>this scheme will have a corresponding return current in the core wire,

This one statement exposes a very large problem in understanding about
the physics of coaxial cable.

>The equality of nature in each half of a twin wire appeals
>to me, so long as it actually works. Should be cheap and easy to test that
>one...

Actually, it is harder than you might imagine at first glance. Yes,
the methods are simple, but getting past preconceived notions is the
single greatest hurdle. Many engineers are ill suited to the task.

73's
Richard Clark, KB7QHC

70. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 21:35:54 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF5DBB56E6EDzoodlewurdle@216.196.109.145>
Source record: 11320

Richard Clark <kb7qhc@comcast.net> wrote in
news:sc02k5dr2scsd9qhi813b4123e0d2qpsps@4ax.com:

> On Sun, 03 Jan 2010 14:19:05 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Burying anything out there is harder work than
>>sinking a ground rod. :) I think I'm going to have to take my chances.
>
> Consider the significance of "shallow" inches, not feet; and sometimes
> barely beneath the surface if you have to. If you don't have to (no
> trip hazards to worry about) on the surface is equally suitable. You
> don't need bare wire, but you can use it - it doesn't matter.
>
> Radials need only be as long as your vertical is high. 16 to a couple
> of dozen are sufficient.
>

I won't have scope for that much but I can certainly run a few longer ones on
unpaved ground alongside walls if that helps. I've thought about doing that
anyway.

>>Even if I add a little salt water or dilute acid to accelerate that?
>>This is something I've been considering..
>
> Don't go there. Curing takes years and is an issue of soil
> compaction.
>

Ok. I intend to use one of those drills that have a hammer action without
runing, to push the rod in. If I find a rod with a slight taper that would
help.

>>By choking the feedline, do you mean
>>placing ferrite slugs round it like those used on VDU cables? That's
>>something else that will be cheap and easy to test empirically.
>
> That is exactly one very good solution. You need to research the
> appropriate ferrite mix which is frequency specific when we are
> talking about huge swaths of LF to HF coverage.
>

I will, I've already been looking into that so I don't have to blindly hunt
for some toroid by make and model number.. I notice the US has much easier
access to high permeability materials than the UK does, but no idea why this
is so. I saved a couple of PDF's with tables of frequency ranges vs materials

used.

>>There looks like one difference. Any signal hitting a coax screen if
>>used in this scheme will have a corresponding return current in the core
>>wire,
>
> This one statement exposes a very large problem in understanding about
> the physics of coaxial cable.
>
>>The equality of nature in each half of a twin wire appeals
>>to me, so long as it actually works. Should be cheap and easy to test
>>that one...
>
> Actually, it is harder than you might imagine at first glance. Yes,
> the methods are simple, but getting past preconceived notions is the
> single greatest hurdle. Many engineers are ill suited to the task.
>

Try me. All it needs is a clear statement that I can relate to something
I've already experienced. I'm well used to being cautious about what I learn.
Unless it's as tough as atomic physics, it should be digestible, even if
slowly. And I won't be able to taste it till tomorrow... got to sleep soon.
Thanks for this, it encourages me to take the time when others do.

> 73's
> Richard Clark, KB7QHC
>

71. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 21:49:46 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <vp32k5h5rkmohen72o39h5dcleh3kpqcib@4ax.com>
Source record: 11321

On Sat, 2 Jan 2010 09:08:16 -0800 (PST), mr1956 <mr1956@comcast.net>
wrote:

>I am trying to stack two Yagi antennas to form a ground station to
>receive GPS data from an experimental rocket.
(...)

The topic of model rocket telemetry communications was previously
covered in this thread:
<http://groups.google.com/group/rec.radio.amateur.antenna/browse_thread/thread/c158b265a04
1f9b6/>
While it doesn't answer your question about antenna stacking and
combining, it may offer some insight.

There was also this thread:
<http://groups.google.com/group/alt.internet.wireless/browse_thread/thread/108522ee8150506
9>
which involved model airplane control and tracking at 2.4GHz which
might be of interest.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

72. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-03 22:07:13 UTC
From: David Richardson <firsty@alphalink.com.au>
Message-ID: <4b411510$1@news.comindico.com.au>
Source record: 11322

Antonio wrote:

> Combining the two antennas using identical pieces of coax, you would
> obtain a system polarized on a 45-deg slanted plane, that would not help
> in receiving randomly polarized signals (signals that are orthogonal, or
> nearly so, to the antenna polarization plane would be strongly
> attenuated). You should instead aim at obtaining a circular polarization
> which causes a steady 3 dB loss independently of the signal polarization
> plane.
>
> To do that you must introduce an extra 90-degree phase shift by adding a
> quarter-wavelength 50-ohm section to one of the two indentical-length
> 75-ohm coax pieces.
>

Instead of this, why not use identical feedline lengths into a Tee and position one cross polarised antenna 0.25WL in front of the other, to obtain the 90-deg phase shift?

David, VK3BDK

73. Re: gte kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 00:46:53 UTC
From: Qrz Banned <qrz.banned@gmail.com>
Message-ID: <470ba1ec-2b48-478d-9f5d-3b57b095f03f@k17g2000yqh.googlegroups.com>
Source record: 11323
Cross-posted to: alt.ham-radio.vhf-uhf,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Jan 2, 12:46 pm, kb9...@yahoooo.com wrote:
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
>
>
>
>
>
> <assemblywiz...@gmail.com> wrote:
> >K4YZ wrote:
> >> Nope.
>
> >> The IP Address and servers are complete proof that I do NOT share
> >> any annonymous character's "address".
>
> >> Sounds like Lennie, to me....
>
> >> Steve, K4YZ
>
> >To anyone with even an elementary understanding of anonymous proxies,
> >anonymous remailers, zombie backdoors, etc., the ability to change ones
> >IP address and header details is simplistic, indeed, with little time
> >spent anyone can appear to be "coming" from anywhere in the world.
>
> >You waste my time. Worse, you think us all idiots here. You remind me
> >of the "street smart" prosecutors and defense attorneys who stack jurys
> >with members of little or no technical knowledge and then call in
> >"expert witnesses" and propose arguments of technical details to boggle
> >their minds.
>
> >You have only proven that you, yourself are either ignorant to such
> >technical details, or else you are indeed street smart, I favor the
> >latter in this case (however, if you in the dark about such things, 15
> >minutes on google will enlighten you.)
>
> >JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>

> altopia is never used by KB9RQZhttp://kb9rqz.cc.cchttp://kd8ctl.com
> nor is Konst...@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act- Hide quoted text -
>
>
i punce

74. Re: Maybe Art Will Explain...?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 01:19:56 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <7fb61c97-56f8-4457-954f-6bfe74ea5862@r5g2000yqb.googlegroups.com>
Source record: 11324

On Jan 3, 11:07 am, Richard Fry <r...@adams.net> wrote:
> http://antwrp.gsfc.nasa.gov/apod/ap100103.html

http://math.ucr.edu/home/baez/physics/Quantum/casimir.html

75. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 01:39:17 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <070c8bca-1b21-484b-a4ed-6ffd20e41287@q41g2000vba.googlegroups.com>
Source record: 11325
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Jan 2, 1:46 pm, kb9...@yahoooo.com wrote:
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
>
>
>
>
>
> <assemblywiz...@gmail.com> wrote:
> >K4YZ wrote:
> >>   Nope.
>
> >>   The IP Address and servers are complete proof that I do NOT share
> >> any annonymous character's "address".
>
> >>   Sounds like Lennie, to me....
>
> >> Steve, K4YZ
>
> >To anyone with even an elementary understanding of anonymous proxies,
> >anonymous remailers, zombie backdoors, etc., the ability to change ones
> >IP address and header details is simplistic, indeed, with little time
> >spent anyone can appear to be "coming" from anywhere in the world.
>
> >You waste my time. Worse, you think us all idiots here. You remind me
> >of the "street smart" prosecutors and defense attorneys who stack jurys
> >with members of little or no technical knowledge and then call in
> >"expert witnesses" and propose arguments of technical details to boggle
> >their minds.
>
> >You have only proven that you, yourself are either ignorant to such
> >technical details, or else you are indeed street smart, I favor the
> >latter in this case (however, if you in the dark about such things, 15
> >minutes on google will enlighten you.)
>
> >JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZhttp://kb9rqz.cc.cchttp://kd8ctl.com

> nor is Konst...@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act- Hide quoted text -
>
> - Show quoted text -

76. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 01:46:35 UTC
From: kb9rqz@yahoooo.com
Message-ID: <o3i2k55ufjlsf662sblevjktou4rrd5isk@4ax.com>
Source record: 11326
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

77. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 02:42:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3ni2k51p7dc549v5qr982lqcv2e95jt4mi@4ax.com>
Source record: 11327

On Sun, 03 Jan 2010 15:35:54 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>> Actually, it is harder than you might imagine at first glance. Yes,
>> the methods are simple, but getting past preconceived notions is the
>> single greatest hurdle. Many engineers are ill suited to the task.
>>
>
>Try me. All it needs is a clear statement that I can relate to something
>I've already experienced. I'm well used to being cautious about what I learn.
>Unless it's as tough as atomic physics, it should be digestible, even if
>slowly. And I won't be able to taste it till tomorrow... got to sleep soon.
>Thanks for this, it encourages me to take the time when others do.

We shall proceed with a object lesson found in Fig. 5 of:
http://www.kongsfjord.no/dl/Amplifiers/Common%20Base%20Transformer%20Feedback%20Norton%20Amplifiers.pdf

Consider that this is described in the right side of Fig. 2 with all
the expectations of being "balanced." It is not. Even on viewing the
rough block diagram of Fig. 2 it is apparent in this lack of balance.
Fig. 5 and photos do nothing but support this shortfall.

At first glance, it seems as though these materials are classic text
book stuff that begs to be accepted as "balanced;" reality intrudes in
that RF (far more so than AF) finds interwinding capacitance is not
distributed equally for T2 and T3 primaries to secondaries.

The input/output windings are easily as unbalanced as one could find.
"Of Course! a protest might start. T2 is meant to support an
unbalanced input." However, a closer glance would admit that the
capacitive coupling from the top of T2 input to the top of T2 output
is NOT the same as the capacitive coupling from the bottom of T2 input
to the bottom of T2 output (irrespective of the implied ground
connecting, or not, to the middle of the T2 output winding).

The top Basic Amp is thus presented with a higher potential than the
lower Basic Amp. One might protest that this does not matter as T3
uncouples the two to present a new output through it to the 50 Ohm
output. My rejoinder would be "What practical advantage is then found
in the symmetry of upper/lower Basic Amps?" I would then point out
that the Common Modality present in the input, is amplified in the
upper half and finds its way through the system.

The solution involves complex winding taps with capacitors tied from
them to common to enforce a balance. This is not practiced

(obviously) in the object lesson presented at the page referenced above.

A protest might erupt that this example's capacitive asymmetry only admits of a very small imbalance. I would respond that Common Modalities may easily support considerable currents/voltages that when reduced through divider action are easily in excess of small signals of interest. The Basic Amp input Z is 50 Ohms; an imbalance in the interwinding coupling capacitance amounting to 50 KOhms will add 1000 microvolts for any 1V CM signal on the left. At 1MHz, this 50 KOhms would be a capacitance imbalance of 3 pF. Looking at the wire dressing of the coils in the photo would suggest 3 times this easily (and no attention has been paid to this at all). Now extrapolate to the 31 Meter band.... Could your AGC tolerate the local AM station's 10,000 microvolt leakage sitting on top of Radio Burundi's signal?

Grounding and shielding is not a simple topic although it is deceptive in appearance.

73's
Richard Clark, KB7QHC

78. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 17:02:28 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4b421f28$0$1136$4fafbaef@reader1.news.tin.it>
Source record: 11328

> Instead of this, why not use identical feedline lengths into a Tee and
> position one cross polarised antenna 0.25WL in front of the other, to obtain
> the 90-deg phase shift?
>
> David, VK3BDK

Doing as you propose is possible, and would produce the same circular polarization on the antenna boresight.

But moving away from the boresight, the circularity of polarization would degrade (into elliptical polarization) faster than if instead using a quarter-wavelength delay on one of the two feedlines.

73

Tony I0JX

79. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 17:37:53 UTC
From: amdx <amdx@knology.net>
Message-ID: <163ec$4b422775$4501398d$9209@KNOLOGY.NET>
Source record: 11329

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:m7p1k55ejj5rp01pd8legqvbs1gv9uqv56@4ax.com...
>
>>The gain of the 15 foot noise reducing vertical is about -15 dB
> reference:
> http://www.kongsfjord.no/dl/Antennas/The%20Best%20Small%20Antennas%20For%20MW,%20LW,%20And%20SW%20rev%202.pdf
>
> In a brief review of the article by the name found in the Subject
> line, I came across this bare quote offered above. It contains not
> one, but two unsupported claims that seem to be commonly encountered
> in the Short Wave Listening community.
>
> The first that is more easily supported or denied is the gain claim of
> -15 dB. Where does this loss come from? Without any substantiation
> beyond the inference of comparison to "active antennas," it seems to
> be lost to indirect references in other writings. However arrived at,
> this claim is suspicious in the extreme - unless it is a vague and
> offhand substitution for antenna system gain which goes to the heart
> of the matter of a poor ground system. If so (the loss is found in
> the absence of an adequate counterpoise), that is indeed low hanging
> fruit that has been left rotting on the limb.
>
> As for the noise reducing claim, this, too, appears to arrive through
> indirection or muddied with discussion of active systems. I can only
> surmise that the lowered noise was the noise of the added circuitry of
> the active antennas. If you discard the amps, I suppose you can claim
> you've improved the noise which brings us to the Gordian knot of the
> low gain needing those amplifiers - most curious writing.
>
>>At least one person has claimed that noise reducing antennas are
>>noisy. But when I quizzed him about his implementation,
>>it turned out that he had not implemented the antenna correctly.
>>If you do not follow the instructions,
>>then you may end up with a noise increasing antenna like he did.
>
> Good reporting would have described the defect so that the solution
> could be observed as rational rather than prescribed.
>
>>much to my amazement, that long coax (50 feet) lead
>>often degrades 2nd order intercepts of active
>>whip antennas by 20 dB or more and degrades
>>3rd order intercepts of active whip antennas by up to
>>10 dB, depending on the type of active whip antenna.

>
> It would appear that "depending on the type of" antenna begs the
> question why coax is the culprit. I can see how this kind of writing
> spawns a new superstition of the superiority of twin lead.
>
> More could be said about Common Mode suppression (which the designs on
> this page do NOT entirely address).
>
> 73's
> Richard Clark, KB7QHC

So Richard, you seem to make vailed reports that something may be wrong
with someones ideas.
Why don't you make your own corrections with support and entirely address
all your ideas.
I figured with all the noise you put on the groups I would be able to find
a webpage showing all
the research you have done on antennas, amplifiers and receivers. I didn't
find your webpage, could
you post it so we can learn from all your properly supported research.
Thanks, Mike

80. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 17:57:33 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF6B6AF1FD88zoodlewurdle@216.196.109.145>
Source record: 11331

Richard Clark <kb7qhc@comcast.net> wrote in
news:3ni2k51p7dc549v5qr982lqcv2e95jt4mi@4ax.com:

> At 1MHz, this 50 KOhms
> would be a capacitance imbalance of 3 pF. Looking at the wire
> dressing of the coils in the photo would suggest 3 times this easily
> (and no attention has been paid to this at all).

That's the bit that seems most important, and I can also relate to it. It doesn't take much to cause a few pF difference.

A few points occur to me though...

First, to get it out of the way.. if this was causing serious bother, which it surely might if it is that bad at the lowest end of the SW range, what on earth induces a designer to persist in thinking it's working? Either it isn't, and he's deluded; or it is, so why?

Second, I imagined balance to pretty much relate to symmetry. I hadn't seen that file yet (even though I'd actually grabbed it with intent to), and the looseness of the coil wiring isn't lost on me. My idea was to omit the amps and just wind the toroids with neat symmetry to reduce obvious causes of imbalance and take it from there. If it works, I use it, if not, I try something else. Given that I have more than once been told that I might overdrive the input on the ATS-909 radio with a 18' whip in the back yard, I decided that I might as well omit the amps as they only boost a few dB, and instead rely initially on the built in attenuator for first efforts to see what's out there, then consider building (or getting lucky with on eBay) a preselecting filter on the input.

Third, the amount of effect a few pF has on a circuit would depend also on the inductance, or resistance, or any delay in the circuit. I hadn't looked closely at that (I'd want to see what happened with a simple test first), but I am guessing that the simpler idea of a twin wire with transformers and no amps would have a smaller risk of imbalanced signals, so a better common mode rejection. Why not do the amplification after the second transformer where balance is clearly irrelevant, if it has to be done at all?

I may still be missing something other than a grasp of quantities, but whatever I do, it has to be something that aims to do what that scheme was said to be able to do. I don't have a lot of space, and that radio ideally needs a single antenna to cover all of its AM range, at least for initial efforts. Ideally some scheme that can be improved rather than thrown out when I need something better.

81. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 18:01:13 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hhtada$lo08$1@tr22n12.aset.psu.edu>
Source record: 11330

amdx wrote:

> So Richard, you seem to make vailed reports that something may be wrong
> with someones ideas.
> Why don't you make your own corrections with support and entirely address
> all your ideas.
> I figured with all the noise you put on the groups I would be able to find
> a webpage showing all
> the research you have done on antennas, amplifiers and receivers. I didn't
> find your webpage, could
> you post it so we can learn from all your properly supported research.

Hoo boy, Mike, what you are asking for is a whole lot of research, not done by Richard, but done by some of the folks whose shoulders we stand on. Those are topics we all have access to.

This isn't a courtroom where people are asked the color of the sky, then asked if they have the meteorlogical or art degree at the pHD level, lest their answer be discarded. Get Terman, Get Kraus. Get Balanis, Get Best, If those are too rich for your blood,ARRL has some good antenna books, which are are more practical.

- 73 de Mike N3LI -

82. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 18:01:21 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF6B752C1836zoodlewurdle@216.196.109.145>
Source record: 11332

Richard Clark <kb7qhc@comcast.net> wrote in
news:3ni2k51p7dc549v5qr982lqcv2e95jt4mi@4ax.com:

> At 1MHz, this 50 KOhms
> would be a capacitance imbalance of 3 pF. Looking at the wire
> dressing of the coils in the photo would suggest 3 times this easily
> (and no attention has been paid to this at all).

That's the bit that seems most important, and I can also relate to it. It doesn't take much to cause a few pF difference.

A few points occur to me though...

First, to get it out of the way.. if this was causing serious bother, which it surely might if it is that bad at the lowest end of the SW range, what on earth induces a designer to persist in thinking it's working? Either it isn't, and he's deluded; or it is, so why?

Second, I imagined balance to pretty much relate to symmetry. I hadn't seen that file yet (even though I'd actually grabbed it with intent to), and the looseness of the coil wiring isn't lost on me. My idea was to omit the amps and just wind the toroids with neat symmetry to reduce obvious causes of imbalance and take it from there. If it works, I use it, if not, I try something else. Given that I have more than once been told that I might overdrive the input on the ATS-909 radio with a 18' whip in the back yard, I decided that I might as well omit the amps as they only boost a few dB, and instead rely initially on the built in attenuator for first efforts to see what's out there, then consider building (or getting lucky with on eBay) a preselecting filter on the input.

Third, the amount of effect a few pF has on a circuit would depend also on the inductance, or resistance, or any delay in the circuit. I hadn't looked closely at that (I'd want to see what happened with a simple test first), but I am guessing that the simpler idea of a twin wire with transformers and no amps would have a smaller risk of imbalanced signals, so a better common mode rejection. Why not do the amplification after the second transformer where balance is clearly irrelevant, if it has to be done at all?

I may still be missing something other than a grasp of quantities, but whatever I do, it has to be something that aims to do what that scheme was said to be able to do. I don't have a lot of space, and that radio ideally needs a single antenna to cover all of its AM range, at least for initial efforts. Ideally some scheme that can be improved rather than thrown out when I need something better.

83. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 18:32:52 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <V6-dnX6Mt9DKqd_WnZ2dnUVZ_vFi4p2d@giganews.com>
Source record: 11333

Lostgallifreyan wrote:
> . . .
> Second, I imagined balance to pretty much relate to symmetry. . .

You might find this interesting:
http://eznec.com/Amateur/Articles/Baluns.pdf.

Roy Lewallen, W7EL

84. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 18:36:28 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hhtcfddju1@news.jpl.nasa.gov>
Source record: 11336

Antonio Vernucci wrote:
>
>> Instead of this, why not use identical feedline lengths into a Tee and
>> position one cross polarised antenna 0.25WL in front of the other, to
>> obtain
>> the 90-deg phase shift?
>>
>> David, VK3BDK
>
> Doing as you propose is possible, and would produce the same circular
> polarization on the antenna boresight.
>
> But moving away from the boresight, the circularity of polarization
> would degrade (into elliptical polarization) faster than if instead
> using a quarter-wavelength delay on one of the two feedlines.
>
> 73
>
> Tony I0JX
>
Interesting..
I just ran some NEC models with a pair of crossed dipoles. Two cases:
1) where the two are a quarter wave apart and fed in phase
2) where the two are in the same place and fed 1/4 wave apart

here's the axial ratios
angle spaced phased
0 0.99895 0.99373
5 0.99259 0.99173
10 0.9686 0.9774
15 0.92991 0.95122
20 0.87836 0.91519
25 0.81619 0.87053
30 0.74579 0.8185
35 0.66954 0.7604
40 0.58964 0.69752
45 0.50804 0.6311
50 0.4265 0.56226
55 0.34658 0.49196
60 0.26988 0.42098
65 0.19811 0.34989
70 0.13339 0.27906
75 0.07827 0.20868
80 0.03576 0.13878

85 0.00889 0.06928
90 0 0

Not a huge difference.. you have to be 45 degrees away before it's 10% different. If you were using directional antennas, the gain would be way down by the time you were that far off boresight, so it would be a non-issue.

I suspect that other factors would be bigger in importance.

85. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 18:56:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0qb4k5t68kpfm28nvn4vqm2p6kjcb1kg1f@4ax.com>
Source record: 11334

On Mon, 04 Jan 2010 11:57:33 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Richard Clark <kb7qhc@comcast.net> wrote in
>news:3ni2k51p7dc549v5qr982lqcv2e95jt4mi@4ax.com:
>
>> At 1MHz, this 50 KOhms
>> would be a capacitance imbalance of 3 pF. Looking at the wire
>> dressing of the coils in the photo would suggest 3 times this easily
>> (and no attention has been paid to this at all).
>
>That's the bit that seems most important, and I can also relate to it. It
>doesn't take much to cause a few pF difference.
>
>A few points occur to me though...
>
>First, to get it out of the way.. if this was causing serious bother, which
>it surely might if it is that bad at the lowest end of the SW range, what on
>earth induces a designer to persist in thinking it's working? Either it
>isn't, and he's deluded; or it is, so why?

That is answered rather simply: isolated experience. Having solved a
problem for single application does not make it a universal solution -
it is a good start however. For instance (as to this issue of
isolation), these designs were originally intended for lowfers where
this coupling would have been decimated (its impact reduced by 10).

Spinning out the same "successful" design to 10MHz without
consideration for this one issue I've pointed out would bring the user
to their knees: "I've tried everything and I still get this
interference!" Well, the user has not tried everything; it was simply
the right design in the wrong application which with a bit of effort
could be improved dramatically. Many of the layout and design
considerations for the lowfers are commendable and easily applicable
into the VHF. A VHF designer would have chosen other input topologies
is all.

In a sense, the VHF designer is also suspect for having an isolated
experience. Practical solutions are not always scaleable.

As I pointed out, very few changes are necessary and there is even a
simpler solution. You can shield the primaries from the secondaries
(kills the capacitive link). Unfortunately this brings a new problem:
where do you tie the new shield to? The wrong choice will actually
inflate the problem. As I said, this is not a simple field where
there are nesting layers of shields and broken shields with

non-contacting overlaps. Which one overlaps the other can bring
success or misery.

>Second, I imagined balance to pretty much relate to symmetry. I hadn't seen
>that file yet (even though I'd actually grabbed it with intent to), and the
>looseness of the coil wiring isn't lost on me. My idea was to omit the amps
>and just wind the toroids with neat symmetry to reduce obvious causes of
>imbalance and take it from there. If it works, I use it, if not, I try
>something else.

Well, here the topology you describe will carry the common mode
directly through (with some attenuation) as it is inherently out of
balance when the input primary's capacitive coupling is out of whack.
This is why I harp on "first principles." The amps have nothing to do
with the problem, they simply help illustrate the imbalance.

As to you "giving it a try" returns us to the heavily qualified
"success" of isolation. You could easily connect your antenna
barefoot to your receiver and experience no problems at all! This
does not constitute your "solution" as being universal. When you move
and try your "solution" again, it could easily fail for not observing
first principles.

However, this is not to impede you from simply getting on with it. The
hallmark of becoming successful is failing as many times as you can.

>Given that I have more than once been told that I might
>overdrive the input on the ATS-909 radio with a 18' whip in the back yard, I
>decided that I might as well omit the amps as they only boost a few dB, and
>instead rely initially on the built in attenuator for first efforts to see
>what's out there, then consider building (or getting lucky with on eBay) a
>preselecting filter on the input.

Ham radio was invented on a bread board. You need one coil
(selectable) and two variable capacitors that can be scavenged from
very, very old table top radios. You would spend more in shipping for
a "preselector" than what you would pay at the nearest junk store for
these three items. Someone who had to pinch pennies would do it with
one cap and one coil and a lot of alligator jumpers. Even this
solution can be made elegant and occupy a space no larger than a
pocket sized notebook. If you robbed these componets from very, very
old transistor radios, you could build it in a mint tin.

>Third, the amount of effect a few pF has on a circuit would depend also on
>the inductance, or resistance, or any delay in the circuit. I hadn't looked
>closely at that (I'd want to see what happened with a simple test first), but
>I am guessing that the simpler idea of a twin wire with transformers and no
>amps would have a smaller risk of imbalanced signals, so a better common mode
>rejection. Why not do the amplification after the second transformer where
>balance is clearly irrelevant, if it has to be done at all?

As I said, the problem is in the topology, not the amplifiers.

>I may still be missing something other than a grasp of quantities, but
>whatever I do, it has to be something that aims to do what that scheme was
>said to be able to do. I don't have a lot of space, and that radio ideally
>needs a single antenna to cover all of its AM range, at least for initial
>efforts. Ideally some scheme that can be improved rather than thrown out when
>I need something better.

You have barely nicked the surface of possibility in discussion here.
Loop antennas (which can be truly balanced and passed through coax)
are a natural answer for a lot of the spectrum you want to listen to.
In fact, "shielded loops" are explicitly coaxial and extremely simple
to construct (although many web sources describe them incorrectly).
They exhibit very sharp nulls (when that matters), and you can lay
them over 90 degrees to make them vertically polarized (and then use
them in phased configurations for beam steering).

73's
Richard Clark, KB7QHC

86. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 18:59:15 UTC
From: amdx <amdx@knology.net>
Message-ID: <9f094$4b423a82$4501398d$5668@KNOLOGY.NET>
Source record: 11335

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:hhtada$lo08$1@tr22n12.aset.psu.edu...
> amdx wrote:
>
>> So Richard, you seem to make vailed reports that something may be wrong
>> with someones ideas.
>> Why don't you make your own corrections with support and entirely address
>> all your ideas.
>> I figured with all the noise you put on the groups I would be able to
>> find a webpage showing all
>> the research you have done on antennas, amplifiers and receivers. I
>> didn't find your webpage, could
>> you post it so we can learn from all your properly supported research.
>
>
> Hoo boy, Mike, what you are asking for is a whole lot of research, not
> done by Richard, but done by some of the folks whose shoulders we stand
> on. Those are topics we all have access to.
>
> This isn't a courtroom where people are asked the color of the sky, then
> asked if they have the meteorlogical or art degree at the pHD level, lest
> their answer be discarded. Get Terman, Get Kraus. Get Balanis, Get Best,
> If those are too rich for your blood,ARRL has some good antenna books,
> which are are more practical. Mike
>
> - 73 de Mike N3LI -

My point is Richard constantly complains about others work, but I don't
see he has done any. I specifically was talking about anything he questions,
he
should support his rebuke and entirely address all aspects of the article.
He might know his shit, but all he does is complain, without support.
Mike
He

87. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 19:15:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jge4k5dof5m0ools1elf8ve6g9otdnck8u@4ax.com>
Source record: 11337

On Mon, 4 Jan 2010 11:37:53 -0600, "amdx" <amdx@knology.net> wrote:

> So Richard, you seem to make vailed reports that something may be wrong
>with someones ideas.

I thought my comments were quite un-veiled. Are you suggesting I
boost the rhetorical afterburners?

>Why don't you make your own corrections with support and entirely address
>all your ideas.

I'm sure many would offer you that is exactly what you are responding
to.

> I figured with all the noise you put on the groups I would be able to find
>a webpage showing all
>the research you have done on antennas, amplifiers and receivers. I didn't
>find your webpage, could
>you post it so we can learn from all your properly supported research.
> Thanks, Mike

Hi Mike,

I should first help you with your search skills in finding my more
than 300 pages of antenna design for fractals alone. However, I am
not terribly concerned that they seem to be unavailable to the casual
search. Fractal design is a topic that has come and gone with no
apparent value discovered by Hams or Professionals as this field is
more a marketing issue. So, in that sense, your failure to stumble
across this mass of data comes at no particular loss - except for my
effort at that time. I sure didn't do it to bask in the glow of
appreciation.

As for more general antenna topics and your desire for a compendium
chronicling them - same advice: search skills in google for this group
will lead to more than 15000 offerings. I will leave it my
biographers to index them. ;-)

Going more broadly into technology, my career has spanned many, many
industries: from designing the flight recorders for the 747/757/767 to
metrology (most engineers have to look this up), to NIH research, to
pulp and paper chemistry, to A.I., to Web applications, to patents in
photonics, and on and on and on. I don't suppose you tried googling
the patent office did you? There should have been at least 5 hits
there.

Yes, this is beginning to sound like a drone. Art easily dismisses it all when he crows about my only degree being in English. Would you like to read one of my plays?

73's
Richard Clark, KB7QHC

88. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 19:45:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <u1g4k5tp64mlasnlrr35vkgthor464hoog@4ax.com>
Source record: 11338

On Mon, 4 Jan 2010 12:59:15 -0600, "amdx" <amdx@knology.net> wrote:

>My point is Richard constantly complains about others work, but I don't
>see he has done any. I specifically was talking about anything he questions,
>he
>should support his rebuke and entirely address all aspects of the article.

Hi Mike,

I think your problem goes beyond this demand for specifics, especially
when I have responded directly to every thing you say above in two
other threads that are current one of which relates to the named
author.

If you don't care for the subject matter in
"Matching impedance on 900 MHz Yagi stacking harness"
which I offer explicit answers
"The Best Small Antennas For MW, LW, And SW by Dallas Lankford"
which is very explicit (you don't comment to those points I've made,
do you?) and supported by other examples offered in:
"Sangean ATS-909 external antenna impedance"
to which I have done a very detailed circuit analysis;
then your complaint is very far from the technical discussion.

****

So, this must be about rhetoric. I like rhetoric. I enjoy irony -
especially when someone complains about the lack of content and who
then offers no content of their own. I enjoy semantics:
> I specifically was talking about anything he questions,
where I wonder what is specific about "anything?" This, of course,
returns me to the appreciation of irony because I am questioning, and
that must be what you are specifically talking about.

Imagine a newsgroup without questions: Arthurs spitting a tempest
with fascinated listeners all sitting upwind. Art would pay the price
of his dry cleaning ten times over for that audience.

73's
Richard Clark, KB7QHC

89. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 20:00:35 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF6CB8C58831zoodlewurdle@216.196.109.145>
Source record: 11339

Roy Lewallen <w7el@eznec.com> wrote in news:V6-
dnX6Mt9DKqd_WnZ2dnUVZ_vFi4p2d@giganews.com:

> Lostgallifreyan wrote:
>> . . .
>> Second, I imagined balance to pretty much relate to symmetry. . .
>
> You might find this interesting:
> http://eznec.com/Amateur/Articles/Baluns.pdf.
>
> Roy Lewallen, W7EL
>

Thanks, it is. I read the first part that covered the way RF current can flow on the outside of a coax, and how the same effect (though as you say, hard to visualise) occurs in a twin feed line. I see how it applies to the ferrite 'slugs' I shall try once I set something up, though I skipped most of the stuff on the voltage balun. The current balun made more sense to me right away.

Note that the idea that has caught my attention is to use transformers.. there would be no direct current contact between either the line and the antenna, or the line and the receiver. This isn't my own idea, it's just a wheeze that looks most interesting because it looks like it ought to work, and if it does it certainly pretects the receiver input rather well. It's beginning to look as if choosing coax or twin line isn't so important as knowing if that transformer scheme is valid, so long as I do something to block common mode currents with a choke balun on the line.

90. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 20:44:31 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF6D2FDF26F2zoodlewurdle@216.196.109.145>
Source record: 11340

Trying to keep my post size down...
Ok, I see that isolated experience can be a problem. As far as I can see there will be a level of complexity best averted by empirical testing, so long as I don't miss something really fundamental. Which I am trying not to do.. I found a USMC guide to RF and antenna selection, a 5MB PDF file, that has a Marine's habit of cutting to the chase, it looks like I found a good guide there.
http://www.armymars.net/ArmyMARS/Antennas/Resources/usmc-antenna-hb.pdf

The topolgy I describe WILL carry imbalance through, I know. :) I thought it might at least be a start if it didn't add any of its own. I realise you were using the amps as an illustration of how imbalance can arise between those toroids, I was thinking that fewer parts means less to go wrong. Precise symmetry in topology might be a lot easier if I didn't have to use those. Again, I wonder why they're even there. Isn't it easier to put a gain stage after the second toroid?

Point taken on the costs of the selector. It was a long time ago, but I think I saw something intended to do this task, a design that built it from wire wound on a bit of plastic water pipe or something. I started Googling for designs earlier but got waylaid. One bit of waylaying involved a remark that tuning might offer more problems that a fixed narrowband filter, but so little context was offered that I don't know how to judge the remark.

If I put up conspicuous loops here I might get people bothering me about planning permission or some other means of negative compulsion. :) If I can do this with a vertical whip it will be much less awkward.

91. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 21:25:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <irl4k5hkug6vkn8es6n73t0cvoouhessfo@4ax.com>
Source record: 11341

On Mon, 04 Jan 2010 14:44:31 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Again, I wonder why they're even there. Isn't it easier to put a gain stage
>after the second toroid?

A circuit serves more purposes than gain. Of course, the simple
circuitry found in the file we are discussing has limited offerings.
Of what is offered is controlling input and output Z which is not a
trivial matter.

My preference is found in using Operational Amplifiers instead of
discrete transistors. There is more design flexibility and more
purposes may be served. OpAmps will control input and output Z with
far more rigidity (it is very difficult for externalities to shift
these parameters making for a rock solid design). OpAmps will also
preserve fidelity (faithful phase, magnitude) and not introduce any
distortion, and will drive out noise not already in the signal. Other
advantages can be obtained, but this is enough.

>If I put up conspicuous loops here I might get people bothering me about
>planning permission or some other means of negative compulsion. :) If I can
>do this with a vertical whip it will be much less awkward.

Practicality needs to be served too. Loops can be useful indoors as
well, and they needn't fill a room. They will test the limits of
balance with the nearby clutter - an opportunity to turn your
environment into an RF lab.

73's
Richard Clark, KB7QHC

92. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 21:54:40 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4b4263a4$0$1108$4fafbaef@reader4.news.tin.it>
Source record: 11342

> Not a huge difference.. you have to be 45 degrees away before it's 10%
> different. If you were using directional antennas, the gain would be way down
> by the time you were that far off boresight, so it would be a non-issue.
>
>
> I suspect that other factors would be bigger in importance.

I agree that, with a high gain antennas, it makes almost no difference at angles within the antenna main lobe. I could make more difference with regard to the susceptibility to strong interfering signals coming far away from the boresight, but this may be quite a theoretical case.

It could be more important in the case of two crossed dipoles (turnstile) typically used with low-orbiting satellites, but even in that case differences may be hardly noticeable.

In any case it is good to keep that in mind.

73

Tony I0JX

93. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 22:16:54 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4b4268da$0$1107$4fafbaef@reader4.news.tin.it>
Source record: 11343

> I suspect that other factors would be bigger in importance.

BTW, if you work at JPL, please give my 73 to Eric Archer N6CV who was at my QTH
at least ten times!

73

Tony I0JX

94. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-04 23:08:50 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hhtse2$6mj$1@news.jpl.nasa.gov>
Source record: 11344

Antonio Vernucci wrote:
>> I suspect that other factors would be bigger in importance.
>
> BTW, if you work at JPL, please give my 73 to Eric Archer N6CV who was
> at my QTH at least ten times!
>

N6CV is just down the hall, and speaks well of you.

95. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 04:05:03 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <hhudpc$o472$1@tr22n12.aset.psu.edu>
Source record: 11345

Richard Clark wrote:
> On Mon, 4 Jan 2010 11:37:53 -0600, "amdx" <amdx@knology.net> wrote:

> Yes, this is beginning to sound like a drone. Art easily dismisses it
> all when he crows about my only degree being in English. Would you
> like to read one of my plays?

I've been wanting to ask you Richard - are you a member of the American Association of English Majors?

- 73 de Mike N3LI -

96. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 07:12:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <wPOdnVDUt9XWe9_WnZ2dnUVZ_oGdnZ2d@giganews.com>
Source record: 11346

Lostgallifreyan wrote:
> . . .
> Note that the idea that has caught my attention is to use transformers..
> there would be no direct current contact between either the line and the
> antenna, or the line and the receiver. This isn't my own idea, it's just a
> wheeze that looks most interesting because it looks like it ought to work,
> and if it does it certainly pretects the receiver input rather well. It's
> beginning to look as if choosing coax or twin line isn't so important as
> knowing if that transformer scheme is valid, so long as I do something to
> block common mode currents with a choke balun on the line.

An ideal transformer will effect perfect current balance. What I don't know, and have never seen any theoretical or experimental work on, is how effective a real physical transformer can be made to be in that regard. There will be capacitive coupling between windings which could be a source of common mode current (current imbalance), and it might be necessary to take some or a lot of care in the winding to maintain good balance. And of course the system will have the windings' impedance between the conductors, necessitating care in transformer design for that reason. A fundamental advantage of the balun type connection is that the balance improves as the winding coupling becomes more intimate, while that tends to work against a conventional transformer. It would be an interesting study -- I regret I don't have the time to dig into it more.

Roy Lewallen, W7EL

97. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 07:31:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t8q5k5lhv2vtjt0s8i17s0tto0veo11eit@4ax.com>
Source record: 11347

On Mon, 04 Jan 2010 23:05:03 -0500, Mike Coslo <mjc5@psu.edu> wrote:

>Richard Clark wrote:
>> On Mon, 4 Jan 2010 11:37:53 -0600, "amdx" <amdx@knology.net> wrote:
>
>> Yes, this is beginning to sound like a drone. Art easily dismisses it
>> all when he crows about my only degree being in English. Would you
>> like to read one of my plays?
>
>I've been wanting to ask you Richard - are you a member of the American
>Association of English Majors?

Hi Mike,

Never heard of them. No, my affiliations are more with the UW Foster
School of Business and with various Science groups as a competition
judge and mentor.

None of my proteges are interested in my plays either (but they all
perk up when I mention the "black box").

73's
Richard Clark, KB7QHC

98. Re: Matching impedance on 900 MHz Yagi stacking harness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 17:31:25 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4b437770$0$1109$4fafbaef@reader4.news.tin.it>
Source record: 11348

> N6CV is just down the hall, and speaks well of you.

Good to know that, hi.... Please tell him that we are waiting for him to come to Rome again soon.

73

Tony I0JX

99. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 17:42:14 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF7B403CE02Czoodlewurdle@216.196.109.145>
Source record: 11349

Roy Lewallen <w7el@eznec.com> wrote in
news:wPOdnVDUt9XWe9_WnZ2dnUVZ_oGdnZ2d@giganews.com:

> Lostgallifreyan wrote:
>> . . .
>> Note that the idea that has caught my attention is to use
>> transformers.. there would be no direct current contact between either
>> the line and the antenna, or the line and the receiver. This isn't my
>> own idea, it's just a wheeze that looks most interesting because it
>> looks like it ought to work, and if it does it certainly pretects the
>> receiver input rather well. It's beginning to look as if choosing coax
>> or twin line isn't so important as knowing if that transformer scheme
>> is valid, so long as I do something to block common mode currents with
>> a choke balun on the line.
>
> An ideal transformer will effect perfect current balance. What I don't
> know, and have never seen any theoretical or experimental work on, is
> how effective a real physical transformer can be made to be in that
> regard. There will be capacitive coupling between windings which could
> be a source of common mode current (current imbalance), and it might be
> necessary to take some or a lot of care in the winding to maintain good
> balance. And of course the system will have the windings' impedance
> between the conductors, necessitating care in transformer design for
> that reason. A fundamental advantage of the balun type connection is
> that the balance improves as the winding coupling becomes more intimate,
> while that tends to work against a conventional transformer. It would be
> an interesting study -- I regret I don't have the time to dig into it
> more.
>
> Roy Lewallen, W7EL
>

I'll give it a go, though I don't know if what I try will have enough rigour
to give useful results back. I just sent a cheque for some FT114-43 toroids
which are big enough to consider a screen between windings, though as Richard
Clarke said, it might be awkward finding the best point to tie that screen
to. Re impedance of windings, I have no idea or plan except to aim for close
spacing (within each coil) and neat symmetry, and glue to keep them in place
so that whatever results it remains steady.

100. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 17:54:23 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF7B62785D9Dzoodlewurdle@216.196.109.145>
Source record: 11350

Richard Clark <kb7qhc@comcast.net> wrote in
news:irl4k5hkug6vkn8es6n73t0cvoouhessfo@4ax.com:

> On Mon, 04 Jan 2010 14:44:31 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Again, I wonder why they're even there. Isn't it easier to put a gain
>>stage after the second toroid?
>
> A circuit serves more purposes than gain. Of course, the simple
> circuitry found in the file we are discussing has limited offerings.
> Of what is offered is controlling input and output Z which is not a
> trivial matter.
>
> My preference is found in using Operational Amplifiers instead of
> discrete transistors. There is more design flexibility and more
> purposes may be served. OpAmps will control input and output Z with
> far more rigidity (it is very difficult for externalities to shift
> these parameters making for a rock solid design). OpAmps will also
> preserve fidelity (faithful phase, magnitude) and not introduce any
> distortion, and will drive out noise not already in the signal. Other
> advantages can be obtained, but this is enough.
>

I really like op-amps too, they have often made my life easier. Not used them
in RF though, just audio and modest DC instrumentation designs of my own..

About those amps in that scheme, I think I didn't grasp what they were doing,
other than gain, because I assumed the idea of balancing implied by the
design would be central whether they were used or not. It still seems to me
that if the line worked without them, then a single stage could be applied
after the signal passed to the unbalanced input after the second toroid. If
not (as in not possible as opposed to merely awkward), then I'm still missing
something.

>>If I put up conspicuous loops here I might get people bothering me about
>>planning permission or some other means of negative compulsion. :) If I
>>can do this with a vertical whip it will be much less awkward.
>
> Practicality needs to be served too. Loops can be useful indoors as
> well, and they needn't fill a room. They will test the limits of
> balance with the nearby clutter - an opportunity to turn your
> environment into an RF lab.
>
> 73's

> Richard Clark, KB7QHC
>

I'll definitely read up on loops. (Been reading the first of two USMC radio handbooks today, second is an update of the one I found yesterday. No loops mentioned in first, but the second is specific to antennas. Both guides are quickly filling forgotten gaps in what I knew, plus showing me plenty I didn't).

Btw, how critical is the resistance of wire in a few ground radials? I have some thin stainless steel wire that would be strong and enduring out there but at around 1.5 ohms or more per 6 inches I can't help thinking that's too much. I like the idea though, because clamping ends of it very firmly between copper washers could be fast and easy for good and reliable contact.

101. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 18:34:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p917k5tjvd8ik6a5t4henv9if191n0g1vn@4ax.com>
Source record: 11251

On Tue, 05 Jan 2010 11:54:23 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Btw, how critical is the resistance of wire in a few ground radials? I have
>some thin stainless steel wire that would be strong and enduring out there
>but at around 1.5 ohms or more per 6 inches I can't help thinking that's too
>much. I like the idea though, because clamping ends of it very firmly between
>copper washers could be fast and easy for good and reliable contact.

The stainless steel is a non-starter. Use more radials of wire-wrap
wire if you are concerned about visibility vs. thickness.
Vegetation/grass will quickly bury most wire when Spring comes (and
possibly before). Grass will be so tenacious that even mowing the
lawn will not bring it up (unless you have a thatching attachment).

73's
Richard Clark, KB7QHC

102. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 18:43:14 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF7BE6C58A11zoodlewurdle@216.196.109.145>
Source record: 11252

Richard Clark <kb7qhc@comcast.net> wrote in
news:p917k5tjvd8ik6a5t4henv9if191n0g1vn@4ax.com:

> On Tue, 05 Jan 2010 11:54:23 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Btw, how critical is the resistance of wire in a few ground radials? I
>>have some thin stainless steel wire that would be strong and enduring
>>out there but at around 1.5 ohms or more per 6 inches I can't help
>>thinking that's too much. I like the idea though, because clamping ends
>>of it very firmly between copper washers could be fast and easy for good
>>and reliable contact.
>
> The stainless steel is a non-starter. Use more radials of wire-wrap
> wire if you are concerned about visibility vs. thickness.
> Vegetation/grass will quickly bury most wire when Spring comes (and
> possibly before). Grass will be so tenacious that even mowing the
> lawn will not bring it up (unless you have a thatching attachment).
>
> 73's
> Richard Clark, KB7QHC
>

Ok, copper's no problem, was just wondering about stuff I had plenty of at hand.. I wish I had a lawn. :) I was thinking that it would be an ideal method. My main difficulty (apart from a large amount of heavy logs (and most of a tree trunk) is that the best place to mount the antenna is in a far coner of a plot so I can't lay radials all round it. I can probably get the permission of one neighbour to run a ground wire along the far end of his garden along a low wall, but that same wall is a high wall on the other side, there's a drop of several feet as well as no chance of permission to lay wires there. This is why I'll want a ground rod, as a tree used to grow there, the rotted roots might be my best chance of anything like a conductive network that is close to the surface, in addition to a few ground wires. I'm a tenant, I don't own the land, and can't do much except work round what is there.

103. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 18:49:38 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF7BF81FD07zoodlewurdle@216.196.109.145>
Source record: 11253

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9CF7BE6C58A11zoodlewurdle@216.196.109.145:

> Richard Clark <kb7qhc@comcast.net> wrote in
> news:p917k5tjvd8ik6a5t4henv9if191n0g1vn@4ax.com:
>
>> On Tue, 05 Jan 2010 11:54:23 -0600, Lostgallifreyan
>> <no-one@nowhere.net> wrote:
>>
>>>Btw, how critical is the resistance of wire in a few ground radials? I
>>>have some thin stainless steel wire that would be strong and enduring
>>>out there but at around 1.5 ohms or more per 6 inches I can't help
>>>thinking that's too much. I like the idea though, because clamping ends
>>>of it very firmly between copper washers could be fast and easy for
>>>good and reliable contact.
>>
>> The stainless steel is a non-starter. Use more radials of wire-wrap
>> wire if you are concerned about visibility vs. thickness.
>> Vegetation/grass will quickly bury most wire when Spring comes (and
>> possibly before). Grass will be so tenacious that even mowing the
>> lawn will not bring it up (unless you have a thatching attachment).
>>
>> 73's
>> Richard Clark, KB7QHC
>>
>
> Ok, copper's no problem, was just wondering about stuff I had plenty of
> at hand.. I wish I had a lawn. :) I was thinking that it would be an
> ideal method. My main difficulty (apart from a large amount of heavy
> logs (and most of a tree trunk) is that the best place to mount the
> antenna is in a far coner of a plot so I can't lay radials all round it.
> I can probably get the permission of one neighbour to run a ground wire
> along the far end of his garden along a low wall, but that same wall is
> a high wall on the other side, there's a drop of several feet as well as
> no chance of permission to lay wires there. This is why I'll want a
> ground rod, as a tree used to grow there, the rotted roots might be my
> best chance of anything like a conductive network that is close to the
> surface, in addition to a few ground wires. I'm a tenant, I don't own
> the land, and can't do much except work round what is there.
>

Thinking about what I read recently, it seems that if the whip is not
vertical but slightly leaning back over the plot of land toward the houses,
it will have a better chance of using the sky waves, but what I don't know is
whether that demands ground radials to be biased (if biased at all) to favour

coverage on the side the antenna is leaning over, or the other side. My guess is the side it's leaning over... Is this true? If so, it will help a lot to make the best of that space.

104. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 21:55:27 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hi0cgf$n04m$1@tr22n12.aset.psu.edu>
Source record: 11254

Richard Clark wrote:
> On Mon, 04 Jan 2010 23:05:03 -0500, Mike Coslo <mjc5@psu.edu> wrote:
>
>> Richard Clark wrote:
>>> On Mon, 4 Jan 2010 11:37:53 -0600, "amdx" <amdx@knology.net> wrote:
>>> Yes, this is beginning to sound like a drone. Art easily dismisses it
>>> all when he crows about my only degree being in English. Would you
>>> like to read one of my plays?
>> I've been wanting to ask you Richard - are you a member of the American
>> Association of English Majors?
>
> Hi Mike,
>
> Never heard of them. No, my affiliations are more with the UW Foster
> School of Business and with various Science groups as a competition
> judge and mentor.

Ahh, I was being a little facetious anyhow. THe American Association of English majors is a fictional association created by Garrison Keillor of Prarie Home Companion fame. He makes fun of English majors - of which he is one. He has a couple other groups too, like the Ketchup Advisory Board, and the American Duct Tape Council.

I was just pulling your leg, IOW.

- 73 de Mike N3LI -

105. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 23:20:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <emh7k5lfpebpk6ifepptrnroior5erphej@4ax.com>
Source record: 11255

On Tue, 05 Jan 2010 12:49:38 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>> Ok, copper's no problem, was just wondering about stuff I had plenty of
>> at hand.. I wish I had a lawn. :) I was thinking that it would be an
>> ideal method. My main difficulty (apart from a large amount of heavy
>> logs (and most of a tree trunk) is that the best place to mount the
>> antenna is in a far coner of a plot so I can't lay radials all round it.

Running a fan of 90 degrees is fine, there's nothing exact about this
except for those who imagine they will suffer the dB of
out-of-symmetry.

>> I can probably get the permission of one neighbour to run a ground wire
>> along the far end of his garden along a low wall, but that same wall is
>> a high wall on the other side, there's a drop of several feet as well as
>> no chance of permission to lay wires there.

Don't bother. It isn't worth anyone's effort or intrusion.

>>This is why I'll want a
>> ground rod, as a tree used to grow there, the rotted roots might be my
>> best chance of anything like a conductive network that is close to the
>> surface, in addition to a few ground wires.

A wire mesh or mat (like chicken coop wire) over the surface of that
area would serve far better. That doesn't sound like an option so the
matter of pursuing conductivity of rotted roots is an illusion.

>>I'm a tenant, I don't own
>> the land, and can't do much except work round what is there.

You'll be able to do enough without much impact.
>>
>
>Thinking about what I read recently, it seems that if the whip is not
>vertical but slightly leaning back over the plot of land toward the houses,
>it will have a better chance of using the sky waves, but what I don't know is
>whether that demands ground radials to be biased (if biased at all) to favour
>coverage on the side the antenna is leaning over, or the other side. My guess
>is the side it's leaning over... Is this true? If so, it will help a lot to
>make the best of that space.

Your gain/loss advantage will be in the direction from the antenna
base out along of the middle radial in a 90 degree fan. Leaning won't
significantly alter things for a very short antenna (in terms of
wavelength).

Now as to these advantages and disadvantages. Once you get to a minimun set of radials (call it four), the addition of more wire won't budge your S-Meter more than a needle width (and that is being generous). The addition of more radials concerns establishing a firm reference of ground for Z.

73's
Richard Clark, KB7QHC

106. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-05 23:25:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gbi7k5tirat8cnmo4et22gmpv0h00ghpm4@4ax.com>
Source record: 11256

On Tue, 05 Jan 2010 16:55:27 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

>Ahh, I was being a little facetious anyhow. THe American Association of
>English majors is a fictional association created by Garrison Keillor of
>Prarie Home Companion fame. He makes fun of English majors - of which he
>is one. He has a couple other groups too, like the Ketchup Advisory
>Board, and the American Duct Tape Council.
>
>I was just pulling your leg, IOW.

You got me Mike,

I make fun of English Majors to bug Art (as I have the qualifications
and he doesn't).

So, to either Mike,

No interest in reading my play? No questions about it? (Sorry, two
questions there....)

73's
Richard Clark, KB7QHC

107. Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 02:33:51 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a0c16eab-e76c-4863-829a-bb5b0dbb5b0c@l30g2000yqb.googlegroups.com>
Source record: 11257

On the subject of particle wave duality with respect to radiation, I
pointed out to several physics forums that
the gaussian law on statics is the same as that of a Faraday shield
and when applied with a time varying field amounted to radiation per
Maxwells laws. Both of these instances suggests particles with spin,
probably helical.
Now physics forums have moderators with the power to ban questions
that challenge existing laws (waves) where as the questions and the
poster can be censored and banned.
This, of course, has happened to me. Reading further I see that
physicists are plagued with "crackpots" mainly "engineers" who come up
with theories that challenge fully accepted theories made by
physicists with many years of math study that cannot be equaled by
others!
Since the particle has spin of helical form it makes me wonder if the
helical action is what is referred to as a wave, but no answer is
available which is also followed up by banning. (lack of mathematical
reasoning)
We do not have moderators on this newsgroup, but just imagine how a
few can determine the incorrectness of radiation or challenges to
accepted science could stifle
the whole idea of experimentation in our hobby and hold of progression
within the hobby!
Forums are not perfect by any means but the idea of moderators that
can ban or censor free thought where only questions accepted are those
that can be answered parrot fashion from the books just throws me for
a loop. I know that censorship exists in many countries which are
controlled by a few or a committee
I sure hope that anything like physics censorship is not bestowed on
this newsgroup. by moderators with brains of a higher calibre than
those that post.
Looking at how progress is defined by the Nobel prize
I see that nominies can only be accepted by those "known" in the
field. In other words, the poll of insiders
make the choice. The nominees are then adjudicated by a committee of a
dozen or so (connected to the funds side) who then decide the winner.
The bottom line is that the winner is determined by a group that wish
to continue being thought as an insider or equivalent scientist by
coat tailing a winner.
Obviously we are still accepting that "all is known" in the sciences.
But then, why do students have to buy those new expensive books each
year if change has not come about?

108. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 10:18:10 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF868CBD828Fzoodlewurdle@216.196.109.145>
Source record: 11258

Richard Clark <kb7qhc@comcast.net> wrote in
news:emh7k5lfpebpk6ifepptrnroior5erphej@4ax.com:

> On Tue, 05 Jan 2010 12:49:38 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>> Ok, copper's no problem, was just wondering about stuff I had plenty
>>> of at hand.. I wish I had a lawn. :) I was thinking that it would be
>>> an ideal method. My main difficulty (apart from a large amount of
>>> heavy logs (and most of a tree trunk) is that the best place to mount
>>> the antenna is in a far coner of a plot so I can't lay radials all
>>> round it.
>
> Running a fan of 90 degrees is fine, there's nothing exact about this
> except for those who imagine they will suffer the dB of
> out-of-symmetry.
>
>>> I can probably get the permission of one neighbour to run a ground
>>> wire along the far end of his garden along a low wall, but that same
>>> wall is a high wall on the other side, there's a drop of several feet
>>> as well as no chance of permission to lay wires there.
>
> Don't bother. It isn't worth anyone's effort or intrusion.
>
>>>This is why I'll want a
>>> ground rod, as a tree used to grow there, the rotted roots might be my
>>> best chance of anything like a conductive network that is close to the
>>> surface, in addition to a few ground wires.
>
> A wire mesh or mat (like chicken coop wire) over the surface of that
> area would serve far better. That doesn't sound like an option so the
> matter of pursuing conductivity of rotted roots is an illusion.
>
>>>I'm a tenant, I don't own
>>> the land, and can't do much except work round what is there.
>
> You'll be able to do enough without much impact.
>>>
>>
>>Thinking about what I read recently, it seems that if the whip is not
>>vertical but slightly leaning back over the plot of land toward the
>>houses, it will have a better chance of using the sky waves, but what I
>>don't know is whether that demands ground radials to be biased (if
>>biased at all) to favour coverage on the side the antenna is leaning

>>over, or the other side. My guess is the side it's leaning over... Is
>>this true? If so, it will help a lot to make the best of that space.
>
> Your gain/loss advantage will be in the direction from the antenna
> base out along of the middle radial in a 90 degree fan. Leaning won't
> significantly alter things for a very short antenna (in terms of
> wavelength).
>
> Now as to these advantages and disadvantages. Once you get to a
> minimun set of radials (call it four), the addition of more wire won't
> budge your S-Meter more than a needle width (and that is being
> generous). The addition of more radials concerns establishing a firm
> reference of ground for Z.
>
> 73's
> Richard Clark, KB7QHC
>

Thankyou. This is good, it sounds like the basic plan will work then, and I might be able to get some chicken wire to cover at least part of it. One possible complication I didn't mention is that the intended mounting point is at a T junction of three wire mesh fences of equal height, about 6'. They don't have very reliable conductivity between each zigzag strand (oriented vertical) as at least one fence has a green plastic coating on its wires. I intend mounting the whip on a concrete post at the junction of these fences. I imagine the fences will raise (and make diffuse) the precise physical level of the RF ground, but I don't know whether they'll be a serious problem, or maybe even be helpful. I can try grounding them a bit better, but otherwise there's not a lot I can do about them.

One other thought... In that USMC antenna manual there is a mention of something similar, a 15' whip tilted and also tied back so the upper part is almost horizonatal, it's intended as a way to use short(ish) distances for skywave propagation. It looks useful given the context of trees and buildings within 100m of my best mounting point. What I'm not sure of is whether the curvature of their tied antenna is relevant, or a straight tilted whip would have no significant differences.

109. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 14:46:57 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF8965CDD50Fzoodlewurdle@216.196.109.145>
Source record: 11259

Art Unwin <arthurunwin@gmail.com> wrote in news:f919e118-400b-4b47-a710-316fd8174b18@m3g2000yqf.googlegroups.com:

> I suppose we can call it just being human and turf protection.
>

Or look to a simple physical aspect and call it inertia. Whatever it is, if you agonise over it you won't do much about it. I sympathise over this, I dislike the way patent and establishment turns technocracy into preisthood, but it still boils down to what you acheive. We might live in a world where current doctrine tells us that all is ruled by chance and that science cannot look into all things as some things must be permantly uncertain. That's fragmented not just science, but the whole of society because if no-one can validly seek a single truth many will just go seeking their own, hence a proliferantion of New Agey stuff, etc. But one thing doesn't change: Either a thing works or it doesn't. And never mind the maths, if it tries to predict too much, don't trust it. If it's descriptive of observations it might lead to new predictions, otherwise it might as well be an abstract model that can't predict anything. I don't know anything about what grounding you have, but it doesn't matter because this applies to all thought. If you have really found some new path, why try to force convergence with an old one? I'm staying with the old one because what it describes matches what I know, and I value its anchorage. Seems to me you either need to demonstrate an easy convergence of a very different theory so that anyone can reality-check it and still find it true, or build things based on it that verify predictions so others can see that happen.

I said this because it felt more right than not saying it, but I'm getting too old to go round in circles so if I find myself been drawn into any I won't go there. I wanted to stay silent on this, but however strange your ideas seem to me, there is something I can sympathise with about the trouble they cause for you. Sometimes if the roads don't join, you just have to keep driving on the one you're on.

110. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 16:30:37 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <deqe17-bqr.ln1@mail.specsol.com>
Source record: 11260

Art Unwin <arthurunwin@gmail.com> wrote:
> On Jan 6, 12:04 am, j...@specsol.spam.sux.com wrote:
>> Art Unwin <arthurun...@gmail.com> wrote:
>> > Now physics forums have moderators with the power to ban questions
>> > that challenge existing laws (waves) where as the questions and the
>> > poster can be censored and banned.
>>
>> Umm, no.
>>
>> The moderated groups just don't want to be bothered by drooling crackpots
>> and raving mental patients.
>>
>> If someone attempts to post something that has data and math to back up
>> a new idea, it will get posted.
>>
>> If someone attempts to post a bunch of rambling nonsense, it won't.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>>
>> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
> It depends on what they consider "nonsense". In my case they quoted
> QED as being final, so I then tried to see what definition they had on
> "waves" to see what the property they saw symbolized waves such as
> helical waves, but they declined to discuss.

Or in other words you attempted to post a bunch of ramblings about
"helical waves" without any results or math and expected them to spoon
feed you the contents of generally available texts such as "QED: The
Strange Theory of Light and Matter" by Richard Feynman.

--
Jim Pennino

Remove .spam.sux to reply.

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

111. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 17:13:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hi2gc3$m5r$1@news.jpl.nasa.gov>
Source record: 11263

Lostgallifreyan wrote:

> Thankyou. This is good, it sounds like the basic plan will work then, and I
> might be able to get some chicken wire to cover at least part of it.

Chicken wire rusts out pretty fast.. You'd probably be better off just
scrounging some AWG20 copper wire and improvising a little grid or
randomly laying it out.

One
> One other thought... In that USMC antenna manual there is a mention of
> something similar, a 15' whip tilted and also tied back so the upper part is
> almost horizonatal, it's intended as a way to use short(ish) distances for
> skywave propagation. It looks useful given the context of trees and buildings
> within 100m of my best mounting point. What I'm not sure of is whether the
> curvature of their tied antenna is relevant, or a straight tilted whip would
> have no significant differences.

Curvature isn't "significant", and for a lot of cases, the tilt isn't
either. But, tying the whip back does keep it from whacking too hard on
low hanging branches.

112. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 17:22:52 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF8B0CDFD689zoodlewurdle@216.196.109.145>
Source record: 11261

Art Unwin <arthurunwin@gmail.com> wrote in news:9e8de79b-123c-47fc-9187-e87557079693@a21g2000yqc.googlegroups.com:

> Provide a reasonable rebuttal and you have
> my attention, otherwise, concentrate on keeping the beakers clean as
> well as the benches.
>

Ok, you just lost my sympathy with that cheap shot, I don't care that it's not aimed at me. You obviously didn't care about it before when I said I sympathised. You're an idiot, and I'm putting you on the killfile so I don't have to see what you say again. If you really want to win any kind of respect you're on a hiding to nothing the way you're going. You sound like you want to be as arrogant as those you affect to despise appear to you to be. At which point it stops being about science at all.

113. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 17:59:02 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <068bdb6c-99c6-4bfe-b111-726ce1472658@j14g2000yqm.googlegroups.com>
Source record: 11262

On Jan 6, 11:22 am, Lostgallifreyan <no-...@nowhere.net> wrote:
> Art Unwin <arthurun...@gmail.com> wrote in news:9e8de79b-123c-47fc-9187-
> e87557079...@a21g2000yqc.googlegroups.com:
>
> > Provide a reasonable rebuttal and you have
> > my attention, otherwise, concentrate on keeping the beakers clean as
> > well as the benches.
>
> Ok, you just lost my sympathy with that cheap shot, I don't care that it's
> not aimed at me. You obviously didn't care about it before when I said I
> sympathised. You're an idiot, and I'm putting you on the killfile so I don't
> have to see what you say again. If you really want to win any kind of respect
> you're on a hiding to nothing the way you're going. You sound like you want
> to be as arrogant as those you affect to despise appear to you to be. At
> which point it stops being about science at all.

Suit yourself. It was he who used the words "nonsense, ramblings"
etc so I threw them back and will always do that. Now you bestow the
word "idiot" what should I say in return? For years he has slandered
me, just look at his record in the archives. Like many others who are
now getting old they seem to magnify their accomplishments and the
promotions they should have got for their endevours in life that some,
on the West Coast that is, suggest that they can see Russia from their
homes just to impress. So now you have become a judge with outstanding
qualities, O my! Don't often see people like you in East London as far
as I can remember, at least not for long.
As for science, all on this group say it is illegal to add a time
varying field to a static field to make it dynamic ,which equates to
Maxwells equations. If you don't agree with them then they have the
license to slam you. Good grief That is their standard on science that
they align with.

114. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 18:22:09 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <hv0f17-ojs.ln1@mail.specsol.com>
Source record: 11264

```
Art Unwin <arthurunwin@gmail.com> wrote:
> On Jan 6, 10:30 am, j...@specsol.spam.sux.com wrote:
>> Art Unwin <arthurun...@gmail.com> wrote:
>> > On Jan 6, 12:04 am, j...@specsol.spam.sux.com wrote:
>> >> Art Unwin <arthurun...@gmail.com> wrote:
>> >> > Now physics forums have moderators with the power to ban questions
>> >> > that challenge existing laws (waves) where as the questions and the
>> >> > poster can be censored and banned.
>>
>> >> Umm, no.
>>
>> >> The moderated groups just don't want to be bothered by drooling crackpots
>> >> and raving mental patients.
>>
>> >> If someone attempts to post something that has data and math to back up
>> >> a new idea, it will get posted.
>>
>> >> If someone attempts to post a bunch of rambling nonsense, it won't.
>>
>> >> --
>> >> Jim Pennino
>>
>> >> Remove .spam.sux to reply.
>>
>> >> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>>
>> > It depends on what they consider "nonsense". In my case they quoted
>> > QED as being final, so I then tried to see what definition they had on
>> > "waves" to see what the property they saw symbolized waves such as
>> > helical waves, but they declined to discuss.
>>
>> Or in other words you attempted to post a bunch of ramblings about
>> "helical waves" without any results or math and expected them to spoon
>> feed you the contents of generally available texts such as "QED: The
>> Strange Theory of Light and Matter" by Richard Feynman.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>>
>> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
> How can you apply mathematics to an observation that matches
```

> observations and conclusions to Faraday, Gauss, Maxwell and others?

With Maxwell's equations, which are a set of four partial differential equations that relate the electric and magnetic fields to their sources, charge density and current density.

With Gauss's flux theorem, which is a law relating the distribution of electric charge to the resulting electric field.

With Faraday's law of induction which relates the induced electromotive force in a closed circuit to the time rate of change of the magnetic flux through the circuit.

However, you can't with arm waving rambling.

<snip rambling>

> As a lab technition I don't expect you to know the answers

I have never in my life been a lab technition (sic).

<snip rambling>

> You, yourself, have a long experience as a technician

You have no clue what experience I have.

<snip rambling>

If you want to know why your rambling nonsense is rambling nonsense, read an elementry electromagnetic text such as "Electromagnetics" by Kraus and Carver.

Yeah, I know, hundreds of thousands of people who have studied the subject for over a hundred years are all wrong while you have the "Truth" in magic bouncing particles.

--
Jim Pennino

Remove .spam.sux to reply.

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

115. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 19:29:45 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ea8c8dd4-5db4-4aad-8836-307ef523a47b@m26g2000yqb.googlegroups.com>
Source record: 11265

```
On Jan 6, 12:22 pm, j...@specsol.spam.sux.com wrote:
> Art Unwin <arthurun...@gmail.com> wrote:
> > On Jan 6, 10:30 am, j...@specsol.spam.sux.com wrote:
> >> Art Unwin <arthurun...@gmail.com> wrote:
> >> > On Jan 6, 12:04 am, j...@specsol.spam.sux.com wrote:
> >> >> Art Unwin <arthurun...@gmail.com> wrote:
> >> >> > Now physics forums have moderators with the power to ban questions
> >> >> > that challenge existing laws (waves) where as the questions and the
> >> >> > poster can be censored and banned.
>
> >> >> Umm, no.
>
> >> >> The moderated groups just don't want to be bothered by drooling crackpots
> >> >> and raving mental patients.
>
> >> >> If someone attempts to post something that has data and math to back up
> >> >> a new idea, it will get posted.
>
> >> >> If someone attempts to post a bunch of rambling nonsense, it won't.
>
> >> >> --
> >> >> Jim Pennino
>
> >> >> Remove .spam.sux to reply.
>
> >> >> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
> >> > It depends on what they consider "nonsense". In my case they quoted
> >> > QED as being final, so I then tried to see what definition they had on
> >> > "waves" to see what the property they saw symbolized waves such as
> >> > helical waves, but they declined to discuss.
>
> >> Or in other words you attempted to post a bunch of ramblings about
> >> "helical waves" without any results or math and expected them to spoon
> >> feed you the contents of generally available texts such as "QED: The
> >> Strange Theory of Light and Matter" by Richard Feynman.
>
> >> --
> >> Jim Pennino
>
> >> Remove .spam.sux to reply.
>
> >> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
```

> > How can you apply mathematics to an observation that matches
> > observations and conclusions to Faraday, Gauss, Maxwell and others?
>
> With Maxwell's equations, which are a set of four partial differential
> equations that relate the electric and magnetic fields to their sources,
> charge density and current density.
>
> With Gauss's flux theorem, which is a law relating the distribution of
> electric charge to the resulting electric field.
>
> With Faraday's law of induction which relates the induced electromotive
> force in a closed circuit to the time rate of change of the magnetic flux
> through the circuit.

Reading the above means nothing, you have to understand it
> However, you can't with arm waving rambling.
>
> <snip rambling>
>
> > As a lab technition I don't expect you to know the answers
>
> I have never in my life been a lab technition (sic).
Keep trying you should be able to master it

>
> <snip rambling>
>
> > You, yourself, have a long experience as a technician
>
> You have no clue what experience I have.
O yes I do, I read your postings in the archives to understand what
level you are.
>
> <snip rambling>
>
> If you want to know why your rambling nonsense is rambling nonsense, read
> an elementry electromagnetic text such as "Electromagnetics" by Kraus
> and Carver.
You mention Kraus who spent a lot of time messing with radiators that
were not in equilibrium. He was bound to the idea of waves that
cancel, where if he had considered particles his helix radiators would
be in the form of a closed circuit such as a ribbon line where
particle vectors are additive. His work on helix antennas are so
incomplete
since he does not account for all forces involved for radiation.
Faraday shield is an excellent example of this where provision is made
for displacement current to contain a static field. I have an example
of that on my page Unwin antennas where I specifically state the
rudiments of current flow. As yet nobody has supplied scientific data
to show that flow is otherwise. Thru out the ages it has been
understood that the datum line for the laws of physics is the state of

equilibrium such that all forces are accounted for. For radio this
requires the use of radiators of a full wavelength which supplies
equilibrium and resoinance. Yet for some reason many including Kraus
has rejected this undeniable fact, Thus when applying Maxwells
equations they can never attain 100 percent efficiency. This can ONLY
be attained when an array is resonant and in equilibrium as must be
the individual radiators that consist same. On top of that, there is
no reason that a radiator should be straight only that it is in a
state of equilibrium. Think about it in terms of boundary laws that
abide with the laws of Newton in every aspect. Model a ribbon helix
in equilibrium or a simple helix antenna of Krauss and compare which
is the best for yourself instead of being just a follower. Look up
Faraday shields on the web and determine how electric fields and
magnetic fields are cancelled thus leaving just a time vary current
that your receiver can use. Think about how you can accellerate a
charge when it is just a field without mass and acts as a wave Use
your brain if you have one.
Your quotation of Maxwells laws does not impress me one bit as you
obviously do not know how to use it because of the lack of
understanding.

>
> Yeah, I know, hundreds of thousands of people who have studied the subject
> for over a hundred years are all wrong while you have the "Truth" in
> magic bouncing particles.

No, not all, a Iot is very much disputed outside this group

No, it is not my truths! It is those of the masters which are now
largely ignored by computer operators and the present day crop of
physicists
who now rely on probability mathematics as the proof of the truth.
And why do you think that Feyman described duality as a"strange
theory" which is based solely on the incorrect analysis of an
experiment that does not jive with those of the Masters?
Frankly, you are not much of a judge with respect to physics.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.
>
> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---

116. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 19:45:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e8n9k5dtgo9nlvbk4ajsk9ai6i0q2khkkr@4ax.com>
Source record: 11266

On Wed, 06 Jan 2010 04:18:10 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Thankyou. This is good, it sounds like the basic plan will work then, and I
>might be able to get some chicken wire to cover at least part of it.

There is a down-side to this and what you have revealed below:

>One
>possible complication I didn't mention is that the intended mounting point is
>at a T junction of three wire mesh fences of equal height, about 6'. They
>don't have very reliable conductivity between each zigzag strand (oriented
>vertical) as at least one fence has a green plastic coating on its wires.

Both the mesh of chicken wire, and the fence crosspoints may suffer
from cross-modulation products due to corrosion at the joints AND if
the metal is galvanized. This is evidenced in a nearby transmitter
(and nearby is relative measure) exciting the wire, and rectifying at
the corroded crosspoints. This rectification creates harmonics and
you are off to the races in terms of spurious frequency generation
across a wide bandwidth.

Oh Brave New World of common mode.

>I
>intend mounting the whip on a concrete post at the junction of these fences.
>I imagine the fences will raise (and make diffuse) the precise physical level
>of the RF ground, but I don't know whether they'll be a serious problem, or
>maybe even be helpful. I can try grounding them a bit better, but otherwise
>there's not a lot I can do about them.

As you describe at least one fence having insulated wire (which is
good from the cross-mod point of view) this makes no difference RF
ground-wise; and being elevated only slightly shifts things.

One exception is found in proximity in that this elevated ground will
indirectly short out the lower section of your vertical. This is more
a matter of Z than sensitivity.

The solution is to elevate your vertical's feedpoint to the height of
the fence top.

>One other thought... In that USMC antenna manual there is a mention of
>something similar, a 15' whip tilted and also tied back so the upper part is
>almost horizonatal, it's intended as a way to use short(ish) distances for
>skywave propagation. It looks useful given the context of trees and buildings
>within 100m of my best mounting point. What I'm not sure of is whether the

>curvature of their tied antenna is relevant, or a straight tilted whip would
>have no significant differences.

Well, what they (or you) call sky wave is properly NVIS (near vertical incident _____ - I forget the last part) which is meant for local communications, which is more what the ground forces are interested in. The Marines in Afghanistan are not going to DX headquarters back at Pennsylvania Avenue in DC. When I taught VHF/UHF comm in the Navy, our equipement easily lost 10dB of transmitted/received signal levels just getting from the shack to the antenna. We didn't care. Push more power if necessary, as for reception, line of sight was all that was necessary, and that was to the horizon (no more than 8 or 10 miles). I don't think the government has bought any QRP rigs since WWII.

In fact, that tilting's mission has also been satisfied with end loaded dipoles place directly on the ground (which was largely sand). I and my buddy used one for field day. Another antenna is an unterminated coax laid across the ground. Both suffer mightily in efficiency, but they offer ease of construction and purport to enjoy less noise problems. To this last, most local noise arrives by vertical polarization, and signals in the sky arrive by elliptical (both vertical and horizontal by varying degree) polarization. For a quick and dirty test, I doubt any other test could be quicker to do. You might want to add a short pig-tail to the unterminated coax.

Further experimentation would be to add 8 to 10 inches of ferrite beads to the coax, half way back on it toward your shack. This would snub your home's injection of noise into your receiver (conducting out from the house on the coax outer shield and folding back at the far end). The next experiment (if this first proved useful) would be to add a local ground at the same point and tie it to the shield (after penetrating the jacket, of course). Yes, this violates some of my other advice about mixing grounds, but for experiment's sake, it will add to your repertoire of learning the complexities and benefits of ground. The purpose of this new ground is to discharge that choked noise into ground. I have successfully done this to quiet my home's noise generation as detected in my receivers. The ultimate proof of this concept is being able to throw the master breaker on your home and noting any change in the noise floor.

Throwing that breaker is probably at the extreme of your family's tolerance of your hobby. To this end you want to plan to do it once. This means doing a noise floor survey at hourly intervals for all bands and keeping notes for a week or two. Then, one day when there's the least possibility of disrupting domestic tranquility, throw the main and do a quick survey again. I have managed to quiet my receivers by 5 to 10 dB through tests like these.

Buried cable, or ground level run cable can snub local noise induction too (but it is still a good idea to choke at the feed point if no where else). This last observation is to inform you that metallic

connection to earth is not always necessary. You should be equally informed that the proximity of earth can also negatively affect what positive gains you are seeking too.

73's
Richard Clark, KB7QHC

117. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 19:49:06 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <i26f17-15t.ln1@mail.specsol.com>
Source record: 11267

```
Art Unwin <arthurunwin@gmail.com> wrote:
> On Jan 6, 12:22 pm, j...@specsol.spam.sux.com wrote:
>> Art Unwin <arthurun...@gmail.com> wrote:
>> > On Jan 6, 10:30 am, j...@specsol.spam.sux.com wrote:
>> >> Art Unwin <arthurun...@gmail.com> wrote:
>> >> > On Jan 6, 12:04 am, j...@specsol.spam.sux.com wrote:
>> >> >> Art Unwin <arthurun...@gmail.com> wrote:
>> >> >> > Now physics forums have moderators with the power to ban questions
>> >> >> > that challenge existing laws (waves) where as the questions and the
>> >> >> > poster can be censored and banned.
>>
>> >> >> Umm, no.
>>
>> >> >> The moderated groups just don't want to be bothered by drooling crackpots
>> >> >> and raving mental patients.
>>
>> >> >> If someone attempts to post something that has data and math to back up
>> >> >> a new idea, it will get posted.
>>
>> >> >> If someone attempts to post a bunch of rambling nonsense, it won't.
>>
>> >> >> --
>> >> >> Jim Pennino
>>
>> >> >> Remove .spam.sux to reply.
>>
>> >> >> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>>
>> >> > It depends on what they consider "nonsense". In my case they quoted
>> >> > QED as being final, so I then tried to see what definition they had on
>> >> > "waves" to see what the property they saw symbolized waves such as
>> >> > helical waves, but they declined to discuss.
>>
>> >> Or in other words you attempted to post a bunch of ramblings about
>> >> "helical waves" without any results or math and expected them to spoon
>> >> feed you the contents of generally available texts such as "QED: The
>> >> Strange Theory of Light and Matter" by Richard Feynman.
>>
>> >> --
>> >> Jim Pennino
>>
>> >> Remove .spam.sux to reply.
>>
>> >> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
```

>>
>> > How can you apply mathematics to an observation that matches
>> > observations and conclusions to Faraday, Gauss, Maxwell and others?
>>
>> With Maxwell's equations, which are a set of four partial differential
>> equations that relate the electric and magnetic fields to their sources,
>> charge density and current density.
>>
>> With Gauss's flux theorem, which is a law relating the distribution of
>> electric charge to the resulting electric field.
>>
>> With Faraday's law of induction which relates the induced electromotive
>> force in a closed circuit to the time rate of change of the magnetic flux
>> through the circuit.
>
> Reading the above means nothing, you have to understand it

Yep, which you obviously don't.

>> However, you can't with arm waving rambling.
>>
>> <snip rambling>
>>
>> > As a lab technition I don't expect you to know the answers
>>
>> I have never in my life been a lab technition (sic).
> Keep trying you should be able to master it
>
>
>>
>> <snip rambling>
>>
>> > You, yourself, have a long experience as a technician
>>
>> You have no clue what experience I have.
> O yes I do, I read your postings in the archives to understand what
> level you are.

Oh, no you don't and you have no clue what I have done, what I do, or
what credentials I might have as I don't post such information.

<snip ravings about "equilibrium">

I have yet to see a single equation from you that supports ANY of your
ranting nonsense.

<snip ravings about "masters" and ignored "truth" revealed only to you>

--
Jim Pennino

Remove .spam.sux to reply.

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

118. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 20:07:27 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF8CC9A261C1zoodlewurdle@216.196.109.145>
Source record: 11268

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:hi2gc3$m5r$1@news.jpl.nasa.gov:

> Lostgallifreyan wrote:
>
>> Thankyou. This is good, it sounds like the basic plan will work then,
>> and I might be able to get some chicken wire to cover at least part of
>> it.
>
> Chicken wire rusts out pretty fast.. You'd probably be better off just
> scrounging some AWG20 copper wire and improvising a little grid or
> randomly laying it out.
>

True. Was just thinking that it's not that hard to find something meshlike so
even if it did it could be replaced for free. Given the price of scrap
copper, that rarely comes free these days. :)

>> One other thought... In that USMC antenna manual there is a mention of
>> something similar, a 15' whip tilted and also tied back so the upper
>> part is almost horizonatal, it's intended as a way to use short(ish)
>> distances for skywave propagation. It looks useful given the context of
>> trees and buildings within 100m of my best mounting point. What I'm not
>> sure of is whether the curvature of their tied antenna is relevant, or
>> a straight tilted whip would have no significant differences.
>
> Curvature isn't "significant", and for a lot of cases, the tilt isn't
> either. But, tying the whip back does keep it from whacking too hard on
> low hanging branches.
>

In the case of a 15' whip, tilt might be. At least, if it isn't I have to
wonder why that USMC antenna manual was suggesting one for short-range
skywave use.
Document is "MCRP 3-40.3c" (PDF) 'Figure 4-34. AN/MRC-138 with NVIS Antenna'.
(About 4/7 of the way through that file, as gauged by scrollbar).

Where I am it seems the best chance due to surrounding buildings, trees,
fences, etc, is to use a slightly less exaggeratedly steep 'view' of the sky
than is implied by that description and drawing. If you look at that drawing
you can see that it isn't done to tie the antenna out of the way. :) There
seems to be specific reason for doing what they do there.

The curvature made me wonder, based on a relector, in an indirect way... I
read that a longer straight isolated rod placed directly behind a whip,
separated by a quarter wavelength, could be a reflector. While I guess any

curvature in either that rod or the whip might be insignificant at low HF, I inferred that it had to be straight to work efficiently if the whip was straight. There seemed to be implications that straightness, or lack of it, mattered. That made me wonder if curvature in a whip (forget the reflector, I have...) leaning toward a building might very slightly favour pickup on the convex side and attenuation on the concave side, or have any other mildly directional benefits. If so it might be a useful part of a strategy to reduce noise from nearby buildings. Of course it might be useless trying, but it looks like a nice idea...

119. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 20:09:00 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF8CCDD3ED6zoodlewurdle@216.196.109.145>
Source record: 11269

Richard Clark <kb7qhc@comcast.net> wrote in
news:e8n9k5dtgo9nlvbk4ajsk9ai6i0q2khkkr@4ax.com:

> Well, what they (or you) call sky wave is properly NVIS (near vertical
> incident _____ - I forget the last part)

Skywave. :) At least, according to the document I just mentioned in previous
post. Sorry, I'll get to the detail in your post now..

120. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 20:37:55 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CF8D1DFAB0CEzoodlewurdle@216.196.109.145>
Source record: 11270

Richard Clark <kb7qhc@comcast.net> wrote in
news:e8n9k5dtgo9nlvbk4ajsk9ai6i0q2khkkr@4ax.com:

> On Wed, 06 Jan 2010 04:18:10 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Thankyou. This is good, it sounds like the basic plan will work then,
>>and I might be able to get some chicken wire to cover at least part of
>>it.
>
> There is a down-side to this and what you have revealed below:
>
>>One
>>possible complication I didn't mention is that the intended mounting
>>point is at a T junction of three wire mesh fences of equal height,
>>about 6'. They don't have very reliable conductivity between each zigzag
>>strand (oriented vertical) as at least one fence has a green plastic
>>coating on its wires.
>
> Both the mesh of chicken wire, and the fence crosspoints may suffer
> from cross-modulation products due to corrosion at the joints AND if
> the metal is galvanized. This is evidenced in a nearby transmitter
> (and nearby is relative measure) exciting the wire, and rectifying at
> the corroded crosspoints. This rectification creates harmonics and
> you are off to the races in terms of spurious frequency generation
> across a wide bandwidth.
>
> Oh Brave New World of common mode.
>

Hmm. :) Just going to have to chance that, the bigger fence (main road in T
junction metaphor) is a galvanised type, with plenty of weathering. If I have
patience I might weave in a grounded length of copper wire, but I suspect
more weathering will nullify any useful initial results of that move so I
probably won't.

>>I
>>intend mounting the whip on a concrete post at the junction of these
>>fences. I imagine the fences will raise (and make diffuse) the precise
>>physical level of the RF ground, but I don't know whether they'll be a
>>serious problem, or maybe even be helpful. I can try grounding them a
>>bit better, but otherwise there's not a lot I can do about them.
>
> As you describe at least one fence having insulated wire (which is
> good from the cross-mod point of view) this makes no difference RF

> ground-wise; and being elevated only slightly shifts things.
>
> One exception is found in proximity in that this elevated ground will
> indirectly short out the lower section of your vertical. This is more
> a matter of Z than sensitivity.
>
> The solution is to elevate your vertical's feedpoint to the height of
> the fence top.
>

Oh, it will be. A tad higher, if anything. Just a few inches though, between bottom end of whip and top of fence.

>>One other thought... In that USMC antenna manual there is a mention of
>>something similar, a 15' whip tilted and also tied back so the upper
>>part is almost horizonatal, it's intended as a way to use short(ish)
>>distances for skywave propagation. It looks useful given the context of
>>trees and buildings within 100m of my best mounting point. What I'm not
>>sure of is whether the curvature of their tied antenna is relevant, or a
>>straight tilted whip would have no significant differences.
>
> Well, what they (or you) call sky wave is properly NVIS (near vertical
> incident _____ - I forget the last part) which is meant for local
> communications, which is more what the ground forces are interested
> in. The Marines in Afghanistan are not going to DX headquarters back
> at Pennsylvania Avenue in DC. When I taught VHF/UHF comm in the Navy,
> our equipement easily lost 10dB of transmitted/received signal levels
> just getting from the shack to the antenna. We didn't care. Push
> more power if necessary, as for reception, line of sight was all that
> was necessary, and that was to the horizon (no more than 8 or 10
> miles). I don't think the government has bought any QRP rigs since
> WWII.
>

I don't have a lot of line of sight.. While I'm not living in a well, that might be a closer analogy than the terrain most SWL'ers assume they'll find. I do get a fair chunk of south and western sky though. I figured a scheme intended to transmit to such a space should receive ok from it. If I try any other angle I might as well try to hear the local neighbourhood noises, but getting a sense of what lies beyond all that is why I'm doing this. Maybe after some initial tries I might have to consider something much more directional anyway, but hopefully not.

> In fact, that tilting's mission has also been satisfied with end
> loaded dipoles place directly on the ground (which was largely sand).
> I and my buddy used one for field day. Another antenna is an
> unterminated coax laid across the ground. Both suffer mightily in
> efficiency, but they offer ease of construction and purport to enjoy
> less noise problems. To this last, most local noise arrives by
> vertical polarization, and signals in the sky arrive by elliptical
> (both vertical and horizontal by varying degree) polarization. For a

> quick and dirty test, I doubt any other test could be quicker to do.
> You might want to add a short pig-tail to the unterminated coax.
>

An odd idea, but I like it. It might be that in my location some drastic shifts from convention, to get best SNR never mind losses, then add gain later, might be best. If something like that worked I'd leave it working.

> Further experimentation would be to add 8 to 10 inches of ferrite
> beads to the coax, half way back on it toward your shack. This would
> snub your home's injection of noise into your receiver (conducting out
> from the house on the coax outer shield and folding back at the far
> end). The next experiment (if this first proved useful) would be to
> add a local ground at the same point and tie it to the shield (after
> penetrating the jacket, of course). Yes, this violates some of my
> other advice about mixing grounds, but for experiment's sake, it will
> add to your repertoire of learning the complexities and benefits of
> ground. The purpose of this new ground is to discharge that choked
> noise into ground. I have successfully done this to quiet my home's
> noise generation as detected in my receivers. The ultimate proof of
> this concept is being able to throw the master breaker on your home
> and noting any change in the noise floor.
>
> Throwing that breaker is probably at the extreme of your family's
> tolerance of your hobby. To this end you want to plan to do it once.
> This means doing a noise floor survey at hourly intervals for all
> bands and keeping notes for a week or two. Then, one day when there's
> the least possibility of disrupting domestic tranquility, throw the
> main and do a quick survey again. I have managed to quiet my
> receivers by 5 to 10 dB through tests like these.
>
> Buried cable, or ground level run cable can snub local noise induction
> too (but it is still a good idea to choke at the feed point if no
> where else). This last observation is to inform you that metallic
> connection to earth is not always necessary. You should be equally
> informed that the proximity of earth can also negatively affect what
> positive gains you are seeking too.
>
> 73's
> Richard Clark, KB7QHC

Ok, I'll be keeping the feed line as mobile as I can, because I already suspected that position and number of ferrite slugs might be something I want to change a lot to test. Ultimately I hope I can run it along the top of one of the chainlink fences. Circuit breakers will be no problem, I live alone in a basement flat. :)

121. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 23:25:54 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <c8973798-6b93-4b3f-b275-ef3bce09dfb4@k17g2000yqh.googlegroups.com>
Source record: 11271

On Jan 6, 7:49 pm, j...@specsol.spam.sux.com wrote:
> Art Unwin <arthurun...@gmail.com> wrote:
> > On Jan 6, 12:22 pm, j...@specsol.spam.sux.com wrote:
> >> Art Unwin <arthurun...@gmail.com> wrote:
> >> > On Jan 6, 10:30 am, j...@specsol.spam.sux.com wrote:
> >> >> Art Unwin <arthurun...@gmail.com> wrote:
> >> >> > On Jan 6, 12:04 am, j...@specsol.spam.sux.com wrote:
> >> >> >> Art Unwin <arthurun...@gmail.com> wrote:
> >> >> >> > Now physics forums have moderators with the power to ban questions
> >> >> >> > that challenge existing laws (waves) where as the questions and the
> >> >> >> > poster can be censored and banned.
>
> >> >> >> Umm, no.
>
> >> >> >> The moderated groups just don't want to be bothered by drooling crackpots
> >> >> >> and raving mental patients.
>
> >> >> >> If someone attempts to post something that has data and math to back up
> >> >> >> a new idea, it will get posted.
>
> >> >> >> If someone attempts to post a bunch of rambling nonsense, it won't.
>
> >> >> >> --
> >> >> >> Jim Pennino
>
> >> >> >> Remove .spam.sux to reply.
>
> >> >> >> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
> >> >> > It depends on what they consider "nonsense". In my case they quoted
> >> >> > QED as being final, so I then tried to see what definition they had on
> >> >> > "waves" to see what the property they saw symbolized waves such as
> >> >> > helical waves, but they declined to discuss.
>
> >> >> Or in other words you attempted to post a bunch of ramblings about
> >> >> "helical waves" without any results or math and expected them to spoon
> >> >> feed you the contents of generally available texts such as "QED: The
> >> >> Strange Theory of Light and Matter" by Richard Feynman.
>
> >> >> --
> >> >> Jim Pennino
>
> >> >> Remove .spam.sux to reply.
>

> >> >> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
> >> > How can you apply mathematics to an observation that matches
> >> > observations and conclusions to Faraday, Gauss, Maxwell and others?
>
> >> With Maxwell's equations, which are a set of four partial differential
> >> equations that relate the electric and magnetic fields to their sources,
> >> charge density and current density.
>
> >> With Gauss's flux theorem, which is a law relating the distribution of
> >> electric charge to the resulting electric field.
>
> >> With Faraday's law of induction which relates the induced electromotive
> >> force in a closed circuit to the time rate of change of the magnetic flux
> >> through the circuit.
>
> > Reading the above means nothing, you have to understand it
>
> Yep, which you obviously don't.
>
>
>
> >> However, you can't with arm waving rambling.
>
> >> <snip rambling>
>
> >> > As a lab technition I don't expect you to know the answers
>
> >> I have never in my life been a lab technition (sic).
> > Keep trying you should be able to master it
>
> >> <snip rambling>
>
> >> > You, yourself, have a long experience as a technician
>
> >> You have no clue what experience I have.
> > O yes I do, I read your postings in the archives to understand what
> > level you are.
>
> Oh, no you don't and you have no clue what I have done, what I do, or
> what credentials I might have as I don't post such information.
>
> <snip ravings about "equilibrium">
>
> I have yet to see a single equation from you that supports ANY of your
> ranting nonsense.

and you never will. just generic hand waving and wild rants with no
basis in reality.

122. Re: Sangean ATS-909 external antenna impedance??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-06 23:39:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gl0ak5l89ldt8jduirdkhum32rol62vfpm@4ax.com>
Source record: 11272

On Wed, 06 Jan 2010 14:09:00 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>> Well, what they (or you) call sky wave is properly NVIS (near vertical
>> incident _____ - I forget the last part)
>
>Skywave. :) At least, according to the document I just mentioned in previous
>post. Sorry, I'll get to the detail in your post now..

Something in the back of mind said it was.

123. Re: The Best Small Antennas For MW, LW, And SW by Dallas Lankford

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 01:53:52 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <hi3ern$bo2i$1@tr22n12.aset.psu.edu>
Source record: 11273

Richard Clark wrote:
> On Tue, 05 Jan 2010 16:55:27 -0500, Michael Coslo <mjc5@psu.edu>
> wrote:
>
>> Ahh, I was being a little facetious anyhow. THe American Association of
>> English majors is a fictional association created by Garrison Keillor of
>> Prarie Home Companion fame. He makes fun of English majors - of which he
>> is one. He has a couple other groups too, like the Ketchup Advisory
>> Board, and the American Duct Tape Council.
>>
>> I was just pulling your leg, IOW.
>
> You got me Mike,
>
> I make fun of English Majors to bug Art (as I have the qualifications
> and he doesn't).
>
> So, to either Mike,
>
> No interest in reading my play? No questions about it? (Sorry, two
> questions there....)

Sure, why not? I read your posts for both the antenna content and the
wit, and I'm always up for a read. Is it online, emailable?

- 73 de Mike N3LI -

124. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 02:13:43 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <luGdnTr8f9fG3tjWnZ2dnUVZ8vidnZ2d@bt.com>
Source record: 11274

<snip>
I have an example
of that on my page Unwin antennas where I specifically state the
rudiments of current flow. As yet nobody has supplied scientific data
to show that flow is otherwise. Thru out the ages it has been
understood that the datum line for the laws of physics is the state of
equilibrium such that all forces are accounted for. For radio this
requires the use of radiators of a full wavelength which supplies
equilibrium and resoinance. Yet for some reason many including Kraus
has rejected this undeniable fact, Thus when applying Maxwells
equations they can never attain 100 percent efficiency. This can ONLY
be attained when an array is resonant and in equilibrium as must be
the individual radiators that consist same. On top of that, there is
no reason that a radiator should be straight only that it is in a
state of equilibrium. <snip>

Art,

I think this paragraph may be one of the reasons for all the protests. It isn't necessary to achieve 100% efficiency or to use a full wavelength radiator in order to broadcast (or receive) a radio signal. It may be desirable, but it isn't necessary. Modern equipment has sufficient power to overcome the inefficiencies when transmitting and can hear signals well below the noise floor when receiving. A 50% efficient antenna is fine for most applications and perhaps 10% or less will do at a pinch.

The patent office floors are littered with designs for better, more effective mousetraps, but that 99 cent (pence) bit of wood with a powerful spring will kill mice just as dead. :-)

The particle wave duality of electromagnetic waves was settled back in the 1930's and further refinements have only gone on to prove that electromagnetic waves act as both particles and waves depending on circumstances and measurement. There is nothing wrong in considering the generation of an electromagnetic wave using particles, so long as the end results are in agreement with measurements taken using standard scientific equipment.

If your antenna calculations show 100% power transfer to the antenna and 100% power radiated, then that should be capable of being substantiated by standard measuring techniques in the near and far fields.

If your antenna only shows these readings when a similar receiving antenna is used and attached to the measuring equipment (rather than a standard dipole) then you have either invented an entirely new field of physics, or the calculations are wrong.

I'm sure your compact antennas do perform better than others contained within similar physical dimensions. A full wavelength resonant radiator must theoretically be better than a fractional or loaded system. But proving that it is worthwhile, better and more convenient to Joe Public is a much harder sell. Your ideas about particles might be correct, but do they give a better understanding and predictions of antenna behaviour than the currently accepted theories? In order to succeed, I would suggest that your theory would need to match all current observations but then go on to make some new predictions about antennas which can be measured and verified. That is the way that western science has progressed since the Greek philosophers tried to explain the world around them. Some Asian cultures are allegedly more amenable to accepting that some things in the world are just the way they are and require less stringent proof. It allowed them to leapfrog the West and make significant practical developments of everyday useful stuff without worrying about how it all worked exactly. The only problem with this approach is that if you hit a wall in development, it usually isn't clear how to make further improvements or solve the problem except by trial and error.

Keep up the good work.

Regards

Mike G0ULI

125. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 03:31:20 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <69d0c255-39b0-469e-9c63-bb85c6c840ad@e27g2000yqd.googlegroups.com>
Source record: 11275

On Jan 7, 2:13 am, "Mike Kaliski" <michael.kali...@tesco.net> wrote:

>
> Art,
>
>
> I'm sure your compact antennas do perform better than
> others contained within similar physical dimensions.

>
> Mike G0ULI

WHAT antennas would those be?

126. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 03:45:33 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <10c80f5a-231c-4ae2-a7f7-cf2e0cb082e2@s3g2000yqs.googlegroups.com>
Source record: 11276

On Jan 6, 8:13 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> <snip>
> I have an example
> of that on my page Unwin antennas where I specifically state the
> rudiments of current flow. As yet nobody has supplied scientific data
> to show that flow is otherwise. Thru out the ages it has been
> understood that the datum line for the laws of physics is the state of
> equilibrium such that all forces are accounted for. For radio this
> requires the use of radiators of a full wavelength which supplies
> equilibrium and resoinance. Yet for some reason many including Kraus
> has rejected this undeniable fact, Thus when applying Maxwells
> equations they can never attain 100 percent efficiency. This can ONLY
> be attained when an array is resonant and in equilibrium as must be
> the individual radiators that consist same. On top of that, there is
> no reason that a radiator should be straight only that it is in a
> state of equilibrium. <snip>
>
> Art,
>
> I think this paragraph may be one of the reasons for all the protests. It
> isn't necessary to achieve 100% efficiency or to use a full wavelength
> radiator in order to broadcast (or receive) a radio signal. It may be
> desirable, but it isn't necessary. Modern equipment has sufficient power to
> overcome the inefficiencies when transmitting and can hear signals well
> below the noise floor when receiving. A 50% efficient antenna is fine for
> most applications and perhaps 10% or less will do at a pinch.
>
> The patent office floors are littered with designs for better, more
> effective mousetraps, but that 99 cent (pence) bit of wood with a powerful
> spring will kill mice just as dead. :-)

all above agreed with

>
> The particle wave duality of electromagnetic waves was settled back in the
> 1930's and further refinements have only gone on to prove that
> electromagnetic waves act as both particles and waves depending on
> circumstances and measurement. There is nothing wrong in considering the
> generation of an electromagnetic wave using particles, so long as the end
> results are in agreement with measurements taken using standard scientific
> equipment.

Also agreed with except for radio waves that if duality over the whole
spectrum is true it is not so with radio frequencies. Gauss makes it
quite clear that static particles can become a dynamic field

according to Maxwells equations. If they become waves at the higher
end of the frequency span say beyond X rays it is of no concern to the
subject of radiation in the amateur bands which is the field that I am
working with.

>
> If your antenna calculations show 100% power transfer to the antenna and
> 100% power radiated, then that should be capable of being substantiated by
> standard measuring techniques in the near and far fields.

Quite true

>
> If your antenna only shows these readings when a similar receiving antenna
> is used and attached to the measuring equipment (rather than a standard
> dipole) then you have either invented an entirely new field of physics, or
> the calculations are wrong.

I dont see it that way since a 4 ft dia mesh has many WL of wire
contained for top band so it should be able to choose its own route
for
a particular frequency resonance. The more WL you have the more likely
resonance would occur.
>
> I'm sure your compact antennas do perform better than others contained
> within similar physical dimensions. A full wavelength resonant radiator must
> theoretically be better than a fractional or loaded system.
On my page I show instances of resonance using 6 inch samples of
mesh which match the amateur bands so i see it as a huge step with
respect to small radiators. also pundits state there is a need for
smaller broadcast antennas(cross field) without ground plain.
I personally see the advantage of double the skip distance even when
ground situated. Military would see similar advantages. I see the
confusion as purely my position that with respect to radio we simply
have particles without evidence of waves and the fact that from a
specific rule point equilibrium exists only at the period point and
not 1/2WL. It is the recognition of this mathematical point that
allows
both resonance and equiulibrium which allows for compression. To use a
1/2 wl is a violation of the universal rule, simple as that.

But proving that
> it is worthwhile, better and more convenient to Joe Public is a much harder
> sell.

That is true but if there really is a true need for a technology for
smaller volume radiators together with human shielding protection to
go along side present miniaturization, then it will sell itself.

Your ideas about particles might be correct, but do they give a
better
> understanding and predictions of antenna behaviour than the currently

> accepted theories? In order to succeed, I would suggest that your theory
> would need to match all current observations but then go on to make some new
> predictions about antennas which can be measured and verified. That is the
> way that western science has progressed since the Greek philosophers tried
> to explain the world around them. Some Asian cultures are allegedly more
> amenable to accepting that some things in the world are just the way they
> are and require less stringent proof. It allowed them to leapfrog the West
> and make significant practical developments of everyday useful stuff without
> worrying about how it all worked exactly. The only problem with this
> approach is that if you hit a wall in development, it usually isn't clear
> how to make further improvements or solve the problem except by trial and
> error.

Yes, that is always true but I see as significant is that radiation
can now be shielded when used and is not automatically sky wave at
ground level and, ofcourse, that it is small. The old adage of putting
up as much wire that you can is neatly solved with mesh while staying
in equilibrium. What more can you want?
How many questions do we see for an antenna without room for a ground
plain? How many questions do we get for a broad band scanner antenna.
How can a submarine transmitt with out detection trailing a humoungos
radiator where the wash is seen for miles?
How can we prevent moon dust from contaminating rockets. It just
doesn't stop.
When you can transmit from ground level without height interference to
TOA you are effectively doubling the range for the same power.
On top of that the public is easily convinced of its use when the
advertisers state that damage to the brain cannot now possibly occur
because of shielding.
It just blows my mind that amateurs have lost interest in new antenna
design based purely on a mob that denies the possibility that it
cannot work without stating why.As for me I have no more need for a
tower.
Best regards
Art Unwin
The PTO did not turn down my response to questions regarding the first
patent application so I assume it will be awarded in good time.
>
> Keep up the good work.
>
> Regards
>
> Mike G0ULI

127. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 04:21:35 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ae30c940-4349-476a-805e-aa7e8d9cc2fe@u41g2000yqe.googlegroups.com>
Source record: 11277

On Jan 6, 9:31 pm, Bill <k4...@arrl.net> wrote:
> On Jan 7, 2:13 am, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
>
>
> > Art,
>
> > I'm sure your compact antennas do perform better than
> > others contained within similar physical dimensions.
>
> > Mike G0ULI
>
> WHAT antennas would those be?

He clearly stated fractional and loaded antennas. What is so hard to
read what he stated?

128. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 07:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1262847900@panix.com>
Source record: 11278
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

129. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 07:40:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5k3bk595gu16ejp5kelslgboh041rm7659@4ax.com>
Source record: 11279

On Thu, 7 Jan 2010 02:13:43 -0000, "Mike Kaliski"
<michael.kaliski@tesco.net> wrote:

>It
>isn't necessary to achieve 100% efficiency or to use a full wavelength
>radiator in order to broadcast (or receive) a radio signal.

Hi Mike,

You are right, however, I suppose Art will walk away from this topic
as he had a month ago:
>On Thu, 10 Dec 2009 some gomer wrote:
>
>>> Following Maxwell's equations provides accountability of all forces
>>> and NEC programs are very capable of showing this by divulging that
>>> same 10% of missing energy.
>By the addition of considerable textual chaff (not included here),
>this last demand is saved from being embarrassingly close to:
>>> How about supplying some facts to back up your claims so they can be
>>> discussed?
>
>Any NEC program (expressly allowed in the first statement's premise)
>will show that a dipole:
>1. In free space;
>2. x coordinate -0.245714 wavelength;
>3. x coordinate 0.245714 wavelength;
>4. 11 segments;
>5. 1mm diameter copper wire;
>6. excited at first resonance
>
>Result: 97.5%
>
>So, clearly the first claim of 10% missing energy is a product of
>misinformation and is easily accounted by the allowable method (NEC)
>contained within the erroneous statement.
>
>However, let's examine the source of that 2.5% loss. If I were to
>simply use NEC's capacity to render the copper into perfect wire (no
>other changes made to the parts 1. through 6 above); then
>
>Result: 99.7%
>
>Whoops!!!!! no copper, and still not perfect?
>
>This, too, is accountable within NEC as accumulated math error of too

>few samples (segments). So, we simple amend part 4. above to increase
>the number of segments to 111; then
>
>Result: 100.00%
>
>********************
>
>I can fully expect the wheeze that the antenna is not in equilibrium
>(sic). Without pointing out that what is already 100.00% efficiency
>could not possibly be improved upon, I will instead increase the
>frequency of excitation to put that structure into equilibrium (sic);
>then
>
>Result: 100.00%
>or 0 improvement.
>
>Having indulged the fantasies of equilibrium (sic), it is time to
>press in the opposite direction, let's say to 1/10th equilibrium
>(sic); then
>
>Result: 100.00%
>Howsaboutthat!?
>
>********************
>
>So, using the allowable tools to investigate the claim of a missing
>10% efficiency, it has been shown that this claim is wholly without
>merit and lacks any demonstrable basis.
>
>I don't expect any counter proof that will be expressed with the same
>professional level of specification offered here, nor performable
>within the 3 minutes it took me to do this (barring the time to type
>this all out).
>
>73's
>Richard Clark, KB7QHC

130. Re: Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 07:41:08 UTC
From: Mork FaggenDork <mork.faggendork@gmail.com>
Message-ID: <714024b9-1b9c-492b-b604-1fa416f49a2b@j4g2000yqe.googlegroups.com>
Source record: 11280
Cross-posted to: rec.radio.shortwave,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

On Jan 7, 1:05 am, r...@panix.com (rec.radio.info Admin) wrote:
> Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
> Archive-name: radio/ham-radio/recruitment
> Revision: 1.2 2009/11/25 14:41:01
> Posting-Frequency: posted monthly
> URL:http://www.faqs.org/faqs/radio/personal-intro/
>
> Changes followed by "|".
>
> The rec.radio.info newsgroup, first established in 1993, has been
> recently revived by an active moderation team. We are currently seeking
> suitable information, FAQ, and bulletin articles from the entire
> rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
> newsgroup.
>
> We are seeking a replacement maintainer for the following information
> bulletin formerly posted to rec.radio.amateur.* (and currently archived
> athttp://www.faqs.org/faqs/radio/personal-intro/):
>
> radio/personal-intro
> Subject: Guide to the rec.radio Newsgroups
> Maintainer: jeffr...@Hawaii.Edu (Jeffrey Herman)
> Last Posted: 9 Nov 2001 06:18:17 GMT
> Posting-Frequency: 15th of each month
>
> One significant omission, requiring immediate updates, for this article |
> is that it does not mention newer amateur radio newsgroups created since |
> it was written, including: |
>
> rec.radio.amateur.antenna |
> rec.radio.amateur.boatanchors |
> rec.radio.amateur.dx |
> rec.radio.amateur.equipment |
> rec.radio.amateur.homebrew |
> rec.radio.amateur.moderated |
> rec.radio.amateur.space |

```
We need: rec.radio.amateur.punce
```

>
> We are willing to provide any technical support necessary to get this
> article updated and automatically posted again at a regular interval.
> This would include establishing contact with the original maintainer for

> any necessary permissions. ?We would prefer to seek a new, dedicated
> maintainer at this time, rather than start auto-posting the original
> article ourselves.
>
> For more information about our newsgroup, see:
>
> http://www.panix.com/~rram/usenet/rri/index.html
>
> Please direct any comments, questions, or criticisms to
> rec-radio-info-requ...@panix.com.

131. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 13:24:41 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <a98d060b-ea6a-49e6-8349-ed8b2b87b2cd@s3g2000yqs.googlegroups.com>
Source record: 11281

On Jan 7, 3:45 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Jan 6, 8:13 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
>
> > The particle wave duality of electromagnetic waves was settled back in the
> > 1930's and further refinements have only gone on to prove that
> > electromagnetic waves act as both particles and waves depending on
> > circumstances and measurement. There is nothing wrong in considering the
> > generation of an electromagnetic wave using particles, so long as the end
> > results are in agreement with measurements taken using standard scientific
> > equipment.
>
> Also agreed with except for radio waves that if duality over the whole
> spectrum is true it is not so with radio frequencies. Gauss makes it
> quite clear that static particles can become a dynamic field
> according to Maxwells equations. If they become waves at the higher
> end of the frequency span say beyond X rays it is of no concern to the
> subject of radiation in the amateur bands which is the field that I am
> working with.

there is no exception for radio waves, they act as photon particles
also, just like the ones at visible light frequencies and higher. this
too has been accepted for many years.

132. test

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 14:50:12 UTC
From: jeff <jeff@local.host>
Message-ID: <hi4sb8poe3@speranza.aioe.org>
Source record: 11282

test to rra

Jeff

133. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 15:30:16 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <b4802684-4d12-43b2-bcab-dce302eea236@m25g2000yqc.googlegroups.com>
Source record: 11283

On Jan 7, 4:21 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Jan 6, 9:31 pm, Bill <k4...@arrl.net> wrote:
>
> > On Jan 7, 2:13 am, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > Art,
>
> > > I'm sure your compact antennas do perform better than
> > > others contained within similar physical dimensions.
>
> > > Mike G0ULI
>
> > WHAT antennas would those be?
>
> He clearly stated fractional and loaded antennas. What is so hard to
> read what he stated?

It is impossible to read what you have stated. Has anyone seen your
antennas, you old fraud?

134. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 16:20:25 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <aba0ad1b-93e2-4ac5-a9e5-5b2600a407a8@21g2000yqj.googlegroups.com>
Source record: 11284

On Jan 7, 7:24 am, Dave <k1...@arrl.net> wrote:
> On Jan 7, 3:45 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Jan 6, 8:13 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > The particle wave duality of electromagnetic waves was settled back in the
> > > 1930's and further refinements have only gone on to prove that
> > > electromagnetic waves act as both particles and waves depending on
> > > circumstances and measurement. There is nothing wrong in considering the
> > > generation of an electromagnetic wave using particles, so long as the end
> > > results are in agreement with measurements taken using standard scientific
> > > equipment.
>
> > Also agreed with except for radio waves that if duality over the whole
> > spectrum is true it is not so with radio frequencies. Gauss makes it
> > quite clear that static particles can become a dynamic field
> > according to Maxwells equations. If they become waves at the higher
> > end of the frequency span say beyond X rays it is of no concern to the
> > subject of radiation in the amateur bands which is the field that I am
> > working with.
>
> there is no exception for radio waves, they act as photon particles
> also, just like the ones at visible light frequencies and higher. this
> too has been accepted for many years.

David, I won't fight you but I would like to take advantage of your
expertise. The question whether you may make a gaussian field dynamic
such that Maxwells equations can be used is the beginning of this saga
as the group will not accept it.
So I will move on to the Faraday cage.
There is an animation of what exactly happens on the web with respect
to radio, you may want to look it up.
But for openers you would get my attention in explaning this phenomina
with the use of waves instead of the actions of mass or a particle.
This is a sincere request as it seems discussion of duallity means
talking past each other when there is a clear difference between the
action of waves and those of particles,namely attraction. versus
cancellation.
You supplying this may get the subject back to a level plane of
politeness where the postings will supply enlightment instead of
derision.
Thanks for reading

Art

135. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 16:48:29 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <e3576251-129c-40ba-8136-3495d0d8b6a8@a6g2000yqm.googlegroups.com>
Source record: 11285

Art Unwin wrote:
> On Jan 7, 7:24 am, Dave <k1...@arrl.net> wrote:

From www.unwinantennas.com
"The Sun is very hot because it is burning. Burning as we know it
produces soot and other by products in abundance that when these
particles collect in the air they become visual to the eye as smoke
even tho the particles themselves are invisible to the eye unless
there is a contrast in light as with particles passing thru a shaft of
light thru a window."

136. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 17:06:34 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <0bidnUotRdYAidvWnZ2dnUVZ8l-dnZ2d@bt.com>
Source record: 11286

"Bill" <k4wge@arrl.net> wrote in message
news:074153cf-2656-4e53-afa9-02c136c148e3@l30g2000yqb.googlegroups.com...
On Jan 6, 7:29 pm, Art Unwin <arthurun...@gmail.com> wrote:

> Faraday shield is an excellent example of this where
> is made for displacement current to contain a static field.
> I have an example of that on my page Unwin antennas where

From www.unwinantennas.com
"The Sun is very hot because it is burning. Burning as we know it
produces soot and other by products in abundance that when these
particles collect in the air they become visual to the eye as smoke
even tho the particles themselves are invisible to the eye unless
there is a contrast in light as with particles passing thru a shaft of
light thru a window."

You are an idiot.

Bill,

A trifle blunt and rather harsh. It's an analogy. The sun is producing heat
by fusion rather than burning, but particles are thrown out from the solar
surface in the solar wind and coronal mass ejections. Art has been pursuing
his theory for years. It's one of the largest postings in the newsgroup.

Mike G0ULI

137. hey kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 17:38:26 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <ba96a9bb-6329-480f-a763-817e0a433217@z2g2000vbf.googlegroups.com>
Source record: 11287
Cross-posted to: rec.radio.shortwave,alt.usenet.kooks,rec.radio.amateur.policy,rec.radio.cb,rec.radio.amateur.antenna

On Jan 7, 2:41 am, Mork FaggenDork <mork.faggend...@gmail.com> wrote:
> On Jan 7, 1:05 am, r...@panix.com (rec.radio.info Admin) wrote:
>
>
>
>
>
> > Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
> > Archive-name: radio/ham-radio/recruitment
> > Revision: 1.2 2009/11/25 14:41:01
> > Posting-Frequency: posted monthly
> > URL:http://www.faqs.org/faqs/radio/personal-intro/
>
> > Changes followed by "|".
>
> > The rec.radio.info newsgroup, first established in 1993, has been
> > recently revived by an active moderation team. We are currently seeking
> > suitable information, FAQ, and bulletin articles from the entire
> > rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
> > newsgroup.
>
> > We are seeking a replacement maintainer for the following information
> > bulletin formerly posted to rec.radio.amateur.* (and currently archived
> > athttp://www.faqs.org/faqs/radio/personal-intro/):
>
> > radio/personal-intro
> > Subject: Guide to the rec.radio Newsgroups
> > Maintainer: jeffr...@Hawaii.Edu (Jeffrey Herman)
> > Last Posted: 9 Nov 2001 06:18:17 GMT
> > Posting-Frequency: 15th of each month
>
> > One significant omission, requiring immediate updates, for this article |
> > is that it does not mention newer amateur radio newsgroups created since |
> > it was written, including: |
>
> > rec.radio.amateur.antenna |
> > rec.radio.amateur.boatanchors |
> > rec.radio.amateur.dx |
> > rec.radio.amateur.equipment |
> > rec.radio.amateur.homebrew |
> > rec.radio.amateur.moderated |
> > rec.radio.amateur.space |
>

> We need: rec.radio.amateur.punce
>
>
>
>
>
> > We are willing to provide any technical support necessary to get this
> > article updated and automatically posted again at a regular interval.
> > This would include establishing contact with the original maintainer for
> > any necessary permissions. We would prefer to seek a new, dedicated
> > maintainer at this time, rather than start auto-posting the original
> > article ourselves.
>
> > For more information about our newsgroup, see:
>
> >http://www.panix.com/~rram/usenet/rri/index.html
>
> > Please direct any comments, questions, or criticisms to
> > rec-radio-info-requ...@panix.com.- Hide quoted text -
>
> - Show quoted text -- Hide quoted text -
>
> - Show quoted text -

138. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 17:41:33 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c02b93c0-f1cb-4e31-bf08-a511abe6f8e1@m3g2000yqf.googlegroups.com>
Source record: 11288

On Jan 7, 11:06 am, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Bill" <k4...@arrl.net> wrote in message
>
> news:074153cf-2656-4e53-afa9-02c136c148e3@l30g2000yqb.googlegroups.com...
> On Jan 6, 7:29 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Faraday shield is an excellent example of this where
> > is made for displacement current to contain a static field.
> > I have an example of that on my page Unwin antennas where
>
> Fromwww.unwinantennas.com
> "The Sun is very hot because it is burning. Burning as we know it
> produces soot and other by products in abundance that when these
> particles collect in the air they become visual to the eye as smoke
> even tho the particles themselves are invisible to the eye unless
> there is a contrast in light as with particles passing thru a shaft of
> light thru a window."
>
> You are an idiot.
>
> Bill,
>
> A trifle blunt and rather harsh. It's an analogy. The sun is producing heat
> by fusion rather than burning, but particles are thrown out from the solar
> surface in the solar wind and coronal mass ejections. Art has been pursuing
> his theory for years. It's one of the largest postings in the newsgroup.
>
> Mike G0ULI

Mike
It doesn't bother me what he says unless he addresses the subject.
If I am wrong then I want to know why not to fight which is what he
wants.
I suppose we could ask for an explanation as to how a capacitor works
since it seems to me that it does exactly the same as a Faraday shield
or a Gaussian circle. I wouldn't mind dissent as long as they explain
why. Yes, it has been years that this discussion has gone on and
Richard and others have taken the position from the outset that
a Gaussian circle can have no connection to radiation, but refuse to
provide the reasons why this is so. Of course, if he is in error it is
natural that he would like the subject to go away, if he is correct
then he can easily accomplish what he wants. He does have choices.
There is no doubt that he has his followers who are calling me
stupid ,

idiot etc and possibly want me to respond by calling them homosexual or maybe worse , but none of that gets me to the point that I am seeking. I have done the work or experiments and now we are at the point of interpretation as to why those results occur since this is the usual point that errors can be made. All simple stuff. Actually, Mike, it is like being on Hyde park corner where many bring a box to stand on and start preaching to the crowd. Why they do it I do not know since most people snicker and then move on.

139. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 17:42:59 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <32jh17-vi9.ln1@mail.specsol.com>
Source record: 11290

Mike Kaliski <michael.kaliski@tesco.net> wrote:
>
> "Bill" <k4wge@arrl.net> wrote in message
> news:074153cf-2656-4e53-afa9-02c136c148e3@l30g2000yqb.googlegroups.com...
> On Jan 6, 7:29 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>> Faraday shield is an excellent example of this where
>> is made for displacement current to contain a static field.
>> I have an example of that on my page Unwin antennas where
>
> From www.unwinantennas.com
> "The Sun is very hot because it is burning. Burning as we know it
> produces soot and other by products in abundance that when these
> particles collect in the air they become visual to the eye as smoke
> even tho the particles themselves are invisible to the eye unless
> there is a contrast in light as with particles passing thru a shaft of
> light thru a window."
>
> You are an idiot.
>
> Bill,
>
> A trifle blunt and rather harsh. It's an analogy. The sun is producing heat
> by fusion rather than burning, but particles are thrown out from the solar
> surface in the solar wind and coronal mass ejections. Art has been pursuing
> his theory for years. It's one of the largest postings in the newsgroup.
>
> Mike G0ULI
>

Unfortunately it is not an analogy.

Art believes this literally.

--
Jim Pennino

Remove .spam.sux to reply.

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

140. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 17:48:36 UTC
From: kb9rqz@yahoooo.com
Message-ID: <jj7ck5hr2foknvle6jbnl3gruspc0ofgt9@4ax.com>
Source record: 11289
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

141. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 19:09:23 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <919db2f5-598b-449d-9fea-4196e882871b@l30g2000yqb.googlegroups.com>
Source record: 11291

On Jan 7, 4:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Jan 7, 7:24 am, Dave <k1...@arrl.net> wrote:
>
>
>
> > On Jan 7, 3:45 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Jan 6, 8:13 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > > The particle wave duality of electromagnetic waves was settled back in the
> > > > 1930's and further refinements have only gone on to prove that
> > > > electromagnetic waves act as both particles and waves depending on
> > > > circumstances and measurement. There is nothing wrong in considering the
> > > > generation of an electromagnetic wave using particles, so long as the end
> > > > results are in agreement with measurements taken using standard scientific
> > > > equipment.
>
> > > Also agreed with except for radio waves that if duality over the whole
> > > spectrum is true it is not so with radio frequencies. Gauss makes it
> > > quite clear that static particles can become a dynamic field
> > > according to Maxwells equations. If they become waves at the higher
> > > end of the frequency span say beyond X rays it is of no concern to the
> > > subject of radiation in the amateur bands which is the field that I am
> > > working with.
>
> > there is no exception for radio waves, they act as photon particles
> > also, just like the ones at visible light frequencies and higher. this
> > too has been accepted for many years.
>
> David, I won't fight you but I would like to take advantage of your
> expertise. The question whether you may make a gaussian field dynamic
> such that Maxwells equations can be used is the beginning of this saga
> as the group will not accept it.
> So I will move on to the Faraday cage.
> There is an animation of what exactly happens on the web with respect
> to radio, you may want to look it up.
> But for openers you would get my attention in explaning this phenomina
> with the use of waves instead of the actions of mass or a particle.
> This is a sincere request as it seems discussion of duallity means
> talking past each other when there is a clear difference between the
> action of waves and those of particles,namely attraction. versus
> cancellation.
> You supplying this may get the subject back to a level plane of
> politeness where the postings will supply enlightment instead of

> derision.
> Thanks for reading
> Art

duality applies to all frequencies of electromagnetic waves and photons... it all depends on which is more useful for whatever you are working on. particle physicists like photons because they can draw them in feynman diagrams nicely and they like to talk about them getting absorbed and emitted by valence electrons, engineers generally prefer waves and fields because they are easy to calculate over macroscopic distances using maxwell's equations.

and i still say your extension of a time parameter in gauss's equation is unnecessary since the equation applies at all times. just because no 't' shows in the equation doesn't mean it is necessarily static, just that it is not an explicit function of time. actually if you study all 4 of maxwell's equations closely you will see that NONE of them are explicit functions of time. two of them do contain dervitives with respect to time, but none of them contains 't' as an independent variable.

142. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 19:21:21 UTC
From: You <you@shadow.orgs>
Message-ID: <you-A9E97B.10212107012010@unknown.hwng.net>
Source record: 11292

In article
<074153cf-2656-4e53-afa9-02c136c148e3@l30g2000yqb.googlegroups.com>,
Bill <k4wge@arrl.net> wrote:

> On Jan 6, 7:29 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Faraday shield is an excellent example of this where
> > is made for displacement current to contain a static field.
> > I have an example of that on my page Unwin antennas where
>
> From www.unwinantennas.com
> "The Sun is very hot because it is burning. Burning as we know it
> produces soot and other by products in abundance that when these
> particles collect in the air they become visual to the eye as smoke
> even tho the particles themselves are invisible to the eye unless
> there is a contrast in light as with particles passing thru a shaft of
> light thru a window."
>
> You are an idiot.

You Sir, are a Morooon (Bugs Bunny Definition) if you think the above
has ANY basis in FACT.... I don't know where you get that the "Sun is
burning" idea... Burning is Oxidation, and the sun is NOT oxidizing
ANYTHING.... The Sun runs on FUSION... Hydrogen into Helium and higher
Molecular Weight Atoms. this is NOT Oxidation...

Best you leave the Physics and Chemistry to folks that actually paid
attention is Jr. High School.....

143. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 19:50:37 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <066c97c5-dfd3-4b22-81df-a581723944a5@26g2000yqo.googlegroups.com>
Source record: 11293

```
On Jan 7, 1:09 pm, Dave <k1...@arrl.net> wrote:
> On Jan 7, 4:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Jan 7, 7:24 am, Dave <k1...@arrl.net> wrote:
>
> > > On Jan 7, 3:45 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Jan 6, 8:13 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > > > The particle wave duality of electromagnetic waves was settled back in the
> > > > > 1930's and further refinements have only gone on to prove that
> > > > > electromagnetic waves act as both particles and waves depending on
> > > > > circumstances and measurement. There is nothing wrong in considering the
> > > > > generation of an electromagnetic wave using particles, so long as the end
> > > > > results are in agreement with measurements taken using standard scientific
> > > > > equipment.
>
> > > > Also agreed with except for radio waves that if duality over the whole
> > > > spectrum is true it is not so with radio frequencies. Gauss makes it
> > > > quite clear that  static particles can become a dynamic field
> > > > according to Maxwells equations. If they become waves at the higher
> > > > end of the frequency span say beyond X rays it is of no concern to the
> > > > subject of radiation in the amateur bands which is the field that I am
> > > > working with.
>
> > > there is no exception for radio waves, they act as photon particles
> > > also, just like the ones at visible light frequencies and higher. this
> > > too has been accepted for many years.
>
> > David, I won't fight you but I would like to take advantage of your
> > expertise. The question whether you may make a gaussian field dynamic
> > such that Maxwells equations can be used is the beginning of this saga
> > as the group will not accept it.
> > So I will move on to the Faraday cage.
> >  There is an animation of what exactly happens on the web with respect
> > to radio, you may want to look it up.
> > But for openers you would get my attention in explaning this phenomina
> > with the use of waves instead of the actions of mass or a particle.
> > This is a sincere request as it seems discussion of duallity means
> > talking past each other when there is a clear difference between the
> > action of waves and those of particles,namely attraction. versus
> > cancellation.
```

> > You supplying this may get the subject back to a level plane of
> > politeness where the postings will supply enlightment instead of
> > derision.
> > Thanks for reading
> > Art
>
> duality applies to all frequencies of electromagnetic waves and
> photons... it all depends on which is more useful for whatever you are
> working on. particle physicists like photons because they can draw
> them in feynman diagrams nicely and they like to talk about them
> getting absorbed and emitted by valence electrons, engineers generally
> prefer waves and fields because they are easy to calculate over
> macroscopic distances using maxwell's equations.
>
> and i still say your extension of a time parameter in gauss's equation
> is unnecessary since the equation applies at all times. just because
> no 't' shows in the equation doesn't mean it is necessarily static,
> just that it is not an explicit function of time. actually if you
> study all 4 of maxwell's equations closely you will see that NONE of
> them are explicit functions of time. two of them do contain
> derivitives with respect to time, but none of them contains 't' as an
> independent variable.
One short point. Time is omitted because it is based on equilibrium
alone where nothing is happening and all is balanced The Big bang was
the instance that time began and equilibrium is broken by movement or
energy exchange. It is the energy exchange subject which alone gives
us the picture of change without which there is nothing.

David
Well that is a good opening or introduction, tho I wish you had not
mentioned your thought of adding time to Maxwell as the response to
that was explosive years ago. I hope that others will put that aside
so we can concentrate on the main thrust of the problem.
I will be very interested in what you will use as the subject for
explanations to how the wave actually works. From the above, I really
believe you have the background or track record to explain all and how
things are working to the satisfaction of all. This could be exciting
Regards
Art

144. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-07 20:15:32 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3b7e74d1-d9d3-47ae-b619-544ec8c7becb@a6g2000yqm.googlegroups.com>
Source record: 11294

On Jan 7, 1:21 pm, You <y...@shadow.orgs> wrote:
> In article
> <074153cf-2656-4e53-afa9-02c136c14...@l30g2000yqb.googlegroups.com>,
>
>
>
> Bill <k4...@arrl.net> wrote:
> > On Jan 6, 7:29 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > Faraday shield is an excellent example of this where
> > > is made for displacement current to contain a static field.
> > > I have an example of that on my page Unwin antennas where
>
> > Fromwww.unwinantennas.com
> > "The Sun is very hot because it is burning. Burning as we know it
> > produces soot and other by products in abundance that when these
> > particles collect in the air they become visual to the eye as smoke
> > even tho the particles themselves are invisible to the eye unless
> > there is a contrast in light as with particles passing thru a shaft of
> > light thru a window."
>
> > You are an idiot.
>
> You Sir, are a Morooon (Bugs Bunny Definition) if you think the above
> has ANY basis in FACT.... I don't know where you get that the "Sun is
> burning" idea... Burning is Oxidation, and the sun is NOT oxidizing
> ANYTHING.... The Sun runs on FUSION... Hydrogen into Helium and higher
> Molecular Weight Atoms. this is NOT Oxidation...
>
> Best you leave the Physics and Chemistry to folks that actually paid
> attention is Jr. High School.....

Yes, you are correct, as is the comment regarding the number of basic
colours. The introduction was meant to provide an outline to the
subject without getting involved in Lepton and Neutrinos that in the
past took away from the subject at hand namely, particles arriving
from outside the Gaussian circle. When the above items were introduced
on this newsgroup a lot of bad names went flying about, but there was
one comment that stated, for this group it would be better to stick to
particles than to speculate on the subject prior to entrance to the
Earth's circle. Using the term Leptons and the number of different
flavours or colour such as the three colours that are used in tv was
really a mistake when considering the audience I was hoping for. More
than 7K has viewed it according to QRZ but nobody siezed upon this to

make a complaint, but then one hopes that this group is more knowledgable My sole intent of introducing the Sun was to link the Suns rotation cycles to the hobby of ham radio as we see it as an introduction and not to generate a science paper otherwise intrusion into the subject of nuclear decay would also have to be introduced, and it goes on.

145. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-08 02:19:48 UTC
From: tom <news4792@taring.org>
Message-ID: <4b4695d9$0$33865$8046368a@newsreader.iphouse.net>
Source record: 11295

Art Unwin wrote:
> make a complaint, but then one hopes that this group is more
> knowledgable My sole intent of introducing the Sun was to link the
> Suns rotation cycles to the hobby of ham radio as we see it as an
> introduction and not to generate a science paper otherwise intrusion
> into the subject of nuclear decay would also have to be introduced,
> and it goes on.

And showing more of his ignorance or lack of attention to detail, it
really doesn't matter which, he doesn't realize that fusion is not
nuclear decay.

Art should give it up, but he doesn't realize he's just flatass wrong
about almost everything he says, so he never will. Either that or he's
one of the nets most successful trolls. It matters little which.

tom
K0TAR

146. Re: gte kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-08 02:57:38 UTC
From: Mork Margoon <mork.margoon@gmail.com>
Message-ID: <5110625b-203d-485e-ae9c-47cdfe91f4fa@m26g2000yqb.googlegroups.com>
Source record: 11296
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.amateur.antenna,rec.radio.shortwave

On Jan 7, 11:48 am, KB9RQZ@gmail.com wrote:
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith

>
>
>
>
>
> <kb9rqz@gmail.com> wrote:
> >K4YZ wrote:
> >> Nope.
>
> >> The IP Address and servers are complete proof that I do NOT share
> >> any annonymous character's "address".
>
> >> Sounds like Lennie, to me....
>
> >> Steve, K4YZ
>
> >To anyone with even an elementary understanding of anonymous proxies,
> >anonymous remailers, zombie backdoors, etc., the ability to change ones
> >IP address and header details is simplistic, indeed, with little time
> >spent anyone can appear to be "coming" from anywhere in the world.
>
> >You waste my time. Worse, you think us all idiots here. You remind me
> >of the "street smart" prosecutors and defense attorneys who stack jurys
> >with members of little or no technical knowledge and then call in
> >"expert witnesses" and propose arguments of technical details to boggle
> >their minds.
>
> >You have only proven that you, yourself are either ignorant to such
> >technical details, or else you are indeed street smart, I favor the
> >latter in this case (however, if you in the dark about such things, 15
> >minutes on google will enlighten you.)
>
> >JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a congress"
> adams
>
> woger you are a Congress all in your own head
> http://ve7kfm.com/kb9rqz.html
>

> altopia is never used by KB9RQZ http://ve7kfm.com/kb9rqz.html
> nor is KD8CTL@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act
>
>
http://ve7kfm.com/kb9rqz.html

147. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-08 10:32:20 UTC
From: kb9rqz@yahoooo.com
Message-ID: <jd2ek5ho0liocgm5hfjs7no99mvepftm1e@4ax.com>
Source record: 11297
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

148. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-08 17:28:05 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <2d140c41-1f7c-46ad-bb22-30defca0068a@a15g2000yqm.googlegroups.com>
Source record: 11298

On Jan 8, 2:19 am, tom <news4...@taring.org> wrote:
> Art Unwin wrote:
> > make a complaint, but then one hopes that this group is more
> > knowledgable My sole intent of introducing the Sun was to link the
> > Suns rotation cycles to the hobby of ham radio as we see it as an
> > introduction and not to generate a science paper otherwise intrusion
> > into the subject of nuclear decay would also have to be introduced,
> > and it goes on.
>
> And showing more of his ignorance or lack of attention to detail, it
> really doesn't matter which, he doesn't realize that fusion is not
> nuclear decay.
>
> Art should give it up, but he doesn't realize he's just flatass wrong
> about almost everything he says, so he never will. Either that or he's
> one of the nets most successful trolls. It matters little which.
>
> tom
> K0TAR

Art would have us believe that objection to his abysmal ignorance is
in fact censorship. So his persistence makes him a martyr, you see.

149. Re: gte kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-08 23:08:54 UTC
From: Marky Jizzguzzler <marky.jizzguzzler@gmail.com>
Message-ID: <0e712aaa-11e9-44cc-8de5-cb50df38e784@a21g2000yqc.googlegroups.com>
Source record: 11299
Cross-posted to:
rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.amateur.antenna,rec.radio.shortwave,alt.fan.morganna.queen.of.the.damned

On Jan 7, 8:57 pm, Mork Margoon <mork.marg...@gmail.com> wrote:
> On Jan 7, 11:48 am, KB9...@gmail.com wrote:
>
>
>
>
>
> > On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
>
> > <kb9...@gmail.com> wrote:
> > >K4YZ wrote:
> > >> Nope.
>
> > >> The IP Address and servers are complete proof that I do NOT share
> > >> any annonymous character's "address".
>
> > >> Sounds like Lennie, to me....
>
> > >> Steve, K4YZ
>
> > >>To anyone with even an elementary understanding of anonymous proxies,
> > >>anonymous remailers, zombie backdoors, etc., the ability to change ones
> > >>IP address and header details is simplistic, indeed, with little time
> > >>spent anyone can appear to be "coming" from anywhere in the world.
>
> > >>You waste my time. Worse, you think us all idiots here. You remind me
> > >>of the "street smart" prosecutors and defense attorneys who stack jurys
> > >>with members of little or no technical knowledge and then call in
> > >>"expert witnesses" and propose arguments of technical details to boggle
> > >>their minds.
>
> > >>You have only proven that you, yourself are either ignorant to such
> > >>technical details, or else you are indeed street smart, I favor the
> > >>latter in this case (however, if you in the dark about such things, 15
> > >>minutes on google will enlighten you.)
>
> > >>JS
>
> > "one useless man is disgrace 2 become a law firm 3 or more become a congress"
> > adams
>

> > woger you are a Congress all in your own head
> >http://ve7kfm.com/kb9rqz.html
>
> > altopia is never used by KB9RQZ ﷺhttp://ve7kfm.com/kb9rqz.html
> > nor is KD8...@hotmail.com ever
> > btw i can be found at
> > 17366 N River Rd
> > Chassel Mi
>
> > but the cowards asking lack the gut to act
>
> http://ve7kfm.com/kb9rqz.html- Hide quoted text -
>
> - Show quoted text -

150. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-08 23:30:33 UTC
From: kb9rqz@yahoooo.com
Message-ID: <o0gfk5dbgprgkqk90qqisu6jqpu8aeq9j5@4ax.com>
Source record: 11300
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

151. Re: get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 02:27:44 UTC
From: Dana <dana@panix.com>
Message-ID: <Pine.NEB.4.64.1001082127070.15483@panix2.panix.com>
Source record: 11351
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna

"Kelp" You know I missed read the subject line. My bad!!

On Mon, 14 Dec 2009, kb9rqz@yahoooo.com wrote:

> On Sun, 13 Dec 2009 21:40:06 -0800 (PST), Toadie NimMorgan
> <toadie.nimmorgan@gmail.com> wrote:
>
>> On Dec 9, 12:29?am, Marqueer Morgan <marqueer.mor...@gmail.com> wrote:
>>> http://nimbusters.org/forum/poll/index.php?board=8
>>> Let's make it two years in a row!
>>>
>>> REMEMBER:
>>> Mark, cocksucker again in 2010 !
>>
>> I just voted.
>
> "one useless man is disgrace 2 become a law firm 3 or more become a congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc
> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act
>

152. Re: get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 02:47:08 UTC
From: Orson Wells as CitizenCain <noemail@here.invalidd>
Message-ID: <d9f57$4b47ee2b$a6666844$20017@ALLTEL.NET>
Source record: 11352
Cross-posted to: rec.radio.amateur.policy,alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna

"Dana" <dana@panix.com> wrote in message
news:Pine.NEB.4.64.1001082127070.15483@panix2.panix.com...
> "Kelp" You know I missed read the subject line. My bad!!

If kelp is good enough for the sea creatures it should be good enough for
YOU, elitist scum.

>
> On Mon, 14 Dec 2009, kb9rqz@yahoooo.com wrote:
>
>> On Sun, 13 Dec 2009 21:40:06 -0800 (PST), Toadie NimMorgan
>> <toadie.nimmorgan@gmail.com> wrote:
>>
>>> On Dec 9, 12:29?am, Marqueer Morgan <marqueer.mor...@gmail.com> wrote:
>>>> http://nimbusters.org/forum/poll/index.php?board=8
>>>> Let's make it two years in a row!
>>>>
>>>> REMEMBER:
>>>> Mark, cocksucker again in 2010 !
>>>
>>> I just voted.
>>
>> "one useless man is disgrace 2 become a law firm 3 or more become a
>> congress"
>> adams
>>
>> woger you are a Congress all in your own head
>> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>>
>> altopia is never used by KB9RQZ
>> http://kb9rqz.cc.cc
>> http://kd8ctl.com
>> nor is Konstans@hotmail.com ever
>> btw i can be found at
>> 17366 N River Rd
>> Chassel Mi
>>
>> but the cowards asking lack the gut to act
>>

153. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 14:06:57 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <2244af8b-9fd4-4576-9242-c53e4d684c93@k17g2000yqh.googlegroups.com>
Source record: 11353

On Jan 7, 7:50 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Jan 7, 1:09 pm, Dave <k1...@arrl.net> wrote:
>
> > On Jan 7, 4:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Jan 7, 7:24 am, Dave <k1...@arrl.net> wrote:
>
> > > > On Jan 7, 3:45 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > On Jan 6, 8:13 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > > > > The particle wave duality of electromagnetic waves was settled back in the
> > > > > > 1930's and further refinements have only gone on to prove that
> > > > > > electromagnetic waves act as both particles and waves depending on
> > > > > > circumstances and measurement. There is nothing wrong in considering the
> > > > > > generation of an electromagnetic wave using particles, so long as the end
> > > > > > results are in agreement with measurements taken using standard scientific
> > > > > > equipment.
>
> > > > > Also agreed with except for radio waves that if duality over the whole
> > > > > spectrum is true it is not so with radio frequencies. Gauss makes it
> > > > > quite clear that static particles can become a dynamic field
> > > > > according to Maxwells equations. If they become waves at the higher
> > > > > end of the frequency span say beyond X rays it is of no concern to the
> > > > > subject of radiation in the amateur bands which is the field that I am
> > > > > working with.
>
> > > > there is no exception for radio waves, they act as photon particles
> > > > also, just like the ones at visible light frequencies and higher. this
> > > > too has been accepted for many years.
>
> > > David, I won't fight you but I would like to take advantage of your
> > > expertise. The question whether you may make a gaussian field dynamic
> > > such that Maxwells equations can be used is the beginning of this saga
> > > as the group will not accept it.
> > > So I will move on to the Faraday cage.
> > > There is an animation of what exactly happens on the web with respect
> > > to radio, you may want to look it up.
> > > But for openers you would get my attention in explaning this phenomina
> > > with the use of waves instead of the actions of mass or a particle.
> > > This is a sincere request as it seems discussion of duallity means
> > > talking past each other when there is a clear difference between the
> > > action of waves and those of particles,namely attraction. versus
> > > cancellation.

> > > You supplying this may get the subject back to a level plane of
> > > politeness where the postings will supply enlightment instead of
> > > derision.
> > > Thanks for reading
> > > Art
>
> > duality applies to all frequencies of electromagnetic waves and
> > photons... it all depends on which is more useful for whatever you are
> > working on. particle physicists like photons because they can draw
> > them in feynman diagrams nicely and they like to talk about them
> > getting absorbed and emitted by valence electrons, engineers generally
> > prefer waves and fields because they are easy to calculate over
> > macroscopic distances using maxwell's equations.
>
> > and i still say your extension of a time parameter in gauss's equation
> > is unnecessary since the equation applies at all times. just because
> > no 't' shows in the equation doesn't mean it is necessarily static,
> > just that it is not an explicit function of time. actually if you
> > study all 4 of maxwell's equations closely you will see that NONE of
> > them are explicit functions of time. two of them do contain
> > derivitives with respect to time, but none of them contains 't' as an
> > independent variable.
>
> One short point. Time is omitted because it is based on equilibrium
> alone where nothing is happening and all is balanced The Big bang was
> the instance that time began and equilibrium is broken by movement or
> energy exchange. It is the energy exchange subject which alone gives
> us the picture of change without which there is nothing.
>
no, time is omitted because it is irrelevant to an equation that
applies 'at each instant' in time. so at any instant you can add up
the charges inside the gaussian surface and know the total flux
through the surface. the only 'equilibrium' is the equals sign that
states that the total flux is equal to a function of the total
charge. you can indeed have energy flow across the gaussian surface
and the equals sign still applies at every instant in time.

> David
> Well that is a good opening or introduction, tho I wish you had not
> mentioned your thought of adding time to Maxwell as the response to
> that was explosive years ago. I hope that others will put that aside
> so we can concentrate on the main thrust of the problem.

but what is the 'problem'. maxwell's equations as published for the
last hundred years or more seem to work just fine to the limits of our
measurement capabilities.

> I will be very interested in what you will use as the subject for
> explanations to how the wave actually works. From the above, I really
> believe you have the background or track record to explain all and how
> things are working to the satisfaction of all. This could be exciting

> Regards
> Art

No one knows how the wave 'actually' works, but we have maxwell's equations to tell us how to accurately model and predict configuration of fields and the propagation of waves. That is the one thing your 'theory' seems to be missing, in order for you to have a theory worth discussing it must first be put down in equations that describe something measurable so it can be verified versus reality... AND then it must predict something different from all other existing laws and theories. without those two conditions you are just a handwaving carnival hawker trying to sell patent medicine to people who aren't sick.

154. 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 15:21:49 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <f3377393-e256-42ea-bf34-6d4a14745048@c3g2000yqd.googlegroups.com>
Source record: 11354

Hi, I am looking for substitute of 2SC2618 (smd).
maybe you can help me - what I can use instead?

Boris

155. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 15:36:36 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFB9EAE21BBBzoodlewurdle@216.196.109.145>
Source record: 11355
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

Boris <boris.kj@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-6d4a14745048@c3g2000yqd.googlegroups.com:

> Hi, I am looking for substitute of 2SC2618 (smd).
> maybe you can help me - what I can use instead?
>
> Boris
>

I don't know (my Towers selector book is too old for that one, but I can copy out its specs for you if you need) but I crossposted this reply to sci.electronics.components where there's an increase in chance of a useful answer.

156. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 16:19:45 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d23779a8-a314-4c21-b753-f232b903ec59@p8g2000yqb.googlegroups.com>
Source record: 11356

```
On Jan 9, 8:06 am, Dave <k1...@arrl.net> wrote:
> On Jan 7, 7:50 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > On Jan 7, 1:09 pm, Dave <k1...@arrl.net> wrote:
>
> > > On Jan 7, 4:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Jan 7, 7:24 am, Dave <k1...@arrl.net> wrote:
>
> > > > > On Jan 7, 3:45 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > > On Jan 6, 8:13 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
> > > > > > > The particle wave duality of electromagnetic waves was settled back in the
> > > > > > > 1930's and further refinements have only gone on to prove that
> > > > > > > electromagnetic waves act as both particles and waves depending on
> > > > > > > circumstances and measurement. There is nothing wrong in considering the
> > > > > > > generation of an electromagnetic wave using particles, so long as the end
> > > > > > > results are in agreement with measurements taken using standard scientific
> > > > > > > equipment.
>
> > > > > > Also agreed with except for radio waves that if duality over the whole
> > > > > > spectrum is true it is not so with radio frequencies. Gauss makes it
> > > > > > quite clear that  static particles can become a dynamic field
> > > > > > according to Maxwells equations. If they become waves at the higher
> > > > > > end of the frequency span say beyond X rays it is of no concern to the
> > > > > > subject of radiation in the amateur bands which is the field that I am
> > > > > > working with.
>
> > > > > there is no exception for radio waves, they act as photon particles
> > > > > also, just like the ones at visible light frequencies and higher. this
> > > > > too has been accepted for many years.
>
> > > > David, I won't fight you but I would like to take advantage of your
> > > > expertise. The question whether you may make a gaussian field dynamic
> > > > such that Maxwells equations can be used is the beginning of this saga
> > > > as the group will not accept it.
> > > > So I will move on to the Faraday cage.
> > > >  There is an animation of what exactly happens on the web with respect
> > > > to radio, you may want to look it up.
> > > > But for openers you would get my attention in explaning this phenomina
> > > > with the use of waves instead of the actions of mass or a particle.
> > > > This is a sincere request as it seems discussion of duallity means
> > > > talking past each other when there is a clear difference between the
```

> > > > action of waves and those of particles,namely attraction. versus
> > > > cancellation.
> > > > You supplying this may get the subject back to a level plane of
> > > > politeness where the postings will supply enlightment instead of
> > > > derision.
> > > > Thanks for reading
> > > > Art
>
> > > duality applies to all frequencies of electromagnetic waves and
> > > photons... it all depends on which is more useful for whatever you are
> > > working on. particle physicists like photons because they can draw
> > > them in feynman diagrams nicely and they like to talk about them
> > > getting absorbed and emitted by valence electrons, engineers generally
> > > prefer waves and fields because they are easy to calculate over
> > > macroscopic distances using maxwell's equations.
>
> > > and i still say your extension of a time parameter in gauss's equation
> > > is unnecessary since the equation applies at all times. just because
> > > no 't' shows in the equation doesn't mean it is necessarily static,
> > > just that it is not an explicit function of time. actually if you
> > > study all 4 of maxwell's equations closely you will see that NONE of
> > > them are explicit functions of time. two of them do contain
> > > derivitives with respect to time, but none of them contains 't' as an
> > > independent variable.
>
> > One short point. Time is omitted because it is based on equilibrium
> > alone where nothing is happening and all is balanced The Big bang was
> > the instance that time began and equilibrium is broken by movement or
> > energy exchange. It is the energy exchange subject which alone gives
> > us the picture of change without which there is nothing.
>
> no, time is omitted because it is irrelevant to an equation that
> applies 'at each instant' in time. so at any instant you can add up
> the charges inside the gaussian surface and know the total flux
> through the surface. the only 'equilibrium' is the equals sign that
> states that the total flux is equal to a function of the total
> charge. you can indeed have energy flow across the gaussian surface
> and the equals sign still applies at every instant in time.
>
> > David
> > Well that is a good opening or introduction, tho I wish you had not
> > mentioned your thought of adding time to Maxwell as the response to
> > that was explosive years ago. I hope that others will put that aside
> > so we can concentrate on the main thrust of the problem.
>
> but what is the 'problem'. maxwell's equations as published for the
> last hundred years or more seem to work just fine to the limits of our
> measurement capabilities.
>
> > I will be very interested in what you will use as the subject for

> > explanations to how the wave actually works. From the above, I really
> > believe you have the background or track record to explain all and how
> > things are working to the satisfaction of all. This could be exciting
> > Regards
> > Art
>
> No one knows how the wave 'actually' works, but we have maxwell's
> equations to tell us how to accurately model and predict configuratio
> of fields and the propagation of waves. That is the one thing your
> 'theory' seems to be missing, in order for you to have a theory worth
> discussing it must first be put down in equations that describe
> something measurable so it can be verified versus reality... AND then
> it must predict something different from all other existing laws and
> theories.

O.K David Let us look at the Faraday cage or better still a shield.
Faraday has shown that when one side is impinged upon by a ":wave"
that it will separate into two components of "waves or fields". They
will not stay as one but will separate into two separate energies or
charges
On one side of the conductor (electric field) and the other field
will follow (magnetic) on the other side of the conductor. The time
elapsed is equal to half a cycle or half a period of the frequency
applied.
During the next half cycle the charges as they are now on each side of
the conductor are drawn opposite to each other with the conductor
inbetween.
Thus this second half of the cycle of time is taken up by movement or
an accelleration of the charge inside the shield until it is exactly
opposite(and equal) to the outside charge. The intenal charge has to
move because it is out of phase with respect to the external charge
thus it is forced to accelerate or decellerate if you will to its new
position or resting place. While this internal charge is moving the
flux that it is carrying is transformed into a time varying current
such that the charge is now without energy and static and its energy
in the form of a time varying current has moved on outside of the so
called boundary in the same way it in initially entered our boundary.
Thus at this point we have located the where abouts of all energies
involved by adding all the "instances" of time (dy/dx) until the
instances added up to a period of time for the frequency applied.
At all times where the energies are at rest there is no accelleration
and the energies dissapate into another form or state.
As you can see David I have concentrated on energy asd opposed to its
form where we applied an energy at the transmitter where it was
reciprocated at the receiver. Mention of waves or particles have been
deliberatly avoided and we have accounted for all forces or energies
involved for a cycle.
Now we do not have to let it rest there.We have Maxwells equations for
radiation and with todays computors that same equation can be oriented
such that if you input a radiator it will change the input to the

metrics of Maxwells equations which is a wavelength to satisfy equilibrium. Thus the program only accepts input metrics that are included in Maxwells equations such that equilibrium is adhered to at all times
When applying a radiator to such a computer program it will supply a accountability of all forces that follows the intents of Maxwell.
Thus when the program has done its stuff it will supply a full accountability in terms of 100 percent,
Thus I have supplied a sequence of "observables" that relate to the experimental results of Faraday. I then applied the same situation to the accepted Maxwell mathematical equations which also provided 100% accountability.
Both of these approaches result as equals. To satisfy those who have positions of duallity I have used energy terms alone without the description of its carriers.
So David, I have provided all for your dissemination, where you can break it up into scientific parts for comment including desired additions required to fortify a position. It is rather long and detailed but in no way can it be seen as "hand waving". At least you seem to be alone in sticking to physics without being dominated by emotions.
One can easily hang a piece of mesh and connect it both to the ground and a radio and both charges will take a separate path since they are divided by a conductor into two separate entities.
Best regards
Art

 without those two conditions you are just a handwaving
> carnival hawker trying to sell patent medicine to people who aren't
> sick.

157. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 16:32:43 UTC
From: ian field <gangprobing.alien@ntlworld.com>
Message-ID: <Eh22n.17377$2F5.16506@newsfe07.ams2>
Source record: 11357
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

"Lostgallifreyan" <no-one@nowhere.net> wrote in message
news:Xns9CFB9EAE21BBBzoodlewurdle@216.196.109.145...
> Boris <boris.kj@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-
> 6d4a14745048@c3g2000yqd.googlegroups.com:
>
>> Hi, I am looking for substitute of 2SC2618 (smd).
>> maybe you can help me - what I can use instead?
>>
>> Boris
>>
>
> I don't know (my Towers selector book is too old for that one, but I can
> copy out its specs for you if you need) but I crossposted this reply to
> sci.electronics.components where there's an increase in chance of a useful
> answer.

My ECA book gives: Si-N, 35V, 0.5A, 50MHz and suggests; BC817, BCX19,
2SC3325 or 2SC3341.

158. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 17:07:46 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <91edfe7f-a4da-40e4-b02b-5324e321e819@a21g2000yqc.googlegroups.com>
Source record: 11358
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

On Jan 9, 4:32 pm, "ian field" <gangprobing.al...@ntlworld.com> wrote:
> "Lostgallifreyan" <no-...@nowhere.net> wrote in message
>
> news:Xns9CFB9EAE21BBBzoodlewurdle@216.196.109.145...
>
> > Boris <boris...@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-
> > 6d4a14745...@c3g2000yqd.googlegroups.com:
>
> >> Hi, I am looking for substitute of 2SC2618 (smd).
> >> maybe you can help me - what I can use instead?
>
> >> Boris
>
> > I don't know (my Towers selector book is too old for that one, but I can
> > copy out its specs for you if you need) but I crossposted this reply to
> > sci.electronics.components where there's an increase in chance of a useful
> > answer.
>
> My ECA book gives: Si-N, 35V, 0.5A, 50MHz and suggests; BC817, BCX19,
> 2SC3325 or 2SC3341.

Thanks guys, without having any catalogue , I could have download half
of internet to get any result

Boris

159. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 17:27:42 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <45a3ae74-971e-49ed-8621-a31260e49d74@j14g2000yqm.googlegroups.com>
Source record: 11359

On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:

<snip handwaving>

when you supply equations that predict something DIFFERENT than
Maxwell please let me know, otherwise i need no snake oil.

160. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 17:33:08 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <4b86c52b-de28-48be-9e38-b265d48325a2@c34g2000yqn.googlegroups.com>
Source record: 11360

On Jan 9, 5:27 pm, Dave <k1...@arrl.net> wrote:
> On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> <snip handwaving>
>
> when you supply equations that predict something DIFFERENT than
> Maxwell please let me know, otherwise i need no snake oil.

p.s. talking energy when trying to figure out what happens with waves is counterproductive. energy is an integration of power, power is a function of current or voltage and impedance, or field strength and impedance of the medium... when you go from fields or current/voltage to power you lose phase information that is important. integrating it into energy loses even the phase and time information. it is always best to describe waves by using one field or the other, which one is up to the student since they are always related by the impedance of the medium... the same goes for currents or voltages on conductors, pick one and stick with it, you can always calculate the other when needed.

161. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 17:35:26 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFBB2DFDC1E3zoodlewurdle@216.196.109.145>
Source record: 11361
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

Boris <boris.kj@googlemail.com> wrote in news:91edfe7f-a4da-40e4-b02b-5324e321e819@a21g2000yqc.googlegroups.com:

> On Jan 9, 4:32 pm, "ian field" <gangprobing.al...@ntlworld.com> wrote:
>> "Lostgallifreyan" <no-...@nowhere.net> wrote in message
>>
>> news:Xns9CFB9EAE21BBBzoodlewurdle@216.196.109.145...
>>
>> > Boris <boris...@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-
>> > 6d4a14745...@c3g2000yqd.googlegroups.com:
>>
>> >> Hi, I am looking for substitute of 2SC2618 (smd).
>> >> maybe you can help me - what I can use instead?
>>
>> >> Boris
>>
>> > I don't know (my Towers selector book is too old for that one, but I ca
> n
>> > copy out its specs for you if you need) but I crossposted this reply to
>> > sci.electronics.components where there's an increase in chance of a use
> ful
>> > answer.
>>
>> My ECA book gives: Si-N, 35V, 0.5A, 50MHz and suggests; BC817, BCX19,
>> 2SC3325 or 2SC3341.
>
> Thanks guys, without having any catalogue , I could have download half
> of internet to get any result
>
> Boris
>

There is a neat shortcut. :) Someone told it to me after I'd been wading through Google and all the parts brokers nonsense out there.
http://www.findchips.com
The name sounds like any other inane parts broker with no actual inventory, but go there, you'll see it isn't. Once you see a part offered by a couple of sellers you can likely get a data sheet that is up to date, and further, Digikey and Mouser have search tools good enough that you have a fair chance of rading a data sheet for parameters, entering a few into those search tools, and hitting a few good substitutes.

162. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 17:44:57 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <aaa52e9c-52ba-4c25-ae1a-73488ee53888@a6g2000yqm.googlegroups.com>
Source record: 11362
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

On Jan 9, 5:35 pm, Lostgallifreyan <no-...@nowhere.net> wrote:
> Boris <boris...@googlemail.com> wrote in news:91edfe7f-a4da-40e4-b02b-
> 5324e321e...@a21g2000yqc.googlegroups.com:
>
>
>
>
>
> > On Jan 9, 4:32 pm, "ian field" <gangprobing.al...@ntlworld.com> wrote:
> >> "Lostgallifreyan" <no-...@nowhere.net> wrote in message
>
> >>news:Xns9CFB9EAE21BBBzoodlewurdle@216.196.109.145...
>
> >> > Boris <boris...@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-
> >> > 6d4a14745...@c3g2000yqd.googlegroups.com:
>
> >> >> Hi, I am looking for substitute of 2SC2618 (smd).
> >> >> maybe you can help me - what I can use instead?
>
> >> >> Boris
>
> >> > I don't know (my Towers selector book is too old for that one, but I ca
> > n
> >> > copy out its specs for you if you need) but I crossposted this reply to
> >> > sci.electronics.components where there's an increase in chance of a use
> > ful
> >> > answer.
>
> >> My ECA book gives: Si-N, 35V, 0.5A, 50MHz and suggests; BC817, BCX19,
> >> 2SC3325 or 2SC3341.
>
> > Thanks guys, without having any catalogue , I could have download half
> > of internet to get any result
>
> > Boris
>
> There is a neat shortcut. :) Someone told it to me after I'd been wading
> through Google and all the parts brokers nonsense out there.http://www.findchips.com
> The name sounds like any other inane parts broker with no actual inventory,
> but go there, you'll see it isn't. Once you see a part offered by a couple of
> sellers you can likely get a data sheet that is up to date, and further,
> Digikey and Mouser have search tools good enough that you have a fair chance
> of rading a data sheet for parameters, entering a few into those search

> tools, and hitting a few good substitutes.

Nice website, thanks

163. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 18:36:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <60829ef9-47b3-42f1-a011-7fbe40a62bac@u41g2000yqe.googlegroups.com>
Source record: 11363

On Jan 9, 11:33 am, Dave <k1...@arrl.net> wrote:
> On Jan 9, 5:27 pm, Dave <k1...@arrl.net> wrote:
>
> > On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > <snip handwaving>
>
> > when you supply equations that predict something DIFFERENT than
> > Maxwell please let me know, otherwise i need no snake oil.
>
> p.s. talking energy when trying to figure out what happens with waves
> is counterproductive. energy is an integration of power, power is a
> function of current or voltage and impedance, or field strength and
> impedance of the medium... when you go from fields or current/voltage
> to power you lose phase information that is important. integrating it
> into energy loses even the phase and time information. it is always
> best to describe waves by using one field or the other, which one is
> up to the student since they are always related by the impedance of
> the medium... the same goes for currents or voltages on conductors,
> pick one and stick with it, you can always calculate the other when
> needed.

You stated that nobody knows how waves work so I took energy
contained as the route. I can't explain how waves work either and I
don't want to start of with an explanation how a wave works.
So the impasse appears to me that first I have to explain how waves
work instead of mass but also to continue on with the same theory and
then apply it to another theory! It was stated earlier that a mouse
trap can kill a mouse with less than 100% energy, so you require an
autopsy to show how and why and if it is really dead! You can do the
same by connecting a radio up to a mesh. You find how it can transmit
and receive such that it is NOT dead, that is the easy way.
We are now back to the prosecutor declaring one is an idiot where the
judge retorts, as another example of free speech, that the prosequtor
is a homosexual, but now requests the prosequtor to present evidence
proof or you will be arrested!
I am not guilty as I have presented a paper for my peers to agree or
disagree on the basis of science. Unfortunately my peers in science
have not yet arrived. Either way, thanks a bunch for your efforts and
sticking to physics and not free speech.
Best Regards
Art

164. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 19:38:52 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <dd802a65-99cf-42b1-818e-4a14e53cb1a5@d20g2000yqh.googlegroups.com>
Source record: 11364

On Jan 9, 11:27 am, Dave <k1...@arrl.net> wrote:
> On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> <snip handwaving>
>
> when you supply equations that predict something DIFFERENT than
> Maxwell please let me know, otherwise i need no snake oil.

O.K look at things another way where the given theory interlocks with
even more branches of accepted science.

When you apply Maxwells equations to an array it can only supply
radiation from forces that are supplied. If all is not supplied ie the
array is not in equilibrium then it accounts for only what is
applicable.
A yagi is not in equilibrium so Maxwell can only supply radiation
evident by other laws or another arrangement that the programmer has
provided, which will be in the order of something less than 100%
If the result is 100% accountability translated into 100% efficiency
then the array provided conformed to a Maxwell arrangement in
equilibrium
OR the programmer provided methods for the program to reorganised the
array to conform with Maxwells equations which requires equilibrium.
Thus Maxwell declares the difference between equilibrium
and non equilibrium. The final test in terms of physics and astromoney
and the laws of Newton is that the vectors of radiation must be equal
to opposing vectors such that equilibrium is retained. Maxwell does
this by supplying two vectors for radiation which is balanced by
gravity and the rotation of the Earth which are accepted external
influencies
with reference to the Solar system. These same two vectors are
reflected thru a series of interchanges per Newtons law where it
inevitably it finishes up with the big bang where equilibrium is
broken by the introduction of the same two vectors, one straight and
one with spin content which is axial or otherwise ala, helical in
content.
It is the same two vectors which all the Universe is compared to as a
datum level that portrays the difference between equilibrium and the
breakage of equilibrium. This can be stated because without breakage
or change from equilibrium movement cannot occur and the solar system
cannot exist. This was visualised by Einstein with out the success of
deducing the initial vectors such that he turned to the science of
Relativity in the hope they would then be exposed before he went to
his death.
Regards

Art

165. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 19:49:28 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d371d017-b6da-4822-b930-f1b3081a46cf@a6g2000yqm.googlegroups.com>
Source record: 11365

On Jan 9, 1:38 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Jan 9, 11:27 am, Dave <k1...@arrl.net> wrote:
>
> > On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > <snip handwaving>
>
> > when you supply equations that predict something DIFFERENT than
> > Maxwell please let me know, otherwise i need no snake oil.
>
> O.K look at things another way where the given theory interlocks with
> even more branches of accepted science.
>
> When you apply Maxwells equations to an array it can only supply
> radiation from forces that are supplied. If all is not supplied ie the
> array is not in equilibrium then it accounts for only what is
> applicable.
> A yagi is not in equilibrium so Maxwell can only supply radiation
> evident by other laws or another arrangement that the programmer has
> provided, which will be in the order of something less than 100%
> If the result is 100% accountability translated into 100% efficiency
> then the array provided conformed to a Maxwell arrangement in
> equilibrium
> OR the programmer provided methods for the program to reorganised the
> array to conform with Maxwells equations which requires equilibrium.
> Thus Maxwell declares the difference between equilibrium
> and non equilibrium. The final test in terms of physics and astromoney
> and the laws of Newton is that the vectors of radiation must be equal
> to opposing vectors such that equilibrium is retained. Maxwell does
> this by supplying two vectors for radiation which is balanced by
> gravity and the rotation of the Earth which are accepted external
> influencies
> with reference to the Solar system. These same two vectors are
> reflected thru a series of interchanges per Newtons law where it
> inevitably it finishes up with the big bang where equilibrium is
> broken by the introduction of the same two vectors, one straight and
> one with spin content which is axial or otherwise ala, helical in
> content.
> It is the same two vectors which all the Universe is compared to as a
> datum level that portrays the difference between equilibrium and the
> breakage of equilibrium. This can be stated because without breakage
> or change from equilibrium movement cannot occur and the solar system
> cannot exist. This was visualised by Einstein with out the success of
> deducing the initial vectors such that he turned to the science of

> Relativity in the hope they would then be exposed before he went to
> his death.
> Regards
> Art

Another aproach to radiation
Using a common dipole we have two variables,length and cross sectional
area.
Mathematically we can reduce length to a minimum thickness where by
the crosd sectional area must increase a given amount to retain
equilibrium. This clearly shows that the provider or receiver of
communication can be in the form of a flat plate conductor or same
that is perforated.
Remember that at no time have I invoked Gausss field when made dynamic
which both you and I agree to and others do not. Which forces
interlocking of physics proof from other accepted physical facts.
proof of interlocking as I have supplied.
Art

166. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 19:50:28 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <1db971de-06df-4248-8d05-f0e11a1c7a5a@j14g2000yqm.googlegroups.com>
Source record: 11366

On Jan 9, 7:38 pm, Art Unwin <arthurun...@gmail.com> wrote:

<more handwaving snipped>
sorry art, no snappy comebacks this time, your vague pointless
handwaving is not proving anything. maxwell's equations work just
fine as published and as implemented in various modeling programs.
you have shown nothing other than a good imagination in all the posts
i have seen, maybe you should take up science fiction writing
instead. if you aren't into writing i would particularly recommend
you study the works of James Blish in his Cities in Flight series of
novels, maybe you could make the spindizzy really work.

167. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 21:27:08 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <514623f4-0a11-40f8-a151-7d5a8e88c653@j4g2000yqe.googlegroups.com>
Source record: 11367

On Jan 9, 1:50 pm, Dave <k1...@arrl.net> wrote:
> On Jan 9, 7:38 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> <more handwaving snipped>
> sorry art, no snappy comebacks this time, your vague pointless
> handwaving is not proving anything. maxwell's equations work just
> fine as published and as implemented in various modeling programs.
> you have shown nothing other than a good imagination in all the posts
> i have seen, maybe you should take up science fiction writing
> instead. if you aren't into writing i would particularly recommend
> you study the works of James Blish in his Cities in Flight series of
> novels, maybe you could make the spindizzy really work.

Yes, I agree we are at the end, with you only agreeing with the
admissability of making the Gaussian field dynamic which equates
mathematically to Maxwell. At least that shows a progression from the
particle domain. With hands being tied with respect to that approach
and the other approaches offered are not accepted by you for
unspecified reasons. Hey, we gave it a shot with respect to physics
and did not have to substitute insults under the umbrella of free
speech If you hear me on the air I will be using the prescribed
radiator
and if we do not make contact then you can rest more easily with your
own thinking. I had hoped that the transition from ham radio to CB had
not already occured in the hope that some of the original amateurs
were still alive who were well versed in antennas and physics but we
are now in another eara. Both Europe and Japan were showing big
signals yesterday so things are looking up.
Regards
Art

168. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 21:41:01 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <RMmdnTb4G-5satXWnZ2dnUVZ7tGdnZ2d@bt.com>
Source record: 11368

"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:60829ef9-47b3-42f1-a011-7fbe40a62bac@u41g2000yqe.googlegroups.com...
On Jan 9, 11:33 am, Dave <k1...@arrl.net> wrote:
> On Jan 9, 5:27 pm, Dave <k1...@arrl.net> wrote:
>
> > On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > <snip handwaving>
>
> > when you supply equations that predict something DIFFERENT than
> > Maxwell please let me know, otherwise i need no snake oil.
>
> p.s. talking energy when trying to figure out what happens with waves
> is counterproductive. energy is an integration of power, power is a
> function of current or voltage and impedance, or field strength and
> impedance of the medium... when you go from fields or current/voltage
> to power you lose phase information that is important. integrating it
> into energy loses even the phase and time information. it is always
> best to describe waves by using one field or the other, which one is
> up to the student since they are always related by the impedance of
> the medium... the same goes for currents or voltages on conductors,
> pick one and stick with it, you can always calculate the other when
> needed.

You stated that nobody knows how waves work so I took energy
contained as the route. I can't explain how waves work either and I
don't want to start of with an explanation how a wave works.
So the impasse appears to me that first I have to explain how waves
work instead of mass but also to continue on with the same theory and
then apply it to another theory! It was stated earlier that a mouse
trap can kill a mouse with less than 100% energy, so you require an
autopsy to show how and why and if it is really dead! You can do the
same by connecting a radio up to a mesh. You find how it can transmit
and receive such that it is NOT dead, that is the easy way.
We are now back to the prosecutor declaring one is an idiot where the
judge retorts, as another example of free speech, that the prosequtor
is a homosexual, but now requests the prosequtor to present evidence
proof or you will be arrested!
I am not guilty as I have presented a paper for my peers to agree or
disagree on the basis of science. Unfortunately my peers in science
have not yet arrived. Either way, thanks a bunch for your efforts and
sticking to physics and not free speech.
Best Regards
Art

Actually Art, I said that a mouse trap can kill a mouse with less than 100% efficiency. It may not catch all the mice, but the mice it catches are all dead.

Schroedinger is the guy who had a half dead, half alive cat in a sealed box, but that's an entirely different kettle of fish!

:-)

73's

Mike G0ULI

169. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 21:46:51 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <d7d5728b-c5d5-478c-97f0-09fe4141a555@q4g2000yqm.googlegroups.com>
Source record: 11369

On Jan 9, 9:27 pm, Art Unwin <arthurun...@gmail.com> wrote:

> and the other approaches offered are not accepted by you for
> unspecified reasons.

i have been very specific about why they are not acceptable, there are
no specific equations that relate to something measurable, nor have
you made any predictions of things that aren't already well described
by existing laws and theories.

170. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 21:53:20 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <wf-dnYWj86lLZ9XWnZ2dnUVZ8g2dnZ2d@bt.com>
Source record: 11370

"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:d371d017-b6da-4822-b930-f1b3081a46cf@a6g2000yqm.googlegroups.com...
On Jan 9, 1:38 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Jan 9, 11:27 am, Dave <k1...@arrl.net> wrote:
>
> > On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > <snip handwaving>
>
> > when you supply equations that predict something DIFFERENT than
> > Maxwell please let me know, otherwise i need no snake oil.
>
> O.K look at things another way where the given theory interlocks with
> even more branches of accepted science.
>
> When you apply Maxwells equations to an array it can only supply
> radiation from forces that are supplied. If all is not supplied ie the
> array is not in equilibrium then it accounts for only what is
> applicable.
> A yagi is not in equilibrium so Maxwell can only supply radiation
> evident by other laws or another arrangement that the programmer has
> provided, which will be in the order of something less than 100%
> If the result is 100% accountability translated into 100% efficiency
> then the array provided conformed to a Maxwell arrangement in
> equilibrium
> OR the programmer provided methods for the program to reorganised the
> array to conform with Maxwells equations which requires equilibrium.
> Thus Maxwell declares the difference between equilibrium
> and non equilibrium. The final test in terms of physics and astromoney
> and the laws of Newton is that the vectors of radiation must be equal
> to opposing vectors such that equilibrium is retained. Maxwell does
> this by supplying two vectors for radiation which is balanced by
> gravity and the rotation of the Earth which are accepted external
> influencies
> with reference to the Solar system. These same two vectors are
> reflected thru a series of interchanges per Newtons law where it
> inevitably it finishes up with the big bang where equilibrium is
> broken by the introduction of the same two vectors, one straight and
> one with spin content which is axial or otherwise ala, helical in
> content.
> It is the same two vectors which all the Universe is compared to as a
> datum level that portrays the difference between equilibrium and the
> breakage of equilibrium. This can be stated because without breakage
> or change from equilibrium movement cannot occur and the solar system

> cannot exist. This was visualised by Einstein with out the success of
> deducing the initial vectors such that he turned to the science of
> Relativity in the hope they would then be exposed before he went to
> his death.
> Regards
> Art

Another aproach to radiation
Using a common dipole we have two variables,length and cross sectional
area.
Mathematically we can reduce length to a minimum thickness where by
the crosd sectional area must increase a given amount to retain
equilibrium. This clearly shows that the provider or receiver of
communication can be in the form of a flat plate conductor or same
that is perforated.
Remember that at no time have I invoked Gausss field when made dynamic
which both you and I agree to and others do not. Which forces
interlocking of physics proof from other accepted physical facts.
proof of interlocking as I have supplied.
Art

Hi Art,

If I read this correctly you are saying that as a dipole antenna is reduced in length relative to a given frequency, it must be increased in thickness until a point is reached where you are left with two closely spaced parallel plates which are the equivalent of the dipole.

The plates need not be solid, so a perforated or mesh surface will do. You have mentioned how to form mesh structures a few times, so I assume that this is what you are using.

Fat dipoles are inherently broadband, so such an antenna will be compact, efficient, broadband and cheap if constructed from mesh.

Sounds like a reasonable experiment, but I don't think it needs any new maths to describe how it works. The existing theories already back you up.

Cheers

Mike G0ULI

171. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 23:35:00 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <xqKdnd90Mo44j9TWnZ2dnUVZ_qqdnZ2d@earthlink.com>
Source record: 11371
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

Lostgallifreyan wrote:
>
> Boris <boris.kj@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-
> 6d4a14745048@c3g2000yqd.googlegroups.com:
>
> > Hi, I am looking for substitute of 2SC2618 (smd).
> > maybe you can help me - what I can use instead?
> >
> > Boris
> >
>
> I don't know (my Towers selector book is too old for that one, but I can
> copy out its specs for you if you need) but I crossposted this reply to
> sci.electronics.components where there's an increase in chance of a useful
> answer.

<http://www.mcmelectronics.com/product/NTE2406&cid=prodCrossSell>

$2.11 each

--
Greed is the root of all eBay.

172. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-09 23:44:41 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9b186d7c-ed80-4e17-9469-74d3ce1975b9@b2g2000yqi.googlegroups.com>
Source record: 11372

On Jan 9, 3:53 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:d371d017-b6da-4822-b930-f1b3081a46cf@a6g2000yqm.googlegroups.com...
> On Jan 9, 1:38 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Jan 9, 11:27 am, Dave <k1...@arrl.net> wrote:
>
> > > On Jan 9, 4:19 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > <snip handwaving>
>
> > > when you supply equations that predict something DIFFERENT than
> > > Maxwell please let me know, otherwise i need no snake oil.
>
> > O.K look at things another way where the given theory interlocks with
> > even more branches of accepted science.
>
> > When you apply Maxwells equations to an array it can only supply
> > radiation from forces that are supplied. If all is not supplied ie the
> > array is not in equilibrium then it accounts for only what is
> > applicable.
> > A yagi is not in equilibrium so Maxwell can only supply radiation
> > evident by other laws or another arrangement that the programmer has
> > provided, which will be in the order of something less than 100%
> > If the result is 100% accountability translated into 100% efficiency
> > then the array provided conformed to a Maxwell arrangement in
> > equilibrium
> > OR the programmer provided methods for the program to reorganised the
> > array to conform with Maxwells equations which requires equilibrium.
> > Thus Maxwell declares the difference between equilibrium
> > and non equilibrium. The final test in terms of physics and astromoney
> > and the laws of Newton is that the vectors of radiation must be equal
> > to opposing vectors such that equilibrium is retained. Maxwell does
> > this by supplying two vectors for radiation which is balanced by
> > gravity and the rotation of the Earth which are accepted external
> > influencies
> > with reference to the Solar system. These same two vectors are
> > reflected thru a series of interchanges per Newtons law where it
> > inevitably it finishes up with the big bang where equilibrium is
> > broken by the introduction of the same two vectors, one straight and
> > one with spin content which is axial or otherwise ala, helical in

> > content.
> > It is the same two vectors which all the Universe is compared to as a
> > datum level that portrays the difference between equilibrium and the
> > breakage of equilibrium. This can be stated because without breakage
> > or change from equilibrium movement cannot occur and the solar system
> > cannot exist. This was visualised by Einstein with out the success of
> > deducing the initial vectors such that he turned to the science of
> > Relativity in the hope they would then be exposed before he went to
> > his death.
> > Regards
> > Art
>
> Another aproach to radiation
> Using a common dipole we have two variables,length and cross sectional
> area.
> Mathematically we can reduce length to a minimum thickness where by
> the crosd sectional area must increase a given amount to retain
> equilibrium. This clearly shows that the provider or receiver of
> communication can be in the form of a flat plate conductor or same
> that is perforated.
> Remember that at no time have I invoked Gausss field when made dynamic
> which both you and I agree to and others do not. Which forces
> interlocking of physics proof from other accepted physical facts.
> proof of interlocking as I have supplied.
> Art
>
> Hi Art,
>
> If I read this correctly you are saying that as a dipole antenna is reduced
> in length relative to a given frequency, it must be increased in thickness
> until a point is reached where you are left with two closely spaced parallel
> plates which are the equivalent of the dipole.

Well actually I was infering that for minimum thicness of the plate
",area" must be increased. However if I had thought a bit more ,your
explanation of two close spaced plates is a better description since
there are two entities there as with a water chamber separated by a
flexible gasket. Thus we have an application where a water analogy can
be used for energy transfer ie. Volume can change from one side to the
other by the deflection of the membrane yet the two entities still
stay separate. Neat.

>
> The plates need not be solid, so a perforated or mesh surface will do. You
> have mentioned how to form mesh structures a few times, so I assume that
> this is what you are using.

Yes that sums it up.

>
> Fat dipoles are inherently broadband, so such an antenna will be compact,

> efficient, broadband and cheap if constructed from mesh.

Yes,I was illustrating the use of mathematics to show that two
entities were actually the same because mathematics appeared to be the
choice of proof. Nothing more.

>
> Sounds like a reasonable experiment, but I don't think it needs any new
> maths to describe how it works. The existing theories already back you up.
I fully understand that, but when the group denied existing physics in
favor of requesting a different proof perhaps a new technology then I
was lost for words. So when DR Davis of MIT came along and confirmed
what I stated the group attacked him also. We never got beyond the
point of legality of adding a time varient to Gauss's law such that
Maxwells equations could be applied. Unfortunately this also presented
the presence of particles albiet static particles so interpretations
of the double split experiment got expanded beyond the spectrum of
light of which there is no proof. Thus an opening for
insults without explanation required A boon to those uneducated in the
field
Art

>
> Cheers
>
> Mike G0ULI

173. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 01:03:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <oh7ik5le2i3kcvvv5ob2o4jbn37qhele9b@4ax.com>
Source record: 11373

On Sat, 9 Jan 2010 21:53:20 -0000, "Mike Kaliski"
<michael.kaliski@tesco.net> wrote:

>Fat dipoles are inherently broadband, so such an antenna will be compact,

Something of a contradiction in that statement.

Rhetoric aside, what these threads have absent are science and
engineering (usual problem of the CBer's fantasy, or "How I patented
Perpetual Motion"). If you are going to make such a statement as
found above, then how fat does a dipole have to be, to be compact?

Let's make that simpler. Take a half-wave antenna as the benchmark,
at its natural first resonance. How fat does it have to be for us to
be able to cut its length in half and still operate at that same
frequency? In quarter? In an eighth?

Let's get a little more complex (but is actually the same question as
above). Take a half-wave antenna as a benchmark, at its natural first
resonance with a #12 wire. What multiplication factor is necessarily
applied to that #12 wire thickness to make its length half at the same
resonance frequency? What multiplication factor for quarter? For an
eighth?

Extra credit question: How much does volume of the structure vary
against fattening?

****
Reductio ad absurdum
****

The notion that the fatness of the wire expands as the wire length
contracts leads us to two parallel plates separated by the distance of
the insulation of the coax inner conductor to shield. This is called
a capacitor. At any practical RF frequency, a substantial capacitor
is a short circuit placed across that transmission line. There are
easier ways to short a transmission line that are even more compact -
I will leave that to the student to derive.

Consider the current in that capacitor's plates which would run radial
from the feed to their edges. When the former dipole was radiating,
those currents were in-phase and they contributed to radiation. In
this novel degenerate design, they both have moved to the opposite
polarization and are anti-phase where their fields cancel.

So, this degenerate dipole is designed to short out, and to cancel all
radiation (same thing as a shorted transmission line without any

antenna connected).

****
The proper fat dipole
****

Described by Schelkunoff (student of the Univ of Wa here in Seattle) as two cones driven at their apex that meet at the feedpoint. The half design is the Discone. Anyone who has used or designed such a fat dipole can attest that it is the same slant size as a dipole is long (meaning that the overall length is shorter but that the significant dimension is not) and as for fatness, this could be a multiplier of 10s of thousands.

73's
Richard Clark, KB7QHC

174. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 01:22:45 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <da7eb1de-59eb-4b1b-9802-cc753ad4bff5@d20g2000yqh.googlegroups.com>
Source record: 11374

On Jan 9, 3:46 pm, Dave <k1...@arrl.net> wrote:
> On Jan 9, 9:27 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > and the other approaches offered are not accepted by you for
> > unspecified reasons.
>
> i have been very specific about why they are not acceptable, there are
> no specific equations that relate to something measurable, nor have
> you made any predictions of things that aren't already well described
> by existing laws and theories.

David, the acceptance that equilibrium must prevail for toatal accountability states that one cannot use a 1/2 wave radiator as a basis for the application of Maxwells equations. Why is this? Because equilibrium is determined by a period. If each half wave that constituted a period then one is saying that the half wave resonant point is half way between the beginning and the end of a cycle. There is a resonant point but that same point is NOT repeatable thus one must refer to the "period point" for equilibrium.
Physics does not squable with this assertion,amature radio does by ignoring equilibrium requirement.
Moving on with this revealment we can then say that a radiator can be any shape ,size or elevation as long as it is in equilibrium when Maxwell can be applied for accountability for all forces.
Thus a radiator can be deformed ,reshaped or condensed and still be applicable to Maxwells laws as long as equilibrium is held to.
Imediately we can therefore deduce that lumped loads if provided must be cancelled to retain equilibrium. Thus the application of equilibrium as required in physics provide a path for the design of compact radiators where all forces are accounted for as well as maximum radiation.
To ask for mathematical proof of the requirement of equilibrium or balance which is the root or datum line for all physics is patently absurd and immediatly declares all prior physics laws supplied by the masters as void and redundant as all are based on equilibrium.
The real problem here is that when Maxwell by the use of mathematical rules with his equations showed that mathematics easily supplanted past investigation by observation that all physicsts were lead to believe that mathematics over rule observation. Thus we now may use mathematical deductions such as probability to substitute for observation knowing full well that a punter at the race course will lose all by continuous betting on favorites and it doesn't happen that way in real life. If my memory is correct "probability" was the path taken in the double slit experiment in the face of tha absence of a

true mathematical or observed factor . Since the results matched consensus among physicists the subject was considered "solved" never to be questioned again. And worse, expanded beyond the limits applied in the test. Imaginary answers provided! Don't worry, since mathematics rules all so imaginary can be seen as factual. Same goes for Newtons laws where he stated that every action has an equal and opposite reaction where present day students now add "diametrically" to further describe "opposite" which is not the intent of Newton initial determination. Now we have CERN spending billions on accellerating particles instead of the prior determined waves. O my!
Art

175. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 01:27:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <j2aik5d01mf0bkkcscjbctldc9mj21ie34@4ax.com>
Source record: 11375

On Sat, 09 Jan 2010 17:03:29 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>Consider the current in that capacitor's plates which would run radial
>from the feed to their edges. When the former dipole was radiating,
>those currents were in-phase and they contributed to radiation. In
>this novel degenerate design, they both have moved to the opposite
>polarization and are anti-phase where their fields cancel.

I can well imagine that the bright inventor, the holder of innumerable
patents validating a new physics, could counter this problem of
anti-phase cancellation.

The two currents are adjacent because of their feed point design.
"Change the feedpoint design! (Remarkable insight solves the
problem.)"

How?

"Move the feedline every so slightly away (so slight that not even
Richard could complain)."

Richard doesn't complain ;-)

"Now, take a wire and connect it to the extreme edge of one plate and
connect it to one of the two feed wires. Then take a second wire, and
connect it to the extreme, BUT OPPOSITE, edge of the second plate."

Richard mildly points out that this solves the problem out to the
edges of each plate and restores radiation, but then the current turns
back towards the feedpoint along either plate that is a massive short
and cancels the new wire out. :-O

The cracker-jack holder of patents then would retort: "Remove the
plates and that problem is gone!"

.... and we are back to the conventional dipole which proves this 2nd
order degenerate design IS more compact.

****** tear on dotted line and return ****************

Have we gotten any practical contra-example to the simple dipole being
100% efficient? You know, a real design that describes frequency,
length, and width of wire? [I realize this may be a tough obstacle to
surmount. Dimensions are sometimes novel concepts in these threads
that challenge the most cerebral of patent holders. In fact, I can
accurate forecast without aid of modeling that any response from Art
to this posting will focus on parenthetical comments rather than

science.]

73's
Richard Clark, KB7QHC

176. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 01:38:38 UTC
From: kb9rqz@yahoooo.com
Message-ID: <ssbik597vs149rrjp46did3cbi4smingu2@4ax.com>
Source record: 11376
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

177. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 02:59:34 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <g9ydnb8Oa_ee3tTWnZ2dnUVZ8iWdnZ2d@bt.com>
Source record: 11377

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:oh7ik5le2i3kcvvv5ob2o4jbn37qhele9b@4ax.com...
> On Sat, 9 Jan 2010 21:53:20 -0000, "Mike Kaliski"
> <michael.kaliski@tesco.net> wrote:
>
>>Fat dipoles are inherently broadband, so such an antenna will be compact,
>
> Something of a contradiction in that statement.
>
> Rhetoric aside, what these threads have absent are science and
> engineering (usual problem of the CBer's fantasy, or "How I patented
> Perpetual Motion"). If you are going to make such a statement as
> found above, then how fat does a dipole have to be, to be compact?
>
> Let's make that simpler. Take a half-wave antenna as the benchmark,
> at its natural first resonance. How fat does it have to be for us to
> be able to cut its length in half and still operate at that same
> frequency? In quarter? In an eighth?
>
> Let's get a little more complex (but is actually the same question as
> above). Take a half-wave antenna as a benchmark, at its natural first
> resonance with a #12 wire. What multiplication factor is necessarily
> applied to that #12 wire thickness to make its length half at the same
> resonance frequency? What multiplication factor for quarter? For an
> eighth?
>
> Extra credit question: How much does volume of the structure vary
> against fattening?
>
> ********************************
> Reductio ad absurdum
> ********************************
>
> The notion that the fatness of the wire expands as the wire length
> contracts leads us to two parallel plates separated by the distance of
> the insulation of the coax inner conductor to shield. This is called
> a capacitor. At any practical RF frequency, a substantial capacitor
> is a short circuit placed across that transmission line. There are
> easier ways to short a transmission line that are even more compact -
> I will leave that to the student to derive.
>
> Consider the current in that capacitor's plates which would run radial
> from the feed to their edges. When the former dipole was radiating,
> those currents were in-phase and they contributed to radiation. In

> this novel degenerate design, they both have moved to the opposite
> polarization and are anti-phase where their fields cancel.
>
> So, this degenerate dipole is designed to short out, and to cancel all
> radiation (same thing as a shorted transmission line without any
> antenna connected).
>
> ********************************
> The proper fat dipole
> ********************************
>
> Described by Schelkunoff (student of the Univ of Wa here in Seattle)
> as two cones driven at their apex that meet at the feedpoint. The
> half design is the Discone. Anyone who has used or designed such a
> fat dipole can attest that it is the same slant size as a dipole is
> long (meaning that the overall length is shorter but that the
> significant dimension is not) and as for fatness, this could be a
> multiplier of 10s of thousands.
>
> 73's
> Richard Clark, KB7QHC

Richard

I have a personal preference for discone and log periodic antennae for the wide frequency coverage. Which is kind of why I suggested the interpretation of Art's design that I did. It is difficult to picture some of his designs from the descriptions at times.

As far as 'compact' is concerned, I guess I would suggest an all band HF antenna that could be contained within a 2 metre cube. That's just a personal interpretation with no justification whatsoever and I know that a lightbulb wired on the end of a bit of coax fits the bill.

Your points are well made although some of the first transmitting and receiving antennae were parallel plates coupled across a spark gap. From photographs I have seen, they look to be resonant somewhere in the current VHF band, not that it was of any consequence as the experiments were only conducted across about 8 feet. Could have just been magnetic induction coupling from the transmitting and receiving coils... Now there's an idea for a novel antenna.

73's
Mike G0ULI

178. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 03:58:25 UTC
From: tom <news4792@taring.org>
Message-ID: <4b495060$0$33863$8046368a@newsreader.iphouse.net>
Source record: 11378

Mike Kaliski wrote:
>
> Richard
>
> I have a personal preference for discone and log periodic antennae for
> the wide frequency coverage. Which is kind of why I suggested the
> interpretation of Art's design that I did. It is difficult to picture
> some of his designs from the descriptions at times.
<snip>

Mike

One thing you need to understand is that Art has no designs. Even his patent applications contain the written and drawn versions of bafflegab. He has never designed, never built, and never tested anything that performs like his claims. All he does is pontificate. And he ain't the pontiff.

tom
K0TAR

179. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 05:13:14 UTC
From: legg <legg@nospam.magma.ca>
Message-ID: <f2oik5p4vhch8dstra7e6idpr6kmsea720@4ax.com>
Source record: 11379
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

On Sat, 09 Jan 2010 09:36:36 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Boris <boris.kj@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-
>6d4a14745048@c3g2000yqd.googlegroups.com:
>
>> Hi, I am looking for substitute of 2SC2618 (smd).
>> maybe you can help me - what I can use instead?
>>
>> Boris
>>
>
>I don't know (my Towers selector book is too old for that one, but I can
>copy out its specs for you if you need) but I crossposted this reply to
>sci.electronics.components where there's an increase in chance of a useful
>answer.

The Hitachi data sheet doesn't indicate anything really special about
this part. It's a standard 35V part with 500mA continuous current
rating. The SC59 package can usually be substituted by a BC817's SOT23
size, with carefull soldering to cover the (possibly) longer pad
pattern.

RL

180. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 07:28:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kb0jk5hqvl2thnr37h558tikebebra0mmk@4ax.com>
Source record: 11380

On Sun, 10 Jan 2010 02:59:34 -0000, "Mike Kaliski"
<michael.kaliski@tesco.net> wrote:

>Your points are well made although some of the first transmitting and
>receiving antennae were parallel plates coupled across a spark gap. From
>photographs I have seen, they look to be resonant somewhere in the current
>VHF band, not that it was of any consequence as the experiments were only
>conducted across about 8 feet. Could have just been magnetic induction
>coupling from the transmitting and receiving coils... Now there's an idea
>for a novel antenna.

Hi Mike,

Quite true as to band and dimensions. However, those are balanced
(dare I say in equilibrium?) in comparison to all capacitor and no
inductance with currents bucking each other.

73's
Richard Clark, KB7QHC

181. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 09:36:38 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFC61BF1AEDDzoodlewurdle@216.196.109.145>
Source record: 11381
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

legg <legg@nospam.magma.ca> wrote in
news:f2oik5p4vhch8dstra7e6idpr6kmsea720@4ax.com:

> The Hitachi data sheet doesn't indicate anything really special about
> this part. It's a standard 35V part with 500mA continuous current
> rating.

That's what I was thinking too, but the low gate capacitance suggests good for RF, and the first post came from rec.radio.amateur.antenna, so I didn't suggest spreading the search beam too wide because I don't know enough about it.. But the Towers book didn't suggest that high in RF either, nor does the data Ian Fields posted.

182. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 10:07:20 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <2e06d082-c499-4c36-9346-a41f4d381b54@m25g2000yqc.googlegroups.com>
Source record: 11382
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

On Jan 10, 9:36 am, Lostgallifreyan <no-...@nowhere.net> wrote:
> legg <l...@nospam.magma.ca> wrote innews:f2oik5p4vhch8dstra7e6idpr6kmsea720@4ax.com:
>
> > The Hitachi data sheet doesn't indicate anything really special about
> > this part. It's a standard 35V part with 500mA continuous current
> > rating.
>
> That's what I was thinking too, but the low gate capacitance suggests good
> for RF, and the first post came from rec.radio.amateur.antenna, so I didn't
> suggest spreading the search beam too wide because I don't know enough
> about it.. But the Towers book didn't suggest that high in RF either, nor
> does the data Ian Fields posted.

Hi,
This transistor goes to generator - quote " and the following 2SC2618
NPN transistor operate as a current source for the AD9851 DAC bias
circuit."
So what you guys think, something like bcx19 should be ok?

183. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 10:40:31 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFC6C98483E8zoodlewurdle@216.196.109.145>
Source record: 11383
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

Boris <boris.kj@googlemail.com> wrote in news:2e06d082-c499-4c36-9346-a41f4d381b54@m25g2000yqc.googlegroups.com:

> On Jan 10, 9:36 am, Lostgallifreyan <no-...@nowhere.net> wrote:
>> legg <l...@nospam.magma.ca> wrote innews:f2oik5p4vhch8dstra7e6idpr6kmsea7
> 20@4ax.com:
>>
>> > The Hitachi data sheet doesn't indicate anything really special about
>> > this part. It's a standard 35V part with 500mA continuous current
>> > rating.
>>
>> That's what I was thinking too, but the low gate capacitance suggests goo
> d
>> for RF, and the first post came from rec.radio.amateur.antenna, so I didn
> 't
>> suggest spreading the search beam too wide because I don't know enough
>> about it.. But the Towers book didn't suggest that high in RF either, nor
>> does the data Ian Fields posted.
>
> Hi,
> This transistor goes to generator - quote " and the following 2SC2618
> NPN transistor operate as a current source for the AD9851 DAC bias
> circuit."
> So what you guys think, something like bcx19 should be ok?
>

Beyond me to be certain, but it looks like 'yes'. That doesn't sound like it's an RF or otherwise demanding task. Don't pick something with poor noise specs though.

184. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 11:08:01 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <7ec07ab2-b5cc-4712-9876-77bacfe7e819@j19g2000yqk.googlegroups.com>
Source record: 11384

On Jan 10, 11:58 am, tom <news4...@taring.org> wrot

> He has never designed, never built, and never tested anything that
> performs like his claims.

Tom

As you are so fond of saying, "you made the claim, you prove it",
or is you claim as empty as you head.

Jaro

185. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 16:24:17 UTC
From: kb9rqz@yahoooo.com
Message-ID: <gpvjk5hdf2tibvk9nk2dupcds59tubkvpg@4ax.com>
Source record: 11385
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

186. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 16:50:02 UTC
From: nm5k@wt.net
Message-ID: <b31accae-24a3-4692-a3fb-4b35de2922f5@22g2000yqr.googlegroups.com>
Source record: 11386

On Jan 10, 5:08 am, jaroslav lipka <jaroli...@gmail.com> wrote:
> On Jan 10, 11:58 am, tom <news4...@taring.org> wrot
>
> > He has never designed, never built, and never tested anything that
> > performs like his claims.
>
> Tom
>
> As you are so fond of saying, "you made the claim, you prove it",
> or is you claim as empty as you head.
>
> Jaro

He head not empty. The truth in he claim is quite obvious for all
to see. If old man Unwin had an antenna that actually performed
with even half the gusto of his claims, he would not have to resort
to pseudo science mumbo gumbo in order to try to convince people
that he has.
In fact, he wouldn't really have to explain a thing. He could just
mount it on a pike and let it do the talking.
But it's hard to claim radiation efficiency of 100% when you
are using a contra wound dummy load. He might beat out
Mike's light bulb dummy load, but by only a slim margin.
My calculations show that any minor increase over the
efficiency of a coax fed light bulb are not sufficient to cause
the delusions of grandeur which seem to possess Unwin.

So what say Jaroslav, o man o vision.. Can *you* prove that Art
has designed, built and tested any miracle whip that performs
as he claims?
Hold my breath not, sayeth Yoda.. Chortle..

187. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 18:29:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7n6kk5lr7chumdjtmes1586g7jglu37jhj@4ax.com>
Source record: 11387

>****** tear on dotted line and return **********
>
>Have we gotten any practical contra-example to the simple dipole being
>100% efficient? You know, a real design that describes frequency,
>length, and width of wire?

Well, no response as far as I can tell which means that Art cannot
produce a simple description of wire gauge, wire length, and wire
excited frequency (admittedly a pretty difficult demand to place upon
a guru) for an antenna that is in equilibrium and displays efficiency
better than the 100% which is commonly available from a simple dipole.

From the Laotse Tao te king:
"More words count less."

188. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 19:01:40 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <3729714d-ed1e-4e8f-9e25-b9a15b7967f4@r5g2000yqb.googlegroups.com>
Source record: 11388

On Jan 10, 11:08 am, jaroslav lipka <jaroli...@gmail.com> wrote:
> On Jan 10, 11:58 am, tom <news4...@taring.org> wrot
>
> > He has never designed, never built, and never tested anything that
> > performs like his claims.
>
> Tom
>
> As you are so fond of saying, "you made the claim, you prove it",
> or is you claim as empty as you head.
>
> Jaro

How precious of Art to have a Slovak sock puppet.

189. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 19:04:01 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFCC1EF2CEFCzoodlewurdle@216.196.109.145>
Source record: 11389

Richard Clark <kb7qhc@comcast.net> wrote in
news:7n6kk5lr7chumdjtmes1586g7jglu37jhj@4ax.com:

> From the Laotse Tao te king:
> "More words count less."
>

Hmm, on the subject of Chinese kings...
"A king was pleased with the help of a warrior, and asked what the warrior would take as reward. The warrior said, a grain of rice on the first square of a chessboard, on one day, two on a second square, and the second day, until the board was used up. The story goes that with every doubling to 64 squares, the warrior bankrupted the king within two months."

But I ask: how much rice CAN you fit on a chessboard?

I wonder if Art might recognise that little homily, and my question, as a parallel to the effect that an antenna need not pointlessly strive for 100% efficiency, but instead to get a practical and useful propagation or low-noise collection. If you really want a tiny antenna, never mind inefficiency, catch what you can and use it. Ok, too many words from me.

190. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 19:12:56 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFCC3721CF7Dzoodlewurdle@216.196.109.145>
Source record: 11390

Bill <k4wge@arrl.net> wrote in news:3729714d-ed1e-4e8f-9e25-b9a15b7967f4@r5g2000yqb.googlegroups.com:

> On Jan 10, 11:08 am, jaroslav lipka <jaroli...@gmail.com> wrote:
>> On Jan 10, 11:58 am, tom <news4...@taring.org> wrot
>>
>> > He has never designed, never built, and never tested anything that
>> > performs like his claims.
>>
>> Tom
>>
>> As you are so fond of saying, "you made the claim, you prove it",
>> or is you claim as empty as you head.
>>
>> Jaro
>
> How precious of Art to have a Slovak sock puppet.
>
>

Two swipes with one backhander. An amusing skill. :)

191. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 19:32:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bmakk5lukqauls3k62jkfmcujd71430cbr@4ax.com>
Source record: 11391

On Sun, 10 Jan 2010 13:04:01 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Hmm, on the subject of Chinese kings...
>"A king was pleased with the help of a warrior, and asked what the warrior
>would take as reward.

Actually, this is ascribed as the reward offered by an Indian Prince
to the inventor of chess (which was invented in India) which had
become the Prince's favorite game.

73's
Richard Clark, KB7QHC

192. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 19:43:09 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFCC88DB8147zoodlewurdle@216.196.109.145>
Source record: 11392

Richard Clark <kb7qhc@comcast.net> wrote in
news:bmakk5lukqauls3k62jkfmcujd71430cbr@4ax.com:

> On Sun, 10 Jan 2010 13:04:01 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Hmm, on the subject of Chinese kings...
>>"A king was pleased with the help of a warrior, and asked what the warrior
>>would take as reward.
>
> Actually, this is ascribed as the reward offered by an Indian Prince
> to the inventor of chess (which was invented in India) which had
> become the Prince's favorite game.
>
> 73's
> Richard Clark, KB7QHC
>

Yeah, but that connects with a much greater mismatch. :)

193. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 19:55:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q0ckk5l9bdafucspsds8kbpn8bcrkusqni@4ax.com>
Source record: 11393

On Sun, 10 Jan 2010 13:43:09 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>>>Hmm, on the subject of Chinese kings...
>>>"A king was pleased with the help of a warrior, and asked what the warrior
>>>would take as reward.
>>
>> Actually, this is ascribed as the reward offered by an Indian Prince
>> to the inventor of chess (which was invented in India) which had
>> become the Prince's favorite game.
>>
>> 73's
>> Richard Clark, KB7QHC
>>
>
>Yeah, but that connects with a much greater mismatch. :)

As Paul Harvey would say "and now for the rest of the story"

The inventor asked for this reward as you described and when the
Prince discovered the cost, the Prince (using your analogy) mismatched
the inventor's head from his body.

No doubt something all inventors should consider as the price at some
level....

73's
Richard Clark, KB7QHC

194. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 20:57:43 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFCD53C4CA21zoodlewurdle@216.196.109.145>
Source record: 11394

Richard Clark <kb7qhc@comcast.net> wrote in
news:q0ckk5l9bdafucspsds8kbpn8bcrkusqni@4ax.com:

> On Sun, 10 Jan 2010 13:43:09 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>>>Hmm, on the subject of Chinese kings...
>>>>"A king was pleased with the help of a warrior, and asked what the
>>>>warrior would take as reward.
>>>
>>> Actually, this is ascribed as the reward offered by an Indian Prince
>>> to the inventor of chess (which was invented in India) which had
>>> become the Prince's favorite game.
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>>>
>>
>>Yeah, but that connects with a much greater mismatch. :)
>
> As Paul Harvey would say "and now for the rest of the story"
>
> The inventor asked for this reward as you described and when the
> Prince discovered the cost, the Prince (using your analogy) mismatched
> the inventor's head from his body.
>
> No doubt something all inventors should consider as the price at some
> level....
>
> 73's
> Richard Clark, KB7QHC
>

Funny, nice use of 'mismatched'. I don't think I'm much of an inventor, the couple of things I came up with were small (zero-crossing switch, and analog modulated laser diode driver, laser power meter gain stage and scale/offset tweaker), built partly by trial and error, but they all worked reliably when I'd otherwise have needed bigger, more elaborate and more expensive answers made by other people. But likely have probably nothing to offer than can't be had better elsewhere. What they did do for me, generally, was firmly establish cost as an engineering unit. One day we might even measure it with an SI unit. ^O

195. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-10 23:11:11 UTC
From: kb9rqz@yahoooo.com
Message-ID: <eknkk554iabtbp9lerjcmpsol5j0pdsjt0@4ax.com>
Source record: 11395
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

196. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 00:48:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <satkk55na77stg7e9ct0iselhjvi9crgp8@4ax.com>
Source record: 11396

On Sun, 10 Jan 2010 14:57:43 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>analog modulated laser diode driver

This is no slight accomplishment!

73's
Richard Clark, KB7QHC

197. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 02:11:30 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFD164732CA7zoodlewurdle@216.196.109.145>
Source record: 11397

Richard Clark <kb7qhc@comcast.net> wrote in
news:satkk55na77stg7e9ct0iselhjvi9crgp8@4ax.com:

> On Sun, 10 Jan 2010 14:57:43 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>analog modulated laser diode driver
>
> This is no slight accomplishment!
>
> 73's
> Richard Clark, KB7QHC
>

Well, I have to be honest and say that I haven't truly finished it. :) It's based on an LM317. I have this LM317 fetish based on admiration for the old POW radio ideas, I really think it's cool that such a ubiquitous device can be applied so perversely to such amazing unintended uses, and given its chances of being found, designs based on it could be buuilt even if much of civilisation were 'bombed back to the stone age'. On a more prosaic level, it's dirt cheap, powerful, easy to build with, and contains useful features.

The driver worked in my initial test to 50 KHz, better than the 10K most analog mod drivers seem to favour. I tested it with a square wave and the edges were sharp with no overshoot if I didn't push it too hard, and did some filtering with low ESR tantalums for supply decoupling. I later discovered LTspice. :) I modelled it with that and quickly saw the same waveshapes my 100 MHz scope had shown me, which was a nice reality check that proved that LTspice could likely similaute the design and let me improve it before rebuilding. I devised a circuit that cannot be overdriven, attempts to do so merely broaden the peak at max amplitude, it cannot overshoot, and will modulate to 200 KHz. The proof is in the pudding but the truth is I never got round to baking the pudding. Bought a slower version of the op-amp I needed but got mightily disillusioned about the laser show thing and felt that I'd either build it and gain nothing personally from it, or no-one would even care. Given what I'd seen, I think this is genuinely true, few would. I hadn't even decided if I was going for SMT or through hole, and it's a tough call because available parts seem to force a hybrid... Like the pitch-to-MIDI system I wanted to build as an adapted version of Doepfer's R2M control system, it got put on the back burner. But I spent a couple of years pulling together all the tooling and design files to do it, and when I find something to motivate me, I intend to finish both these projects.

I think this is what's drawing me to SWL. The present stopped compelling me, so in a way I'm drawing on something that endured from further past, as a way

to revive the spark that got me as far as I did get. I never found a way to gauge what I do, because most times I find little to suggest that what I do has anything that people can't find better elsewhere just by throwing money at it, and as they usually have more than me I tend to think they're probably right. But if I can find enough motivation just to do it even though it might amount to nothing, I will do it because I don't know what else I'm good for.

Long spiel, but I think I needed to, as part of whatever I have to do to make it happen. Like Mulder, I want to beleive, I guess..

198. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 02:16:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4b4a89ef$0$33859$8046368a@newsreader.iphouse.net>
Source record: 11398

jaroslav lipka wrote:
> On Jan 10, 11:58 am, tom <news4...@taring.org> wrot
>
>
>> He has never designed, never built, and never tested anything that
>> performs like his claims.
>
> Tom
>
> As you are so fond of saying, "you made the claim, you prove it",
> or is you claim as empty as you head.

I have never said that, not even once. So how could I be fond of saying it?

And Art has also not once posted a single measurement, a single equation
or a single design.

And you have never done anything but snipe.

Yes, so do I, but I also occasionally make contributions, and my claims
have always had numbers and measurements behind them.

Do you know what measurements are?

>
> Jaro

199. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 02:21:38 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFD17FE8A262zoodlewurdle@216.196.109.145>
Source record: 11399

Actually, given my previous post, anyone familiar with all that is mentioned in it can deduce how to build the diode driver and probably get lucky choosing the op-amp. I want to keep it under the hat I haven't got for now, but if someone comes up with it independently, go for it, I just hope it gets shared and not patented. People say no way 200 KHz analog proportional mod out of an LM317 as diode driver, but I'm fairly certain it's viable. LTspice certainly thinks so, and its output matches what I've seen of real output so I think I believe it. Not an antenna thing, so I'll leave it there. Nice to be able to talk of it though. Keeps it alive somehow.

200. Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 03:37:33 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <057bea35-3091-419f-b145-f5eae2bbb8e2@z2g2000vbf.googlegroups.com>
Source record: 11400

I have a collinear J pole that I made out of copper pipe. It is
mounted on a galvanized iron coupling at the top of a piece of
galvanized iron pipe. I want keep all parts of the mount at ground
for lightning protection while avoiding corrosion between the two
types of piping. If I use a dielectric union to connect to the
galvanized iron mounting but I still bond both the support pipe and
the antenna base to ground can I avoid the galvanic action that
already caused the two pipe threads to gall.
--
Tom Horne

201. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 06:04:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tvclk5db7fc0e14e433tesfuccpjj0upkg@4ax.com>
Source record: 11201

On Sun, 10 Jan 2010 19:37:33 -0800 (PST), Tom Horne
<hornetd@gmail.com> wrote:

>If I use a dielectric union to connect to the
>galvanized iron mounting but I still bond both the support pipe and
>the antenna base to ground can I avoid the galvanic action that
>already caused the two pipe threads to gall.

Hi Tom,

Galvanic action occurs at the interface of two dissimilar metals with an electrolyte between them. Each metal/electrolyte combination constitutes a "half cell" with a potential characteristic to that metal. When combined, they form a total potential which supports current flow and metal migration. You can build a chain of such reactions through intermediate steps (a chain of connections); but the current flow still is a product of the electrolyte between them (the half cell chemistry) and if you can break the chain, you break the current and the metal migration.

The chemistry is not complex, and it occurs in nature without too much difficulty - hence the problem with weather and poor sealing. A saltwater environment is classically the most brutal. Toss in acid rain too. The solution is fairly simple, but the success of implementation, as the devil, is in details. One simple problem is you may seal the joint or connection from the outside elements, but you may also be sealing the contaminant in with the joint or connection. Now you may observe that two solutions are required. There are a variety of products that can be used to flood the joints to reduce/prevent both these problems. Others will chime in with commercial names and their experience.

As there is potential developed, and a current flow, you could in theory detect a bad coupling. Oddly enough, the two metal combination could by absolutely dry, free of contaminants, and still give a voltage indication. This would occur on the basis of a temperature driven migration of current (the Seebeck effect) and you have what is called a thermocouple. This, however, is a very small potential in comparison but could still surprise the investigator. Here, the effect is not chemical but is a heat characteristic of each metal (which means the two metals combine to create the perceived voltage through their individual contributions just as in the galvanic cell). Given that most metal joints in a circuit occupy the same temperature environment there is no potential difference developed.

Most technicians consider these potentials as inconsequential (barring the corrosion), but when it comes time to make accurate measurements of small potentials, they can become galling to the patience.

One consequence of these interfaces becoming contaminated is that you can also develop a non-linear conductor or a primitive rectifier. If this is a path for RF currents (a common mode from your transmitter) you can generate or receive spurious frequencies. Oh happy day.

73's
Richard Clark, KB7QHC

202. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 10:16:37 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFD688ABBE42zoodlewurdle@216.196.109.145>
Source record: 11202

Richard Clark <kb7qhc@comcast.net> wrote in
news:tvclk5db7fc0e14e433tesfuccpjj0upkg@4ax.com:

> On Sun, 10 Jan 2010 19:37:33 -0800 (PST), Tom Horne
> <hornetd@gmail.com> wrote:
>
>>If I use a dielectric union to connect to the
>>galvanized iron mounting but I still bond both the support pipe and
>>the antenna base to ground can I avoid the galvanic action that
>>already caused the two pipe threads to gall.
>
> Hi Tom,
>
> Galvanic action occurs at the interface of two dissimilar metals with
> an electrolyte between them. Each metal/electrolyte combination
> constitutes a "half cell" with a potential characteristic to that
> metal. When combined, they form a total potential which supports
> current flow and metal migration. You can build a chain of such
> reactions through intermediate steps (a chain of connections); but the
> current flow still is a product of the electrolyte between them (the
> half cell chemistry) and if you can break the chain, you break the
> current and the metal migration.
>
> The chemistry is not complex, and it occurs in nature without too much
> difficulty - hence the problem with weather and poor sealing. A
> saltwater environment is classically the most brutal. Toss in acid
> rain too. The solution is fairly simple, but the success of
> implementation, as the devil, is in details. One simple problem is
> you may seal the joint or connection from the outside elements, but
> you may also be sealing the contaminant in with the joint or
> connection. Now you may observe that two solutions are required.
> There are a variety of products that can be used to flood the joints
> to reduce/prevent both these problems. Others will chime in with
> commercial names and their experience.
>
> As there is potential developed, and a current flow, you could in
> theory detect a bad coupling. Oddly enough, the two metal combination
> could by absolutely dry, free of contaminants, and still give a
> voltage indication. This would occur on the basis of a temperature
> driven migration of current (the Seebeck effect) and you have what is
> called a thermocouple. This, however, is a very small potential in
> comparison but could still surprise the investigator. Here, the
> effect is not chemical but is a heat characteristic of each metal
> (which means the two metals combine to create the perceived voltage

> through their individual contributions just as in the galvanic cell).
> Given that most metal joints in a circuit occupy the same temperature
> environment there is no potential difference developed.
>
> Most technicians consider these potentials as inconsequential (barring
> the corrosion), but when it comes time to make accurate measurements
> of small potentials, they can become galling to the patience.
>
> One consequence of these interfaces becoming contaminated is that you
> can also develop a non-linear conductor or a primitive rectifier. If
> this is a path for RF currents (a common mode from your transmitter)
> you can generate or receive spurious frequencies. Oh happy day.
>
> 73's
> Richard Clark, KB7QHC
>

Would sacrificial action be appliable? Magnesium blocks are sometimes used to prevent chemical action taking place on less reactive metals electrically connected to them. I'm not sure if it can be applied though, that trick is usually done with grounded (usually buried) blocks to protect pipelines, etc.

203. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 14:13:05 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <933384ef-8bb0-4021-b82b-dbcbb91bd311@m25g2000yqc.googlegroups.com>
Source record: 11203

On Jan 10, 10:37 pm, Tom Horne <horn...@gmail.com> wrote:
> I have a collinear J pole that I made out of copper pipe. It is
> mounted on a galvanized iron coupling at the top of a piece of
> galvanized iron pipe. I want keep all parts of the mount at ground
> for lightning protection while avoiding corrosion between the two
> types of piping. If I use a dielectric union to connect to the
> galvanized iron mounting but I still bond both the support pipe and
> the antenna base to ground can I avoid the galvanic action that
> already caused the two pipe threads to gall.
> --
> Tom Horne

I transitioned from galvanized to brass to copper by putting a brass
union between the antenna and mast.

Havent had any problems. I also use anti-sieze.

Jimmie

204. Re: 2SC2618

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 15:54:36 UTC
From: "townt.com" <info@townt.com>
Message-ID: <4b4b49bc$1_1@rain.i-cable.com>
Source record: 11204
Cross-posted to: rec.radio.amateur.antenna,sci.electronics.components

we do have stock of the 2SC2618

For obseleted component, we do have some stock.

--
Patrick Cheung - townt.com
E-mail : patrick.cheung@townt.com
Tel : (852)2505-5838, Fax : (852)2505-8121
Address : 1805, Wu Sang House, 655 Nathan Road, Mongkok, Kowloon, Hong Kong

Online Shop Section :
http://shop.townt.com

Electronic Component Section :
http://electronic.townt.com

Check Electronic Component Online Here :
http://component.townt.com

"Lostgallifreyan" <no-one@nowhere.net> 嚙箭嚙締嚙踝蕭
news:Xns9CFB9EAE21BBBzoodlewurdle@216.196.109.145 嚙踝蕭嚙踝蕭嚙篇...
> Boris <boris.kj@googlemail.com> wrote in news:f3377393-e256-42ea-bf34-
> 6d4a14745048@c3g2000yqd.googlegroups.com:
>
>> Hi, I am looking for substitute of 2SC2618 (smd).
>> maybe you can help me - what I can use instead?
>>
>> Boris
>>
>
> I don't know (my Towers selector book is too old for that one, but I can
> copy out its specs for you if you need) but I crossposted this reply to
> sci.electronics.components where there's an increase in chance of a useful
> answer.

205. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 17:54:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kapmk59mfs8bi6n1ld5l56uuq7kfh3oldm@4ax.com>
Source record: 11205

On Mon, 11 Jan 2010 04:16:37 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Would sacrificial action be appliable? Magnesium blocks are sometimes used to
>prevent chemical action taking place on less reactive metals electrically
>connected to them. I'm not sure if it can be applied though, that trick is
>usually done with grounded (usually buried) blocks to protect pipelines, etc.

Well, I doubt if this could be put to use for Tom. Some of the
sacraficial methods actually use a reverse bias to combat not only the
anodic reaction, but currents that occur naturally or flow between
service grounds.

73's
Richard Clark, KB7QHC

206. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 18:43:55 UTC
From: kb9rqz@yahoooo.com
Message-ID: <9bsmk5pims1uc8hi5isq96kcesiprnrh7l@4ax.com>
Source record: 11206
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
<assemblywizard@gmail.com> wrote:

>K4YZ wrote:
>> Nope.
>>
>> The IP Address and servers are complete proof that I do NOT share
>> any annonymous character's "address".
>>
>> Sounds like Lennie, to me....
>>
>> Steve, K4YZ
>>
>
>To anyone with even an elementary understanding of anonymous proxies,
>anonymous remailers, zombie backdoors, etc., the ability to change ones
>IP address and header details is simplistic, indeed, with little time
>spent anyone can appear to be "coming" from anywhere in the world.
>
>You waste my time. Worse, you think us all idiots here. You remind me
>of the "street smart" prosecutors and defense attorneys who stack jurys
>with members of little or no technical knowledge and then call in
>"expert witnesses" and propose arguments of technical details to boggle
>their minds.
>
>You have only proven that you, yourself are either ignorant to such
>technical details, or else you are indeed street smart, I favor the
>latter in this case (however, if you in the dark about such things, 15
>minutes on google will enlighten you.)
>
>JS

"one useless man is disgrace 2 become a law firm 3 or more become a congress"
adams

woger you are a Congress all in your own head
"http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"

altopia is never used by KB9RQZ
http://kb9rqz.cc.cc
http://kd8ctl.com
nor is Konstans@hotmail.com ever
btw i can be found at
17366 N River Rd

Chassel Mi

but the cowards asking lack the gut to act

207. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 19:06:10 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFDC252F74FEzoodlewurdle@216.196.109.145>
Source record: 11207

Richard Clark <kb7qhc@comcast.net> wrote in
news:kapmk59mfs8bi6n1ld5l56uuq7kfh3oldm@4ax.com:

> On Mon, 11 Jan 2010 04:16:37 -0600, Lostgallifreyan
> <no-one@nowhere.net> wrote:
>
>>Would sacrificial action be appliable? Magnesium blocks are sometimes
>>used to prevent chemical action taking place on less reactive metals
>>electrically connected to them. I'm not sure if it can be applied
>>though, that trick is usually done with grounded (usually buried) blocks
>>to protect pipelines, etc.
>
> Well, I doubt if this could be put to use for Tom. Some of the
> sacraficial methods actually use a reverse bias to combat not only the
> anodic reaction, but currents that occur naturally or flow between
> service grounds.
>
> 73's
> Richard Clark, KB7QHC
>

Yeah, I can't see a way to work it either. It would be a great method if it
did.

208. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-11 22:55:34 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <4dc371f8-5a8d-4d6a-a09d-7d0e864ff85c@p8g2000yqb.googlegroups.com>
Source record: 11208

On Jan 10, 1:22 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Jan 9, 3:46 pm, Dave <k1...@arrl.net> wrote:
>
> > On Jan 9, 9:27 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > and the other approaches offered are not accepted by you for
> > > unspecified reasons.
>
> > i have been very specific about why they are not acceptable, there are
> > no specific equations that relate to something measurable, nor have
> > you made any predictions of things that aren't already well described
> > by existing laws and theories.
>
> David, the acceptance that equilibrium must prevail for toatal
> accountability states that one cannot use a 1/2 wave radiator as a
> basis for the application of Maxwells equations.

maxwell's equations know nothing of the length of a conductor used as
a radiator. in fact, they say nothing about a conductor at all.
where in the equations is there even a length specified?? in the
differential form everything is reduced to either a gradient or curl,
there can of course be no length since everything is reduced to an
instant in time or a single point in space. in the integral form they
are done over volumes, over surfaces, or around closed loops, all with
arbitrary boundaries. And in none of them is there a conductivity or
resistivity term applied that would be necessary to model a conductive
element.

you might also be interested in this paragraph from Ramo, Whinnery,
and Van Duzer's "Fields and Waves in Communicaiton Electronics" pg 237
section 4.07 that puts your insistence on adding a 't' to Gauss's law
in perspective:

"Equation (1) is seen to be the familiar form off Gauss's law utilized
so much in chapter 2. Now that we are concerned with fields which are
a function of time, the interpretation is that the electric flux
flowing out of any closed surface AT A GIVEN INSTANT is equal to the
charge enclosed by that surface AT THAT INSTANT."

Emphasis is THEIRS not mine, they were obviously anticipating your
objection and explaining why it isn't necessary to add a 't' to the
equation. I would put the 3 of them against your dr friend any day of
the week.

209. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 00:18:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t0fnk5l435jsdu6llqcou66d57b0gl3b9r@4ax.com>
Source record: 11209

On Mon, 11 Jan 2010 14:55:34 -0800 (PST), Dave <k1ttt@arrl.net> wrote:

>maxwell's equations know nothing of the length of a conductor used as
>a radiator. in fact, they say nothing about a conductor at all.

Does Maxwell even use the word resonance? Reactance? Or any word
from the host of electrical components? Maxwell never even used the
term Gauss to signify the strength of a field! And neither did Gauss.

What DID Maxwell say about equilibrium?
"About the beginning of this century, the properties of bodies
were investigated by several distinguished French mathematicians
on the hypothesis that they are systems of molecules in
equilibrium. The somewhat unsatisfactory nature of the results of
these investigations produced, especially in this country, a
reaction in favour of the opposite method of treating bodies as if
they were, so far at least as our experiments are concerned, truly
continuous."

73's
Richard Clark, KB7QHC

210. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 00:25:37 UTC
From: tom <news4792@taring.org>
Message-ID: <4b4bc184$0$635$8046368a@newsreader.iphouse.net>
Source record: 11210

Dave wrote:
>
> you might also be interested in this paragraph from Ramo, Whinnery,
> and Van Duzer's "Fields and Waves in Communicaiton Electronics" pg 237
> section 4.07 that puts your insistence on adding a 't' to Gauss's law
> in perspective:
>
> "Equation (1) is seen to be the familiar form off Gauss's law utilized
> so much in chapter 2. Now that we are concerned with fields which are
> a function of time, the interpretation is that the electric flux
> flowing out of any closed surface AT A GIVEN INSTANT is equal to the
> charge enclosed by that surface AT THAT INSTANT."
>
> Emphasis is THEIRS not mine, they were obviously anticipating your
> objection and explaining why it isn't necessary to add a 't' to the
> equation. I would put the 3 of them against your dr friend any day of
> the week.
>

Come on Dave, they are only engineers, or even _worse_ PHYSICISTS!

They couldn't possibly compete with an intellect the likes of the one
brought to us by Art.

tom
K0TAR

211. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 05:17:13 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <96e7dee5-c415-47f4-ac09-8a25655d3053@j19g2000yqk.googlegroups.com>
Source record: 11211

On Jan 11, 1:04 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 10 Jan 2010 19:37:33 -0800 (PST), Tom Horne
>
> <horn...@gmail.com> wrote:
> >If I use a dielectric union to connect to the
> >galvanized iron mounting but I still bond both the support pipe and
> >the antenna base to ground can I avoid the galvanic action that
> >already caused the two pipe threads to gall.
>
> Hi Tom,
>
> Galvanic action occurs at the interface of two dissimilar metals with
> an electrolyte between them. Each metal/electrolyte combination
> constitutes a "half cell" with a potential characteristic to that
> metal. When combined, they form a total potential which supports
> current flow and metal migration. You can build a chain of such
> reactions through intermediate steps (a chain of connections); but the
> current flow still is a product of the electrolyte between them (the
> half cell chemistry) and if you can break the chain, you break the
> current and the metal migration.
>
> The chemistry is not complex, and it occurs in nature without too much
> difficulty - hence the problem with weather and poor sealing. A
> saltwater environment is classically the most brutal. Toss in acid
> rain too. The solution is fairly simple, but the success of
> implementation, as the devil, is in details. One simple problem is
> you may seal the joint or connection from the outside elements, but
> you may also be sealing the contaminant in with the joint or
> connection. Now you may observe that two solutions are required.
> There are a variety of products that can be used to flood the joints
> to reduce/prevent both these problems. Others will chime in with
> commercial names and their experience.
>
> As there is potential developed, and a current flow, you could in
> theory detect a bad coupling. Oddly enough, the two metal combination
> could by absolutely dry, free of contaminants, and still give a
> voltage indication. This would occur on the basis of a temperature
> driven migration of current (the Seebeck effect) and you have what is
> called a thermocouple. This, however, is a very small potential in
> comparison but could still surprise the investigator. Here, the
> effect is not chemical but is a heat characteristic of each metal
> (which means the two metals combine to create the perceived voltage
> through their individual contributions just as in the galvanic cell).
> Given that most metal joints in a circuit occupy the same temperature

> environment there is no potential difference developed.
>
> Most technicians consider these potentials as inconsequential (barring
> the corrosion), but when it comes time to make accurate measurements
> of small potentials, they can become galling to the patience.
>
> One consequence of these interfaces becoming contaminated is that you
> can also develop a non-linear conductor or a primitive rectifier. If
> this is a path for RF currents (a common mode from your transmitter)
> you can generate or receive spurious frequencies. Oh happy day.
>
> 73's
> Richard Clark, KB7QHC

Richard

If I use a dielectric union for the joint and bond around it for
lightning safety will that solve the corrosion problem by preventing
direct contact between the two dissimilar metals or would the bonding
cause the same destructive current flow as the direct contact?
--
Tom Horne, W3TDH

212. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 07:35:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rt8ok5df2os1n6251dbq05rkqnccipta0p@4ax.com>
Source record: 11212

On Mon, 11 Jan 2010 21:17:13 -0800 (PST), Tom Horne
<hornetd@gmail.com> wrote:

>If I use a dielectric union for the joint and bond around it for
>lightning safety will that solve the corrosion problem by preventing
>direct contact between the two dissimilar metals or would the bonding
>cause the same destructive current flow as the direct contact?

Hi Tom,

I don't know what you mean by bond that is both insulative to cathodic action, and conductive to lightning. To me, bonded metals don't introduce a complaint of anticipated galling. If they are bonded (soldered, brazed, or welded), you don't expect to disconnect them and suffer galling problems. If they are soldered, brazed, or welded, then the seam can still support cathodic action - it is simply a cell loaded with the short of the bond if I read it that way.

I don't often find myself in your situation, so I have little to go on beyond the common discussion. I have had to deal with these issues with fine measurement where it is always lingering and it often took heroic effort (careful, this is hyperbole unless you have to make a living at it) to succeed.

Jimmie may have something more to offer.

73's
Richard Clark, KB7QHC

213. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 13:53:34 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <7847dae4-3d87-4ffa-8a1d-785e42ab0249@c34g2000yqn.googlegroups.com>
Source record: 11213

On Jan 12, 2:35 am, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 11 Jan 2010 21:17:13 -0800 (PST), Tom Horne
>
> <horn...@gmail.com> wrote:
> >If I use a dielectric union for the joint and bond around it for
> >lightning safety will that solve the corrosion problem by preventing
> >direct contact between the two dissimilar metals or would the bonding
> >cause the same destructive current flow as the direct contact?
>
> Hi Tom,
>
> I don't know what you mean by bond that is both insulative to cathodic
> action, and conductive to lightning. To me, bonded metals don't
> introduce a complaint of anticipated galling. If they are bonded
> (soldered, brazed, or welded), you don't expect to disconnect them and
> suffer galling problems. If they are soldered, brazed, or welded,
> then the seam can still support cathodic action - it is simply a cell
> loaded with the short of the bond if I read it that way.
>
> I don't often find myself in your situation, so I have little to go on
> beyond the common discussion. I have had to deal with these issues
> with fine measurement where it is always lingering and it often took
> heroic effort (careful, this is hyperbole unless you have to make a
> living at it) to succeed.
>
> Jimmie may have something more to offer.
>
> 73's
> Richard Clark, KB7QHC

All I know is I haven't had a problem with corrosion. Apparently the brass is is similar enough to both copper and the galvanized steel or maybe the rain here is not so corrosive, maybe its the anti-seize. I actually cant say with certainty that if I connected the copper directly to the galvanized pipe I would have had problems. Somewhere I learned, possibly wrongly, you should join copper to galvanized plumbing with brass.

Jimmie

214. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 15:30:28 UTC
From: Frank <frank@spamfree.telus.net>
Message-ID: <oA03n.61279$PH1.13245@edtnps82>
Source record: 11214

>> David, the acceptance that equilibrium must prevail for toatal
>> accountability states that one cannot use a 1/2 wave radiator as a
>> basis for the application of Maxwells equations.

>maxwell's equations know nothing of the length of a conductor used as
>a radiator. in fact, they say nothing about a conductor at all.
>where in the equations is there even a length specified?? in the
>differential form everything is reduced to either a gradient or curl,
>there can of course be no length since everything is reduced to an
>instant in time or a single point in space. in the integral form they
>are done over volumes, over surfaces, or around closed loops, all with
>arbitrary boundaries. And in none of them is there a conductivity or
>resistivity term applied that would be necessary to model a conductive
>element.

>you might also be interested in this paragraph from Ramo, Whinnery,
>and Van Duzer's "Fields and Waves in Communicaiton Electronics" pg 237
>section 4.07 that puts your insistence on adding a 't' to Gauss's law
>in perspective:

>"Equation (1) is seen to be the familiar form off Gauss's law utilized
>so much in chapter 2. Now that we are concerned with fields which are
>a function of time, the interpretation is that the electric flux
>flowing out of any closed surface AT A GIVEN INSTANT is equal to the
>charge enclosed by that surface AT THAT INSTANT."

>Emphasis is THEIRS not mine, they were obviously anticipating your
>objection and explaining why it isn't necessary to add a 't' to the
>equation. I would put the 3 of them against your dr friend any day of
>the week.

Has anybody noticed? This appears to be a pointless exercise.

How can you explain such concepts to one who has no understanding

of elementary math.

73,

Frank

215. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 16:43:42 UTC
From: kb9rqz <kb9rqz@home.com>
Message-ID: <hii8fb$29pp$1@adenine.netfront.net>
Source record: 11215
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

<kb9rqz@yahoooo.com> wrote in message
news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>K4YZ wrote:
>>> Nope.
>>>
>>> The IP Address and servers are complete proof that I do NOT share
>>> any annonymous character's "address".
>>>
>>> Sounds like Lennie, to me....
>>>
>>> Steve, K4YZ
>>>
>>
>>To anyone with even an elementary understanding of anonymous proxies,
>>anonymous remailers, zombie backdoors, etc., the ability to change ones
>>IP address and header details is simplistic, indeed, with little time
>>spent anyone can appear to be "coming" from anywhere in the world.
>>
>>You waste my time. Worse, you think us all idiots here. You remind me
>>of the "street smart" prosecutors and defense attorneys who stack jurys
>>with members of little or no technical knowledge and then call in
>>"expert witnesses" and propose arguments of technical details to boggle
>>their minds.
>>
>>You have only proven that you, yourself are either ignorant to such
>>technical details, or else you are indeed street smart, I favor the
>>latter in this case (however, if you in the dark about such things, 15
>>minutes on google will enlighten you.)
>>
>>JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a
> congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc

> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

216. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 20:23:01 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <d3dedd32-5f36-416b-919a-61f97729e994@p24g2000yqm.googlegroups.com>
Source record: 11216

On Jan 12, 2:35 am, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 11 Jan 2010 21:17:13 -0800 (PST), Tom Horne
>
> <horn...@gmail.com> wrote:
> >If I use a dielectric union for the joint and bond around it for
> >lightning safety will that solve the corrosion problem by preventing
> >direct contact between the two dissimilar metals or would the bonding
> >cause the same destructive current flow as the direct contact?
>
> Hi Tom,
>
> I don't know what you mean by bond that is both insulative to cathodic
> action, and conductive to lightning. To me, bonded metals don't
> introduce a complaint of anticipated galling. If they are bonded
> (soldered, brazed, or welded), you don't expect to disconnect them and
> suffer galling problems. If they are soldered, brazed, or welded,
> then the seam can still support cathodic action - it is simply a cell
> loaded with the short of the bond if I read it that way.
>
> I don't often find myself in your situation, so I have little to go on
> beyond the common discussion. I have had to deal with these issues
> with fine measurement where it is always lingering and it often took
> heroic effort (careful, this is hyperbole unless you have to make a
> living at it) to succeed.
>
> Jimmie may have something more to offer.
>
> 73's
> Richard Clark, KB7QHC

Jimmie & Richard
Sorry for not being more clear. I was asking if the use of a
dielectric union to join the two pipes would prevent the corrosion of
the threads of the union now used instead of a galvanized coupling
even if I still had lightning down conductors connected to the bottom
of both pieces of pipe. In other words the two pieces of pipe would
still be joined mechanically by a dielectric union and electrically by
the lightning down conductor. What would be different is that the
electrical connection would no longer be occurring at a point of
contact between dissimilar metals which would be separated from each
other by the non conductive washer of the dielectric union.
--
Tom Horne, W3TDH

217. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 22:27:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <vatpk5t0bcrb1lnn79e1fs5nmbfaugv99o@4ax.com>
Source record: 11217

On Tue, 12 Jan 2010 12:23:01 -0800 (PST), Tom Horne
<hornetd@gmail.com> wrote:

>What would be different is that the
>electrical connection would no longer be occurring at a point of
>contact between dissimilar metals which would be separated from each
>other by the non conductive washer of the dielectric union.

Hi Tom,

I would offer that this non-conductive washer will not solve what you
perceive to be a problem IF it has any water (solution) that can
bridge it.

>I still had lightning down conductors connected to the bottom
>of both pieces of pipe.
This specific information guarantees a current path for the galvanic
action, IF water wets both sides of the insulated washer and joins
them.

Instead of washers (this is all pretty vague in the geometry), you
should go for insulated stand-offs to increase the separation so as to
allow water to wash off rather than to bead up and join the two
metals. An oversize (as in very wide) washer might do.

Hose down the join and look at the water's wetting of the join.

73's
Richard Clark, KB7QHC

218. Re: Dissimilar metals at antenna Mount

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-12 23:15:16 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9CFEEC8E71BF9zoodlewurdle@216.196.109.145>
Source record: 11218

Richard Clark <kb7qhc@comcast.net> wrote in
news:vatpk5t0bcrb1lnn79e1fs5nmbfaugv99o@4ax.com:

>>I still had lightning down conductors connected to the bottom
>>of both pieces of pipe.

> This specific information guarantees a current path for the galvanic
> action, IF water wets both sides of the insulated washer and joins
> them.
>

That's true, but it also suggests that sacrificial action can be worked. If water with ionic contaminants bridges the gap (across the dielectric) to close a local circuit, cause current flow and corrosion, then it's a loop that presumably does not place current in a signal line, or any resulting noise (but considering that a galvanic battery is not generally noisy, that's probably irrelevant). Jimmie mentions interposing brass between copper and galvanised (zinc coated) plumbing, and surely that would be to reduce potential between dissimilar metals and so reduce current and corrosion at each junction, but ultimately one metal will gain metal from the other in the join, (usually as a mess of salts), but so long as the one that loses is the negative electrode in the loop, and is a sacrificeable part, then until it needs replacing, the only other maintenance needed might be a wire-brushing and regreasing. Short of ensuring same-metal interfaces, I can't think of another strategy except to seal out moisture, and ideally gas too.

219. Re: Physics forums censor ship

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-14 00:10:53 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <d8d043e0-8cde-4f7a-af25-c75be69742e2@k9g2000vbl.googlegroups.com>
Source record: 11219

On Jan 12, 3:30 pm, "Frank" <fr...@spamfree.telus.net> wrote:
> >> David, the acceptance that equilibrium must prevail for toatal
> >> accountability states that one cannot use a 1/2 wave radiator as a
> >> basis for the application of Maxwells equations.
> >maxwell's equations know nothing of the length of a conductor used as
> >a radiator. in fact, they say nothing about a conductor at all.
> >where in the equations is there even a length specified?? in the
> >differential form everything is reduced to either a gradient or curl,
> >there can of course be no length since everything is reduced to an
> >instant in time or a single point in space. in the integral form they
> >are done over volumes, over surfaces, or around closed loops, all with
> >arbitrary boundaries. And in none of them is there a conductivity or
> >resistivity term applied that would be necessary to model a conductive
> >element.
> >you might also be interested in this paragraph from Ramo, Whinnery,
> >and Van Duzer's "Fields and Waves in Communicaiton Electronics" pg 237
> >section 4.07 that puts your insistence on adding a 't' to Gauss's law
> >in perspective:
> >"Equation (1) is seen to be the familiar form off Gauss's law utilized
> >so much in chapter 2. Now that we are concerned with fields which are
> >a function of time, the interpretation is that the electric flux
> >flowing out of any closed surface AT A GIVEN INSTANT is equal to the
> >charge enclosed by that surface AT THAT INSTANT."
> >Emphasis is THEIRS not mine, they were obviously anticipating your
> >objection and explaining why it isn't necessary to add a 't' to the
> >equation. I would put the 3 of them against your dr friend any day of
> >the week.
>
> Has anybody noticed? This appears to be a pointless exercise.
>
> How can you explain such concepts to one who has no understanding
>
> of elementary math.
>
> 73,
>
> Frank

what would happen if next time we all just ignored art? would that be
fun or what!

220. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-14 16:20:29 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <53a9036a-2053-4b8c-b146-61db2c5d6d5c@z40g2000vba.googlegroups.com>
Source record: 11220
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
On Jan 12, 11:43 am, "kb9rqz" <kb9...@home.com> wrote:
> <kb9...@yahoooo.com> wrote in message
>
> news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
>
>
>
>
>
> > On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> > <assemblywiz...@gmail.com> wrote:
>
> >>K4YZ wrote:
> >>>      Nope.
>
> >>>      The IP Address and servers are complete proof that I do NOT share
> >>> any annonymous character's "address".
>
> >>>      Sounds like Lennie, to me....
>
> >>> Steve, K4YZ
>
> >>To anyone with even an elementary understanding of anonymous proxies,
> >>anonymous remailers, zombie backdoors, etc., the ability to change ones
> >>IP address and header details is simplistic, indeed, with little time
> >>spent anyone can appear to be "coming" from anywhere in the world.
>
> >>You waste my time.  Worse, you think us all idiots here.  You remind me
> >>of the "street smart" prosecutors and defense attorneys who stack jurys
> >>with members of little or no technical knowledge and then call in
> >>"expert witnesses" and propose arguments of technical details to boggle
> >>their minds.
>
> >>You have only proven that you, yourself are either ignorant to such
> >>technical details, or else you are indeed street smart, I favor the
> >>latter in this case (however, if you in the dark about such things, 15
> >>minutes on google will enlighten you.)
>
> >>JS
>
> > "one useless man is disgrace 2 become a law firm 3 or more become a
> > congress"
> > adams
```

>
> > woger you are a Congress all in your own head
> > "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> > altopia is never used by KB9RQZ
> >http://kb9rqz.cc.cc
> >http://kd8ctl.com
> > nor is Konst...@hotmail.com ever
> > btw i can be found at
> > 17366 N River Rd
> > Chassel Mi
>
> > but the cowards asking lack the gut to act
>
> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---- Hide quoted text
-
>
> - Show quoted text -

221. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-14 23:07:42 UTC
From: Mrak <anon@anon>
Message-ID: <3ekti9.r3.17.1@news.alt.net>
Source record: 11221
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

http://preview.tinyurl.com/pu4lyb

222. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-14 23:12:31 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <bf2e6e41-11f7-46c4-b62b-3038bb4d8fbd@s31g2000yqs.googlegroups.com>
Source record: 11222
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
On Jan 14, 11:20 am, kb9rqz <m...@kb9rqz.com> wrote:
> On Jan 12, 11:43 am, "kb9rqz" <kb9...@home.com> wrote:
>
>
>
> > <kb9...@yahoooo.com> wrote in message
>
> >news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
>
> > > On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> > > <assemblywiz...@gmail.com> wrote:
>
> > >>K4YZ wrote:
> > >>>      Nope.
>
> > >>>      The IP Address and servers are complete proof that I do NOT share
> > >>> any annonymous character's "address".
>
> > >>>      Sounds like Lennie, to me....
>
> > >>> Steve, K4YZ
>
> > >>To anyone with even an elementary understanding of anonymous proxies,
> > >>anonymous remailers, zombie backdoors, etc., the ability to change ones
> > >>IP address and header details is simplistic, indeed, with little time
> > >>spent anyone can appear to be "coming" from anywhere in the world.
>
> > >>You waste my time.  Worse, you think us all idiots here.  You remind me
> > >>of the "street smart" prosecutors and defense attorneys who stack jurys
> > >>with members of little or no technical knowledge and then call in
> > >>"expert witnesses" and propose arguments of technical details to boggle
> > >>their minds.
>
> > >>You have only proven that you, yourself are either ignorant to such
> > >>technical details, or else you are indeed street smart, I favor the
> > >>latter in this case (however, if you in the dark about such things, 15
> > >>minutes on google will enlighten you.)
>
> > >>JS
>
> > > > "one useless man is disgrace 2 become a law firm 3 or more become a
> > > > congress"
> > > > adams
```

>
> > > woger you are a Congress all in your own head
> > > "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> > > altopia is never used by KB9RQZ
> > >http://kb9rqz.cc.cc
> > >http://kd8ctl.com
> > > nor is Konst...@hotmail.com ever
> > > btw i can be found at
> > > 17366 N River Rd
> > > Chassel Mi
>
> > > but the cowards asking lack the gut to act
>
> > --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---- Hide quoted text -
>
> > - Show quoted text -- Hide quoted text -
>
> - Show quoted text -

223. Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-15 12:33:31 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <0532dab6-e547-40ed-918e-c4d50c6383a6@22g2000yqr.googlegroups.com>
Source record: 11223

I have this problem - my garden is not too large (about 15 X 7
meters).
I wonder, between the diamond WD 330S - is about 10m, and BB6W - 6.4m.
Or maybe some vertical?
Can you advise something?

Boris

224. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-15 15:42:05 UTC
From: kb9rqz <kb9rqz@home.com>
Message-ID: <hiq1uv$6mh$1@adenine.netfront.net>
Source record: 11224
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
<kb9rqz@yahoooo.com> wrote in message
news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>K4YZ wrote:
>>> Nope.
>>>
>>> The IP Address and servers are complete proof that I do NOT share
>>> any annonymous character's "address".
>>>
>>> Sounds like Lennie, to me....
>>>
>>> Steve, K4YZ
>>>
>>
>>To anyone with even an elementary understanding of anonymous proxies,
>>anonymous remailers, zombie backdoors, etc., the ability to change ones
>>IP address and header details is simplistic, indeed, with little time
>>spent anyone can appear to be "coming" from anywhere in the world.
>>
>>You waste my time. Worse, you think us all idiots here. You remind me
>>of the "street smart" prosecutors and defense attorneys who stack jurys
>>with members of little or no technical knowledge and then call in
>>"expert witnesses" and propose arguments of technical details to boggle
>>their minds.
>>
>>You have only proven that you, yourself are either ignorant to such
>>technical details, or else you are indeed street smart, I favor the
>>latter in this case (however, if you in the dark about such things, 15
>>minutes on google will enlighten you.)
>>
>>JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a
> congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc
```

> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

225. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-15 19:08:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <19f1l5l1fphfnvd77tue5lkn7sgtgv08aq@4ax.com>
Source record: 11225

On Fri, 15 Jan 2010 04:33:31 -0800 (PST), Boris
<boris.kj@googlemail.com> wrote:

>I have this problem - my garden is not too large (about 15 X 7
>meters).
>I wonder, between the diamond WD 330S - is about 10m, and BB6W - 6.4m.
>Or maybe some vertical?
>Can you advise something?

Hi Boris,

What do you want to do?

73's
Richard Clark, KB7QHC

226. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 07:52:36 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <a3022dac-52e4-470e-9865-36e815ea6ed1@21g2000yqj.googlegroups.com>
Source record: 11226

On Jan 15, 7:08 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 15 Jan 2010 04:33:31 -0800 (PST), Boris
>
> <boris...@googlemail.com> wrote:
> >I have this problem - my garden is not too large (about 15 X 7
> >meters).
> >I wonder, between the diamond WD 330S - is about 10m, and BB6W - 6.4m.
> >Or maybe some vertical?
> >Can you advise something?
>
> Hi Boris,
>
> What do you want to do?
>
> 73's
> Richard Clark, KB7QHC

Well, yes.
Of course, I mean work on short-wave, and it would be good to have the
80-meter, which is probably possible with these antennas.

Boris

227. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 15:21:43 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D029C42F177zoodlewurdle@216.196.109.145>
Source record: 11227

Boris <boris.kj@googlemail.com> wrote in news:a3022dac-52e4-470e-9865-36e815ea6ed1@21g2000yqj.googlegroups.com:

> On Jan 15, 7:08 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Fri, 15 Jan 2010 04:33:31 -0800 (PST), Boris
>>
>> <boris...@googlemail.com> wrote:
>> >I have this problem - my garden is not too large (about 15 X 7
>> >meters).
>> >I wonder, between the diamond WD 330S - is about 10m, and BB6W - 6.4m.
>> >Or maybe some vertical?
>> >Can you advise something?
>>
>> Hi Boris,
>>
>> What do you want to do?
>>
>> 73's
>> Richard Clark, KB7QHC
>
> Well, yes.
> Of course, I mean work on short-wave, and it would be good to have the
> 80-meter, which is probably possible with these antennas.
>
> Boris
>

I just bought a vertical whip mast that comes in nine one-metre tapered sections. Very light and easy to use. It looks like it will also be easy to omit upper sections for a shorter and more rigid whip. Listing 290381933076 on eBay shows one. Designed in Italy, made in China, so likely widely available.

Right now I have scaffolding works going on outside, landlords doing their ten-yearly maintenance, but I might still get a chance to set this up soon because it's a very undemanding antenna design. I'm not sure how well it will stand if I try for permanence but I think it will be fine if it doesn't get a direct hit, and it's too light to damage much it it does.

228. Re: an ontopic post about cod

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 15:34:26 UTC
From: UberJacker <nohijack@houston-hunks.com>
Message-ID: <9c03777e-447a-4e1c-a5da-ae7e7d77ca2b@j4g2000yqe.googlegroups.com>
Source record: 11228
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

[flush]

229. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 17:12:14 UTC
From: kb9rqz <kb9rqz@home.com>
Message-ID: <hisrk2scs1@adenine.netfront.net>
Source record: 11229
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
<kb9rqz@yahoooo.com> wrote in message
news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>K4YZ wrote:
>>> Nope.
>>>
>>> The IP Address and servers are complete proof that I do NOT share
>>> any annonymous character's "address".
>>>
>>> Sounds like Lennie, to me....
>>>
>>> Steve, K4YZ
>>>
>>
>>To anyone with even an elementary understanding of anonymous proxies,
>>anonymous remailers, zombie backdoors, etc., the ability to change ones
>>IP address and header details is simplistic, indeed, with little time
>>spent anyone can appear to be "coming" from anywhere in the world.
>>
>>You waste my time. Worse, you think us all idiots here. You remind me
>>of the "street smart" prosecutors and defense attorneys who stack jurys
>>with members of little or no technical knowledge and then call in
>>"expert witnesses" and propose arguments of technical details to boggle
>>their minds.
>>
>>You have only proven that you, yourself are either ignorant to such
>>technical details, or else you are indeed street smart, I favor the
>>latter in this case (however, if you in the dark about such things, 15
>>minutes on google will enlighten you.)
>>
>>JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a
> congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc
```

> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

230. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 18:00:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ajv3l518t62on7e0igbii6bfh9cebkpqb0@4ax.com>
Source record: 11230

On Fri, 15 Jan 2010 23:52:36 -0800 (PST), Boris
<boris.kj@googlemail.com> wrote:

>Of course, I mean work on short-wave, and it would be good to have the
>80-meter, which is probably possible with these antennas.

Hi Boris,

You can listen to SW and 80M with almost any kind of antenna and a
cheap tuner.

Save your money.

73's
Richard Clark, KB7QHC

231. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 18:53:14 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <71ad3e47-1ed8-477c-b14f-16e134db4e91@g25g2000yqd.googlegroups.com>
Source record: 11231

On Jan 16, 6:00 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 15 Jan 2010 23:52:36 -0800 (PST), Boris
>
> <boris...@googlemail.com> wrote:
> >Of course, I mean work on short-wave, and it would be good to have the
> >80-meter, which is probably possible with these antennas.
>
> Hi Boris,
>
> You can listen to SW and 80M with almost any kind of antenna and a
> cheap tuner.
>
> Save your money.
>
> 73's
> Richard Clark, KB7QHC

Well, here I agree with you but what about the transmitting?

232. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 19:49:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6i54l55rbtlp1tkr8qkon1mlg0q8a1cfka@4ax.com>
Source record: 11232

On Sat, 16 Jan 2010 10:53:14 -0800 (PST), Boris
<boris.kj@googlemail.com> wrote:

>Well, here I agree with you but what about the transmitting?

Hi Boris,

You don't need to spend $300 on an antenna to transmit on 80M when $10
will easily do this. Are you licensed to transmit? Do you have a
call sign?

The problem here is that you came to the group with a specific,
expensive solution (or two actually) and a rather unspecific problem.
If you are looking for validation for these expensive antennas: yeah,
sure, buy them both and work in stereo.

If you don't have plans outside of 80M and listening to SW (you
haven't provided anything more specific than this, and even then I am
guessing); then a short, custom tuned 80M antenna is easily achieved
for chump change - and it will work quite fine for SW.

If you have more grandiose plans (undisclosed so far), then sweep the
table clean and start over again.

73's
Richard Clark, KB7QHC

233. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-16 21:32:25 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <faf12b1a-c80f-4618-a2fa-520b0d089fdf@r24g2000yqd.googlegroups.com>
Source record: 11233

On Jan 16, 7:49 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 16 Jan 2010 10:53:14 -0800 (PST), Boris
>
> <boris...@googlemail.com> wrote:
> >Well, here I agree with you but what about the transmitting?
>
> Hi Boris,
>
> You don't need to spend $300 on an antenna to transmit on 80M when $10
> will easily do this. Are you licensed to transmit? Do you have a
> call sign?
>
> The problem here is that you came to the group with a specific,
> expensive solution (or two actually) and a rather unspecific problem.
> If you are looking for validation for these expensive antennas: yeah,
> sure, buy them both and work in stereo.
>
> If you don't have plans outside of 80M and listening to SW (you
> haven't provided anything more specific than this, and even then I am
> guessing); then a short, custom tuned 80M antenna is easily achieved
> for chump change - and it will work quite fine for SW.
>
> If you have more grandiose plans (undisclosed so far), then sweep the
> table clean and start over again.
>
> 73's
> Richard Clark, KB7QHC

Ok, so from the beginning.
I have: a license, radio, and at that moment just listening on a piece
of wire ....
I am thinking about those two antennas due to some small garden
(only home and a piece of garden flat - no trees),
and partly because my experience shows that sometimes it is better to
spend some money right away to something decent, than to buy some
bullshit.
But that's what I wrote, it's not gospel - just ask for advice from
more experienced colleagues.
I am open to everything, and if it is cheaper than what I ask is just
better.
I must admit that I do not have much experience in this field, and I
do not know how it looks in practice, but I would like to work on all
short-wave.
If this is rubbish, please tell me which ranges should be considered

Boris

234. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-17 01:07:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5eo4l5d51q80tj30khb28iqjqa24qb77kn@4ax.com>
Source record: 11234

On Sat, 16 Jan 2010 13:32:25 -0800 (PST), Boris
<boris.kj@googlemail.com> wrote:

>If this is rubbish, please tell me which ranges should be considered

Hi Boris,

Not knowing what bands you want to operate, how much loss you are
willing to accept, how much money vs. how much of your own effort you
are willing to spend; this all makes recommendations kind of tough.

If you are only working 80M, then a simple antenna will do - but I
don't have enough information to say skip the expensive solutions.

However, I would say spend your money on a tuner and put up a dipole
that fits - or a vertical that fits. Don't worry about anything else
until you have something to fix, you could spend a lot of time
worrying without getting anything done.

73's
Richard Clark, KB7QHC

235. How to drive a mast down the road - DIY

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-19 09:00:39 UTC
From: Scott Fratcher <Scott.Fratcher.59b4901@radiobanter.com>
Message-ID: <Scott.Fratcher.59b4901@radiobanter.com>
Source record: 11235

This is a link to an article on how to move a mast down the road legally. It's about getting the mast or tower up and over the vehicle and then now to make the trailer pivot differently than the tow vehicle.

I thought it just might transfer over to moving towers and such.

The link is-
http://www.tongacharter.com/report-mast.htm

And... dang, no way to post a photo. That was the point. Well no worries, the article has the photos, but it's more fun to post them here.

Scott

```
+-----------------------------------------------------------------+
|Filename: mastonroad.jpg |
|Download: http://www.radiobanter.com/attachment.php?attachmentid=677|
+-----------------------------------------------------------------+
```

--
Scott Fratcher

236. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-19 12:18:13 UTC
From: ON3XXX <no.mail@th.is>
Message-ID: <aqh5n.23201$yt6.16107@newsfe14.ams2>
Source record: 11236

"Boris" <boris.kj@googlemail.com> schreef in bericht
news:0532dab6-e547-40ed-918e-c4d50c6383a6@22g2000yqr.googlegroups.com...>I
have this problem - my garden is not too large (about 15 X 7
> meters).
> I wonder, between the diamond WD 330S - is about 10m, and BB6W - 6.4m.
> Or maybe some vertical?
> Can you advise something?
>
> Boris

Boris,

I made the T2FD antenna myself (look-alike of the WD 330S)
Very quiet antenna and very easy and cheap to make (1 balun 1:1 and 1
resistor, some pvc-pipes and wire)
I believe you're Dutch (or Belgian), so if you give me your callsign or
e-mail-adress I'll sent you some info.
But remember, a T2FD is not the most effective antenna, acts more as a huge
dummy-load ...

73's ON3xXx

237. Re: an otnopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-19 19:32:28 UTC
From: UberJacker <nohijack@houston-hunks.com>
Message-ID: <39c514d4-2012-4a23-84ae-6f0e69f8e620@14g2000yqp.googlegroups.com>
Source record: 11237
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Jan 16, 11:12 am, "kb9rqz" <kb9...@home.com> wrote:
[nothing]

But he does use code to interfere with the earthquake relief net.

238. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-19 20:30:42 UTC
From: kb9rqz <kb9rqz@home.com>
Message-ID: <hj54eh$sh3$1@adenine.netfront.net>
Source record: 11238
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
<kb9rqz@yahoooo.com> wrote in message
news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>K4YZ wrote:
>>> Nope.
>>>
>>> The IP Address and servers are complete proof that I do NOT share
>>> any annonymous character's "address".
>>>
>>> Sounds like Lennie, to me....
>>>
>>> Steve, K4YZ
>>>
>>
>>To anyone with even an elementary understanding of anonymous proxies,
>>anonymous remailers, zombie backdoors, etc., the ability to change ones
>>IP address and header details is simplistic, indeed, with little time
>>spent anyone can appear to be "coming" from anywhere in the world.
>>
>>You waste my time. Worse, you think us all idiots here. You remind me
>>of the "street smart" prosecutors and defense attorneys who stack jurys
>>with members of little or no technical knowledge and then call in
>>"expert witnesses" and propose arguments of technical details to boggle
>>their minds.
>>
>>You have only proven that you, yourself are either ignorant to such
>>technical details, or else you are indeed street smart, I favor the
>>latter in this case (however, if you in the dark about such things, 15
>>minutes on google will enlighten you.)
>>
>>JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a
> congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc
```

> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

239. Re: How to drive a mast down the road - DIY

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-19 21:11:10 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <Odp5n.2202$pv.1169@news-server.bigpond.net.au>
Source record: 11239

Scott,
Reminds me many years ago, when I lived in a small farming town, our family company built a 100 foot self supporting tower some 3 miles away from where it was to be erected.
The tower was constructed in one piece and to get it to the site we simply used a small 6x4 ft box trailer under the large end on a turntable made up out of two lengths of 8x4 inch pieces of local hardwood (actually railway sleepers) and that assembly was fixed to the box trailer. The trailer was fixed to the tower with the tow hitch facing backwards.

Up the front we slid a piece of 2 inch pipe in the antenna mounting spigot and attached a small tractor to tow it to the site. The reason behind the turntable down the back of the tower was that we had to deal with a narrow timber bridge with a right hand turn at the end of it, and just 200 feet further on a Tee junction and just after that a final right hand turn of some 120 degrees. When we needed to turn the large end to manoeuvre it around the turns we simply pulled out the lock pins on the "turntable" and rotated the box trailer and manoeuvred the large end of the tower around each turn.

In those days, the 1960's we simply rang the Police and they came out and stopped the traffic for us and we accomplished the move in about 20 minutes. Today it would be impossible to achieve that because of the red tape.

The tower is still standing now and supports a heap of mobile phone antennas.

Ahh for the good ole days!
John in Australia

"Scott Fratcher" <Scott.Fratcher.59b4901@radiobanter.com> wrote in message news:Scott.Fratcher.59b4901@radiobanter.com...
>
> This is a link to an article on how to move a mast down the road
> legally. It's about getting the mast or tower up and over the vehicle
> and then now to make the trailer pivot differently than the tow
> vehicle.
>
> I thought it just might transfer over to moving towers and such.
>
> The link is-
> http://www.tongacharter.com/report-mast.htm
>
> And... dang, no way to post a photo. That was the point. Well no
> worries, the article has the photos, but it's more fun to post them
> here.

>
> Scott
>

240. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-20 07:28:10 UTC
From: ON3XXX <no.mail@th.is>
Message-ID: <8gy5n.50636$4N3.14697@newsfe06.ams2>
Source record: 11240

"ON3XXX" <no.mail@th.is> schreef in bericht
news:aqh5n.23201$yt6.16107@newsfe14.ams2...
> Very quiet antenna and very easy and cheap to make (1 balun 1:1 and 1
> resistor)
Correction : 10:1 balun (resistor 470 Ohm)

ON3xXx , Rudi

241. Tarheel antenna AT-100HP package WITH CAP HAT

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-21 16:12:45 UTC
From: hamradiolocator <hamradiolocator.59e405f@radiobanter.com>
Message-ID: <hamradiolocator.59e405f@radiobanter.com>
Source record: 11241

Does this auction include the manual switch box, 20 ft. of control
cable, ferrite decoupling core, base matching coil, 3/8-24 stud,
connectors, fuseholder and fuse?

--
hamradiolocator

242. Re: an ontopic psot about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-21 17:44:06 UTC
From: UberJacker <nohijack@houston-hunks.com>
Message-ID: <d575ed40-d884-413d-a552-10b7a2585313@l19g2000yqb.googlegroups.com>
Source record: 11242
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Jan 19, 2:30 pm, "kb9rqz" <kb9...@home.com> wrote:
> <kb9...@yahoooo.com> wrote in message
>
> news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
>
>
>
> > On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> > <assemblywiz...@gmail.com> wrote:
>
> >>K4YZ wrote:
> >>> Nope.
>
> >>> The IP Address and servers are complete proof that I do NOT share
> >>> any annonymous character's "address".
>
> >>> Sounds like Lennie, to me....
>
> >>> Steve, K4YZ
>
> >>To anyone with even an elementary understanding of anonymous proxies,
> >>anonymous remailers, zombie backdoors, etc., the ability to change ones
> >>IP address and header details is simplistic, indeed, with little time
> >>spent anyone can appear to be "coming" from anywhere in the world.
>
> >>You waste my time. Worse, you think us all idiots here. You remind me
> >>of the "street smart" prosecutors and defense attorneys who stack jurys
> >>with members of little or no technical knowledge and then call in
> >>"expert witnesses" and propose arguments of technical details to boggle
> >>their minds.
>
> >>You have only proven that you, yourself are either ignorant to such
> >>technical details, or else you are indeed street smart, I favor the
> >>latter in this case (however, if you in the dark about such things, 15
> >>minutes on google will enlighten you.)
>
> >>JS
>
> > "one useless man is disgrace 2 become a law firm 3 or more become a
> > congress"
> > adams
>
> > woger you are a Congress all in your own head

> > "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> > altopia is never used by KB9RQZ
> >http://kb9rqz.cc.cc
> >http://kd8ctl.com
> > nor is Konst...@hotmail.com ever
> > btw i can be found at
> > 17366 N River Rd
> > Chassel Mi
>
> > but the cowards asking lack the gut to act
>
> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---

OCD idiot.

243. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-22 01:50:04 UTC
From: kb9rqz <kb9rqz@home.com>
Message-ID: <hjb08p$3033$1@adenine.netfront.net>
Source record: 11243
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
<kb9rqz@yahoooo.com> wrote in message
news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>K4YZ wrote:
>>> Nope.
>>>
>>> The IP Address and servers are complete proof that I do NOT share
>>> any annonymous character's "address".
>>>
>>> Sounds like Lennie, to me....
>>>
>>> Steve, K4YZ
>>>
>>
>>To anyone with even an elementary understanding of anonymous proxies,
>>anonymous remailers, zombie backdoors, etc., the ability to change ones
>>IP address and header details is simplistic, indeed, with little time
>>spent anyone can appear to be "coming" from anywhere in the world.
>>
>>You waste my time. Worse, you think us all idiots here. You remind me
>>of the "street smart" prosecutors and defense attorneys who stack jurys
>>with members of little or no technical knowledge and then call in
>>"expert witnesses" and propose arguments of technical details to boggle
>>their minds.
>>
>>You have only proven that you, yourself are either ignorant to such
>>technical details, or else you are indeed street smart, I favor the
>>latter in this case (however, if you in the dark about such things, 15
>>minutes on google will enlighten you.)
>>
>>JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a
> congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc
```

> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

244. Re: HomeBrew Capacitors?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-22 14:24:46 UTC
From: NOVICE <buco@tolos.si>
Message-ID: <zyi6n.505$UU2.49385@news.siol.net>
Source record: 11244

Hi John,

try this sites:

http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=10213

http://www.qsl.net/mnqrp/Loop/Mag_Loops.htm

Best regards,

73
Buco

S56LW

245. Re: Which antenna.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-22 16:18:23 UTC
From: NOVICE <buco@tolos.si>
Message-ID: <5dk6n.556$UU2.50039@news.siol.net>
Source record: 11245

Hi Boris,

Ideal antenna for you is:
MAGNETIC LOOP ANTENNA

For homemade:
http://www.qsl.net/mnqrp/Loop/Mag_Loops.htm
http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=10213
or
http://www.mfjenterprises.com/Product.php?productid=MFJ-1786X
+
remote control:
http://www.mfjenterprises.com/Product.php?productid=MFJ-1782

Check this comments:
http://www.eham.net/reviews/detail/2992
or
http://www.eham.net/reviews/detail/2992

here is lot possibilities:

http://www.eham.net/reviews/products/13

Best regards,
73
Buco
S56LW

ON3XXX pravi:
> "ON3XXX" <no.mail@th.is> schreef in bericht
> news:aqh5n.23201$yt6.16107@newsfe14.ams2...
>> Very quiet antenna and very easy and cheap to make (1 balun 1:1 and 1
>> resistor)
> Correction : 10:1 balun (resistor 470 Ohm)
>
> ON3xXx , Rudi

246. Re: Watering a Transmitter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-22 16:52:53 UTC
From: "Helmut Wabnig"
Message-ID: <osljl51l0r4f0n0uevh7dha4l444mgcg31@4ax.com>
Source record: 11246
Cross-posted to: sci.physics,rec.radio.amateur.antenna

On Fri, 22 Jan 2010 10:29:41 EST, bert <herbertglazier79@msn.com>
wrote:

>I read when a radio transmitter is watered at its base its signal is
>made stronger. What is the physics uses for this? Will ariel
>(antenna) set in water help its ability to pick up radio signal? Treb

Lions, like all cats, do not like to have wet feet.
Archangel Ariel, the Lion of God, is probably not amused
when you water his base or piss on him.

http://en.wikipedia.org/wiki/Archangel_Ariel

w.

247. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-23 19:58:29 UTC
From: kb9rqz <kb9rqz@home.com>
Message-ID: <hjfk9e$1e23$1@adenine.netfront.net>
Source record: 11247
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
<kb9rqz@yahoooo.com> wrote in message
news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>K4YZ wrote:
>>> Nope.
>>>
>>> The IP Address and servers are complete proof that I do NOT share
>>> any annonymous character's "address".
>>>
>>> Sounds like Lennie, to me....
>>>
>>> Steve, K4YZ
>>>
>>
>>To anyone with even an elementary understanding of anonymous proxies,
>>anonymous remailers, zombie backdoors, etc., the ability to change ones
>>IP address and header details is simplistic, indeed, with little time
>>spent anyone can appear to be "coming" from anywhere in the world.
>>
>>You waste my time. Worse, you think us all idiots here. You remind me
>>of the "street smart" prosecutors and defense attorneys who stack jurys
>>with members of little or no technical knowledge and then call in
>>"expert witnesses" and propose arguments of technical details to boggle
>>their minds.
>>
>>You have only proven that you, yourself are either ignorant to such
>>technical details, or else you are indeed street smart, I favor the
>>latter in this case (however, if you in the dark about such things, 15
>>minutes on google will enlighten you.)
>>
>>JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a
> congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc
```

> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

248. Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-24 03:39:28 UTC
From: tom <news4792@taring.org>
Message-ID: <4b5bc0e7$0$33858$8046368a@newsreader.iphouse.net>
Source record: 11248

As I sit here not participating in the Jan VHF QSO party partially due
to a cold but mostly due to freezing rain, I wonder. I wonder what
stories and advice the group has about this sort of situation on VHF and up.

What sorts of design and fabrication details work to make antennas
perform well in environmental extremes?

tom
K0TAR

249. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-24 04:13:22 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <5756b9d7-07ae-47ea-95fc-304edda4f158@c29g2000yqd.googlegroups.com>
Source record: 11249

On Jan 23, 10:39 pm, tom <news4...@taring.org> wrote:
> As I sit here not participating in the Jan VHF QSO party partially due
> to a cold but mostly due to freezing rain, I wonder. I wonder what
> stories and advice the group has about this sort of situation on VHF and up.
>
> What sorts of design and fabrication details work to make antennas
> perform well in environmental extremes?
>
> tom
> K0TAR

Several years ago the only thing I had working until after the thaw
was a 20m square loop.

Jimmie

250. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-24 14:29:27 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <09c14952-b3e9-4aba-a8d4-15c3ee54f9bd@m25g2000yqc.googlegroups.com>
Source record: 11250

On Jan 24, 3:39 am, tom <news4...@taring.org> wrote:
> As I sit here not participating in the Jan VHF QSO party partially due
> to a cold but mostly due to freezing rain, I wonder. I wonder what
> stories and advice the group has about this sort of situation on VHF and up.
>
> What sorts of design and fabrication details work to make antennas
> perform well in environmental extremes?
>
> tom
> K0TAR

heated radomes

251. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-24 15:20:39 UTC
From: Topaz305rk <navajomt@nemont.net>
Message-ID: <v4WdnRsgpejR-MHWnZ2dnUVZ_gOdnZ2d@vnet-inc.com>
Source record: 11151

"tom" <news4792@taring.org> wrote in message
news:4b5bc0e7$0$33858$8046368a@newsreader.iphouse.net...
> As I sit here not participating in the Jan VHF QSO party partially due to
> a cold but mostly due to freezing rain, I wonder. I wonder what stories
> and advice the group has about this sort of situation on VHF and up.
>
> What sorts of design and fabrication details work to make antennas perform
> well in environmental extremes?
>
> tom
> K0TAR

Agree....
No way to participate this year.
Have so much ice hanging I dare not move anything.
Lost the 40 and 80 meter inverted vee set up yesterday.
All three towers and the ground mount 160 vert are intact, so far.
Wind is howling, power is on again off again.
Hoping for the best at this point.
Northeast Montana is not a nice place to be right now.

Sam - K7SAM

252. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-24 20:41:17 UTC
From: Bruce in alaska <fast@btpost.net>
Message-ID: <fast-A51F72.11411624012010@unknown.hwng.net>
Source record: 11152

In article <4b5bc0e7$0$33858$8046368a@newsreader.iphouse.net>,
tom <news4792@taring.org> wrote:

> As I sit here not participating in the Jan VHF QSO party partially due
> to a cold but mostly due to freezing rain, I wonder. I wonder what
> stories and advice the group has about this sort of situation on VHF and up.
>
> What sorts of design and fabrication details work to make antennas
> perform well in environmental extremes?
>
> tom
> K0TAR

Up here in Alaska we use covered Rotators, Bearing Shields, Low Temp
Freezer Grease, and heated Radomes to keep things working clear down in
the -60F range. Freezing Rain means you just have to keep the rotator
moving back and forth, every few minutes, to keep the Ice from building
up on the rotary sections....

--
Bruce in alaska
add <path> after <fast> to reply

253. QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-26 18:02:27 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hjnanm$ls9$1@news.eternal-september.org>
Source record: 11153

Because aliens won't be able to find us.....

http://www.thesun.co.uk/sol/homepage/news/2824342/Satellite-transmissions-make-Earth-invisible-to-aliens.html

254. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-26 18:53:59 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D0CC0419C4D1zoodlewurdle@216.196.109.145>
Source record: 11154

"Wayne" <mygarbagecan@verizon.net> wrote in
news:hjnanm$ls9$1@news.eternal-september.org:

> Because aliens won't be able to find us.....
>
> http://www.thesun.co.uk/sol/homepage/news/2824342/Satellite-transmissions
> -make-Earth-invisible-to-aliens.html
>
>
>

Never mind the Earth, some would say we're all better off if the LGM can't
see the Sun. :) Non-Brits might have to ponder that one a while...

255. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-26 19:42:56 UTC
From: Chris <christofire@talktalk.net>
Message-ID: <40bdbd28-0c16-4d90-a986-58849fdc7c4f@o28g2000yqh.googlegroups.com>
Source record: 11155

On 26 Jan, 18:53, Lostgallifreyan <no-...@nowhere.net> wrote:
> "Wayne" <mygarbage...@verizon.net> wrote innews:hjnanm$ls9$1@news.eternal-september.org:
>
> > Because aliens won't be able to find us.....
>
> >http://www.thesun.co.uk/sol/homepage/news/2824342/Satellite-transmiss...
> > -make-Earth-invisible-to-aliens.html
>
> Never mind the Earth, some would say we're all better off if the LGM can't
> see the Sun. :) Non-Brits might have to ponder that one a while...

The statement 'while old-style TV transmissions could generate one
million watts, digital transmissions are much weaker' is nonsense.
The coverage of the digital services in the UK is matched to that of
the analogue services and, if we can receive the signals ...

Chris

256. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-26 21:32:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <6OidnfKQkK_FwsLWnZ2dnUVZ_sRi4p2d@giganews.com>
Source record: 11156

At the leading edge of the sphere of expanding analog TV radiation are the Howdy Doody Show and the McCarthy hearings. No intelligent alien would come anywhere near this planet.

Roy Lewallen, W7EL

257. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-26 22:24:12 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <8P8K40KMu2XLFwIw@g3ohx.demon.co.uk>
Source record: 11157

In message <hjnanm$ls9$1@news.eternal-september.org>, Wayne
<mygarbagecan@verizon.net> writes
>Because aliens won't be able to find us.....
>
>http://www.thesun.co.uk/sol/homepage/news/2824342/Satellite-transmission
>s-make-Earth-invisible-to-aliens.html
>
"Dr Drake said he believed that intelligent life DOES exist beyond
Earth.

"He reckoned alien civilisations were likely to be far more advanced
than ours and that their analogue TV age probably went long ago. That in
turn means that the world's search for their signals is that much
harder."

Maybe they can still do morse?
--
Ian

258. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-26 22:44:03 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrnhlurvu.dui.gsm@cable.mendelson.com>
Source record: 11158

Roy Lewallen wrote:
> At the leading edge of the sphere of expanding analog TV radiation are
> the Howdy Doody Show and the McCarthy hearings. No intelligent alien
> would come anywhere near this planet.

That was the mistake IMHO of Contact. Although it would have made bad movie action, there were many years of morse code and audio long before "Uncle Adolf's I'm the Master Race and You're Not Show" was supposedly broadcast.

Not counting the fact that the Germans did not broadcast it, television in Germany at the time was shown in special theaters and AFAIK delivered by telephone lines (anyone who knows differently feel free to correct me).

Long before Howdy Doody and McCarthy were two world wars and so on.

What I think would be more likely their question if they landed is "What happened to the people who were going to go to the stars?"

While we may have faked the moon landings or not, 40 years later the only way we can tell is to look up at the sky and hope we can see something.

A manned moon landing now is just science (or historical) fiction. :-(

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

259. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-26 22:51:56 UTC
From: Mike Luther <mike.luther@ziplog.com>
Message-ID: <4b5f7203$0$12461$bbae4d71@news.suddenlink.net>
Source record: 11159

Chuckle ..

Roy Lewallen wrote:

> At the leading edge of the sphere of expanding analog TV radiation are
> the Howdy Doody Show and the McCarthy hearings. No intelligent alien
> would come anywhere near this planet.
>
> Roy Lewallen, W7EL

Especially if they had to watch Howdy Doody on a 7 inch Hallicrafters black and white rack mount TV screen. Which is where I first saw it on WICU-TV in Erie, Pennsylvania.

Or the first TV received broadcast ever seen in College Station, Texas, on the top floor of the Bolton Hall Electrical Engineering building at Texas A&M College here in I think 1946 on Parent's Day that year. That was on Channel 2 from KPRC-TV in Houston that prized day. On a flying spot scanner which I watched. I asked, "Why up on the top floor of the building?" Answer, "Mike, how else do you think we can afford an antenna up high enough to see the TV station signal from Houston?"

Hmmmmmmmmm.... or Whirrrrrrrr.. depending on whatever, grin...

W5WQN

;)

--

--> Sleep well; OS2's still awake! ;)

Mike Luther

260. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-27 20:43:44 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <7391m51imialuvmcimrcile64hj0jb7mq5@4ax.com>
Source record: 11160

On Tue, 26 Jan 2010 10:02:27 -0800, "Wayne" <mygarbagecan@verizon.net>
wrote:

>Because aliens won't be able to find us.....
>
>http://www.thesun.co.uk/sol/homepage/news/2824342/Satellite-transmissions-make-Earth-invisible-to-aliens.html

Any sufficiently advanced communication technology is
indistinguishable from random noise.
--Richard Factor's Corrolary to Clarke's Third Law.

This may explain why SETI is having problems finding alien
transmissions. If they're using UWB (ultra wide band) spread spectrum
from DC to light, then it's unlikely a narrow band coherent detection
system is going to find their signal.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

261. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-28 00:30:38 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <c463e3dc-a9fe-41e8-8468-90277f5e9bbd@g1g2000yqi.googlegroups.com>
Source record: 11161

On Jan 23, 7:39 pm, tom <news4...@taring.org> wrote:
> As I sit here not participating in the Jan VHF QSO party partially due
> to a cold but mostly due to freezing rain, I wonder. I wonder what
> stories and advice the group has about this sort of situation on VHF and up.
>
> What sorts of design and fabrication details work to make antennas
> perform well in environmental extremes?
>
> tom
> K0TAR

I'm thinking of what we did in the Navy: Encapsulation of one sort or another. Radomes got mentioned already so I'll add rubber boots over connectors and a generous coating of Scotchkote (or equal) over exposed hardware.

Military antennas are usually over-built, as are the mounts. They WILL stay together in one piece and they WILL stay up or somebody's going to hear about it! For hams in vicious-weather zones, maybe it means using plumbing pipe masts instead of thin-wall galvanized tubing. Maybe it means more guy wires. Maybe it means paying ten times extra to buy the absolute toughest item you can find. Maybe it means buying something tough -- something made for a nearby commercial band -- and laboriously modifying it to work at 2m, 220 or 440.

Without intending to demean any single approach, you may be facing a tradeoff: Do you need to build a $2000 indestructible antenna setup or can you replace a $300 one a few times? When the welfare of 6000 men on a billion-dollar ship is involved, the Navy's choice is easy. For us hams, not so easy.

Aside: Wire antennas (not what you asked) usually had a "sacrificial link" in the elements. In case of severe stress due to wind, the link would part, putting some slack in the element but not bringing it down. Until it was repaired, the antenna didn't tune quite like before, but you could still get a match. The link was variously also called the "weak link" or the "breaking link."

Emergency fallback (of which I have several) is the attic antenna. The wet/icy roof attenuates the signals but it's not a blackout.

Sal
KD6VKW

262. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-28 01:04:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <3JWdnTSqxs46f_3WnZ2dnUVZ_qVi4p2d@giganews.com>
Source record: 11162

I suggest getting in touch with your local repeater clubs. They will have learned lots of techniques to make antennas survive in tough mountaintop environments.

Roy Lewallen, W7EL

263. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-28 01:34:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4b60e993$0$638$8046368a@newsreader.iphouse.net>
Source record: 11163

tom wrote:
> As I sit here not participating in the Jan VHF QSO party partially due
> to a cold but mostly due to freezing rain, I wonder. I wonder what
> stories and advice the group has about this sort of situation on VHF and
> up.
>
> What sorts of design and fabrication details work to make antennas
> perform well in environmental extremes?
>
> tom
> K0TAR

Well I thank everyone that has answered so far. And don't stop.

I am getting answers that aren't quite for the question I thought I
asked, and that's a good thing.

Thanks!

tom
K0TAR

264. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-28 02:55:22 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D0E1DBB91188zoodlewurdle@216.196.109.145>
Source record: 11164

tom <news4792@taring.org> wrote in
news:4b60e993$0$638$8046368a@newsreader.iphouse.net:

> I am getting answers that aren't quite for the question I thought I
> asked, and that's a good thing.
>

I wrote something long, then deleted it, but one core idea persists...
Instead of going for rigidity and mass, you could try flexibility and minimal mass, like a reed, feather or twig in principle. I made a 35 foot 'mast' for an FM reception 1/4 wave dipole, from scrap. It lasted 15 years so far, and might go on a lot further yet. It flexes to absorb wind blasts of up to 80 mph at times, or bird impacts, and is guyed (by its own coax plus a couple of lengths of burglar alarm cable) at a 'static' node like that of a plucked string, to minimise stress on guy wires. If any part gets hit, the whole of it takes the strain. It looks like crap but it works and even though we don't get heavy ice it would just crack and fall off it periodically if it got any. Natural motion and flexing would see to that. I got the idea from seeing how well reeds will stand long after winter hits them, and from realising that the dynamics in the aluminium were similar. Its height is several hundreds of times its width, and even if I'd had to scale that up to something much taller, intended to bear more load, I think it might still work better than a rigid tower. But it would be useless for strongly directional antennae. :)

265. Re: Ice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-28 03:12:52 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D0E20B2AFE81zoodlewurdle@216.196.109.145>
Source record: 11165

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9D0E1DBB91188zoodlewurdle@216.196.109.145:

> tom <news4792@taring.org> wrote in
> news:4b60e993$0$638$8046368a@newsreader.iphouse.net:
>
>> I am getting answers that aren't quite for the question I thought I
>> asked, and that's a good thing.
>>
>
> ... I got the idea from seeing how well reeds
> will stand long after winter hits them, and from realising that the
> dynamics in the aluminium were similar.

Crucial detail that did not survive the long reply I did not send, or get in
the one I did send: The aluminium was angle-sectioned, and used torsion as
well as bending to absorb force.

The insulated spacer and mount (crudely hacksawed hardwood from an old chair)
for the vertical dipole would damp the oscillations like a kind of 'anchor'
against the wind. The only time anything broke on it was a guy wire when mast
torsion made it bend and fatigue at the attachment point, but the mast never
fell even during the wind that did this to it, and this weakness can be
easily designed out. The metal mast never fatigues because it never flexes
beyond its natural spring tension at any point. If it did, it would have
fallen in weeks instead of lasting many years. The load at the top is only
about a half-pound, but the rest of the mast is less than double that, so
it's very efficient and cheap.

266. RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 00:22:50 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D103DB56493zoodlewurdle@216.196.109.145>
Source record: 11166

Sorry, I strongly suspect this is a very old can of worms I'm exhuming, but here goes...

The web is full of advice (and noise) about RG6 being better than RG59, but a small proportion of experience-based postings suggests that RG59 is often adequate even where UHF signals are used, especially if it includes a foil shield under a braid shield, and it has a foam dielectric. Less common is a point suggesting that for HF (and perhaps CCTV and other video, as well as S/PDIF digital audio) it might be better to use RG59 because its braid is better at screening for these lower frequencies to get better SNR. This seems to make sense, but it is it so? It appears to me that for domestic scales an RG59 with the added foil shield and a foam dielectric might be the best coax to use for low power signals, until some weakness dictates a specific requirement for improvement.

267. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 00:56:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <_ZednQcJHu1eHv7WnZ2dnUVZ_o2dnZ2d@giganews.com>
Source record: 11167

Lostgallifreyan wrote:
> Sorry, I strongly suspect this is a very old can of worms I'm exhuming, but
> here goes...
>
> The web is full of advice (and noise) about RG6 being better than RG59, but a
> small proportion of experience-based postings suggests that RG59 is often
> adequate even where UHF signals are used, especially if it includes a foil
> shield under a braid shield, and it has a foam dielectric. Less common is a
> point suggesting that for HF (and perhaps CCTV and other video, as well as
> S/PDIF digital audio) it might be better to use RG59 because its braid is
> better at screening for these lower frequencies to get better SNR. This seems
> to make sense, but it is it so? It appears to me that for domestic scales an
> RG59 with the added foil shield and a foam dielectric might be the best coax
> to use for low power signals, until some weakness dictates a specific
> requirement for improvement.

If there was a "best" cable, there would be only one type. Some have lower loss, some are more flexible, some have better weather resistance, some have better shielding, some have a longer lifetime, some tolerate temperature extremes better, some are more uniform, some are less expensive, and so forth.

So deciding which cable is "better" requires a lot more information about what your requirements are.

RG/U specs have long been abandoned by the military, so any manufacturer can -- and do -- use these designations pretty much as they please. One manufacturer's "RG-59/U" or "RG-59/U type" cable can be very different from another's, in many important ways. So you have to look at the specifications of the actual cables you're comparing.

That said, RG-6 is nominally larger in diameter than RG-59, so if everything else is the same, it will have lower loss, be heavier, more expensive, and less flexible.

Multiple shields are seldom important in amateur applications unless you have some seriously strong local signal you need to keep out, or you need to bundle several cables tightly together for a long run. Even then, most amateurs will end up with a lot more signal leakage at other points in the system than they'll get through a good quality single shield.

Speaking of shields, some cheaper cables have relatively poor coverage, so a decent quality shield is sometimes a good investment. Adding foil might make a poor shield better. But I have some popular foil-shielded cable that has bizarre loss characteristics at around 400 MHz which vary all over the map as the cable is flexed. So a poorly designed foil

shield can be worse than a decent braided one.

Foamed dielectric results in slightly lower loss. At UHF and below, this is almost entirely due to the fact that it causes the center conductor to be larger, reducing conductor loss. On the other hand, the velocity factor and impedance vary a lot more from lot to lot than solid dielectric cable, so in length-critical applications you'll need to be able to measure the electrical length of each piece.

That's the five minute coax cable primer. If you dig a bit you'll find out there's a lot more to it than this.

Roy Lewallen, W7EL

268. Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 01:05:26 UTC
From: Roger <sailtamarack@yahoo.ca>
Message-ID: <b9603c08-4e4b-4d38-940e-63567160a4e2@x1g2000prb.googlegroups.com>
Source record: 11168

NIST engineers are working with scientists from the University of Arizona (Tucson) and Boeing Research & Technology (Seattle, Wash.) to design antennas incorporating metamaterials – materials engineered with novel, often microscopic, structures to produce unusual properties. The new antennas radiate as much as 95 percent of an input radio signal and yet defy normal design parameters. Standard antennas need to be at least half the size of the signal wavelength to operate efficiently; at 300 MHz, for instance, an antenna would need to be half a meter long. The experimental antennas are as small as one-fiftieth of a wavelength and could shrink further.

Fact or Fiction?

269. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 01:14:40 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <A-ednQXB9ZucFf7WnZ2dnUVZ_udi4p2d@giganews.com>
Source record: 11169

Roger wrote:
> NIST engineers are working with scientists from the University of
> Arizona (Tucson) and Boeing Research & Technology (Seattle, Wash.) to
> design antennas incorporating metamaterials ï¿½ materials engineered
> with novel, often microscopic, structures to produce unusual
> properties. The new antennas radiate as much as 95 percent of an input
> radio signal and yet defy normal design parameters. Standard antennas
> need to be at least half the size of the signal wavelength to operate
> efficiently; at 300 MHz, for instance, an antenna would need to be
> half a meter long. The experimental antennas are as small as one-
> fiftieth of a wavelength and could shrink further.
>
> Fact or Fiction?

Fiction.

Efficient antennas can be made which are much shorter than a half wavelength. They'll be narrowband and highly reactive, however. What do the scientists say about the bandwidth and feedpoint impedance? Where can we find published data?

Sounds to me like somebody is trying to sell some stock.

Roy Lewallen, W7EL

270. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 01:53:27 UTC
From: Roger <sailtamarack@yahoo.ca>
Message-ID: <62b7538a-7422-442a-af3b-9a999317cda9@o16g2000prh.googlegroups.com>
Source record: 11170

Here is the journal article:

R.W. Ziolkowski, P. Jin, J.A. Nielsen, M.H. Tanielian and C.L. Holloway. Design and experimental verification of Z antennas at UHF frequencies. IEEE Antennas Wireless Propag. Lett., 2009 vol. 8, pp. 1329-1332.

271. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 01:57:08 UTC
From: Roger <sailtamarack@yahoo.ca>
Message-ID: <f3d21a1f-da3f-4913-a993-d9480adcab34@v20g2000prb.googlegroups.com>
Source record: 11171

Elektor magazine had a news report on these antennas.

"NIST engineers are working with scientists from the University of Arizona (Tucson) and Boeing Research & Technology (Seattle, Wash.) to design antennas incorporating metamaterials — materials engineered with novel, often microscopic, structures to produce unusual properties. The new antennas radiate as much as 95 percent of an input radio signal and yet defy normal design parameters. Standard antennas need to be at least half the size of the signal wavelength to operate efficiently; at 300 MHz, for instance, an antenna would need to be half a meter long. The experimental antennas are as small as one-fiftieth of a wavelength and could shrink further.

In their latest prototype device,* the research team used a metal wire antenna printed on a small square of copper measuring less than 65 millimeters on a side. The antenna is wired to a signal source. Mounted on the back of the square is a “Z element” that acts as a metamaterial — a Z-shaped strip of copper with an inductor (a device that stores energy magnetically) in the center (see photo).

“The purpose of an antenna is to launch energy into free space,” explains NIST engineer Christopher Holloway, “But the problem with antennas that are very small compared to the wavelength is that most of the signal just gets reflected back to the source. The metamaterial makes the antenna behave as if it were much larger than it really is, because the antenna structure stores energy and re-radiates it.” Conventional antenna designs, Holloway says, achieve a similar effect by adding bulky “matching network” components to boost efficiency, but the metamaterial system can be made much smaller. Even more intriguing, Holloway says, “these metamaterials are much more ‘frequency agile.’ It’s possible we could tune them to work at any frequency we want, on the fly,” to a degree not possible with conventional designs.

The Z antennas were designed at the University of Arizona and fabricated and partially measured at Boeing Research & Technology. The power efficiency measurements were carried out at NIST laboratories in Boulder, Colo. The ongoing research is sponsored by the Defense Advanced Research Projects Agency.

* R.W. Ziolkowski, P. Jin, J.A. Nielsen, M.H. Tanielian and C.L. Holloway. Design and experimental verification of Z antennas at UHF frequencies. IEEE Antennas Wireless Propag. Lett., 2009 vol. 8, pp. 1329-1332.

272. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 02:02:03 UTC
From: Roger <sailtamarack@yahoo.ca>
Message-ID: <16ed675f-9dda-4a19-adf8-790263137c33@t34g2000prm.googlegroups.com>
Source record: 11172

NIST has an article on these antennas and a photo of a prototype.

http://www.nist.gov/public_affairs/techbeat/current.htm

273. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 02:23:11 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D10882C81A9Fnonenowhere@61.9.191.5>
Source record: 11173

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9D103DB56493zoodlewurdle@216.196.109.145:

...
> sense, but it is it so?

I wrote some notes that you may find interesting at
http://www.vk1od.net/transmissionline/RG6/index.htm .

Owen

274. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 02:47:15 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-4F87FD.21471529012010@5ad64b5e.bb.sky.com>
Source record: 11174

In article
<b9603c08-4e4b-4d38-940e-63567160a4e2@x1g2000prb.googlegroups.com>,
Roger <sailtamarack@yahoo.ca> wrote:

> The experimental antennas are as small as one-
> fiftieth of a wavelength and could shrink further.
>
> Fact or Fiction?

Roger-

I'd say this was factual fiction!

Perhaps they are receive-only antennas that use something like an MOS
FET to drive a low impedance cable.

Perhaps the one-fiftieth wavelength antennas were used in the
experiments that failed!

Fred
K4DII

275. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 03:29:45 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <NsidnYSimJg_Ov7WnZ2dnUVZ_v2dnZ2d@bright.net>
Source record: 11175

Dear Group: Frank Drake hired me for my first job in radio astronomy.
Years latter, I learned that he was most impressed that I had a first class
FCC commercial license (that type of license is long gone). Did some neat
propagation research in the hills of West Va. (where we did use antennas!)
Prof. Drake had an involved mathematical model that he used to suggest
existence of other people.

The December 1959 paper by Costas made clear the inherent advantages and
disadvantages of wide-bandwidth modulation systems. As others have
observed, narrow bandwidth emissions are most unlikely.

73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net

"Ian Jackson" <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in message
news:8P8K40KMu2XLFwIw@g3ohx.demon.co.uk...
> In message <hjnanm$ls9$1@news.eternal-september.org>, Wayne
> <mygarbagecan@verizon.net> writes
>>Because aliens won't be able to find us.....
>>
>>http://www.thesun.co.uk/sol/homepage/news/2824342/Satellite-transmission
>>s-make-Earth-invisible-to-aliens.html
>>
> "Dr Drake said he believed that intelligent life DOES exist beyond Earth.
>
> "He reckoned alien civilisations were likely to be far more advanced than
> ours and that their analogue TV age probably went long ago. That in turn
> means that the world's search for their signals is that much harder."
>
> Maybe they can still do morse?
> --
> Ian

276. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 05:24:47 UTC
From: Roger <sailtamarack@yahoo.ca>
Message-ID: <33a214f3-04a0-43b1-ac74-7d4494a646e1@x10g2000prk.googlegroups.com>
Source record: 11176

On Jan 29, 5:14 pm, Roy Lewallen <w...@eznec.com> wrote:
> Roger wrote:
> > NIST engineers are working with scientists from the University of
> > Arizona (Tucson) and Boeing Research & Technology (Seattle, Wash.) to
> > design antennas incorporating metamaterials – materials engineered
> > with novel, often microscopic, structures to produce unusual
> > properties. The new antennas radiate as much as 95 percent of an input
> > radio signal and yet defy normal design parameters. Standard antennas
> > need to be at least half the size of the signal wavelength to operate
> > efficiently; at 300 MHz, for instance, an antenna would need to be
> > half a meter long. The experimental antennas are as small as one-
> > fiftieth of a wavelength and could shrink further.
>
> > Fact or Fiction?
>
> Fiction.
>
> Efficient antennas can be made which are much shorter than a half
> wavelength. They'll be narrowband and highly reactive, however. What do
> the scientists say about the bandwidth and feedpoint impedance? Where
> can we find published data?
>
> Sounds to me like somebody is trying to sell some stock.
>
> Roy Lewallen, W7EL

Roy,

Here is a paper describing the feedpoint impedance and how they
counteract the capacitive reactance without the typical matching
network.

http://www.ece.arizona.edu/~ziolkows/research/papers/Metamaterial_Research/Antennas/Ziolko
wski_Erentok_IEEE_Trans_AP_July_2006.pdf

A number of other papers on these antennas are located here:

http://www.ece.arizona.edu/~ziolkows/research/Metamaterial-Engineered%20Antennas.html

I look forward to your feedback and the comments by others on this
subject,

Roger

277. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 06:30:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <25k7m5tlfb10ic5acbepp6bo8c6gnshd9l@4ax.com>
Source record: 11177

On Fri, 29 Jan 2010 21:24:47 -0800 (PST), Roger
<sailtamarack@yahoo.ca> wrote:

>Here is a paper describing the feedpoint impedance and how they
>counteract the capacitive reactance without the typical matching
>network.
>
>http://www.ece.arizona.edu/~ziolkows/research/papers/Metamaterial_Research/Antennas/Ziolkowski_Erentok_IEEE_Trans_AP_July_2006.pdf

Not much original work there - It had been kicking around for years
prior to publication. Boeing Skunk Works stuff I posted here at least
10 years ago when it was more interestingly portrayed as negative
refraction elements.

>A number of other papers on these antennas are located here:
>
>http://www.ece.arizona.edu/~ziolkows/research/Metamaterial-Engineered%20Antennas.html

a bibliography.... So what?

73's
Richard Clark, KB7QHC

278. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 06:40:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mhk7m5dberj0vvna92e1viqnf8dhvilekb@4ax.com>
Source record: 11178

On Fri, 29 Jan 2010 17:57:08 -0800 (PST), Roger
<sailtamarack@yahoo.ca> wrote:

>The experimental antennas are as small as one-
>fiftieth of a wavelength and could shrink further.

In fact, commercial Ham antennas with similar efficiencies at similar scales have been around for decades.

Shrinking them further encounters loss accumulating at the 4th power of size. This is a very difficult proposition to beat in stale reporting with the concurrent lack of proven models following after lo' these 4 years. That is pretty sound evidence of these researchers having been lost beyond the precipice of an astronomical plunge in efficiency.

73's
Richard Clark, KB7QHC

279. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 06:46:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l6l7m55csk1hnfl4m0bobht2f77h2rdmn3@4ax.com>
Source record: 11179

On Fri, 29 Jan 2010 18:02:03 -0800 (PST), Roger
<sailtamarack@yahoo.ca> wrote:

>NIST has an article on these antennas and a photo of a prototype.
>
>http://www.nist.gov/public_affairs/techbeat/current.htm

Yeah, yeah, yeah. Now, for the true test of comprehension, answer
this:
What is THE metamaterial?
(cut and paste in response is not an answer, in your own words please,
as YOU understand it)

For extra credit:
What IS metamaterial?
(cut and paste in response is not an answer, in your own words please,
as YOU understand it)

If this cannot be sensibly answered from the accumulation of you
reading of all links and bibliographies offered, then not much is
being offered up in the way of discussion.

73's
Richard Clark, KB7QHC

280. Re: QRP is bad?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 06:52:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <64CdnW9FuqG1Sv7WnZ2dnUVZ_iydnZ2d@giganews.com>
Source record: 11180

J. Mc Laughlin wrote:
> Dear Group: Frank Drake hired me for my first job in radio astronomy.
> Years latter, I learned that he was most impressed that I had a first class
> FCC commercial license (that type of license is long gone). Did some neat
> propagation research in the hills of West Va. (where we did use antennas!)
> Prof. Drake had an involved mathematical model that he used to suggest
> existence of other people.
>
> The December 1959 paper by Costas made clear the inherent advantages and
> disadvantages of wide-bandwidth modulation systems. As others have
> observed, narrow bandwidth emissions are most unlikely.
>
> 73, Mac N8TT

And there's another factor, brilliantly illuminated in a short story in Analog magazine years ago. A series of scenes took place, each involving a different alien species in some distant solar system. In each scene a discussion was taking place, involving budgetary restraints and the prohibitive expense of transmitting powerful signals for other civilizations to pick up. Each one, in turn, decided to reduce expenses by listening only. . .

Roy Lewallen, W7EL

281. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 07:03:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <kd6dnaX1_ZIIRP7WnZ2dnUVZ_q2dnZ2d@giganews.com>
Source record: 11181

Roger wrote:
>
> Roy,
>
> Here is a paper describing the feedpoint impedance and how they
> counteract the capacitive reactance without the typical matching
> network.
>
> http://www.ece.arizona.edu/~ziolkows/research/papers/Metamaterial_Research/Antennas/Ziol
kowski_Erentok_IEEE_Trans_AP_July_2006.pdf
>
> A number of other papers on these antennas are located here:
>
> http://www.ece.arizona.edu/~ziolkows/research/Metamaterial-Engineered%20Antennas.html
>
> I look forward to your feedback and the comments by others on this
> subject,
>
> Roger

Thanks very much for the additional information. It's very good news indeed, and the first I've heard of anyone being able to do this. My so-far 100% reliable antenna rule of "Small-Broadband-Efficient: Choose Any Two" might finally be broken. My "fiction" judgment was based on the initial description which sounded so much like so many I've heard over the years. I amend it to "Sure looks promising", since it looks like they've finally really attacked one of the fundamental limitations in a way that might bear fruit. A career in electronic equipment product development has taught me that there's a vast distance between getting something to work once in a lab and building them by the thousands out of real parts and having them all work as specified. The path between is full of surprises and obstacles, most of which can be overcome but sometimes some which simply can't. I sure hope this can be developed to the point of practicality. An encouraging factor is that there's a real market for efficient, electrically small antennas in things like RFID tags and keychain remote control units, to name just a couple. This means that money will be available for development.

Roy Lewallen, W7EL

282. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 07:30:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mim7m51oqshjudictm7llb3ck6953ajr62@4ax.com>
Source record: 11182

On Fri, 29 Jan 2010 17:05:26 -0800 (PST), Roger
<sailtamarack@yahoo.ca> wrote:

>The experimental antennas are as small as one-
>fiftieth of a wavelength and could shrink further.

Only one frequency is reported:
F1. 300 MHz
and two standards of measure are reported:
L1. The square is 30 millimeters on a side.
L2. square of copper measuring less than 65 millimeters on a side.

Obviously not one antenna being described here. Further reading
(courtesy of googling for deeper, less frivolous reporting than puff
piece press releases) reveals another frequency:
F2. 570 MHz

There is a curious and loosely correlated ratio between
F1/L2 and F2/L1.

Next, we consider that there is more to the radiator than the
"metamaterial" - a quite remarkably large and thick disk of solid
copper that appears to be serving the traditional function of
counterpoise.

Barring that last observation, taking the 300 MHz (suggested
excitation) and the stated 65mm physical description that attends this
frequency; and accumulating the meander's length; then that is a 260mm
long monopole (meandering, albeit), with an inductor as center load.

The 300 MHz wavelength is (naturally) 1000mm. A resonant monopole is
typically 250mm.

Several questions come to mind:
1. What is the extra 10mm for?
2. What is the extra inductor for?
3. What is the copper disk (looks to be 1/4 wave in radius) for?
4. What happened to the 1/50th wavelength claim?
5. What virtue of "metamaterial" adds efficiency to what would
ordinarily be 100% efficient with that much copper shown?
6. Who gives a shit?

73's
Richard Clark, KB7QHC

283. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 11:43:31 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <db168039-fa99-4383-9d28-76fd9186b07d@y12g2000yqh.googlegroups.com>
Source record: 11183

On Jan 29, 7:57 pm, Roger <sailtamar...@yahoo.ca> wrote:
> The metamaterial
> makes the antenna behave as if it were much larger than it really is,
> because the antenna structure stores energy and re-radiates it."
> Conventional antenna designs, Holloway says, achieve a similar effect
> by adding bulky "matching network" components to boost efficiency, but
> the metamaterial system can be made much smaller.

So far nothing has been written about the radiation resistance of this
"1/50-wave" antenna.

Even if the design eliminates the feedpoint Xc of this electrically
small radiator at the operating frequency, its radiation resistance
could be expected to be miniscule, because the Rr of a radiator
depends on the electrical wavelengths it exposes to space.

The claim that it radiates 95% of the power applied to it may be true,
but needs to evaluated with the radiator as part of an r-f system --
where with very low Rr, much of the available power can be subject to
very high losses before it reaches the radiator.

RF

284. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 18:20:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c1d7b8dc-748b-43ea-86bb-4002168e2a6e@b36g2000yqn.googlegroups.com>
Source record: 11184

```
On Jan 30, 5:43 am, Richard Fry <r...@adams.net> wrote:
> Even if the design eliminates the feedpoint Xc of this electrically
> small radiator at the operating frequency, its radiation resistance
> could be expected to be miniscule, because the Rr of a radiator
> depends on the electrical wavelengths it exposes to space.

What if a metamaterial conductor were discovered with a natural
VF=0.1? In the lab, light has been slowed down to a crawl.
--
73, Cecil, w5dxp.com
```

285. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-30 19:24:15 UTC
From: "Helmut Wabnig"
Message-ID: <cl19m5d4csh5miscnav4phlbieecaovgts@4ax.com>
Source record: 11185

On Fri, 29 Jan 2010 17:05:26 -0800 (PST), Roger
<sailtamarack@yahoo.ca> wrote:

>NIST engineers are working with scientists from the University of
>Arizona (Tucson) and Boeing Research & Technology (Seattle, Wash.) to
>design antennas incorporating metamaterials ï¿½ materials engineered
>with novel, often microscopic, structures to produce unusual
>properties. The new antennas radiate as much as 95 percent of an input
>radio signal and yet defy normal design parameters. Standard antennas
>need to be at least half the size of the signal wavelength to operate
>efficiently; at 300 MHz, for instance, an antenna would need to be
>half a meter long. The experimental antennas are as small as one-
>fiftieth of a wavelength and could shrink further.
>
>Fact or Fiction?

Crack your cellphone and look at the antenna there.
Open your Bluetooth dongle.

Then calculate the lamda in air.

So what.
Ever heard about Epsilon?
http://en.wikipedia.org/wiki/Epsilon

w.

286. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 02:24:01 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <fMKdnRdQMp5KdPnWnZ2dnUVZ7oidnZ2d@bt.com>
Source record: 11186

Hmmm, I'm thinking it could be useful as an element for a frequency agile radar array. Diversity radar?
If current radar detection systems rely on the target detecting an incoming beam at a given pulse rate and frequency, then by varying the frequency and pulse rate constantly, detection would be more difficult.
Computer hardware and software is sufficiently powerful to be capable of processing the target returns at varying frequencies and GPS satellites can provide a frequency locked source for synchronising the transmitter and receiver, so you end up with effectively a stealth active radar system.
A wide band electrically tuned antenna would be essential for such an application. It might even be able to detect stealthy aircraft and ships as they tend to be optimized to absorb/divert frequencies in the most used radar bands.
An electrically controlled frequency agile antenna which forms part of an electrically steerable planar system would also be useful for jamming multiple frequencies and sources. This could turn out to be a somewhat expensive project.

Mike G0ULI

"Roger" <sailtamarack@yahoo.ca> wrote in message
news:16ed675f-9dda-4a19-adf8-790263137c33@t34g2000prm.googlegroups.com...
> NIST has an article on these antennas and a photo of a prototype.
>
> http://www.nist.gov/public_affairs/techbeat/current.htm
>

287. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 03:54:19 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D1127AEBC770zoodlewurdle@216.196.109.145>
Source record: 11187

Owen Duffy <none@no.where> wrote in
news:Xns9D10882C81A9Fnonenowhere@61.9.191.5:

> Lostgallifreyan <no-one@nowhere.net> wrote in
> news:Xns9D103DB56493zoodlewurdle@216.196.109.145:
>
> ...
>> sense, but it is it so?
>
> I wrote some notes that you may find interesting at
> http://www.vk1od.net/transmissionline/RG6/index.htm .
>
> Owen
>

Very useful, though I'm still not clear about using it for HF. I found eBay listing 270364333691 (worth seeing, low cost, good pictures and description), but that shows a thin braid and film that I read might not be adequate for shielding at HF. Low cost is great but I wonder if trying to get good connections to aluminium braid will be more trouble than it's worth, if the worth of a cable with a copper braid isn't that much higher. (Still looking for one). The cable that seems most likely to work based on all I read is a BT2002 cable with a double copper braid over a foam dielectric and stranded core, but the cost is three times higher.

288. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 04:17:55 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D112BAED78F0zoodlewurdle@216.196.109.145>
Source record: 11188

Roy Lewallen <w7el@eznec.com> wrote in
news:_ZednQcJHu1eHv7WnZ2dnUVZ_o2dnZ2d@giganews.com:

> If there was a "best" cable, there would be only one type. Some have
> lower loss, some are more flexible, some have better weather resistance,
> some have better shielding, some have a longer lifetime, some tolerate
> temperature extremes better, some are more uniform, some are less
> expensive, and so forth.
>
> So deciding which cable is "better" requires a lot more information
> about what your requirements are.
>

If I went into most places selling cables I'd get laughed at if I took that line, they'd say 'hie me to a research lab, if not an actual nunnery'. :) Not that you're wrong, but if you want a single general purpose cable for HF and VHF especially if stocking it for general sale, then there IS a 'best' cable, defined simply by that which most likely serves the wide range of purposes at a low price. Currently in the UK that cable seems to be RG6; few places like to stock more than one type for RF if they think one will do. Perfectionism is NOT the first base. It's reasonable to expect some standard without being told to either become an expert or use a bell wire and stay in ignorance. RG6 works, but they sell it for VHF/UHF, not RF. I'm not so concerned with moderate losses, but SNR maintained by good shielding matters to me.

I take your point about poor foil/braid shields being worse than good braids. That's partly what drove my question. It seems to me that RG6 in all forms I have found is optimised for VHF and higher. Nothing I've seen either before or after that question has yet convinced me that RG6 is the better choice for HF. I've seen plenty of posts saying it will work, but just as many saying they've seen old RG59 cables doing fine at UHF too.

So far I think I'm likely to go with the more costly double braided BT2002. Most posts I read stated that poor performance was usually due to difficulties connecting firmly to the soft aluminium shield than to the cable's own qualities. I suspect the extra cost for double copper braid will be repaid in easier (soldered) connections and other savings elsewhere, plus a certainty that it is effective at HF. I'm not going to be using it for UHF (although I have done once, it worked ok for a long TV aerial extension), and I've already used it for VHF with good results. Main thing with the BT2002 is that it's old, there might be something directly equivalent made for British Telecom data links now, perhaps thinner, or cheaper, or more flexible, but I don't know how to check for that. I've seen a list of BT type cables but I think it was as old as that cable is.

Last time I got the BT2002 I found it, didn't have to pay for it. The only thing making me wary of it now is that it won't be free this time. :)

289. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 09:48:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <a_SdndUAZLNGzPjWnZ2dnUVZ_shi4p2d@giganews.com>
Source record: 11189

Lostgallifreyan wrote:
> Roy Lewallen <w7el@eznec.com> wrote in
> news:_ZednQcJHu1eHv7WnZ2dnUVZ_o2dnZ2d@giganews.com:
>
>> If there was a "best" cable, there would be only one type. Some have
>> lower loss, some are more flexible, some have better weather resistance,
>> some have better shielding, some have a longer lifetime, some tolerate
>> temperature extremes better, some are more uniform, some are less
>> expensive, and so forth.
>>
>> So deciding which cable is "better" requires a lot more information
>> about what your requirements are.
>>
>
> If I went into most places selling cables I'd get laughed at if I took that
> line, they'd say 'hie me to a research lab, if not an actual nunnery'. :) Not
> that you're wrong, but if you want a single general purpose cable for HF and
> VHF especially if stocking it for general sale, then there IS a 'best' cable,
> defined simply by that which most likely serves the wide range of purposes at
> a low price. Currently in the UK that cable seems to be RG6; few places like
> to stock more than one type for RF if they think one will do. . .

Sounds like you have your answer, then.

Roy Lewallen, W7EL

290. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 10:27:23 UTC
From: Fred <fred@fred.fredsystem.com>
Message-ID: <hk3lua$g49$1@speranza.aioe.org>
Source record: 11190

> If I went into most places selling cables I'd get laughed at if I took that
> line, they'd say 'hie me to a research lab, if not an actual nunnery'. :) Not
> that you're wrong, but if you want a single general purpose cable for HF and
> VHF especially if stocking it for general sale, then there IS a 'best' cable,
> defined simply by that which most likely serves the wide range of purposes at
> a low price. Currently in the UK that cable seems to be RG6; few places like
> to stock more than one type for RF if they think one will do. Perfectionism
> is NOT the first base. It's reasonable to expect some standard without being
> told to either become an expert or use a bell wire and stay in ignorance. RG6
> works, but they sell it for VHF/UHF, not RF. I'm not so concerned with
> moderate losses, but SNR maintained by good shielding matters to me.
>

You seem to miss the point that one shop's RG6 (or most other RG cables)
may well not be the same as another's. So there is no definitive answer
to you question.

It is also very unlikely that 'good shielding' will have any effect on
SNR in most applications, other than due to increased loss if the
braiding is very very poor, or you are running the cable very close to a
source of broadband interference.

Jeff

291. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 14:47:29 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D119676E5201zoodlewurdle@216.196.109.145>
Source record: 11191

Roy Lewallen <w7el@eznec.com> wrote in
news:a_SdndUAZLNGzPjWnZ2dnUVZ_shi4p2d@giganews.com:

> Lostgallifreyan wrote:
>> Roy Lewallen <w7el@eznec.com> wrote in
>> news:_ZednQcJHu1eHv7WnZ2dnUVZ_o2dnZ2d@giganews.com:
>>
>>> If there was a "best" cable, there would be only one type. Some have
>>> lower loss, some are more flexible, some have better weather
>>> resistance, some have better shielding, some have a longer lifetime,
>>> some tolerate temperature extremes better, some are more uniform, some
>>> are less expensive, and so forth.
>>>
>>> So deciding which cable is "better" requires a lot more information
>>> about what your requirements are.
>>>
>>
>> If I went into most places selling cables I'd get laughed at if I took
>> that line, they'd say 'hie me to a research lab, if not an actual
>> nunnery'. :) Not that you're wrong, but if you want a single general
>> purpose cable for HF and VHF especially if stocking it for general
>> sale, then there IS a 'best' cable, defined simply by that which most
>> likely serves the wide range of purposes at a low price. Currently in
>> the UK that cable seems to be RG6; few places like to stock more than
>> one type for RF if they think one will do. . .
>
> Sounds like you have your answer, then.
>
> Roy Lewallen, W7EL
>

Yes, if I was using for UHF and perhaps VHF as they sell it for. But as far
as I know the older UG59 used a braid with better physical coverage and was
specified for HF as well. I'd rather get something this time that has good HF
shielding as priority, so I'm not convinced that RG6 is the right choice. A
bit of extra loss isn't as bad as poor shielding.

292. more RG-6 questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 14:53:19 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <UY-dnbKCRPayBPjWnZ2dnUVZ_rednZ2d@earthlink.com>
Source record: 11192

Once you get a good grade of RG-6 with the foil and braid, does the quad shield cable really do anything for the home TV usage ? I think it is all just some hype just as the Monster cable is for the audio people. Sort of like the 120 volt line cord being special and costing $ 100 or more for a 6 foot cable. Even it it did something, there is 25 to100 feet of regular old wire to the breaker box.

293. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 14:56:41 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D119806CD317zoodlewurdle@216.196.109.145>
Source record: 11193

Fred <fred@fred.fredsystem.com> wrote in
news:hk3lua$g49$1@speranza.aioe.org:

>
>> If I went into most places selling cables I'd get laughed at if I took
>> that line, they'd say 'hie me to a research lab, if not an actual
>> nunnery'. :) Not that you're wrong, but if you want a single general
>> purpose cable for HF and VHF especially if stocking it for general
>> sale, then there IS a 'best' cable, defined simply by that which most
>> likely serves the wide range of purposes at a low price. Currently in
>> the UK that cable seems to be RG6; few places like to stock more than
>> one type for RF if they think one will do. Perfectionism is NOT the
>> first base. It's reasonable to expect some standard without being told
>> to either become an expert or use a bell wire and stay in ignorance.
>> RG6 works, but they sell it for VHF/UHF, not RF. I'm not so concerned
>> with moderate losses, but SNR maintained by good shielding matters to
>> me.
>>
>
> You seem to miss the point that one shop's RG6 (or most other RG cables)
> may well not be the same as another's. So there is no definitive answer
> to you question.
>

No, haven't missed that at all. Most of my time is spent looking at all the
RG6's out there and examinng that. Besides, most advice out there implies I
have to buy it and try it to be sure, which is stupid because it's cheaper
and faster to get a better cable! RG6 is specified for UHF, I want HF.

> It is also very unlikely that 'good shielding' will have any effect on
> SNR in most applications, other than due to increased loss if the
> braiding is very very poor, or you are running the cable very close to a
> source of broadband interference.
>

I've been told that braid makes a great deal of difference to common mode
noise pickup, and that while a thin foil and loose braid is fine at UHF it's
not to be expected to do the same for HF.

http://www.abccables.com/info-rg59-vs-rg6.html is one of the more descriptive
texts I read. No RG6 that I have found fits the description given there for
HF. RG59 does though, as does BT2002. I think I'll be going with that BT2002
anyway, never mind the expense. The waste of time trying to avoid it is alone
beginning to look more expensive than the price difference.

294. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 14:59:06 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrnhmb6i6.d0r.gsm@cable.mendelson.com>
Source record: 11194

Lostgallifreyan wrote:
>
> Yes, if I was using for UHF and perhaps VHF as they sell it for. But as far
> as I know the older UG59 used a braid with better physical coverage and was
> specified for HF as well. I'd rather get something this time that has good HF
> shielding as priority, so I'm not convinced that RG6 is the right choice. A
> bit of extra loss isn't as bad as poor shielding.

The standard for cable tv and satellite instalations is RG6 "quad shield",
which has a less dense braid, but a (almost) 100% aluminum foil shield.

The question is how do you connect to it? Commerical applications use special
crimp on connectors, you can solder it with the proper flux.

A friend brought some Radio Shack screw on PL-259 connectors that work fine
with it, but they are $6 each in the US, and unavailable here.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
understanding, as in he has a sub-wikipedia understanding of the situation.
i.e possessing less facts or information than can be found in the Wikipedia.

295. Re: more RG-6 questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 15:01:16 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D1198CD2C631zoodlewurdle@216.196.109.145>
Source record: 11195

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in
news:UY-dnbKCRPayBPjWnZ2dnUVZ_rednZ2d@earthlink.com:

> Once you get a good grade of RG-6 with the foil and braid, does the quad
> shield cable really do anything for the home TV usage ? I think it is
> all just some hype just as the Monster cable is for the audio people.
> Sort of like the 120 volt line cord being special and costing $ 100 or
> more for a 6 foot cable. Even it it did something, there is 25 to100
> feet of regular old wire to the breaker box.
>

Most of the things I read suggest that the extra sheilding is only really
useful if you have a strong local signal you want to exclude. More problems
result from poor connections, according to posts by satellite installers,
than from using a cheap foil/braid shield.

296. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 15:06:37 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D1199B55F3DFzoodlewurdle@216.196.109.145>
Source record: 11196

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in
news:slrnhmb6i6.d0r.gsm@cable.mendelson.com:

> Lostgallifreyan wrote:
>>
>> Yes, if I was using for UHF and perhaps VHF as they sell it for. But as
>> far as I know the older UG59 used a braid with better physical coverage
>> and was specified for HF as well. I'd rather get something this time
>> that has good HF shielding as priority, so I'm not convinced that RG6
>> is the right choice. A bit of extra loss isn't as bad as poor
>> shielding.
>
> The standard for cable tv and satellite instalations is RG6 "quad
> shield", which has a less dense braid, but a (almost) 100% aluminum
> foil shield.
>

As far I can tell from advice on HF, the thin foil doesn't shield as well at
HF as a thicker braid with good physical coverage.

> The question is how do you connect to it? Commerical applications use
> special crimp on connectors, you can solder it with the proper flux.
>
> A friend brought some Radio Shack screw on PL-259 connectors that work
> fine with it, but they are $6 each in the US, and unavailable here.
>

I found an RG6 at low cost with copper braid and Al foil (more likely
metalised plastic film) so I can solder ok with that, but I'm going to be
using this for HF, not UHF, and if anything, I want to include MF signals so
as I mentioned in other posts, I'm not convinced that RG6 is the best choice,
unless it's the only RF cable in the shop. :)

297. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 15:24:03 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hk47aj$k3t$1@speranza.aioe.org>
Source record: 11197

> I've been told that braid makes a great deal of difference to common mode
> noise pickup, and that while a thin foil and loose braid is fine at UHF it's
> not to be expected to do the same for HF.

Even if you accept the principle that foil is worse than braid for
common mode signals, where do you think these signals are coming from?
Unless the cables route close to the source of the interference then
your antenna is going to pick it up much more than any difference in
shielding.

> http://www.abccables.com/info-rg59-vs-rg6.html is one of the more descriptive
> texts I read. No RG6 that I have found fits the description given there for
> HF. RG59 does though, as does BT2002. I think I'll be going with that BT2002
> anyway, never mind the expense. The waste of time trying to avoid it is alone
> beginning to look more expensive than the price difference.

I must admit I do not understand the theory that foil is worse than
braid at lower frequencies, foil gives 100% coverage and is usually in
addition to braid. Even if it the thickness of the foil that is in
question, I don't see how, according to the article that you linked to,
it " don't(sic) have the proper type of shielding ".

There may be an issue with terminating foil shields well but that is a
different matter.

298. Re: more RG-6 questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 15:24:05 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrnhmb80k.df9.gsm@cable.mendelson.com>
Source record: 11198

Lostgallifreyan wrote:

> Most of the things I read suggest that the extra sheilding is only really
> useful if you have a strong local signal you want to exclude. More problems
> result from poor connections, according to posts by satellite installers,
> than from using a cheap foil/braid shield.

That tells you a lot about the people posting. The quad shield is not
to prevent other signals getting in, it's to prevent the ones inside from
getting out.

I'm not in the US, so I don't know if the VHF/UHF TV channels were abandonded
by cable companies in the switch to digital, but you can be sure that any
now unused bandwidth won't stay unused long.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
understanding, as in he has a sub-wikipedia understanding of the situation.
i.e possessing less facts or information than can be found in the Wikipedia.

299. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 16:44:51 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D11AA5D96901zoodlewurdle@216.196.109.145>
Source record: 11199

Jeff <Jeff@fred.fredsystem.com> wrote in
news:hk47aj$k3t$1@speranza.aioe.org:

>
>
>> I've been told that braid makes a great deal of difference to common
>> mode noise pickup, and that while a thin foil and loose braid is fine
>> at UHF it's not to be expected to do the same for HF.
>
> Even if you accept the principle that foil is worse than braid for
> common mode signals, where do you think these signals are coming from?
> Unless the cables route close to the source of the interference then
> your antenna is going to pick it up much more than any difference in
> shielding.
>

True, but that's why I want it. It's to exclude HF noise made by anything in
the building. The antenna will be several tens of metres away. As the signals
I want are HF and perhaps high MF from that antenna, it seems unlikely that I
should go with a cable whose specs are too loosely defined, and all
interpretations of 'RG6' are now attempts to reduce cost while getting
acceptable performance at UHF.

>
>> http://www.abccables.com/info-rg59-vs-rg6.html is one of the more
>> descriptive texts I read. No RG6 that I have found fits the description
>> given there for HF. RG59 does though, as does BT2002. I think I'll be
>> going with that BT2002 anyway, never mind the expense. The waste of
>> time trying to avoid it is alone beginning to look more expensive than
>> the price difference.
>
> I must admit I do not understand the theory that foil is worse than
> braid at lower frequencies, foil gives 100% coverage and is usually in
> addition to braid. Even if it the thickness of the foil that is in
> question, I don't see how, according to the article that you linked to,
> it " don't(sic) have the proper type of shielding ".
>

Well, that's why I'm questioning it here. Like Geoffrey Mendelson said in his
reply in the later thread on RG6 in this group, a lot of the posts I've seen
on the web say more about the posters making them. I think I'll get a better
signal here than on the web at large. No irritating forum signups before
posting, either.. That article does seem to have a few vague contradictions,
but I think the point about a thin foil that is adequate for UHF screening
being inadequate for HF is interesting, and I've seen that point claimed

before. I'm pretty sure I'm not going to get an answer for that from people who are dealing with UHF or fast digital signals, and mainly from an installer's point of view, if the equipment they're using will filter out HF anyway. Their purpose is not the same as mine.

> There may be an issue with terminating foil shields well but that is a
> different matter.
>

I found an RG6 with copper braid, to take care of that. Cheap too, but only if it works. If it doesn't it will be cheaper to go for better cable to start with. I like that BT2002 with the double copper braid, but I'm not yet sure if the difference justifies the cost, though judging by what some places charge for RG6 it probably does..

300. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 17:34:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrnhmbff4.ggc.gsm@cable.mendelson.com>
Source record: 11200

Lostgallifreyan wrote:
> I found an RG6 with copper braid, to take care of that. Cheap too, but only
> if it works. If it doesn't it will be cheaper to go for better cable to start
> with. I like that BT2002 with the double copper braid, but I'm not yet sure
> if the difference justifies the cost, though judging by what some places
> charge for RG6 it probably does..

There also is the question of cost and availablity. I can go to Home Center and buy for about $.50 a meter a decent quality RG6 quad shield. In other places, you should be able to localy source it for less.

Radio type coax requires me to special order it at the local electronics store, and it will be a lot more expensive and less likely to be what I wanted.

I really do miss being in the US able to go into any one of 6 Radio Shack stores near my home and buy RG8x (really just improved RG-58) or RG-8 coax by the foot. It wasn't the best one could buy, it it was "good enough".

I can only guess you situation, but if you can do it, I would just go to a supplier you trust and buy RG6 and see if it works. While I'm sure if you had the right equipment you could find differences in the noise that comes through various RG6 versions, it may not be enough to matter.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

301. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 19:30:59 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D11C6726562Fzoodlewurdle@216.196.109.145>
Source record: 11101

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in
news:slrnhmbff4.ggc.gsm@cable.mendelson.com:

> I can only guess you situation, but if you can do it, I would just go
> to a supplier you trust and buy RG6 and see if it works. While I'm sure if
> you had the right equipment you could find differences in the noise that
> comes through various RG6 versions, it may not be enough to matter.
>

Well, that's maybe first choice. Just haven't decided if I'll stump up the
£18 or wait and search a bit longer for more info.

My situation is an HF antenna that will bring a signal from several tens of metres away, into a building with stuff likely to put RF at several frequencies onto the line. I'll filter out what I don't want with a selective 'tuner' eventually, but whether I do that or not I still have to reduce common mode noise that is in same band as signals I want. I'll be using ferrite slugs to reduce this, but I learned that this works by blocking skin-effect carriage of RF signals on the outside of the coax shield, reducing common mode noise by making current in the shield balance that in the core. This implies that when a skin effect carries current down the outside of the shield, but is not equal (and inverse) to current in the core, it must be balanced by current on the inside of the shield instead. In transmissions, I'm told this can turn a shield into an emitter, and though I'm receiving the inverse is true, so I don't want the shield to pick up local noise and feed it to the input via imbalances between shield and core. So if this use of ferrites relies on suppressing signals in skin effect current flow, and HF skin effect thickness are thicker than those for UHF, it seems to follow that a metallised plastic film is too thin. It appears that a shield for HF must be at least twice as thick as the skin effect depth for HF. RG6's foil or metallised plastic seems too thin, and while the braid is thick enough, its physical coverage is poor. I think it's mostly there to ensure continuity of foil as a guard against UHF noise when foil cracks on bending, and as a means to anchor a connection.

302. Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 20:10:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5uibm55g7p0f7dmdhkvcrrtj5ctfji1q4d@4ax.com>
Source record: 11102

Accumulated from various threads and contributions that demonstrates
anxiety, not research:

>As far I can tell from advice on HF, the thin foil doesn't shield as well at
>HF as a thicker braid with good physical coverage.

It sounds like you should stop listening to advice on HF.

>I found an RG6 at low cost with copper braid and Al foil (more likely
>metalised plastic film)

...and hence mostly likely NOT RG6. RG-anything is barely more than a
public domain trademark. This been hammered to death already so any
appeal to nomenclature should be confined solely to the physical
attributes of wire radius and shield inner radius; and NOT the number
of shields, NOT the coverage of the shield, NOT the property of the
wire being stranded or solid, NOT the property of the shield being al
vs. cu. Everyone of those prohibited-for-discussion characteristics
varies between manufacturers sharing the same nomenclature.

>The standard for cable tv and satellite instalations is RG6 "quad shield",
>which has a less dense braid, but a (almost) 100% aluminum foil shield.

Foil shield is a gap filler, NOT a conductor in the conventional sense
of long runs. There are no coaxial cables that have only a foil
shield (a plastic carrier of a metal deposition) that are useful for
any antenna work. Hence, the property of foil alone does not bring
any useful quality to the discussion.

>As far I can tell from advice on HF, the thin foil doesn't shield as well at
>HF as a thicker braid with good physical coverage.

Abysmal sources of information should not be returned to. "Thin foil"
is a gap filler, not a shield.

>Besides, most advice out there implies I
>have to buy it and try it to be sure, which is stupid because it's cheaper
>and faster to get a better cable! RG6 is specified for UHF, I want HF.

RG6 does not have a specification for frequency ranges outside of
loss. In that regard, RG6 is eminently preferable for use at HF over
UHF for that one consideration alone. There are cables of other
physical geometries (about the only thing that counts in this
discussion) that exceed the performance of generic RG6.

>http://www.abccables.com/info-rg59-vs-rg6.html is one of the more descriptive
>texts I read.

Interesting? Quite banal, in fact, when one stumbles over such
statements as:
"A basic rule of thumb is to use RG6 for any
Rapid Frequencies, and use RG59 for
video frequencies."
Now there's an authoritative standard you can take to the bank (if it
is AIG). Perhaps they meant "Vapid Frequencies."

>I must admit I do not understand the theory that foil is worse than
>braid at lower frequencies, foil gives 100% coverage and is usually in
>addition to braid. Even if it the thickness of the foil that is in
>question, I don't see how, according to the article that you linked to,
>it " don't(sic) have the proper type of shielding ".

Foil, as pointed out, is in addition to standard shielding. Foil
bridges the gaps between the wires composing the weave of the shield.
Those bridges are highly conductive over the very short distance
between adjacent wires, but as a conductor, foil is miserable as a
sole conductor. That is why foil shields that are the sole shield
have what is called a "drain wire" running the length of the cable. It
is quite obvious that such cables have enormous loss per foot in
transverse mode, but these shielded cables do not operate in that
fashion as they are almost exclusively supporting paired conductors
(twisted pairs that are the signal carriers). Hence, these
applications of foil/drain-wire are limited to low signal use where
the shield will encounter small fields. Even then, they can be
marginal.

>That article does seem to have a few vague contradictions,
>but I think the point about a thin foil that is adequate for UHF screening
>being inadequate for HF is interesting, and I've seen that point claimed
>before.

In coaxial application, the performance of the foil is limited to its
thickness, which in turn can be penetrated by low frequencies. We
know this as an example of penetration depth. The surrounding wire is
probably 10 to 100 to 1000 times thicker in that regard. The wire
will always satisfy most typical applications (VLF and up) and where
it would not is found in "coverage." Such issues are very rare and
are not elevated to important simply because you are straining to
catch a weak signal.

Even with this shortfall, one has to consider. On the one hand you
have a 90% coverage cable that gets signal into it. You add a poor
conductor like a metal deposition plastic covering (aka foil) and it
reduces that specific leakage by 3dB. To buy that 3dB in additional
conventional wire coverage may boost the product cost 10% whereas
adding a foil boosts cost only 1%. By reputation around the pickle
barrel, the foil is still a poor solution, but in a particular
application it bought you 3dB that you might have walked away from.

This, of course, is a fantasy scenario to illustrate how a technical
decision is weighed against cost and need. Unfortunately this fantasy

scenario exceeds the technical discussion found in:

>I like that BT2002 with the double copper braid, but I'm not yet sure
>if the difference justifies the cost

Sole cost based decisions for technical problems rarely prove useful.
You are going to have to decide whether you can accept the performance
you thought you paid for, or pay for the performance you need. As you
have not actually specified any quantitative characteristic, you are
facing either disappointment or illusion.

73's
Richard Clark, KB7QHC

303. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 20:39:38 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D11D22BC83BAzoodlewurdle@216.196.109.145>
Source record: 11103

Richard Clark <kb7qhc@comcast.net> wrote in
news:5uibm55g7p0f7dmdhkvcrrtj5ctfji1q4d@4ax.com:

>>That article does seem to have a few vague contradictions,
>>but I think the point about a thin foil that is adequate for UHF screening
>>being inadequate for HF is interesting, and I've seen that point claimed
>>before.
>
> In coaxial application, the performance of the foil is limited to its
> thickness, which in turn can be penetrated by low frequencies. We
> know this as an example of penetration depth. The surrounding wire is
> probably 10 to 100 to 1000 times thicker in that regard. The wire
> will always satisfy most typical applications (VLF and up) and where
> it would not is found in "coverage." Such issues are very rare and
> are not elevated to important simply because you are straining to
> catch a weak signal.
>

Ok, if I take that with the point about lower HF loss in RG6, it seems that my easiest option of a copper-braid RG6 will be good, but this still begs one question: If BT are using BT2002 double-braided copper and no foil, at greater cost, what does it do for them that RG6 will not do? Would it be a matter of transmission power, or something else?

304. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 20:46:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D124F1FE8336nonenowhere@61.9.191.5>
Source record: 11104

Richard has debunked much of the FUD about the foil/braid outer conductor.

Not wanting to hijack the thread, but for all the paranoia about whether the outer conductor works properly and at what freqeuncies, the discussion has ignored the risk of poorer performance at low HF for such cables with CCS inner conductors if the cladding is inadequate.

This effect does not seem to worry most ham users of CCS ladder line, so perhaps ignoring it for RG6 or RG59 is in keeping with that.

I use RG6 selectively, selected cable and selected connectors on selected applications. There is potentially a good match, prospect of low cost and good performance.

Inspect a sample of the cable you are considering, whether it is RG59 or RG6, or any no-name cable for that matter. If through braid leakage is critical to your application, you are more likely to find no-name RG59 with higher through braid leakage than RG6.

Owen

305. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 20:57:01 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D11D5188F6D4zoodlewurdle@216.196.109.145>
Source record: 11105

Owen Duffy <none@no.where> wrote in
news:Xns9D124F1FE8336nonenowhere@61.9.191.5:

> Not wanting to hijack the thread, but for all the paranoia about whether
> the outer conductor works properly and at what freqeuncies, the discussion
> has ignored the risk of poorer performance at low HF for such cables with
> CCS inner conductors if the cladding is inadequate.
>

I just wanted to focus on one thing at a time, given that types of RG6 seem
to proliferate like types of dog. One thing I'm asking sellers, if it's not
clearly described, is if the core is magnetic or otherwise obviously steel.
I've seen cables that are, and I already intend to avoid them. I restricted
my questions to those where I sas NOT sure of subsequent action.

306. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 21:41:26 UTC
From: dplatt@radagast.org
Message-ID: <61ah37-h1k.ln1@radagast.org>
Source record: 11107

In article <Xns9D11D22BC83BAzoodlewurdle@216.196.109.145>,
Lostgallifreyan <no-one@nowhere.net> wrote:

>Ok, if I take that with the point about lower HF loss in RG6, it seems that
>my easiest option of a copper-braid RG6 will be good, but this still begs one
>question: If BT are using BT2002 double-braided copper and no foil, at
>greater cost, what does it do for them that RG6 will not do? Would it be a
>matter of transmission power, or something else?

One issue which may be relevant in some applications (transmitters and
repeaters) is internally-generated cable noise.

Foil-and-braid cable has developed a somewhat evil reputation among
repeater operators. The story, as I have been told it, is that the
braid, and the conductive layer on the foil, don't make particularly
good (or continuous) contact. As RF power flows through the cable,
some of the current can jump back and forth between braid and foil,
through imperfect connections each time. This leads to some amount of
discontinuity in the current flow (diodic junction effects or
"micro-arcing") and rectifies a small amount of the RF power into
broadband noise. The same effect might be capable of generating
intermodulation noise, if the cable is carrying two or more strong
signals at the same time.

In many applications this effect is irrelevant. In a duplex
application (e.g. an FM repeater) it can be nasty... the broadband
noise from the transmit channel goes right through the duplexer stage
into the receiver, and can swamp out the desired incoming signal. You
can lose several dB of receiver sensitivity due to this effect.

For this reason, repeater builders prefer to use a non-foil-shielded
cable. Cables with double silver-plated copper braid shields are
popular, as are heliax-type semi-hardline cables.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

307. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-01-31 21:47:41 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D11DDB4D265Bzoodlewurdle@216.196.109.145>
Source record: 11106

Richard Clark <kb7qhc@comcast.net> wrote in
news:5uibm55g7p0f7dmdhkvcrrtj5ctfji1q4d@4ax.com:

> Abysmal sources of information should not be returned to.

Why return when we can find more and more new ones each day? >:)

Right now I'm looking here:
http://www.bluejeanscable.com/articles/index.htm
If there is any particular reason NOT to return there, please let me know. So far it looks good. I like their discussion on materials (which fits my own view on that subject), and on types of RG6. I just started in on the one about 'quad screens'.

308. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 04:39:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <86mcm59iof2pegca9a2j53jv7ltrdb8jik@4ax.com>
Source record: 11108

On Sun, 31 Jan 2010 15:47:41 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>I like their discussion on materials (which fits my own
>view on that subject), and on types of RG6. I just started in on the one
>about 'quad screens'.

This is called confirmatorial bias which means you justify a thought
on the basis of having found a source that repeats it back to you.

You still haven't offered the quantification of one characteristic you
want to achieve other than cost. Why is this? Clearly a cost basis
is wildly off the rails and you offer nothing else to compete against
its failure.

Face up to the disillusion being presented in this painted into the
corner scenario you are in. The cheapest cable will probably work as
best as any sensible solution has to offer, simply because your
perceived situation hasn't any prospect of being solved by that choice
of line, or any other.

73's
Richard Clark, KB7QHC

309. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 04:56:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3ancm59vgjcef9956cjnhfug0jdphhkmmn@4ax.com>
Source record: 11109

On Sun, 31 Jan 2010 13:41:26 -0800, dplatt@radagast.org (Dave Platt)
wrote:

>The story, as I have been told it, is that the
>braid, and the conductive layer on the foil, don't make particularly
>good (or continuous) contact.

Hi Dave,

I've seen this exact same statement expressed in regard to problems
introduced by the weave of wires in the shield of coax. And yet your
story teller relates that doubling the amount of shielding with woven
wires is the preferred solution.

Given the elaborate logic one must invest their faith in, for the one
explanation to make sense in regard to foil and then to be wholly
unremarkable in woven wire seems to make this rather apocryphal.

73's
Richard Clark, KB7QHC

310. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 07:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1265007601@panix.com>
Source record: 11110
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

311. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 07:36:07 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hk6098$io1$1@speranza.aioe.org>
Source record: 11111

On 1/29/2010 10:46 PM, Richard Clark wrote:

>> ...
> What is THE metamaterial?
> (cut and paste in response is not an answer, in your own words please,
> as YOU understand it)
>
> For extra credit:
> What IS metamaterial?
> (cut and paste in response is not an answer, in your own words please,
> as YOU understand it)
> ...
> 73's
> Richard Clark, KB7QHC

The materials used are very similar, in many cases exact, to the
materials used in TTD's (Temporal Tremor Detectors.)

Regards,
JS

312. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 07:41:26 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hk60j7$j6g$1@speranza.aioe.org>
Source record: 11112

On 1/30/2010 11:24 AM, Helmut Wabnig wrote:

>> ...
> Crack your cellphone and look at the antenna there.
> Open your Bluetooth dongle.
>
> Then calculate the lamda in air.
>
>
> So what.
> Ever heard about Epsilon?
> http://en.wikipedia.org/wiki/Epsilon
>
> w.

Exactly. My Bluetooth Dongle (and in no way representative of my real dongle--either in size or performance! :-)) is about the size of my index finger nail. I'd imagine use of a suitable magnifying glass would allow me to appraise the antenna it contains ...

Regards,
JS

313. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 07:45:20 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hk60qg$j6g$2@speranza.aioe.org>
Source record: 11113

On 1/29/2010 11:30 PM, Richard Clark wrote:

> ...
> Next, we consider that there is more to the radiator than the
> "metamaterial" - a quite remarkably large and thick disk of solid
> copper that appears to be serving the traditional function of
> counterpoise.
> ...
> 73's
> Richard Clark, KB7QHC

ABSOLUTELY!

Doubles as a VERY handsome paperweight, don't you agree?

Regards,
JS

314. Re: HomeBrew Capacitors?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 07:57:19 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hk61gv$k7s$1@speranza.aioe.org>
Source record: 11114

On 1/22/2010 6:24 AM, NOVICE wrote:
> Hi John,
>
> try this sites:
>
> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=10213
>
> http://www.qsl.net/mnqrp/Loop/Mag_Loops.htm
>
>
> Best regards,
>
> 73
> Buco
>
> S56LW

Buy one?

http://cgi.ebay.com/5-Variable-Air-Capacitor-Butterfly-Magnetic-Loop-Tuner_W0QQitemZ200421202229QQcmdZViewItemQQptZLH_DefaultDomain_2?hash=item2eaa08d935

Regards,
JS

315. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 08:04:08 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <J+LpkmC4roZLFAMo@ifwtech.co.uk>
Source record: 11115

Richard Clark wrote:
>On Sun, 31 Jan 2010 13:41:26 -0800, dplatt@radagast.org (Dave Platt)
>wrote:
>
>>The story, as I have been told it, is that the
>>braid, and the conductive layer on the foil, don't make particularly
>>good (or continuous) contact.
>
>Hi Dave,
>
>I've seen this exact same statement expressed in regard to problems
>introduced by the weave of wires in the shield of coax. And yet your
>story teller relates that doubling the amount of shielding with woven
>wires is the preferred solution.
>
>Given the elaborate logic one must invest their faith in, for the one
>explanation to make sense in regard to foil and then to be wholly
>unremarkable in woven wire seems to make this rather apocryphal.
>

There seems to be two different meanings of "foil" in this discussion.

Most of the criticism seems to have been about "foil" made from aluminized plastic. I'd agree this is very dubious because the effective thickness of metal is unknown, especially in low-cost cables. The presence of a so-called drain wire is also an indication that it's difficult to make direct contact with the metal in the shield.

However, "foil" can also mean a thin but solid metal sheet. When applied as an overlapping wrap of >360deg, this kind of "foil" has close to perfect shielding properties at HF and above. Its main weakness is that the metal can tear if the cable is bent too sharply, and the main purpose of the braided copper cover is to bridge any resulting gaps. Both copper and aluminium foil-covered cables are available, and copper will obviously provide a more reliable contact between a connector and the shield.

Another kind of solid metal "foil" is bonded onto the outside of the centre insulation. I've only ever seen this in aluminium; the foil is extremely thin and solidly bonded to the polyethylene, making it very vulnerable to damage by bending. A braided cover is provided, but once again there can be problems with connector assembly.

These points are confirmed by Owen, VK1OD at:
http://www.vk1od.net/transmissionline/RG6/index.htm

In this wet climate I wouldn't ever use a cable containing aluminium;
but Australia's different, of course.

Finally, beware of ALL "RG" designations. The military RG cable
specifications have been obsolete for many years and the carpetbaggers
have moved in. "RG8" was the first to fall, and "RG6" can mean both
anything and nothing.

Even in the days of MIL specs, "RG58" covered several different types of
cable - the copper could be either bare or tinned, the centre conductor
either solid or stranded - so it has always been necessary to check what
kind of construction you were buying. In modern times you also need to
check the quality.

About the only "RG" cables I'd trust today without seeing a sample are
RG213 and 214, and only from a trusted supplier.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

316. hot

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 11:50:15 UTC
From: balu <jdgjgdjdgjdgjdg@gmail.com>
Message-ID: <4dfec9a0-ecf4-4da7-9fa1-399fb7034000@k6g2000prg.googlegroups.com>
Source record: 11116

hot kiss
http://photoseefree.blogspot.com/2009/12/hot-kiss.html
hot lip kiss
http://photoseefree.blogspot.com/2009/12/hot-lip-kiss.html
hot navel kiss
http://photoseefree.blogspot.com/2009/12/hot-navel-kiss.html
hot lip to lip kiss
http://photoseefree.blogspot.com/2009/12/hot-lip-to-lip-kiss.html
super lip kiss
http://photoseefree.blogspot.com/2009/12/super-lip-kiss.html
lip kiss club
http://photoseefree.blogspot.com/2009/12/lip-kiss-club.html
kiss club
http://photoseefree.blogspot.com/2009/12/kiss-club.html

jobs

work from home
http://anyjobseehere.blogspot.com/2009/12/work-from-home.html
online jobs
http://anyjobseehere.blogspot.com/2009/12/online-jobs.html
java jobs
http://anyjobseehere.blogspot.com/2009/12/java-jobs.html
oracle jobs
http://anyjobseehere.blogspot.com/2009/12/oracle-jobs.html
web designing jobs
http://anyjobseehere.blogspot.com/2009/12/web-designing-jobs.html

317. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 16:32:24 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D12A84087F3Fzoodlewurdle@216.196.109.145>
Source record: 11117

Richard Clark <kb7qhc@comcast.net> wrote in
news:86mcm59iof2pegca9a2j53jv7ltrdb8jik@4ax.com:

>>I like their discussion on materials (which fits my own
>>view on that subject), and on types of RG6. I just started in on the one
>>about 'quad screens'.
>
> This is called confirmatorial bias which means you justify a thought
> on the basis of having found a source that repeats it back to you.
>

No. It's called 'go see for yourself and tell me based on YOUR judgement if it's worth revisiting'. If all I wanted was a pat on the head I wouldn't even have provided a link. Either that info has technical merit, or it doesn't in which case perhaps you should berate THEM and not me! You expect me to fully understand details beyond need, yet you won't even take a look at something signposted right in front of you is an adequate source of info to learn from. If you can't do that much, why should I trust your judgement? I'll make up my own mind anyway. Between my efforts, and the other posts here, I have got my answers.

> Face up to the disillusion being presented in this painted into the
> corner scenario you are in. The cheapest cable will probably work as
> best as any sensible solution has to offer, simply because your
> perceived situation hasn't any prospect of being solved by that choice
> of line, or any other.
>

Well, that's just nonsense. Grandstanding nonsense at that. You just baldly stated that no cable can fix whatever my problem might be, purely because YOU can't see what it is. You're painting me into a corner. I'm trying to get out of one. There's no technical point in what you just said. At least I try. With your knowledge, you should know better.

Other people here, (and in the pages I linked to but you didn't apparently see) have shown that foil can be so bad, either from tearing, or dubious contact, that it's unwise to use it except in fixed situations where you know it will be ok, and not for someone who is likely to want to reuse a cable while trying new ideas, or to grab more off the reel to try something else. I've seen that RG6 types vary so much that there's no point citing its name. Considering I never used to, and already knew that 75 ohms is a result of precisely controlled sizes and manufacturing tolerances, I was probably better off before I saw people telling me that distinctions between RG6 and RG59 were important. Their context isn't the same as mine. My needs are more likely to be satisfied by a BT data coax than a satellite coax.

Cheap cable meant for satellite, which IS wht I'll get if I take your suggestion of buying the cheapest cable called RG6, is a sure recipe for crappage. Cheap satellite signal cable isn't meant to perform beyond its specific purpose, and I never expect it to. Of course I'd end up disillusioned AND disappointed if I chose to use it as general purpose RF cable. But what did you really want? To help? Or to set me up for failure as part of some bizarre exercise? I guess only you can know the answer to that, I don't really care. Considering the cost of any 'RG6' that really qualifies as adequate, i.e. solid metal foil wrapped by one braid of tightly covering copper, there's little choice between that and the BT2002 I found, and the latter will take punishment better, if punishment is the order of the day.

I'll be choosing a double-braided copper, each braid of the '95% coverage' type, close and compact. I don't care that it costs twice as much, I can trust it to have decent screening for any circumstances I'm likely to meet from AF to UHF, and it's thin and flexible, and I can expect it to take weather and rough handling and be fit for reuse when I want to do that. And because BT use so much of it I can hitch a ride on the economy of scale that drives the price down. For what it is, it's better value than the cheapest.

End of discussion.

318. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 16:41:07 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hk7074bro1@news.eternal-september.org>
Source record: 11118

"John Smith" <assemblywizard@gmail.com> wrote in message
news:hk60j7$j6g$1@speranza.aioe.org...
> On 1/30/2010 11:24 AM, Helmut Wabnig wrote:
>
> >> ...
>> Crack your cellphone and look at the antenna there.
>> Open your Bluetooth dongle.
>>
>> Then calculate the lamda in air.
>>
>>
>> So what.
>> Ever heard about Epsilon?
>> http://en.wikipedia.org/wiki/Epsilon
>>
>> w.
>
> Exactly. My Bluetooth Dongle (and in no way representative of my real
> dongle--either in size or performance! :-)) is about the size of my index
> finger nail. I'd imagine use of a suitable magnifying glass would allow
> me to appraise the antenna it contains ...
>
> Regards,
> JS
-
You would use a magnifying glass to examine an antenna in your dongle?
:)

319. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 16:47:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bn0em5lndics36ap9skki4kbvru2v81dlt@4ax.com>
Source record: 11119

On Mon, 01 Feb 2010 10:32:24 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>You just baldly
>stated that no cable can fix whatever my problem might be, purely because YOU
>can't see what it is.

Quite true. I've asked several times, as have others. So to do it
once again, beyond cost: what is YOUR problem and not someone else's'
that you overheard?

We have your dozen or more suppositions filtered through anonymous and
linked-to sources of indifferent quality that each in their own right
have issues with a spectrum of cable types - but none of them have
been identified as YOUR problem except in generalized, anticipated
anxiety. Can you state one simple quantified characteristic you
currently experience that we can offer a comment to?

73's
Richard Clark, KB7QHC

320. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 16:54:41 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hk710h$7s2$1@speranza.aioe.org>
Source record: 11120

Lostgallifreyan wrote:
> Richard Clark <kb7qhc@comcast.net> wrote in
> news:86mcm59iof2pegca9a2j53jv7ltrdb8jik@4ax.com:
>
>>> I like their discussion on materials (which fits my own
>>> view on that subject), and on types of RG6. I just started in on the one
>>> about 'quad screens'.
>> This is called confirmatorial bias which means you justify a thought
>> on the basis of having found a source that repeats it back to you.
>>
>
> No. It's called 'go see for yourself and tell me based on YOUR judgement if
> it's worth revisiting'. If all I wanted was a pat on the head I wouldn't even
> have provided a link. Either that info has technical merit, or it doesn't in
> which case perhaps you should berate THEM and not me! You expect me to fully
> understand details beyond need, yet you won't even take a look at something
> signposted right in front of you is an adequate source of info to learn from.
> If you can't do that much, why should I trust your judgement? I'll make up my
> own mind anyway. Between my efforts, and the other posts here, I have got my
> answers.
>
>> Face up to the disillusion being presented in this painted into the
>> corner scenario you are in. The cheapest cable will probably work as
>> best as any sensible solution has to offer, simply because your
>> perceived situation hasn't any prospect of being solved by that choice
>> of line, or any other.
>>
>
> Well, that's just nonsense. Grandstanding nonsense at that. You just baldly
> stated that no cable can fix whatever my problem might be, purely because YOU
> can't see what it is. You're painting me into a corner. I'm trying to get out
> of one. There's no technical point in what you just said. At least I try.
> With your knowledge, you should know better.
>
> Other people here, (and in the pages I linked to but you didn't apparently
> see) have shown that foil can be so bad, either from tearing, or dubious
> contact, that it's unwise to use it except in fixed situations where you know
> it will be ok, and not for someone who is likely to want to reuse a cable
> while trying new ideas, or to grab more off the reel to try something else.
> I've seen that RG6 types vary so much that there's no point citing its name.
> Considering I never used to, and already knew that 75 ohms is a result of
> precisely controlled sizes and manufacturing tolerances, I was probably
> better off before I saw people telling me that distinctions between RG6 and
> RG59 were important. Their context isn't the same as mine. My needs are more

> likely to be satisfied by a BT data coax than a satellite coax.

As a matter of interest why are you looking at 75ohm cable, when most people and equipment use 50ohm.

Jeff

321. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 16:59:09 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D12ACC80C4EBzoodlewurdle@216.196.109.145>
Source record: 11121

Richard Clark <kb7qhc@comcast.net> wrote in
news:bn0em5lndics36ap9skki4kbvru2v81dlt@4ax.com:

> Quite true. I've asked several times, as have others. So to do it
> once again, beyond cost: what is YOUR problem and not someone else's'
> that you overheard?
>
>

I've posted more than enough. If that wasn't enough to show what I wanted (I described it repeatedly in posts dating back over a month), then any more is just noise so I won't go there.

One thing I will say: Most of the practical guides I read as a kid were a lot more vague than I have been, yet I was expected to learn from those. Yet now you say you can't deduce from my posts what I was trying to do? With all your knowledge to fill in gaps in what you see? Strange. I'll stop now because if what I said isn't beeing seen, I don't want to compound that by writing another word.

322. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 17:07:05 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D12AE1F6CDACzoodlewurdle@216.196.109.145>
Source record: 11122

Jeff <Jeff@fred.fredsystem.com> wrote in news:hk710h$7s2$1@speranza.aioe.org:

> As a matter of interest why are you looking at 75ohm cable, when most
> people and equipment use 50ohm.
>

Good point, though last I read of that, it was the other way round. :)
(Depends on context). At least, most times I had a device that needed RF
coax, it specified 75 ohms if it didn't come with cables made for it. In my
current case, it's not clearly known what other impedances are involved in
an SWL setup, but they're almost certainly higher than 75 ohms, so going for
a 50 ohm coax seems unwise.

323. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 17:48:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <th1em59u66u7ki0bd8j9pb7o4bk68mcsde@4ax.com>
Source record: 11123

On Mon, 1 Feb 2010 08:04:08 +0000, Ian White GM3SEK
<gm3sek@ifwtech.co.uk> wrote:

>There seems to be two different meanings of "foil" in this discussion.

Hi Ian,

You don't offer another meaning, simply different examples.

>Most of the criticism seems to have been about "foil" made from
>aluminized plastic. I'd agree this is very dubious because the effective
>thickness of metal is unknown, especially in low-cost cables. The
>presence of a so-called drain wire is also an indication that it's
>difficult to make direct contact with the metal in the shield.

Actually, the drain wire is not specifically needed for termination,
but having said that, it is needed for termination - in a practical
sense. The drain wire does not run the length of the cable simply to
provide a handy length of wire available at any arbitrary point of
cut. The drain wire is "so-called" because it serves as a current
drain. It is a necessary component to the electrical design much as
the "so-called" drain lead on an FET is.

The foil has an atrocious conductivity for any significant length. If
it were to be relied upon alone, you could as easily assign it the
name of distributed resistor instead of shield (and yet even a
distributed resistor would satisfy some purpose of shielding).

The drain wire insures that this significant length of atrocious
conductivity is no greater than half the circumference of the inner
insulated wire. At this length, the foil path resistance is a quite
suitably low resistance.

The sense of drain, is electrostatic drain. If the term appears to be
"so-called" it is by purpose and historical application.

>However, "foil" can also mean a thin but solid metal sheet. When applied
>as an overlapping wrap of >360deg, this kind of "foil" has close to
>perfect shielding properties at HF and above. Its main weakness is that
>the metal can tear if the cable is bent too sharply, and the main
>purpose of the braided copper cover is to bridge any resulting gaps.
>Both copper and aluminium foil-covered cables are available, and copper
>will obviously provide a more reliable contact between a connector and
>the shield.

Every cable has what is called its minimum turn radius. In use, this
can be violated and the physical and electrical properties can become

compromised. This is not a fault of design.

That a user can put a cable to misfortune is not remarkable insight, but attributing the tear in this foil to becoming a great misfortune seems to be hysterical as that tear is drawing down the shield coverage from 100% to 99.9999999% except at one specific and distraught bend where it might actually reduce it to 96% (the native coverage of the woven shield that embraces it) for an eighth inch. It is very hard to imagine a situation where this local discontinuity serves to bring down an entire system when it is a design redundancy. The user having violated the minimum radius rule should be more concerned with the inner wire migration through insulation and causing a short - a vastly higher probability of an issue of greater concern. Most Hams are quite aware of that consequence, and it alone (if nothing other) motivates them to observe the minimum bend radius prohibition.

Those Hams who are not aware of this consequence lead a superstitious existence where failure arrives by the fault of some mysterious and elaborate agency:

I have heard these stories of torn foil for years. And yet each and every one of them has been testimonial, not research based in their having been the cause of misfortune. Evidence would demand that the entire length of jacket and woven shield be stripped off the cable in some form of ritual much like an autopsy. That operation alone is suggestive of general destruction, a self fulfilling prophecy once you get down to the fragile foil layer.

This level of examination is something only a producer would embark upon, and once they discovered a systemic failure, they would resolve it (cynics can chime in here with their chorus of "no they wouldn't"). A Ham would look at a kink in a cable, open it up, discover torn foil, and it would be immediate proof of the problem. Simply fill in the blank of what that problem is, and add that to the list of ills that proceeds from using foil shielded cable.

Now, if some scribbler wants to invest foil with toxicity for their current situation, it might do to follow the lead of that foil being (in flexion at a rotor, for instance) a source of triboelectricity. Ponder the genesis of the following observation:
>Another kind of solid metal "foil" is bonded onto the outside of the
>centre insulation.
which serves to resolve that (the manufactures DO perform autopsies and they DO provide resolutions).

If you turn to Wikipedia to consult what the term triboelectric means (few here are going to have encountered it knowingly), it will only be loosely descriptive, but sufficiently so. A more suitable introduction can be found at:
http://www.systemswire.com/low-noise-triboelectric-cable.html
One extract can be informative:

"The size of the triboelectric voltage spikes
in the cable is very much a function of the materials
selected by the cable designers. Copper and foamed
polyethylene, for instance, are two of the lowest
triboelectric generators available today. Adding
conductive low-noise layers can also reduce the
noise levels from tens of milivolts to the microvolt
range. The cable noise reduction noise occurs as
a result of draining the triboelectric induced charge
away from the wire insulation."
... and we encounter that "so-called drain" once again.

73's
Richard Clark, KB7QHC

324. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 17:57:25 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hk74m6$di6$1@speranza.aioe.org>
Source record: 11124

Lostgallifreyan wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hk710h$7s2$1@speranza.aioe.org:
>
>> As a matter of interest why are you looking at 75ohm cable, when most
>> people and equipment use 50ohm.
>>
>
> Good point, though last I read of that, it was the other way round. :)
> (Depends on context). At least, most times I had a device that needed RF
> coax, it specified 75 ohms if it didn't come with cables made for it. In my
> current case, it's not clearly known what other impedances are involved in
> an SWL setup, but they're almost certainly higher than 75 ohms, so going for
> a 50 ohm coax seems unwise.

Virtually all radio equipment is standardized on 50 ohms, with the
exception of CATV etc.

Any receiving equipment you get will almost certainly have a 50 ohm
(nominal!) input, so any higher antenna impedances will need to be
matched back to 50ohms anyway. How much loss you will encounter by using
75ohm cable will depend on the actual set up.

Jeff

325. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 18:08:47 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D12B88E08920zoodlewurdle@216.196.109.145>
Source record: 11125

Jeff <Jeff@fred.fredsystem.com> wrote in news:hk74m6$di6$1@speranza.aioe.org:

> Any receiving equipment you get will almost certainly have a 50 ohm
> (nominal!) input, so any higher antenna impedances will need to be
> matched back to 50ohms anyway. How much loss you will encounter by using
> 75ohm cable will depend on the actual set up.
>

Apparently no-one knows the impedance of a Sangean ATS-909 radio, I've asked several people, at least one of whom specialises in modifying that radio. Looks like 1K is best guess based on schematic. Loss won't bother me so much as SNR. Several people advised that a 15 foot vertical whip is likely to overload the input so loss is not my main concern.

326. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 19:19:39 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hk79g9$kv5$1@speranza.aioe.org>
Source record: 11126

On 2/1/2010 8:41 AM, Wayne wrote:

>> ...
> -
> You would use a magnifying glass to examine an antenna in your dongle?
> :)
>
>

Yanno, I knew it was a mistake when the first guy started talking about
"dongles." <grin>

Regards,
JS

327. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 19:44:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D1344A36D7B8nonenowhere@61.9.191.5>
Source record: 11127

Jeff <Jeff@fred.fredsystem.com> wrote in
news:hk710h$7s2$1@speranza.aioe.org:

> As a matter of interest why are you looking at 75ohm cable, when most
> people and equipment use 50ohm.

On the basis of that logic, what possible use could there be for 400 ohm transmission line, and why then is it so very popular?

In the case of the OP's questions, IIRC they relate to a RO application.

To enlighten you, high performance noise optimised ham receivers for microwave bands are oftenm if not usually designed for a specific input impedance that is quite different to 50 ohms... yet we use them with 50 ohm transmission linees.

If you think the choice of 50 ohm line is a no-brainer, you are probably right.

Owen

328. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 20:00:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D13475B05565nonenowhere@61.9.191.5>
Source record: 11128

Ian White GM3SEK <gm3sek@ifwtech.co.uk> wrote in
news:J+LpkmC4roZLFAMo@ifwtech.co.uk:

> There seems to be two different meanings of "foil" in this discussion.
>
> Most of the criticism seems to have been about "foil" made from
> aluminized plastic. I'd agree this is very dubious because the
> effective thickness of metal is unknown, especially in low-cost
> cables. The presence of a so-called drain wire is also an indication
> that it's difficult to make direct contact with the metal in the
> shield.

Quality of product is an issue, but the type of 'foil' you describe, and as part of a system of braid and foil isn't necessarily as poor as you intimate.

The better ones are quite tough, in fact one might desribe them as tenacious when trying to terminate cables, and if you look carefully, they are circumfrentially closed.

As I said earlier, and I think you are agreed Ian, cable bears inspection. It does take experience to develop the skills and knowledge to be competent. Above all objectivity is important. I gauge a certain bias in the OP's approach... but I could be wrong.

Owen

PS: Sitting here is unwanted rain from day to day (I am trying to build a shed at my new place), I am a bit amused at the throwaway line about Australian weather. I visited my old house a few days ago, it is about 150km away, and dry as. However, Australia ranges from tropical rainforest to dry desert and I would not install any form of coax without adequate protection from water.

I know from work experience that the products of aluminium corrosion can play havoc with IMD... but then if IMD performance was critical (eg a communal repeater site), you wouldn't use RG6 in any form, or probably even braided copper for antenna runs, you would look at solid copper outer conductor and DIN coax connectors.

Which all shows that there isn't a single "best" coax for all applications.

329. Re: more RG-6 questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-01 22:30:21 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hk7klt$a93$1@news.jpl.nasa.gov>
Source record: 11129

Geoffrey S. Mendelson wrote:
> Lostgallifreyan wrote:
>
>> Most of the things I read suggest that the extra sheilding is only really
>> useful if you have a strong local signal you want to exclude. More problems
>> result from poor connections, according to posts by satellite installers,
>> than from using a cheap foil/braid shield.
>
> That tells you a lot about the people posting. The quad shield is not
> to prevent other signals getting in, it's to prevent the ones inside from
> getting out.
>
> I'm not in the US, so I don't know if the VHF/UHF TV channels were abandonded
> by cable companies in the switch to digital, but you can be sure that any
> now unused bandwidth won't stay unused long.
>
Worse..
Several cable channels overlap the aviation VHF band, and as one might imagine, the FCC comes down on the cable operator pretty quick if their physical plant is leaking any significant power at those frequencies.

As noted elsewhere, the last thing the cable operator wants is to discover that some cable inside a customer's house is radiating. The cable operator is responsible for signal leakage all the way to the point of use (e.g. the RF input to the TV).

This is unlike the regulated telephone company, where there's a clear "demarcation point" that separates the responsibility (it's even called the "demarc" colloquially.. it's at the cable point of entry to the house, and has a phone jack and plug installed). For phone stuff, if there's a problem, and they come out, and unplug the demarc, and the problem goes away, YOU get to fix it, because it's on YOUR side of the line.

It's a sort of trade.. the cable company is very lightly regulated, and can offer services and such all the way into your house, but in exchange, they're also responsible.

330. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 04:04:41 UTC
From: joe <none@domain.invalid>
Message-ID: <hk884spue1@speranza.aioe.org>
Source record: 11130

Lostgallifreyan wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hk74m6$di6$1@speranza.aioe.org:
>
>> Any receiving equipment you get will almost certainly have a 50 ohm
>> (nominal!) input, so any higher antenna impedances will need to be
>> matched back to 50ohms anyway. How much loss you will encounter by using
>> 75ohm cable will depend on the actual set up.
>>
>
> Apparently no-one knows the impedance of a Sangean ATS-909 radio, I've asked
> several people, at least one of whom specialises in modifying that radio.
> Looks like 1K is best guess based on schematic. Loss won't bother me so much
> as SNR. Several people advised that a 15 foot vertical whip is likely to
> overload the input so loss is not my main concern.

1K is just a guess as it is just one component in the antenna input
circuit.

Also, nobody observed that the input impedance of the radio can vary
significantly with the setting of the "RF Gain" control.

Crude measurements on a DX-398 show the impedance near 85 ohms at 'max'
gain and near 280 ohms at 'min' gain. The measurements were crude and
the error could be 20%. Use these numbers with caution.

There are no guarantees that the input impedance does not change with
frequency, either.

331. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 04:48:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <MbmdncSoypoDM_rWnZ2dnUVZ_jCdnZ2d@giganews.com>
Source record: 11131

joe wrote:
>
> 1K is just a guess as it is just one component in the antenna input
> circuit.
>
> Also, nobody observed that the input impedance of the radio can vary
> significantly with the setting of the "RF Gain" control.
>
> Crude measurements on a DX-398 show the impedance near 85 ohms at 'max'
> gain and near 280 ohms at 'min' gain. The measurements were crude and
> the error could be 20%. Use these numbers with caution.
>
> There are no guarantees that the input impedance does not change with
> frequency, either.

The Sangean ATS-909 appears to operate no higher than 30 MHz. In the HF range, antenna efficiency and transmission line mismatch have no significant effect on the signal/noise ratio (unless the system is exceptionally lossy and/or the receiver exceptionally noisy, neither very likely), hence they don't affect your ability to hear stations.

Roy Lewallen, W7EL

332. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 08:24:06 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hk8nf9$9nh$1@speranza.aioe.org>
Source record: 11132

Lostgallifreyan wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hk74m6$di6$1@speranza.aioe.org:
>
>> Any receiving equipment you get will almost certainly have a 50 ohm
>> (nominal!) input, so any higher antenna impedances will need to be
>> matched back to 50ohms anyway. How much loss you will encounter by using
>> 75ohm cable will depend on the actual set up.
>>
>
> Apparently no-one knows the impedance of a Sangean ATS-909 radio, I've asked
> several people, at least one of whom specialises in modifying that radio.
> Looks like 1K is best guess based on schematic. Loss won't bother me so much
> as SNR. Several people advised that a 15 foot vertical whip is likely to
> overload the input so loss is not my main concern.

It seems very strange that you are taking things to the ultimate when
considering coax cable, whilst considering using a very inferior
portable radio for your reception!!

Jeff

333. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 09:31:59 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <yb2391LPE$ZLFAYb@ifwtech.co.uk>
Source record: 11133

Richard Clark wrote:
>On Mon, 1 Feb 2010 08:04:08 +0000, Ian White GM3SEK
><gm3sek@ifwtech.co.uk> wrote:
>
>>There seems to be two different meanings of "foil" in this discussion.
>
>Hi Ian,
>
>You don't offer another meaning, simply different examples.
>

The purpose of the posting was to identify and distinguish those two
very different meanings of "foil".

>>Most of the criticism seems to have been about "foil" made from
>>aluminized plastic. I'd agree this is very dubious because the effective
>>thickness of metal is unknown, especially in low-cost cables. The
>>presence of a so-called drain wire is also an indication that it's
>>difficult to make direct contact with the metal in the shield.
>
>Actually, the drain wire is not specifically needed for termination,
>but having said that, it is needed for termination - in a practical
>sense. The drain wire does not run the length of the cable simply to
>provide a handy length of wire available at any arbitrary point of
>cut. The drain wire is "so-called" because it serves as a current
>drain. It is a necessary component to the electrical design much as
>the "so-called" drain lead on an FET is.
>
>The foil has an atrocious conductivity for any significant length. If
>it were to be relied upon alone, you could as easily assign it the
>name of distributed resistor instead of shield (and yet even a
>distributed resistor would satisfy some purpose of shielding).
>
>The drain wire insures that this significant length of atrocious
>conductivity is no greater than half the circumference of the inner
>insulated wire. At this length, the foil path resistance is a quite
>suitably low resistance.
>
>The sense of drain, is electrostatic drain. If the term appears to be
>"so-called" it is by purpose and historical application.
>

Very well, let me re-phrase: the presence of a so-called drain wire can
be taken as an indication that the metalized plastic shield has poor
electrical conductivity and is not suitable for RF applications.

>>However, "foil" can also mean a thin but solid metal sheet. When applied
>>as an overlapping wrap of >360deg, this kind of "foil" has close to
>>perfect shielding properties at HF and above. Its main weakness is that
>>the metal can tear if the cable is bent too sharply, and the main
>>purpose of the braided copper cover is to bridge any resulting gaps.
>>Both copper and aluminium foil-covered cables are available, and copper
>>will obviously provide a more reliable contact between a connector and
>>the shield.
>
>Every cable has what is called its minimum turn radius. In use, this
>can be violated and the physical and electrical properties can become
>compromised. This is not a fault of design.
>
Manufacturers are fully entitled to specify a minimum bending radius.
What's important here is the *result* of bending the cable at a
progressively decreasing radius. A braided shield will slip and stretch
to relieve the stresses, and will often survive quite excessive bending
without breakage of strands; it will then recover leaving relatively
little disturbance.

In contrast, a foil shield has a very sharp failure threshold, beyond
which it will be torn apart; see below.

>That a user can put a cable to misfortune is not remarkable insight,
>but attributing the tear in this foil to becoming a great misfortune
>seems to be hysterical as that tear is drawing down the shield
>coverage from 100% to 99.9999999% except at one specific and
>distraught bend where it might actually reduce it to 96% (the native
>coverage of the woven shield that embraces it) for an eighth inch. It
>is very hard to imagine a situation where this local discontinuity
>serves to bring down an entire system when it is a design redundancy.
>The user having violated the minimum radius rule should be more
>concerned with the inner wire migration through insulation and causing
>a short - a vastly higher probability of an issue of greater concern.

Those are two separate problems. The "issue of greater concern" is the
simply the one that happens first; but without detailed knowledge of
each specific installation it's impossible to predict which one that may
be.

>Most Hams are quite aware of that consequence, and it alone (if
>nothing other) motivates them to observe the minimum bend radius
>prohibition.
>
>Those Hams who are not aware of this consequence lead a superstitious
>existence where failure arrives by the fault of some mysterious and
>elaborate agency:
>
>I have heard these stories of torn foil for years. And yet each and
>every one of them has been testimonial, not research based in their
>having been the cause of misfortune. Evidence would demand that the
>entire length of jacket and woven shield be stripped off the cable in

>some form of ritual much like an autopsy.

Here is that story. The cable in question was semi-airspaced with a shield made from solid copper foil in a >360deg wrap, overlaid by open-weave copper braid. Having experienced problems with fluctuating VSWR in a rotor loop, I removed that entire section of cable - and yes, indeed I did 'autopsy' it.

>
>much like an autopsy. That operation alone is suggestive of general
>destruction, a self fulfilling prophecy once you get down to the
>fragile foil layer.
>
Rubbish.

The cable jacket was carefully removed by slitting along its length and gently peeling it off. In the two sections close to where the rotor loop had been anchored, the foil shield had been torn circumferentially into several isolated segments, each a few inches long. The overlying braid was not broken, and was only slightly disturbed by the surgeon's knife.

Such was the objective evidence.

My deductions were that most of the repeated bending of the rotor loop had been concentrated into those two sections. As for the VSWR fluctuations, it seemed that the outer braid had not made sufficiently good contact to bridge over the breaks in the foil when the antenna was being rotated. I considered both the observed VSWR problem and the implied shielding problem to be important because the system was carrying 1kW at 432MHz.

I accept that these problems were entirely due to my poor installation technique. I now try to distribute the bending more evenly along the entire length of any rotor loop, but it isn't easy. Therefore I prefer to use cables that have some tolerance of excessive bending if it should occur.

>This level of examination is something only a producer would embark
>upon, and once they discovered a systemic failure, they would resolve
>it (cynics can chime in here with their chorus of "no they wouldn't").

No, they wouldn't. They would simply state that this type of cable was not designed for repeated flexing at close to the minimum bend radius. I fully accept that; what I don't like is the drastic mode of failure in which the foil tears completely apart.

In particular, I don't like the type of cable in which the foil shield is solidly bonded to the underlying PE, because there is no possibility of 'slip' to relieve the bending stresses.

In practice, hams have to use whatever is most cost-effective and there is no doubt that solid copper foil has excellent EM shielding properties, so long as that shield remains undisturbed. For a rotor

loop, one has to balance the risk of tearing the shield against the disadvantages of splicing in a section of more flexible and tolerant cable such as RG213.

More modern low-loss cables have both the solid metal foil shield and a heavier cover of braid to act as backup.

>A Ham would look at a kink in a cable, open it up, discover torn foil,
>and it would be immediate proof of the problem. Simply fill in the
>blank of what that problem is, and add that to the list of ills that
>proceeds from using foil shielded cable.
>
None of us was talking about a severe "kink", only about moderately excessive bending.

Although I only had that one experience of failure (and didn't let it happen again), I did take the trouble to find out what had caused it. Several other hams have related similar experiences with those kinds of foil shielded cable. I still use them where low loss is important, but treat them much more carefully than braid shielded cables like RG213.

--

73 from Ian GM3SEK
http://www.ifwtech.co.uk/g3sek

334. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 14:57:06 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D1398187C60Czoodlewurdle@216.196.109.145>
Source record: 11134

Jeff <Jeff@fred.fredsystem.com> wrote in news:hk8nf9$9nh$1@speranza.aioe.org:

> It seems very strange that you are taking things to the ultimate when
> considering coax cable, whilst considering using a very inferior
> portable radio for your reception!!
>

Not really. A few tens of metres of cable whose cost is not more than 3 times the cheapest of satellite coaxes, and whose total cost is less than half the lowest cost of that radio when found second-hand, is hardly overdoing it.

335. Re: Remarkably Small Antennas - Fact or Fiction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 16:36:43 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hk9kas$ea9$1@news.eternal-september.org>
Source record: 11135

"John Smith" <assemblywizard@gmail.com> wrote in message
news:hk79g9$kv5$1@speranza.aioe.org...
> On 2/1/2010 8:41 AM, Wayne wrote:
>
> >> ...
>> -
>> You would use a magnifying glass to examine an antenna in your dongle?
>> :)
>>
>>
>
> Yanno, I knew it was a mistake when the first guy started talking about
> "dongles." <grin>
>
> Regards,
> JS
-
I knew the discussion would go downhill, so I rolled the first snowball :)
At one time, I used a network security password dongle at work. One of the
gals liked to use the word frequently, and would then snicker.
--Wayne
W5GIE (in W6 exile)

336. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 17:42:21 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hk9o5u$r40$1@speranza.aioe.org>
Source record: 11136

Lostgallifreyan wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hk8nf9$9nh$1@speranza.aioe.org:
>
>> It seems very strange that you are taking things to the ultimate when
>> considering coax cable, whilst considering using a very inferior
>> portable radio for your reception!!
>>
>
> Not really. A few tens of metres of cable whose cost is not more than 3 times
> the cheapest of satellite coaxes, and whose total cost is less than half the
> lowest cost of that radio when found second-hand, is hardly overdoing it.

I think the point is that radio is very much under-doing it!!!

Jeff

337. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 18:05:04 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D13B7F628907zoodlewurdle@216.196.109.145>
Source record: 11137

Jeff <Jeff@fred.fredsystem.com> wrote in
news:hk9o5u$r40$1@speranza.aioe.org:

> Lostgallifreyan wrote:
>> Jeff <Jeff@fred.fredsystem.com> wrote in
>> news:hk8nf9$9nh$1@speranza.aioe.org:
>>
>>> It seems very strange that you are taking things to the ultimate when
>>> considering coax cable, whilst considering using a very inferior
>>> portable radio for your reception!!
>>>
>>
>> Not really. A few tens of metres of cable whose cost is not more than 3
>> times the cheapest of satellite coaxes, and whose total cost is less
>> than half the lowest cost of that radio when found second-hand, is
>> hardly overdoing it.
>
> I think the point is that radio is very much under-doing it!!!
>

Why are you so set against that radio? A lot of people like it (some of them
enough to modify it rather than replace it). What do you recommend? And how
much would it cost? This thread wasn't about that radio but this is worth
pursuing, you seem to have a strong feeling about it. I just bought it
because it seemed like a good cheap base to start from. (Not cheap if I'd had
to buy new, but I purposely avoided that).

338. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-02 18:17:55 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D13BA23FF4D3zoodlewurdle@216.196.109.145>
Source record: 11138

Lostgallifreyan <no-one@nowhere.net> wrote in
news:Xns9D13B7F628907zoodlewurdle@216.196.109.145:

> Jeff <Jeff@fred.fredsystem.com> wrote in
> news:hk9o5u$r40$1@speranza.aioe.org:
>
>> Lostgallifreyan wrote:
>>> Jeff <Jeff@fred.fredsystem.com> wrote in
>>> news:hk8nf9$9nh$1@speranza.aioe.org:
>>>
>>>> It seems very strange that you are taking things to the ultimate when
>>>> considering coax cable, whilst considering using a very inferior
>>>> portable radio for your reception!!
>>>>
>>>
>>> Not really. A few tens of metres of cable whose cost is not more than
>>> 3 times the cheapest of satellite coaxes, and whose total cost is less
>>> than half the lowest cost of that radio when found second-hand, is
>>> hardly overdoing it.
>>
>> I think the point is that radio is very much under-doing it!!!
>>
>
> Why are you so set against that radio? A lot of people like it (some of
> them enough to modify it rather than replace it). What do you recommend?
> And how much would it cost? This thread wasn't about that radio but this
> is worth pursuing, you seem to have a strong feeling about it. I just
> bought it because it seemed like a good cheap base to start from. (Not
> cheap if I'd had to buy new, but I purposely avoided that).
>

Further, the ATS-909 is a fairly old design. Not many appear used on eBay,
and new ones still sell for what I think are excessive prices, from Germany,
Japan and elsewhere. Bad radios surely get sold on as fast as people can
pass them off on someone else. They're unlikely to be in shorter supply
secondhand than new, when they're as old a design as this one is, and very
few second-hand ones remain unsold when an auction ends. I'm not trying to
correlate buyers opinions with the finer points of radio engineering, but it
remains a fact that people would rather keep them and use them than sell them
on, which is fairly convincing as an argument to get one if the price is
good, so I got one. Had to wait a few months too, for an auction that had low
competition, but I think it was worth it. A lot of people documented
modifications, suggesting an enthusiastic technically adept following. That
is one of the things that helped me decide to get one. It means I'm not
reliant on one supplier for info or advice if I need to fix or modify it.

Really poor radios don't go through what I just decribed, they sink without trace instead of surviving for over a decade with such deep involvement from so many of their users.

339. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 01:03:39 UTC
From: joe <none@domain.invalid>
Message-ID: <hkahtc$48n$1@speranza.aioe.org>
Source record: 11139

Lostgallifreyan wrote:
> Lostgallifreyan <no-one@nowhere.net> wrote in
> news:Xns9D13B7F628907zoodlewurdle@216.196.109.145:
>
>> Jeff <Jeff@fred.fredsystem.com> wrote in
>> news:hk9o5u$r40$1@speranza.aioe.org:
>>
>>> Lostgallifreyan wrote:
>>>> Jeff <Jeff@fred.fredsystem.com> wrote in
>>>> news:hk8nf9$9nh$1@speranza.aioe.org:
>>>>
>>>>> It seems very strange that you are taking things to the ultimate when
>>>>> considering coax cable, whilst considering using a very inferior
>>>>> portable radio for your reception!!
>>>>>
>>>> Not really. A few tens of metres of cable whose cost is not more than
>>>> 3 times the cheapest of satellite coaxes, and whose total cost is less
>>>> than half the lowest cost of that radio when found second-hand, is
>>>> hardly overdoing it.
>>> I think the point is that radio is very much under-doing it!!!
>>>
>> Why are you so set against that radio? A lot of people like it (some of
>> them enough to modify it rather than replace it). What do you recommend?
>> And how much would it cost? This thread wasn't about that radio but this
>> is worth pursuing, you seem to have a strong feeling about it. I just
>> bought it because it seemed like a good cheap base to start from. (Not
>> cheap if I'd had to buy new, but I purposely avoided that).
>>
>
> Further, the ATS-909 is a fairly old design. Not many appear used on eBay,
> and new ones still sell for what I think are excessive prices, from Germany,
> Japan and elsewhere. Bad radios surely get sold on as fast as people can
> pass them off on someone else. They're unlikely to be in shorter supply
> secondhand than new, when they're as old a design as this one is, and very
> few second-hand ones remain unsold when an auction ends. I'm not trying to
> correlate buyers opinions with the finer points of radio engineering, but it
> remains a fact that people would rather keep them and use them than sell them
> on,

OR throw them away when they die, or put them is a box in a closet. You
really don't know.

which is fairly convincing as an argument to get one if the price is
> good, so I got one. Had to wait a few months too, for an auction that had low
> competition, but I think it was worth it. A lot of people documented

> modifications, suggesting an enthusiastic technically adept following.

That technically adept following could not provide any useful
information on the input impedance. While actually knowing the impedance
may not be of much value in your endeavors, given the availability of
the schematic, someone could have modeled the input in Spice.

That
> is one of the things that helped me decide to get one. It means I'm not
> reliant on one supplier for info or advice if I need to fix or modify it.
>
> Really poor radios don't go through what I just described, they sink without
> trace instead of surviving for over a decade with such deep involvement from
> so many of their users.

A really good radio probably doesn't need a bunch of modifications to
deal with deficiencies.

Some radios hang around because they were built in large volumes.
Quality and performance may mean little.

The point that was made is your radio does not really warrant the effort
your are putting into the antenna. Any variety of quick and easy
antennas may give you adequate results.

So, here is what I see.
1) Worrying about the radio's input impedance is of little value
2) The choice of coax won't make much difference - performance wise, but
copper braid is much easier to solder to.
3) A simple wire antenna at the end of the coax should be sufficient
4) A balun (or un-un for the picky) between the antenna and coax is
probably worthwhile. 9:1 or 10:1 won't make any difference.
5) Figure out what you are going to do about lightning protection.
6) Rather than spend weeks sorting out the details, string up some wire
and listen to the radio.

340. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 01:44:25 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D1411B2E6388zoodlewurdle@216.196.109.145>
Source record: 11140

joe <none@domain.invalid> wrote in news:hkahtc$48n$1@speranza.aioe.org:

> The point that was made is your radio does not really warrant the effort
> your are putting into the antenna. Any variety of quick and easy
> antennas may give you adequate results.
>

On the other hand, I've been told that a good RF ground and a well-sited antenna make more difference than anything else. Who cares about the radio, I can change that. If I don't at least try to get the antenna right, what would be the point of that change in radio? Where I live I'm unlikely to ever get much, but spending what amounts to a couple of weeks food money on trying is worth a go.

> So, here is what I see.
> 1) Worrying about the radio's input impedance is of little value

Of course. Wasn't me who was worrying about it, once I learned a bit about it, some weeks back. I recently pointed out that striving to use 50 ohms for an SWL setup that had undetermined impedances didn't matter to me. Am I wrong both ways?

> 2) The choice of coax won't make much difference - performance wise, but
> copper braid is much easier to solder to.

True. This is something I pointed out, several times. I also pointed out that given the want to try things, a cable that can be reliably reused is better than one that can't, so a fragile cheap foil screened cable is more trouble than its worth.

> 3) A simple wire antenna at the end of the coax should be sufficient

Maybe. I'll be trying that. There's no room out there to run it without bringing it close to buldings so to get anything decent it's going to have to be vertical, so that immediately has a few demands. Can't just shove it up there, it has to be safe. Tenants tend to have binding conditions for putting up stuff like that too.

> 4) A balun (or un-un for the picky) between the antenna and coax is
> probably worthwhile. 9:1 or 10:1 won't make any difference.

I intend to try one. The exact winding ratio doesn't bother me that much. What bothers me is that if I don't mention one someone does, and if I do, I'm told I shouldn't use one. The degree of contradiction I see suggests I'm not the only one with some rather vague ideas. I read posts by John Doty that have persisted a while online in several places since he wrote them. They make sense, so I'll try them. They basically aim to reduce peaks and nulls in

sensitivity for various points in the HF bands.

> 5) Figure out what you are going to do about lightning protection.

Already have. It will go direct from antenna to ground through a winding, there will be no direct current link from antenna to coax. The coax also will have a 1:1 ferrite transformer at the receiver end.

> 6) Rather than spend weeks sorting out the details, string up some wire
> and listen to the radio.
>

A simple wire direct to the radio doesn't help here. I'm in a basement, in an inner city valley. Too much building around me, too much RFI, and too much scaffolding too, major works being done to the building by the landlords. Until I can get some undisturbed access to the back yard to wire an antenna, I have no choice BUT to think of what I can do. The moment actually trying stuff becomes easier than living with that and reading and posting online, then I'll do it. I've bought a few things, coax, toroids, a cheap whip mast, but there's not much I can do out there with anything yet.

One thing I've learned is that for every bit of informed advice, a bit of informed contradictory advice will be found. Considering how easily people give vent to it, it seems wise to ask and watch the answers and make up my own mind. I also prefer to measure three times and cut once. It's usually cheaper. I have plenty of time and not much money.

341. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 07:51:17 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hkb9to$1dl$1@speranza.aioe.org>
Source record: 11141

>>>>
>>> Not really. A few tens of metres of cable whose cost is not more than 3
>>> times the cheapest of satellite coaxes, and whose total cost is less
>>> than half the lowest cost of that radio when found second-hand, is
>>> hardly overdoing it.
>> I think the point is that radio is very much under-doing it!!!
>>
>
> Why are you so set against that radio? A lot of people like it (some of them
> enough to modify it rather than replace it). What do you recommend? And how
> much would it cost? This thread wasn't about that radio but this is worth
> pursuing, you seem to have a strong feeling about it. I just bought it
> because it seemed like a good cheap base to start from. (Not cheap if I'd had
> to buy new, but I purposely avoided that).

It is really more the difference in consideration between the coax and
the radio that strikes me. You are making a huge fuss over the coax, but
appear to have little consideration over the radio which is a far more
important issue. You seem to be set on the Sagen when it is is far from
the best solution, but nit picking over the coax, which in reality most
likely won't make a shred of difference.

It is a perfectly adequate radio for what it was designed to be; a
portable that you take away on holiday to listen to BBC world service
on, but as for using it for anything more it is lacking.

Even you admitted in an earlier post that it was overloaded by anything
more than a whip antenna!!

You would be far better off buying a dedicated HF receiver or a
transceiver with a far superior performance. They are available on Ebay
as well.

Jeff

342. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 14:47:27 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D149674215F6zoodlewurdle@216.196.109.145>
Source record: 11142

Jeff <Jeff@fred.fredsystem.com> wrote in news:hkb9to$1dl$1@speranza.aioe.org:

> It is a perfectly adequate radio for what it was designed to be; a
> portable that you take away on holiday to listen to BBC world service
> on, but as for using it for anything more it is lacking.
>

Lacking what, specifically? I wanted a general purpose radio with full AM coverage to 30 MHz, and I wanted it to be cheap and portable. Then I wanted to give it a decent chance of getting signals when I'm not carrying it around.

As for a radio that that is only fit for getting BBC World Service, are you sure you're not confusing the ATS-909 with whatever Sangean's original was, as cloned by Roberts with model R9921? That really IS a basic radio designed for that purpose, the ATS-909 does more.

> Even you admitted in an earlier post that it was overloaded by anything
> more than a whip antenna!!
>

Not the point. It's easier to attenuate than to do almost anything else. Even the radio itself can do that.

> You would be far better off buying a dedicated HF receiver or a
> transceiver with a far superior performance. They are available on Ebay
> as well.
>

If you know of any that fit my description above, please name them.

343. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 16:06:42 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkc6uk$p84q$1@tr22n12.aset.psu.edu>
Source record: 11143

Lostgallifreyan wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hkb9to$1dl$1@speranza.aioe.org:
>
>> It is a perfectly adequate radio for what it was designed to be; a
>> portable that you take away on holiday to listen to BBC world service
>> on, but as for using it for anything more it is lacking.
>>
>
> Lacking what, specifically? I wanted a general purpose radio with full AM
> coverage to 30 MHz, and I wanted it to be cheap and portable. Then I wanted
> to give it a decent chance of getting signals when I'm not carrying it
> around.

Chiming in late on this one.

The antenna isn't usually the limiting factor on modern radios. You'll likely do as well with a random wire as a seriously engineered system. Since you're only receiving, this is the case.

If you are wanting 500 KHz to 30 MHz, and you want full coverage, you'll be hard pressed to beat a random length dipole and maybe give yourself a little tuning cap on your end if you like. Just put up as much wire as your space will permit, and there you go. This assumes that you use ladder line to feed, not coax. For such a wide range antenna, ladder line is the way to go.

That's going to wring out just about the last bit of performance you can expect, unless you want to go to the bitter edge and construct directional antennas. At the 500 KHz end, that will be a tad difficult.

Now for your application, the performance difference between a chunk of wire, my random length dipole, and some directional gastraphagus will be surprisingly little.

Use, or do not use the advice.

- 73 de Mike N3LI -

344. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 16:41:18 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkc8vh$g82k$1@tr22n12.aset.psu.edu>
Source record: 11144

Lostgallifreyan wrote:

> I've been told that braid makes a great deal of difference to common mode
> noise pickup, and that while a thin foil and loose braid is fine at UHF it's
> not to be expected to do the same for HF.

Are their any good references with test numbers on this? Been googling a
bit, haven't found anything definitive yet

- 73 de Mike N3LI -

345. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 17:30:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <14cjm514vueomstcam845dealkjr7ddg3b@4ax.com>
Source record: 11145

On Wed, 03 Feb 2010 11:41:18 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

>> I've been told that braid makes a great deal of difference to common mode
>> noise pickup, and that while a thin foil and loose braid is fine at UHF it's
>> not to be expected to do the same for HF.
>
>Are their any good references with test numbers on this? Been googling a
>bit, haven't found anything definitive yet

Hi Mike,

With the CM performance being tied to foil application, such a
non-starter is bound to have only the whisp of academic research into
it if you expect to find test numbers. On the other hand, there's
sure to be a forest fire of testimonials.

To help in your search, try googling "cable transfer impedance." The
first page of responses should have a wealth of information.

73's
Richard Clark, KB7QHC

346. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 17:37:10 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hkcc89$kp5$1@speranza.aioe.org>
Source record: 11146

Lostgallifreyan wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hkb9to$1dl$1@speranza.aioe.org:
>
>> It is a perfectly adequate radio for what it was designed to be; a
>> portable that you take away on holiday to listen to BBC world service
>> on, but as for using it for anything more it is lacking.
>>
>
> Lacking what, specifically? I wanted a general purpose radio with full AM
> coverage to 30 MHz, and I wanted it to be cheap and portable. Then I wanted
> to give it a decent chance of getting signals when I'm not carrying it
> around.
>
> As for a radio that that is only fit for getting BBC World Service, are you
> sure you're not confusing the ATS-909 with whatever Sangean's original was,
> as cloned by Roberts with model R9921? That really IS a basic radio designed
> for that purpose, the ATS-909 does more.

Yes, but you were not talking about the other bands that it covers, you
only mentioned HF.

>> Even you admitted in an earlier post that it was overloaded by anything
>> more than a whip antenna!!
>>
>
> Not the point. It's easier to attenuate than to do almost anything else. Even
> the radio itself can do that.

So why are you so worried about the co-ax and SNR, if you add an
attenuator in order to make the radio work properly you will also
attenuate any interference (and degrade your SNR).

>
>> You would be far better off buying a dedicated HF receiver or a
>> transceiver with a far superior performance. They are available on Ebay
>> as well.
>>
>
> If you know of any that fit my description above, please name them.

Virtually any comms receiver will give you coverage of AM to 30MHz, many
also have Band 2 vhf as well, they are too numerous to mention, but have
a look at this link and pick the ones that actuall have good RF performance:

http://www.eham.net/reviews/products/8

Jeff

347. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 18:09:43 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14B8BEABF1Dzoodlewurdle@216.196.109.145>
Source record: 11147

Michael Coslo <mjc5@psu.edu> wrote in
news:hkc8vh$g82k$1@tr22n12.aset.psu.edu:

> Lostgallifreyan wrote:
>
>
>> I've been told that braid makes a great deal of difference to common
>> mode noise pickup, and that while a thin foil and loose braid is fine
>> at UHF it's not to be expected to do the same for HF.
>
> Are their any good references with test numbers on this? Been googling a
> bit, haven't found anything definitive yet
>
> - 73 de Mike N3LI -
>

Not that I know of, I only saw this one:
http://www.bluejeanscable.com/articles/shielding.htm
It even describes cable transfer impedance so I guess it IS useful for other
than 'telling me what I want to hear'. :)

I just went for braided BT2002 because I know I can reuse it. I originally
found some in a telephone exchange skip, and had used it to extend UHF TV
antenna when I had a TV, many years ago, and later for a VHF dipole. I know
that a good braid covering is good for strong AF, so it seemes highly likely
that it will work on HF just as well if it's that good on frequencies on
either end of it.

348. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 18:21:32 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14BABF936E8zoodlewurdle@216.196.109.145>
Source record: 11148

Jeff <Jeff@fred.fredsystem.com> wrote in
news:hkcc89$kp5$1@speranza.aioe.org:

> Yes, but you were not talking about the other bands that it covers, you
> only mentioned HF.
>

Fair enough, though I had mentioned it in earlier posts.

>
>>> Even you admitted in an earlier post that it was overloaded by
>>> anything more than a whip antenna!!
>>>
>>
>> Not the point. It's easier to attenuate than to do almost anything
>> else. Even the radio itself can do that.
>
> So why are you so worried about the co-ax and SNR, if you add an
> attenuator in order to make the radio work properly you will also
> attenuate any interference (and degrade your SNR).
>

Because I want to reduce the noise from stuff in the bulding compared to
whatever hits the whip antenna. Sure, attenuation might reduce SNR in a noisy
resistance (or subsequent gain stage) but NOT due to due to simple shrinkage
of scale (R = Ratio...), but that's why I want to get the SNR higher to start
with. It's the separation of internal noise signals from external wanted
signals that matters, same as for anyone using coax. Surely it's not suddenly
wrong because I'm doing it? If so, this isn't about science anymore.

>> If you know of any that fit my description above, please name them.
>
> Virtually any comms receiver will give you coverage of AM to 30MHz, many
> also have Band 2 vhf as well, they are too numerous to mention, but have
> a look at this link and pick the ones that actuall have good RF
> performance:
>
> http://www.eham.net/reviews/products/8
>

Thanks, that will be useful. The ATS-909 is just a starting point. I want to
have tried it, even if I just sell it on. (Was why I bought it used, that way
I won't lose out).

349. New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 18:59:20 UTC
From: KE5WZY <KE5WZY.5afb839@radiobanter.com>
Message-ID: <KE5WZY.5afb839@radiobanter.com>
Source record: 11012

Greetings! We are starting a new club: LARC (Library Amateur Radio Club) of Kingfisher Oklahoma. I managed to scounge three ten foot sections from the local phone company an antenna tower base, mid-section and a top section that comes to a point at the top with a hollow pipe. Before I go through all the trouble to locate the antenna, probably against the side of the library and anchor it to the roof, I need to know if anyone has ever had any trouble with a buiding transformer as a potential cause for RF interference. The transformer sits on the ground near the trash recepticle. The ideal location for keeping the tower from becoming obvious, is about 10 foot from the transformer. Keeping in mind the antenna will be mounted at the top of the 30 foot tower, has anyone ever had experience with putting antennas so close to the power transformer?

--
KE5WZY

350. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:03:50 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkcham$7472$1@tr22n12.aset.psu.edu>
Source record: 11149

Lostgallifreyan wrote:
>
> No. It's called 'go see for yourself and tell me based on YOUR judgement if
> it's worth revisiting'. If all I wanted was a pat on the head I wouldn't even
> have provided a link. Either that info has technical merit, or it doesn't in
> which case perhaps you should berate THEM and not me!

Of course it has no technical merit, it is just words! Some of them are pretty ambiguous too, like that "video Frequencies" bit. Are the video frequencies they refer to The frequencies that television signals are broadcast or are tehy the frequencies that a video signal uses. THere is a difference.

There's more. From that paragraph above, your not asking us to do your research for you, are you?

- 73 de Mike N3LI -

351. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:06:05 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkchet$7472$2@tr22n12.aset.psu.edu>
Source record: 11150

Richard Clark wrote:

> We have your dozen or more suppositions filtered through anonymous and
> linked-to sources of indifferent quality that each in their own right
> have issues with a spectrum of cable types

I read that as "suppositories" instead of suppositions, Richard. Perhaps both may be right? 8^)

352. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:11:40 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14C34069CBFzoodlewurdle@216.196.109.145>
Source record: 11001

Michael Coslo <mjc5@psu.edu> wrote in
news:hkcham$7472$1@tr22n12.aset.psu.edu:

> Lostgallifreyan wrote:
>>
>> No. It's called 'go see for yourself and tell me based on YOUR
>> judgement if it's worth revisiting'. If all I wanted was a pat on the
>> head I wouldn't even have provided a link. Either that info has
>> technical merit, or it doesn't in which case perhaps you should berate
>> THEM and not me!
>
> Of course it has no technical merit, it is just words! Some of them are
> pretty ambiguous too, like that "video Frequencies" bit. Are the video
> frequencies they refer to The frequencies that television signals are
> broadcast or are tehy the frequencies that a video signal uses. THere is
> a difference.
>
> There's more. From that paragraph above, your not asking us to do your
> research for you, are you?
>
> - 73 de Mike N3LI -
>

It's not that bad. I've seen far worse. And no, I'm not asking you or anyone
else to do anything. When I'm not checking here and replying I'm reading
other stuff. I'll doing more of that because it doesn't argue so much.

353. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:13:00 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14C379E4651zoodlewurdle@216.196.109.145>
Source record: 11002

Michael Coslo <mjc5@psu.edu> wrote in
news:hkchet$7472$2@tr22n12.aset.psu.edu:

> Richard Clark wrote:
>
>> We have your dozen or more suppositions filtered through anonymous and
>> linked-to sources of indifferent quality that each in their own right
>> have issues with a spectrum of cable types
>
>
> I read that as "suppositories" instead of suppositions, Richard. Perhaps
> both may be right? 8^)
>

Careful. Don't worry about mine, worry about the one you might seem to be
licking. :)

354. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:19:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <toijm5tfcvuo5vq5lrr32c7q1ifcsfghla@4ax.com>
Source record: 11003

On Wed, 03 Feb 2010 14:06:05 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

>Richard Clark wrote:
>
>> We have your dozen or more suppositions filtered through anonymous and
>> linked-to sources of indifferent quality that each in their own right
>> have issues with a spectrum of cable types
>
>
>I read that as "suppositories" instead of suppositions, Richard. Perhaps
>both may be right? 8^)

Reminds me of the old joke about the Engineer's problem with
constipation: he worked it out with a slide rule.

Mathematician, pencil
Draftsman, compass
antenna designer, gin pole
.... and so on.
you get the point.

73's
Richard Clark, KB7QHC

355. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:34:43 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkcj4j$lg3i$1@tr22n12.aset.psu.edu>
Source record: 11004

Lostgallifreyan wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hk74m6$di6$1@speranza.aioe.org:
>
>> Any receiving equipment you get will almost certainly have a 50 ohm
>> (nominal!) input, so any higher antenna impedances will need to be
>> matched back to 50ohms anyway. How much loss you will encounter by using
>> 75ohm cable will depend on the actual set up.
>>
>
> Apparently no-one knows the impedance of a Sangean ATS-909 radio, I've asked
> several people, at least one of whom specialises in modifying that radio.

Perhaps there is a reason. It isn't terribly important at all.

> Looks like 1K is best guess based on schematic. Loss won't bother me so much
> as SNR. Several people advised that a 15 foot vertical whip is likely to
> overload the input so loss is not my main concern.

Not to be overly precise, but the whip won't overload your radio, strong signals might. Those little radios are pretty sensitive.

So what are you trying to do here, aside from get an external signal into a radio? If you want to have an audiophile grade antenna system, you need to go out and get some good hardline coax*. You can also make some measurements to determine the exact input impedance of your radio, then construct a balun to match it to the rest of the system. If measurement isn't your thing, you can probably get by with a 9:1 balun, as a back of the envelope calculation.

Then if you can put them in, you need around 120 radials that you use for the ground on your antenna. You can either elevate them, lay them on the ground, or shallow bury them. If you have a wife the third option is probably what you want to do.

There are other little tweaks, such as silver contacts, a good quality tuner, and probably some I haven't thought about yet. Some still hold out for low oxygen copper.

Do all that, and you can still do pretty close to the results with a long wire hanging out of your window.

Now if you get a communications grade radio, some of my less tongue in cheek suggestions might help more. But make no mistake, you are deep into the world of diminishing returns.

note 1.

Coolest hardline I ever saw was at a TV station. It was about a foot in diameter on the jacket, and I didn't see the center conductor, but my best guess is that it was around 2 inches in diameter.

note 2.

I'm not trying to be rude, but you've been getting some good info in here, you're just not taking it. Reminds me of some of the students coming out of college these days with a nice fresh bachelor's degree. They don't accept input, and think they should be promoted for showing up on time.

- 73 de Mike N3LI -

356. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:52:21 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkck5o$g87o$1@tr22n12.aset.psu.edu>
Source record: 11005

Lostgallifreyan wrote:
> Michael Coslo <mjc5@psu.edu> wrote in
> news:hkcham$7472$1@tr22n12.aset.psu.edu:
>
>> Lostgallifreyan wrote:
>>> No. It's called 'go see for yourself and tell me based on YOUR
>>> judgement if it's worth revisiting'. If all I wanted was a pat on the
>>> head I wouldn't even have provided a link. Either that info has
>>> technical merit, or it doesn't in which case perhaps you should berate
>>> THEM and not me!
>> Of course it has no technical merit, it is just words! Some of them are
>> pretty ambiguous too, like that "video Frequencies" bit. Are the video
>> frequencies they refer to The frequencies that television signals are
>> broadcast or are tehy the frequencies that a video signal uses. THere is
>> a difference.
>>
>> There's more. From that paragraph above, your not asking us to do your
>> research for you, are you?
>>
>> - 73 de Mike N3LI -
>>
>
> It's not that bad. I've seen far worse. And no, I'm not asking you or anyone
> else to do anything. When I'm not checking here and replying I'm reading
> other stuff. I'll doing more of that because it doesn't argue so much.

It's much better to see numbers than what some website is telling you.
There are a lot of really smart people in here, and yes, if you do
something that isn't right, you're going to hear about it.

I thiink you'll find that these sites that don't argure with you are
happy when you buy something from them. But it's your call.

- 73 de Mike N3LI -

357. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:53:36 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkck80$g87o$2@tr22n12.aset.psu.edu>
Source record: 11006

Lostgallifreyan wrote:
> Michael Coslo <mjc5@psu.edu> wrote in
> news:hkchet$7472$2@tr22n12.aset.psu.edu:
>
>> Richard Clark wrote:
>>
>>> We have your dozen or more suppositions filtered through anonymous and
>>> linked-to sources of indifferent quality that each in their own right
>>> have issues with a spectrum of cable types
>>
>> I read that as "suppositories" instead of suppositions, Richard. Perhaps
>> both may be right? 8^)
>>
>
> Careful. Don't worry about mine, worry about the one you might seem to be
> licking. :)

I've always thought those little wax bottles with the flavored water in
them were kind of distasteful for the same reason.

- 73 de Mike N3LI -

358. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:56:22 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14CAD556868zoodlewurdle@216.196.109.145>
Source record: 11007

Michael Coslo <mjc5@psu.edu> wrote in
news:hkcj4j$lg3i$1@tr22n12.aset.psu.edu:

> Lostgallifreyan wrote:
>> Jeff <Jeff@fred.fredsystem.com> wrote in
>> news:hk74m6$di6$1@speranza.aioe.org:
>>
>> Apparently no-one knows the impedance of a Sangean ATS-909 radio, I've
>> asked several people, at least one of whom specialises in modifying
>> that radio.
>
> Perhaps there is a reason. It isn't terribly important at all.
>

Which is why I think no-one stated it too. One person here said it wasn't
stated perhaps because no-one I suggested was adept was actually adept enough
to do it. These are the contradictions I keep seeing. They tend to gravitate
around a poster's ideas as pecived by a reader, rather than by science. I
think you're right in this case, so I'm not arguing.

>> Looks like 1K is best guess based on schematic. Loss won't bother me so
>> much as SNR. Several people advised that a 15 foot vertical whip is
>> likely to overload the input so loss is not my main concern.
>
> Not to be overly precise, but the whip won't overload your radio, strong
> signals might. Those little radios are pretty sensitive.
>

Yes. Which is why I'm looking at getting signals from outside rather than
inside. I don't mind losses so much.

> So what are you trying to do here, aside from get an external signal
> into a radio? If you want to have an audiophile grade antenna system,
> you need to go out and get some good hardline coax*. You can also make
> some measurements to determine the exact input impedance of your radio,
> then construct a balun to match it to the rest of the system. If
> measurement isn't your thing, you can probably get by with a 9:1 balun,
> as a back of the envelope calculation.
>

Going to try that. Winding enamelled wire onto a few bought ferrite torroids
isn't exactly hard work. There will be one at the antenna end too.

> Then if you can put them in, you need around 120 radials that you use
> for the ground on your antenna. You can either elevate them, lay them on
> the ground, or shallow bury them. If you have a wife the third option is

> probably what you want to do.
>
> There are other little tweaks, such as silver contacts, a good quality
> tuner, and probably some I haven't thought about yet. Some still hold
> out for low oxygen copper.
>
> Do all that, and you can still do pretty close to the results with a
> long wire hanging out of your window.
>

Radials, yes, where I have room for them. I don't have any need for 'OFC'
wire, in anything. Or silver, come to that.. Maybe if I met a warewolf? Or is
it vampires? Silver was supposed to be good against one or the other..

> Now if you get a communications grade radio, some of my less tongue in
> cheek suggestions might help more. But make no mistake, you are deep
> into the world of diminishing returns.
>

Apart from a few bits of ferrite and a coax, and a whip to get upwards reach
in a space where sidewards reach can't do much good, I'm not after much. I'm
pretty sure it will beat hanging the wire out the window of a house full of
modems and computers and other RFI generators.

> note 1.
>
> Coolest hardline I ever saw was at a TV station. It was about a foot in
> diameter on the jacket, and I didn't see the center conductor, but my
> best guess is that it was around 2 inches in diameter.
>

Curious. If they were that worried about resistive losses, they'll be high on
the buyer list for room temperature superconductors if they think they'll
help.

> note 2.
>
> I'm not trying to be rude, but you've been getting some good info in
> here, you're just not taking it. Reminds me of some of the students
> coming out of college these days with a nice fresh bachelor's degree.
> They don't accept input, and think they should be promoted for showing
> up on time.
>

I'm not complaining about the info. Already said I came here because I
thought the SNR was better. But there's also enough contradiction in advice
I've seen to suggest a considerable mismatch. So taking all of it is not only
unwise, but perhaps impossible.

359. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 19:59:43 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14CB66B654Dzoodlewurdle@216.196.109.145>
Source record: 11008

Michael Coslo <mjc5@psu.edu> wrote in
news:hkck80$g87o$2@tr22n12.aset.psu.edu:

> Lostgallifreyan wrote:
>> Michael Coslo <mjc5@psu.edu> wrote in
>> news:hkchet$7472$2@tr22n12.aset.psu.edu:
>>
>>> Richard Clark wrote:
>>>
>>>> We have your dozen or more suppositions filtered through anonymous and
>>>> linked-to sources of indifferent quality that each in their own right
>>>> have issues with a spectrum of cable types
>>>
>>> I read that as "suppositories" instead of suppositions, Richard. Perhaps
>>> both may be right? 8^)
>>>
>>
>> Careful. Don't worry about mine, worry about the one you might seem to be
>> licking. :)
>
>
> I've always thought those little wax bottles with the flavored water in
> them were kind of distasteful for the same reason.
>

Ok, now I'm really lost, but never mind.. Wax bottles? Flavoured water? Don't
make me regret I asked. :)

360. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 20:03:36 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14CC0ECCB71zoodlewurdle@216.196.109.145>
Source record: 11009

Michael Coslo <mjc5@psu.edu> wrote in
news:hkck5o$g87o$1@tr22n12.aset.psu.edu:

> It's much better to see numbers than what some website is telling you.
> There are a lot of really smart people in here, and yes, if you do
> something that isn't right, you're going to hear about it.
>

Even experts can see either too much or too little of context. Give them
either, they'll want the other. >:)

> I thiink you'll find that these sites that don't argure with you are
> happy when you buy something from them. But it's your call.
>

Well, there is that, but the info is free, I'm not actually buying from them,
and a lot of the really technical stuff is in places I couldn't see unless I
paid for access. I figure that I just sound out what I can, and make my own
call, like you said.

361. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 20:27:41 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hkcm7t$pc1o$2@tr22n12.aset.psu.edu>
Source record: 11010

Lostgallifreyan wrote:
> Michael Coslo <mjc5@psu.edu> wrote in
> news:hkck80$g87o$2@tr22n12.aset.psu.edu:
>
>> Lostgallifreyan wrote:
>>> Michael Coslo <mjc5@psu.edu> wrote in
>>> news:hkchet$7472$2@tr22n12.aset.psu.edu:
>>>
>>>> Richard Clark wrote:
>>>>
>>>>> We have your dozen or more suppositions filtered through anonymous and
>>>>> linked-to sources of indifferent quality that each in their own right
>>>>> have issues with a spectrum of cable types
>>>> I read that as "suppositories" instead of suppositions, Richard. Perhaps
>>>> both may be right? 8^)
>>>>
>>> Careful. Don't worry about mine, worry about the one you might seem to be
>>> licking. :)
>>
>> I've always thought those little wax bottles with the flavored water in
>> them were kind of distasteful for the same reason.
>>
>
> Ok, now I'm really lost, but never mind.. Wax bottles? Flavoured water? Don't
> make me regret I asked. :)

They're about 2 and a half inches long, made of wax and look a little
like the nasty things we're joking about. Kids bite the top off, and
drink th esmall amount of flavored water in them.

- Mike -

362. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 21:09:51 UTC
From: Lostgallifreyan <no-one@nowhere.net>
Message-ID: <Xns9D14D74ADDCB3zoodlewurdle@216.196.109.145>
Source record: 11011

Michael Coslo <mjc5@psu.edu> wrote in
news:hkcm7t$pc1o$2@tr22n12.aset.psu.edu:

> Lostgallifreyan wrote:
>> Michael Coslo <mjc5@psu.edu> wrote in
>> news:hkck80$g87o$2@tr22n12.aset.psu.edu:
>>
>>> Lostgallifreyan wrote:
>>>> Michael Coslo <mjc5@psu.edu> wrote in
>>>> news:hkchet$7472$2@tr22n12.aset.psu.edu:
>>>>
>>>>> Richard Clark wrote:
>>>>>
>>>>>> We have your dozen or more suppositions filtered through anonymous
>>>>>> and linked-to sources of indifferent quality that each in their own
>>>>>> right have issues with a spectrum of cable types
>>>>> I read that as "suppositories" instead of suppositions, Richard.
>>>>> Perhaps both may be right? 8^)
>>>>>
>>>> Careful. Don't worry about mine, worry about the one you might seem
>>>> to be licking. :)
>>>
>>> I've always thought those little wax bottles with the flavored water
>>> in them were kind of distasteful for the same reason.
>>>
>>
>> Ok, now I'm really lost, but never mind.. Wax bottles? Flavoured water?
>> Don't make me regret I asked. :)
>
> They're about 2 and a half inches long, made of wax and look a little
> like the nasty things we're joking about. Kids bite the top off, and
> drink th esmall amount of flavored water in them.
>

I think I've seen something like them, though in some kind of clear pliable
plastic. Usually flat and flaccid by the time I see them in the streets.
Definitely unsavoury... I mean, they don't look exactly like a used condom,
but the older I get, the more I wonder about some of the stuff that kids find
fun to eat.

363. Re: New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-03 23:43:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v42km5t0tt4tg4bd8a8aecdfr2opi507kp@4ax.com>
Source record: 11013

On Wed, 3 Feb 2010 18:59:20 +0000, KE5WZY
<KE5WZY.5afb839@radiobanter.com> wrote:

>
>Greetings! We are starting a new club: LARC (Library Amateur Radio Club)
>of Kingfisher Oklahoma. I managed to scounge three ten foot sections
>from the local phone company an antenna tower base, mid-section and a
>top section that comes to a point at the top with a hollow pipe. Before
>I go through all the trouble to locate the antenna, probably against the
>side of the library and anchor it to the roof, I need to know if anyone
>has ever had any trouble with a buiding transformer as a potential
>cause for RF interference. The transformer sits on the ground near the
>trash recepticle. The ideal location for keeping the tower from
>becoming obvious, is about 10 foot from the transformer. Keeping in
>mind the antenna will be mounted at the top of the 30 foot tower, has
>anyone ever had experience with putting antennas so close to the power
>transformer?

Hi OM,

Transformers further away have certainly lead to grief. It is
unlikely even at what you consider to be a short distance that you are
going to inject any problem into it during transmission. If you are
worried about that, then you really have to pay attention to the power
distribution inside the building that would be far closer.

If you are worried about noise being injected into your system by the
transformer; then survey the area around it with a portable HF
receiver (or VHF or UHF depending upon your band of operation will
be). Very simple.

This doesn't end it, however. The transformer can inject problems
into your system by your not practicing good grounding methods.
(Actually, the transformer will probably be benign in face of poor
ground handling that is beyond its role and responsibility.) That
alone is deserving of at least a string of follow up postings to this
thread.

Go to one of those library shelves that has a copy of the electrical
code and read it about grounding.

73's
Richard Clark, KB7QHC

364. Re: New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-04 00:18:16 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <GIudnWy9b5Sij_fWnZ2dnUVZ_hGdnZ2d@bright.net>
Source record: 11014

Dear KE5WZY:

You might find the electrical code in the library by itself or as part of
the National Fire Code.
Good luck. 73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net

. . . . .

>
> Go to one of those library shelves that has a copy of the electrical
> code and read it about grounding.
>
> 73's
> Richard Clark, KB7QHC

365. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-04 09:20:10 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hke3gdvmp1@speranza.aioe.org>
Source record: 11015

>
> Because I want to reduce the noise from stuff in the bulding compared to
> whatever hits the whip antenna. Sure, attenuation might reduce SNR in a noisy
> resistance (or subsequent gain stage) but NOT due to due to simple shrinkage
> of scale (R = Ratio...), but that's why I want to get the SNR higher to start
> with. It's the separation of internal noise signals from external wanted
> signals that matters, same as for anyone using coax. Surely it's not suddenly
> wrong because I'm doing it? If so, this isn't about science anymore.
>

Well firstly, adding an attenuator WILL degrade the Noise Figure of your
receiver.

Now whether this will have any significance depends on the original NF
of the receiver, and the level of External noise (atmospheric and man made).

It we take your 'ideal' set-up where you have eliminated the pick-up in
the building; you SNR will depend on the NF of the rx and the levels of
signal and received noise at the antenna.

So if we have to put an attenuator in line to make the rx happy so it
does not overload, then we will have degraded the rx's NF by the value
of the attenuator. So say a 10db attenuator will have degraded you NF by
10dB. It will also have degraded the level of input signal by 10dB, so
you have a double wammy.

Now the effect on your SNR will depend on which band you are listening
on ant the level of atmospheric noise compared to the NF of the rx. At
lower frequencies the effect will be less because the atmospheric noise
is greater and will swamp the rx NF to some degree. As you go up in
ferquency the NF will start to become dominant.

If we take the case of leaky coax and pick-up in the building, sure the
picked up noise will degrade the SNR, but the leakage is likely to be
very small in absolute level and adding any attenuation will take it
below the noise floor anyway. The differences in leakage between the
types of coax under discussion will be insignificant compared to the
attenuation values you will have to add to make the rx happy. That is
why I questioned the choice or rx, having to add attenuation negates the
need to have the ultimate in screening unless the pick-up is a very
high level (in which case you are stumped anyway).

Also if your building is that noisy then there will be significant noise
pick-up directly into the antenna which you can do nothing about. There
is a significant possibility that this will be much greater than any
direct leakage into the cable making such pick-up insignificant.

Perhaps you should tell us why you think there will be this pick-up and what you think the source is in the building. That will help you get a sensible answer.

One final point, you say "It's the separation of internal noise signals from external wanted signals that matters, same as for anyone using coax." I suspect that is about the last thing that most people think about when choosing coax, they normally think about the impedance first, then the transmission loss, size and cost. I doubt if the "the separation of internal noise signals from external wanted signals" crosses their minds at all!!

Jeff

366. Re: Cable Shielding Misunderstandings

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-04 16:51:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nsslm5tepk2f8gq825qilrguq2tqtc3s1c@4ax.com>
Source record: 11016

On Thu, 04 Feb 2010 09:20:10 +0000, Jeff <Jeff@fred.fredsystem.com>
wrote:

>One final point, you say "It's the separation of internal noise signals
>from external wanted signals that matters, same as for anyone using
>coax." I suspect that is about the last thing that most people think
>about when choosing coax, they normally think about the impedance first,
>then the transmission loss, size and cost. I doubt if the "the
>separation of internal noise signals from external wanted signals"
>crosses their minds at all!!

Hi Jeff,

You will undoubtedly have two camps there. As for those expecting
>"the separation of internal noise signals from external wanted signals"
then they will be dissappointed or live happily with illusion; and the
others will, as you say, will select their transmission line (not
solely a coax) on the basis of those qualities they can expect it to
deliver.

The reason why I opened this up to include parallel line is that too
much superstitious quality has been attached to a shield. This has
been tangentially supported by measure of the cable transfer impedance
with the hope of using that to predict shielding efficiency. The
ordinary reader is left with the impression that by focusing on a
shield that the state of shielding is defined at the alter of the
coax. It is not.

"Cable transfer impedance" is measured in a highly defined manner with
an example of a very good graphic found at:
http://www.emcconsultinginc.com/docs/beldenTiAndSe.pdf

Replace the well grounded coax with a parallel line with its balanced
load and balanced source, and the transfer impedance for that system
will reveal shielding efficiencies easily equal to, or better than,
coaxial cables. That efficiency will vary by the degree to the
proximity of the parallel line to the ground plane, and its geometry.
This geometry is manageable with parallel lines, the coax has to live
with what it has.

Now, this counter argument is based upon the premise of the near
sighted quest for some goal that is achieved by the coaxial line alone
- in other words, a folly. However, what this counter argument does
is penetrate the balloon of complacency surrounding the investment of
superstitious qualities in successive layers of shielding. Without
care, those extra layers can inject MORE noise into the system than

that which exists in the environment. I have already written and supplied reference to that unfortunate side effect to no obvious comment about this paradox.

73's
Richard Clark, KB7QHC

367. Re: New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-04 17:27:17 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hkf01mouo1@news.jpl.nasa.gov>
Source record: 11017

J. Mc Laughlin wrote:
> Dear KE5WZY:
>
> You might find the electrical code in the library by itself or as part of
> the National Fire Code.
> Good luck. 73, Mac N8TT
>

Or at the city hall. Even on-line, if you hunt around.

368. Re: New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-04 17:52:32 UTC
From: KE5WZY <KE5WZY.5b109b8@radiobanter.com>
Message-ID: <KE5WZY.5b109b8@radiobanter.com>
Source record: 11019

> If you are worried about noise being injected into your system by the
> transformer; then survey the area around it with a portable HF
> receiver (or VHF or UHF depending upon your band of operation will
> be). Very simple.<<<<
> Richard Clark, KB7QHC

Thank you for you suggestion KB7QHC,

That seems the logical thing to do, is just try it out with some portable receiver, perhaps i can map the interference if any based on how many feet away. If I have to locate the tower somewhere else that might be what i have to do.

--
KE5WZY

369. Re: New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-04 22:09:42 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <a3a59933-8f6b-4a9b-8a65-a3cb858c1d93@j31g2000yqa.googlegroups.com>
Source record: 11018

On Feb 3, 1:59 pm, KE5WZY <KE5WZY.5afb...@radiobanter.com> wrote:
> Greetings! We are starting a new club: LARC (Library Amateur Radio Club)
> of Kingfisher Oklahoma. I managed to scounge three ten foot sections
> from the local phone company an antenna tower base, mid-section and a
> top section that comes to a point at the top with a hollow pipe. Before
> I go through all the trouble to locate the antenna, probably against the
> side of the library and anchor it to the roof, I need to know if anyone
> has ever had any trouble with a buiding transformer as a potential
> cause for RF interference. The transformer sits on the ground near the
> trash recepticle. The ideal location for keeping the tower from
> becoming obvious, is about 10 foot from the transformer. Keeping in
> mind the antenna will be mounted at the top of the 30 foot tower, has
> anyone ever had experience with putting antennas so close to the power
> transformer?
>
> --
> KE5WZY

I had a very similar setup in Fl. Antenna mounted on a wooden light
pole net to a ground mounted transformer. No problems with it.

Jimmie

370. Re: New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-05 15:56:20 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <hkhf34pmi1@ra.nrl.navy.mil>
Source record: 11020

On 2/3/2010 1:59 PM, KE5WZY wrote:
> Greetings! We are starting a new club: LARC (Library Amateur Radio Club)
> of Kingfisher Oklahoma. I managed to scounge three ten foot sections
> from the local phone company an antenna tower base, mid-section and a
> top section that comes to a point at the top with a hollow pipe. Before
> I go through all the trouble to locate the antenna, probably against the
> side of the library and anchor it to the roof, I need to know if anyone
> has ever had any trouble with a buiding transformer as a potential
> cause for RF interference. The transformer sits on the ground near the
> trash recepticle. The ideal location for keeping the tower from
> becoming obvious, is about 10 foot from the transformer. Keeping in
> mind the antenna will be mounted at the top of the 30 foot tower, has
> anyone ever had experience with putting antennas so close to the power
> transformer?
>
>
>
>
Hello, and if there's an interference problem it wouldn't be with the
transformer per se. What should be of concern is leaky/cracked MV
(12-14 kV) insulators (or higher voltages if you're near a substation).
Discharges around insulators spew both radiated and conducted noise
all over the MF and HF bands. Sincerely, and 73s from N4GG0,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

371. Re: New AR Club - Ant Loc Near Xformer?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-06 15:30:01 UTC
From: KE5WZY <KE5WZY.5b35858@radiobanter.com>
Message-ID: <KE5WZY.5b35858@radiobanter.com>
Source record: 11021

J.B. Wood;699124 Wrote:
> On 2/3/2010 1:59 PM, KE5WZY wrote:-
> Hello, and if there's an interference problem it wouldn't be with the
> transformer per se. What should be of concern is leaky/cracked MV
> (12-14 kV) insulators (or higher voltages if you're near a substation).
>
> Discharges around insulators spew both radiated and conducted noise
> all over the MF and HF bands. Sincerely, and 73s from N4GG0,
> -

Yes, that is what I am worried about, is RF leakage. I think probably
the best bet is to try out an antenna before permanantly erecting the
tower with a concrete base.

What kind of antenna system can I obtain retail, that would provide the
absolute best reception using only a 30 foot tower?

--Mike.

--
KE5WZY

372. Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-06 20:29:19 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <7ajrm59fjl71c12eiljq7b0793a845l3pe@4ax.com>
Source record: 11022

A friend gave me a forty foot Utility pole. Since I am not a climber I have not determined how to make the best of this in my continual antenna tinkering. I keep coming back to the hazer transit method. The device would be complicated by the fact that the pole is about 12 inches in diameter at the bottom and 6 inches at the top. I expect to bury 5 feet of it. I hope to construct the device so that there is NEVER a need to climb the pole. The galvanized wire rope on my Crank up mast that I purchased in the late 1970's is still looking fine.

Any experience or ideas are appreciated!

BTW, Any idea why this tram mechanism is called a "hazer?"
John Ferrell W8CCW

373. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-07 07:05:00 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1265526300@panix.com>
Source record: 11023
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

374. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-07 13:02:58 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <2e1c7f12-4d0a-46a2-851d-4f5abad6ca17@f15g2000yqe.googlegroups.com>
Source record: 11024

On Feb 6, 8:29 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> A friend gave me a forty foot Utility pole. Since I am not a climber I
> have not determined how to make the best of this in my continual
> antenna tinkering. I keep coming back to the hazer transit method. The
> device would be complicated by the fact that the pole is about 12
> inches in diameter at the bottom and 6 inches at the top. I expect to
> bury 5 feet of it. I hope to construct the device so that there is
> NEVER a need to climb the pole. The galvanized wire rope on my Crank
> up mast that I purchased in the late 1970's is still looking fine.
>
> Any experience or ideas are appreciated!
>
> BTW, Any idea why this tram mechanism is called a "hazer?"
> John Ferrell W8CCW

Hazer is a brand name of GlenMartin towers: http://www.glenmartin.com/catalog/page10.html,
maybe it was the guy that originally designed it, or it could have
just sounded neat to marketing.

what type of antennas are you planning on putting on the pole?
personally i would put a couple of good screw eyes with pulleys and
run some decent rope through them and use it for wires.

375. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-07 15:22:24 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <boltm5hf1ggmtv3rkr4dmpkvrb48ul6999@4ax.com>
Source record: 11025

On Sun, 7 Feb 2010 05:02:58 -0800 (PST), Dave <k1ttt@arrl.net> wrote:

>
>Hazer is a brand name of GlenMartin towers:
http://www.glenmartin.com/catalog/page10.html,
>maybe it was the guy that originally designed it, or it could have
>just sounded neat to marketing.
>
>what type of antennas are you planning on putting on the pole?
>personally i would put a couple of good screw eyes with pulleys and
>run some decent rope through them and use it for wires.
I think the word "Lift" is probably the most accurate term to use.
There is a good series on YouTube referring to "AntennaVater" for the
same type of device.

I want to keep the structure as general as possible so I can continue
to experiment with a broad range of Ham antennas from DC to light. I
shy away from rope because of the limited life expectancy.
John Ferrell W8CCW

376. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-07 17:15:28 UTC
From: kb9rqz <kb9rqz@home.com>
Message-ID: <hkmsbf$21n4$1@adenine.netfront.net>
Source record: 11026
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

```
<kb9rqz@yahoooo.com> wrote in message
news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
> On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>K4YZ wrote:
>>> Nope.
>>>
>>> The IP Address and servers are complete proof that I do NOT share
>>> any annonymous character's "address".
>>>
>>> Sounds like Lennie, to me....
>>>
>>> Steve, K4YZ
>>>
>>
>>To anyone with even an elementary understanding of anonymous proxies,
>>anonymous remailers, zombie backdoors, etc., the ability to change ones
>>IP address and header details is simplistic, indeed, with little time
>>spent anyone can appear to be "coming" from anywhere in the world.
>>
>>You waste my time. Worse, you think us all idiots here. You remind me
>>of the "street smart" prosecutors and defense attorneys who stack jurys
>>with members of little or no technical knowledge and then call in
>>"expert witnesses" and propose arguments of technical details to boggle
>>their minds.
>>
>>You have only proven that you, yourself are either ignorant to such
>>technical details, or else you are indeed street smart, I favor the
>>latter in this case (however, if you in the dark about such things, 15
>>minutes on google will enlighten you.)
>>
>>JS
>
> "one useless man is disgrace 2 become a law firm 3 or more become a
> congress"
> adams
>
> woger you are a Congress all in your own head
> "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> altopia is never used by KB9RQZ
> http://kb9rqz.cc.cc
```

> http://kd8ctl.com
> nor is Konstans@hotmail.com ever
> btw i can be found at
> 17366 N River Rd
> Chassel Mi
>
> but the cowards asking lack the gut to act

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

377. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-07 19:18:24 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <dc78df8e-48e6-4600-a060-6cd09369c123@y7g2000prc.googlegroups.com>
Source record: 11027

On Feb 7, 7:22 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> On Sun, 7 Feb 2010 05:02:58 -0800 (PST), Dave <k1...@arrl.net> wrote:
>
> >Hazer is a brand name of GlenMartin
towers:http://www.glenmartin.com/catalog/page10.html,
> >maybe it was the guy that originally designed it, or it could have
> >just sounded neat to marketing.
>
> >what type of antennas are you planning on putting on the pole?
> >personally i would put a couple of good screw eyes with pulleys and
> >run some decent rope through them and use it for wires.
>
> I think the word "Lift" is probably the most accurate term to use.
> There is a good series on YouTube referring to "AntennaVater" for the
> same type of device.
>
> I want to keep the structure as general as possible so I can continue
> to experiment with a broad range of Ham antennas from DC to light. I
> shy away from rope because of the limited life expectancy.
> John Ferrell W8CCW

Limited life expectancy????? I am still using some ropes I bought in
the 1960's. Some type of synthetic material nicely woven into a 3/8
inch rope. You need to investigate further, or buy some better class
of rope!

Paul, KD7HB

378. Mopy you shit eating cocksucker

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-08 10:19:01 UTC
From: kenny smirkenberg <kenny.smirkenberg@gmail.com>
Message-ID: <d0490dc2-fbcc-4f2c-b88e-c6875b4ace99@q4g2000yqm.googlegroups.com>
Source record: 11028
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.antenna

we all know your wife fucks niggers and dogs.

379. FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-08 18:35:50 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <3QYbn.240353$M86.121803@newsfe29.ams2>
Source record: 11029

Hi

I'm building a Carolina Windom 80 Special. 66 feet long (25ft one side 41ft the other with a 4:1 balun at the off centre, 10ft coax down to a RF choke.

My question is. Can I use a FT200-2 RF Toroid wound with coax to make up a choke to use as the choke?

Thanks

380. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-08 23:14:59 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <236063d9-a115-49c5-b615-5776d49079a8@b2g2000yqi.googlegroups.com>
Source record: 11030

On Feb 7, 7:18 pm, "pdr...@coinet.com" <co_far...@yahoo.com> wrote:
> On Feb 7, 7:22 am, John Ferrell <jferrel...@triad.rr.com> wrote:
>
>
>
> > On Sun, 7 Feb 2010 05:02:58 -0800 (PST), Dave <k1...@arrl.net> wrote:
>
> > >Hazer is a brand name of GlenMartin
towers:http://www.glenmartin.com/catalog/page10.html,
> > >maybe it was the guy that originally designed it, or it could have
> > >just sounded neat to marketing.
>
> > >what type of antennas are you planning on putting on the pole?
> > >personally i would put a couple of good screw eyes with pulleys and
> > >run some decent rope through them and use it for wires.
>
> > I think the word "Lift" is probably the most accurate term to use.
> > There is a good series on YouTube referring to "AntennaVater" for the
> > same type of device.
>
> > I want to keep the structure as general as possible so I can continue
> > to experiment with a broad range of Ham antennas from DC to light. I
> > shy away from rope because of the limited life expectancy.
> > John Ferrell W8CCW
>
> Limited life expectancy????? I am still using some ropes I bought in
> the 1960's. Some type of synthetic material nicely woven into a 3/8
> inch rope. You need to investigate further, or buy some better class
> of rope!
>
> Paul, KD7HB

agreed. for something not accessible like that you need decent uv
resistant dacron. that is readily available and lasts for many years
under load. Check it periodically for wear and pull replacements up
as needed without climbing. if the pole is going to have cables
running up to feedpoints then use wire rope, just be sure to use big
enough blocks with the right materials.

381. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 08:40:11 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <Ib9cn.362923$gm2.253457@newsfe18.ams2>
Source record: 11031

"Barett" <barett@blueyonder.co.uk> wrote in message
news:3QYbn.240353$M86.121803@newsfe29.ams2...
> Hi
>
> I'm building a Carolina Windom 80 Special. 66 feet long (25ft one side
> 41ft the other with a 4:1 balun at the off centre, 10ft coax down to a RF
> choke.
>
> My question is. Can I use a FT200-2 RF Toroid wound with coax to make up a
> choke to use as the choke?
>
> Thanks
>

I made a mistake in the Toriod number. It is infact a T200-A.

I have found the answer I was looking for on a web site. See belowe. It
might help some one else with the same ideas of using this a choke.

My recommendation is to pick a different material. T-200-2 is a powered iron
material; the permeability is way too low to build an effective
coaxial-cable choke with. The AL value is 120 (meaning it takes 120 turns to
make a 100 uH choke).

You should be looking at ferrite, probably mix 31, 43, or 61. Mix 31
requires the fewest turns.

I have another question.

What is the T200-2 Toriod used for and why is it good for that purpose?

Thanks

382. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 09:31:35 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <817fb1b0-b2eb-4d32-bccf-bf586275b9db@l26g2000yqd.googlegroups.com>
Source record: 11032

On Feb 9, 8:40 am, "Barett" <bar...@blueyonder.co.uk> wrote:
> "Barett" <bar...@blueyonder.co.uk> wrote in message
>

>
> I have another question.
>
> What is the T200-2 Toriod used for and why is it good for that purpose?

Tuned circuits e.g. antenna matching & filters, that's about it !

#6 is even worse for HF broadband transformers

Too many folks use iron powder cores of all types for totally
unsuitable purposes.

UKM

383. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 12:08:26 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <Reccn.35060$En7.23784@newsfe07.ams2>
Source record: 11033

"UKMonitor" <ukmonitor@hotmail.com> wrote in message
news:817fb1b0-b2eb-4d32-bccf-bf586275b9db@l26g2000yqd.googlegroups.com...
On Feb 9, 8:40 am, "Barett" <bar...@blueyonder.co.uk> wrote:
> "Barett" <bar...@blueyonder.co.uk> wrote in message
>

>
> I have another question.
>
> What is the T200-2 Toriod used for and why is it good for that purpose?

Tuned circuits e.g. antenna matching & filters, that's about it !

#6 is even worse for HF broadband transformers

Too many folks use iron powder cores of all types for totally
unsuitable purposes.

UKM

Does any one know where I can purchase some Ferrite rings type 31 material
from in the UK?

and thanks to UKM.

384. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 14:30:14 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <ZnN9CfZ2FXcLFAXc@ifwtech.co.uk>
Source record: 11034

Barett wrote:

>>> What is the T200-2 Toriod used for and why is it good for that purpose?
>>
>>Tuned circuits e.g. antenna matching & filters, that's about it !
>>
>>#6 is even worse for HF broadband transformers
>>
>>Too many folks use iron powder cores of all types for totally
>>unsuitable purposes.
>>
>>UKM
>>
>Does any one know where I can purchase some Ferrite rings type 31
>material from in the UK?
>
>and thanks to UKM.
>

UKM is right: iron powder material is not suitable for RF chokes.

Well done for finding out about Fair-Rite 31 material - you must have been reading Jim Brown K9YC's tutorials on www.audiosystemsgroup.com :-)

None of the UK amateur suppliers seems interested in stock large toroids or beads in this material (and believe me, I have tried) so the next best thing is to order from the USA.

As Jim Brown has often advised, order directly from an industrial supplier in the USA, and not one of the "amateur" suppliers. When ordering from outside the USA, the most cost-effective route is probably either Mouser or Farnell because they handle the international shipping and Customs clearance, so you don't get hit for the same one-off charges and 'collection fees' that a personal import would.

There is no import duty on these electronic parts, but of course you still have to pay 17.5% VAT on the whole bill.

The best value will depend on the size of your order, and of course on any special offers, but it's sure to be cheaper than any of the US amateur suppliers like Amidon. Mouser have a free Fedex shipping deal on orders above GBP50. Farnell can supply US stock from their Newark Electronics affiliate with an extra charge of GBP15 per order (they removed this charge for the whole of January, and maybe this offer might be repeated).

The Fair-Rite part number for the 2.40in #31 toroid is 2631803802. Paste this number into the search fields at http://gb.mouser.com and http://uk.farnell.com and search out the best deal.

Ah, too bad... Mouser currently have an 11 week lead time.

Farnell have 95 of them at Newark Electronics. (Ignore the wrong information about "43 shield beads". Farnell/Newark confirmed that the cores really are #31, but it may take some time to correct the web page.)

Also worth considering is the giant #31 clamp-on bead 0431177081... an exercise for the reader.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

385. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 15:33:57 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <vffcn.179435$6V1.145739@newsfe30.ams2>
Source record: 11035

"Ian White GM3SEK" <gm3sek@ifwtech.co.uk> wrote in message
news:ZnN9CfZ2FXcLFAXc@ifwtech.co.uk...
> Barett wrote:
>
>>>> What is the T200-2 Toriod used for and why is it good for that purpose?
>>>
>>>Tuned circuits e.g. antenna matching & filters, that's about it !
>>>
>>>#6 is even worse for HF broadband transformers
>>>
>>>Too many folks use iron powder cores of all types for totally unsuitable
>>>purposes.
>>>
>>>UKM
>>>
>>Does any one know where I can purchase some Ferrite rings type 31 material
>>from in the UK?
>>
>>and thanks to UKM.
>>
>
> UKM is right: iron powder material is not suitable for RF chokes.
>
> Well done for finding out about Fair-Rite 31 material - you must have been
> reading Jim Brown K9YC's tutorials on www.audiosystemsgroup.com :-)
>
> None of the UK amateur suppliers seems interested in stock large toroids
> or beads in this material (and believe me, I have tried) so the next best
> thing is to order from the USA.
>
> As Jim Brown has often advised, order directly from an industrial supplier
> in the USA, and not one of the "amateur" suppliers. When ordering from
> outside the USA, the most cost-effective route is probably either Mouser
> or Farnell because they handle the international shipping and Customs
> clearance, so you don't get hit for the same one-off charges and
> 'collection fees' that a personal import would.
>
> There is no import duty on these electronic parts, but of course you still
> have to pay 17.5% VAT on the whole bill.
>
> The best value will depend on the size of your order, and of course on any
> special offers, but it's sure to be cheaper than any of the US amateur
> suppliers like Amidon. Mouser have a free Fedex shipping deal on orders
> above GBP50. Farnell can supply US stock from their Newark Electronics

> affiliate with an extra charge of GBP15 per order (they removed this
> charge for the whole of January, and maybe this offer might be repeated).
>
> The Fair-Rite part number for the 2.40in #31 toroid is 2631803802. Paste
> this number into the search fields at http://gb.mouser.com and
> http://uk.farnell.com and search out the best deal.
>
> Ah, too bad... Mouser currently have an 11 week lead time.
>
> Farnell have 95 of them at Newark Electronics. (Ignore the wrong
> information about "43 shield beads". Farnell/Newark confirmed that the
> cores really are #31, but it may take some time to correct the web page.)
>
> Also worth considering is the giant #31 clamp-on bead 0431177081... an
> exercise for the reader.
>
>
>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
> http://www.ifwtech.co.uk/g3sek

I only need about 3 of them I think, so the postage is a killer
unfortunately.

I have found some FT140-43's.

Do you know if I stacked 3 Ferrite FT140-43's rings and wound 6 winding of
RG58cu through, what would the maximum impedance Ohms could I expect @
3.5MHz?

Also how much impedance could I expect to gain every time I added another
FT140-43 ferrite onto the stack?

Thanks for you links and info.

386. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 17:29:01 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <077564ad-5067-46a2-b1c5-8e1825cfbbbb@o3g2000yqb.googlegroups.com>
Source record: 11036

On Feb 9, 3:33 pm, "Barett" <bar...@blueyonder.co.uk> wrote:
> "Ian White GM3SEK" <gm3...@ifwtech.co.uk> wrote in
messagenews:ZnN9CfZ2FXcLFAXc@ifwtech.co.uk...
>
>
>
>
>
> > Barett wrote:
>
> >>>> What is the T200-2 Toriod used for and why is it good for that purpose?
>
> >>>Tuned circuits e.g. antenna matching & filters, that's about it !
>
> >>>#6 is even worse for HF broadband transformers
>
> >>>Too many folks use iron powder cores of all types for totally unsuitable
> >>>purposes.
>
> >>>UKM
>
> >>Does any one know where I can purchase some Ferrite rings type 31 material
> >>from in the UK?
>
> >>and thanks to UKM.
>
> > UKM is right: iron powder material is not suitable for RF chokes.
>
> > Well done for finding out about Fair-Rite 31 material - you must have been
> > reading Jim Brown K9YC's tutorials onwww.audiosystemsgroup.com:-)
>
> > None of the UK amateur suppliers seems interested in stock large toroids
> > or beads in this material (and believe me, I have tried) so the next best
> > thing is to order from the USA.
>
> > As Jim Brown has often advised, order directly from an industrial supplier
> > in the USA, and not one of the "amateur" suppliers. When ordering from
> > outside the USA, the most cost-effective route is probably either Mouser
> > or Farnell because they handle the international shipping and Customs
> > clearance, so you don't get hit for the same one-off charges and
> > 'collection fees' that a personal import would.
>
> > There is no import duty on these electronic parts, but of course you still
> > have to pay 17.5% VAT on the whole bill.

>
> > The best value will depend on the size of your order, and of course on any
> > special offers, but it's sure to be cheaper than any of the US amateur
> > suppliers like Amidon. Mouser have a free Fedex shipping deal on orders
> > above GBP50. Farnell can supply US stock from their Newark Electronics
> > affiliate with an extra charge of GBP15 per order (they removed this
> > charge for the whole of January, and maybe this offer might be repeated).
>
> > The Fair-Rite part number for the 2.40in #31 toroid is 2631803802. Paste
> > this number into the search fields athttp://gb.mouser.com and
> >http://uk.farnell.comand search out the best deal.
>
> > Ah, too bad... Mouser currently have an 11 week lead time.
>
> > Farnell have 95 of them at Newark Electronics. (Ignore the wrong
> > information about "43 shield beads". Farnell/Newark confirmed that the
> > cores really are #31, but it may take some time to correct the web page.)
>
> > Also worth considering is the giant #31 clamp-on bead 0431177081... an
> > exercise for the reader.
>
> > --
>
> > 73 from Ian GM3SEK   'In Practice' columnist for RadCom (RSGB)
> >http://www.ifwtech.co.uk/g3sek
>
> I only need about 3 of them I think, so the postage is a killer
> unfortunately.
>
> I have found some FT140-43's.
>
> Do you know if I stacked 3 Ferrite FT140-43's rings and wound 6 winding of
> RG58cu through, what would the maximum impedance Ohms could I expect @
> 3.5MHz?
>
> Also how much impedance could I expect to gain every time I added another
> FT140-43 ferrite onto the stack?
>
> Thanks for you links and info.- Hide quoted text -
>
> - Show quoted text -

Take a look at

http://www.karinya.net/g3txq/chokes/

http://audiosystemsgroup.com/RFI-Ham.pdf

http://www.yccc.org/Articles/W1HIS/CommonModeChokesW1HIS2006Apr06.pdf

Mouser and Newark are you only real options, watch out for special
shipping offers and take advantage of them when they occur.

The giant #31 clamp-on beads 0431177081 are expensive but equivalent to three 240 sized rings.

UKM

387. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 17:32:17 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <fb4b7ec6-ca43-49b5-ae8a-5818033a769f@k41g2000yqm.googlegroups.com>
Source record: 11037

>
> Also how much impedance could I expect to gain every time I added another
> FT140-43 ferrite onto the stack?

You need to double the number of beads each time to make a noticable
difference.

For worthwhile common mode suppression you need at least ten and
ideally eighty type 43 beads over a length of cable.

It's more cost effective to wind more turns. 2 x the turns 4 x the
inductance.

UKM

388. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 17:37:12 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <a1843b39-83ee-4c0f-9268-06ceb8c80dc7@w16g2000yqw.googlegroups.com>
Source record: 11038

For the 4:1 Ruthroff balun Type 43 or 31 is not ideal for this purpose, use approx 12 bifilar turns on a FT240-61 core.

Wind the transformer with twin figure of eight speaker cable which is OK for low power up to about 100w. Use thin 100 ohm twin feeder sold by Spectrum Communications for higher power levels.

UKM

389. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 17:56:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fv73n5hpg2hfedd0okqm0jpbm1d8slblg7@4ax.com>
Source record: 11039

On Tue, 9 Feb 2010 15:33:57 -0000, "Barett" <barett@blueyonder.co.uk>
wrote:

>Also how much impedance could I expect to gain every time I added another
>FT140-43 ferrite onto the stack?

Hi OM,

Z varies by the square of turns THROUGH the center (turns are always integers, not fractions). Z is a function of formulation (the mix of the ferrite) which defines the optimum band(s) of operation. Z is also a function of mass, but it doesn't take much, a small bead that comfortably girdles RG58 will present several 10s of Ohms Z. Z is a function of frequency, but most ferrites exhibit very mild shifts in Z as frequency changes. You can chain beads or toroids to build up your Z. You typically want your choke at least 3X the Z of the feedpoint - 10X is very much more preferred.

As for resources and cost, go to your nearest computer monitor recycler and obtain any deflection coils that may still be around in this era of flat screens. They have been reportedly quite useful.

If you do this, you will have to characterize the formulation of the available ferrite through experimentation. If you have an antenna computerized analyzer, you can measure this directly. If not, this may take invention and thought (and more posts here).

73's
Richard Clark, KB7QHC

390. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 19:15:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D1B3FBB7B7C9nonenowhere@61.9.191.5>
Source record: 11040

"Barett" <barett@blueyonder.co.uk> wrote in
news:vffcn.179435$6V1.145739@newsfe30.ams2:

...
> I only need about 3 of them I think, so the postage is a killer
> unfortunately.

We experience the same problem here in VK. Local resellers charge very high prices, and many US suppliers charge very high shipping on magnetics.

Another option is to look on Ebay, Ebay sellers who really want to sell internationally have reasonable prices... but be prepared for excessive shipping quotes from some.

>
> I have found some FT140-43's.

You could use these to make a common mode choke, but the physical size limits the amount of heat that they can dissipate and the power rating.

>
> Do you know if I stacked 3 Ferrite FT140-43's rings and wound 6
> winding of RG58cu through, what would the maximum impedance Ohms could
> I expect @ 3.5MHz?
>
> Also how much impedance could I expect to gain every time I added
> another FT140-43 ferrite onto the stack?

At low frequency, the impedance is close to proportional to the square of turns, and proportional to the number of cores stacked but for a core of this type, the inductor will probably be self resonant in the HF range and stacking cores increases self capacitance and reduces the self resonant frequency and the above approximation does not apply so well.

I should stress that self resonance isn't necessarily bad for these types of lossy inductors, you should put aside Rules of Thumb (ROT) that say to never use an inductor above its self resonant frequency.

I have written a short article entitled "A method for estimating the impedance of a ferrite cored toroidal inductor at RF" which you may find interesting, it is at http://vk1od.net/blog/?p=806 .

Is Neosid still selling product in the UK? I believe they stopped manufacture, but they may be selling product.

In answer to the shipping cost issue, I went looking for a locally available core that suited a general purpose HF common mode choke, and

Neoside produce a core larger than FT240 with a material that is a good choice for the purpose, similar to Fair-rite #52. I describe the design at http://vk1od.net/blog/?p=581 . Moving house has delayed completion of this, the design is done, the materials are here, I just have to construct one in a box and measure its common mode impedance to calibrate the amount of equivalent shunt capacitance. An alternative would be a stack of two FT240-52 cores.

Everybody, and every manufacturer has a recipe for common mode chokes, but if you do not provide a plot of common mode impedance, preferably R and X separately, then you might reasonably question the recipe.

None so more than the commercial purveyors of the magic Caronlina Windom which calls out aspects many of us might regard as a disadvantages as positive features (sheer marketing spin) and depends on undescribed proprietary components.

Owen

391. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 19:19:20 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D1B4050362A5nonenowhere@61.9.191.5>
Source record: 11041

Owen Duffy <none@no.where> wrote in
news:Xns9D1B3FBB7B7C9nonenowhere@61.9.191.5:

...
> Everybody, and every manufacturer has a recipe for common mode chokes,
> but if you do not provide a plot of common mode impedance, preferably
> R and X separately, then you might reasonably question the recipe.

Aargh!

Everybody, and every manufacturer has a recipe for common mode chokes, but
if *they* do not provide a plot of common mode impedance, preferably R and
X separately, then you might reasonably question the recipe.

392. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 19:23:52 UTC
From: dplatt@radagast.org
Message-ID: <8bp847-3oe.ln1@radagast.org>
Source record: 11043

In article <vffcn.179435$6V1.145739@newsfe30.ams2>,
Barett <barett@blueyonder.co.uk> wrote:

>I have found some FT140-43's.
>
>Do you know if I stacked 3 Ferrite FT140-43's rings and wound 6 winding of
>RG58cu through, what would the maximum impedance Ohms could I expect @
>3.5MHz?

I did something like that a few years ago, to build a common-mode
choke for our ARES/RACES ham shack's HF feedline.

I used off-the-shelf (surplus-store) ferrite tubes - very probably a
43 mix or something close to it, based on the simple inductance
measurements I did with an MFJ analyzer. They're roughly 1 inch long,
and large enough to allow three through-the-center passes of RG-8X coax.

I glued somewhere around six of them, end-to-end, to create a long
tube, and then ran the RG-8X through... creating a long three-turn
choke. Added N connectors to the ends of the coax and stuffed the
whole thing into a chunk of PVC tube with end-caps.

The results were gratifying. When I tried a common-mode measurement -
along the braid, from one end connector to the other - the impedance
at 3.5 MHz was too high for the MFJ meter to read it... it simply said
"> 1500".

A normal (differential-mode) measurement through the coax, looking
into a 50-ohm dummy load, reads 50 ohms (1:1 SWR) as closely as
matters not (i.e. within the accuracy of the MFJ meter).

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

393. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 19:38:26 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <Kq8pRfeymbcLFA08@ifwtech.co.uk>
Source record: 11042

Barett Wrote:

>> The Fair-Rite part number for the 2.40in #31 toroid is 2631803802. Paste
>> this number into the search fields at http://gb.mouser.com and
>> http://uk.farnell.com and search out the best deal.
>>
[...]
>
>I only need about 3 of them I think, so the postage is a killer
>unfortunately.
>
>I have found some FT140-43's.
>
>Do you know if I stacked 3 Ferrite FT140-43's rings and wound 6 winding of
>RG58cu through, what would the maximum impedance Ohms could I expect @
>3.5MHz?
>

You're in luck, as I happen to have a few FT-140-43, and the measurement equipment is out on the bench.

That 3-core choke has its best performance around 15MHz (peaking at 4000 ohms, broadband and predominantly resistive, which is quite a good result) but at 3.5MHz it's only about 1900 ohms and mostly inductive.

>Also how much impedance could I expect to gain every time I added another
>FT140-43 ferrite onto the stack?
>
I had only one more to add, which moved the peak down to 12MHz, 5000 ohms, but only added a few hundred ohms at 3.5MHz.

Clearly these cores are not the best for your application.

I'm working on a better approach from the new ARRL 2010 handbook, which uses cores that *are* available in the UK and gives the best "value for ferrite" of anything I've seen. Publication is due in the May Radcom, but I may be able to give some previews in the next few weeks.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

394. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 22:24:17 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hksnah$kl6$2@news.jpl.nasa.gov>
Source record: 11045

Dave Platt wrote:

> I used off-the-shelf (surplus-store) ferrite tubes - very probably a
> 43 mix or something close to it, based on the simple inductance
> measurements I did with an MFJ analyzer. They're roughly 1 inch long,
> and large enough to allow three through-the-center passes of RG-8X coax.
>
> I glued somewhere around six of them, end-to-end, to create a long
> tube, and then ran the RG-8X through... creating a long three-turn
> choke. Added N connectors to the ends of the coax and stuffed the
> whole thing into a chunk of PVC tube with end-caps.

You might do better breaking the thing up into multiple cores and multiple windings. That is, rather than 3 turns through 6 cores, do 3 turns through 1 core, then 3 turns through another core, then 3 turns, etc.

The logic here is that the impedance scales as the number of cores, but doing them all in one shot means that the input coax is very close to the output coax, so you have a lot more capacitance coupling the input to the output.

I think Jim K9YC actually did some comparisons using #31 2.4" cores comparing stacking to stringing em out.

395. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-09 22:49:08 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <u5p3n5dim06d1dbksn3p67gnj7sdjigkit@4ax.com>
Source record: 11044

On Mon, 8 Feb 2010 15:14:59 -0800 (PST), Dave <k1ttt@arrl.net> wrote:

>On Feb 7, 7:18ï¿½pm, "pdr...@coinet.com" <co_far...@yahoo.com> wrote:
>> On Feb 7, 7:22ï¿½am, John Ferrell <jferrel...@triad.rr.com> wrote:
>>
>>
>>
>> > On Sun, 7 Feb 2010 05:02:58 -0800 (PST), Dave <k1...@arrl.net> wrote:
>>
>
>> Limited life expectancy????? I am still using some ropes I bought in
>> the 1960's. Some type of synthetic material nicely woven into a 3/8
>> inch rope. You need to investigate further, or buy some better class
>> of rope!
>>
>> Paul, KD7HB
I will keep that in mind. I have about 250 feet of blue 3/8" Nylon
that was my primary anchor rope from my sail boating days. It has
served from time to time as a temporary guy line for ham radio.
However, to hoist the fixture a winch with a brake sounds more
convenient.
John Ferrell W8CCW

396. hot 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-10 11:49:48 UTC
From: balu <jdgjgdjdgjdgjdg@gmail.com>
Message-ID: <1e3c6077-c6c7-42bc-bfb0-38e6df38562a@k2g2000pro.googlegroups.com>
Source record: 11046

hot kiss
http://photoseefree.blogspot.com/2009/12/hot-kiss.html
hot lip kiss
http://photoseefree.blogspot.com/2009/12/hot-lip-kiss.html
hot navel kiss
http://photoseefree.blogspot.com/2009/12/hot-navel-kiss.html
hot lip to lip kiss
http://photoseefree.blogspot.com/2009/12/hot-lip-to-lip-kiss.html
super lip kiss
http://photoseefree.blogspot.com/2009/12/super-lip-kiss.html
lip kiss club
http://photoseefree.blogspot.com/2009/12/lip-kiss-club.html
kiss club
http://photoseefree.blogspot.com/2009/12/kiss-club.html

jobs

work from home
http://anyjobseehere.blogspot.com/2009/12/work-from-home.html
online jobs
http://anyjobseehere.blogspot.com/2009/12/online-jobs.html
java jobs
http://anyjobseehere.blogspot.com/2009/12/java-jobs.html
oracle jobs
http://anyjobseehere.blogspot.com/2009/12/oracle-jobs.html
web designing jobs
http://anyjobseehere.blogspot.com/2009/12/web-designing-jobs.html

397. HF action from a high rise apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-10 17:59:47 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <4eea2fe0-af87-48bd-96ac-57e248c7b73b@f12g2000yqn.googlegroups.com>
Source record: 11047

Hi guys, long time no see.

Well for various reasons I missed out on the last two solar peaks and with another one comin' down the pike not so very far away I'm determined not to miss out on that one, too. Trouble is, I'm several floors up in a metropolitan area. It's not as bad as New York, but nevertheless very far from ideal.

Any suggestions for an antenna type that's discreet (or at least not too outrageous) that gets out well at HF? Anything from 80m through 10m I'll take whatever I can get. I know given my geographical limitations I have to be realistic so I'm not looking at winning any contests or working DX every night. Just don't want to miss out entirely yet again. Any suggestions?

398. Re: HF action from a high rise apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-10 18:29:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hkututfkk1@news.jpl.nasa.gov>
Source record: 11048

phaedrus wrote:
> Hi guys, long time no see.
>
> Well for various reasons I missed out on the last two solar peaks and
> with another one comin' down the pike not so very far away I'm
> determined not to miss out on that one, too. Trouble is, I'm several
> floors up in a metropolitan area. It's not as bad as New York, but
> nevertheless very far from ideal.
>
> Any suggestions for an antenna type that's discreet (or at least not
> too outrageous) that gets out well at HF? Anything from 80m through
> 10m I'll take whatever I can get. I know given my geographical
> limitations I have to be realistic so I'm not looking at winning any
> contests or working DX every night. Just don't want to miss out
> entirely yet again. Any suggestions?

Got a outside facing window?
Balcony?

A 20 foot "black widow" collapsible fishing pole (try Cabelas online..
they run about $20 each, as of a couple years ago) can easily support a
pretty long wire hanging down away from the side of the building. You
have to think about the "other side" of the antenna, but another wire
serves there. If you have multiple windows, or some way to stick the
wire to the side of the building, you can make a sort of "limited
radials" scheme (think of a ground plane vertical turned on its side).

A tuner at the base of the antenna makes the mismatch issue go away, and
you can run the coax from the tuner to your rig. The SGC-239 is
convenient and works pretty well. (if you want to hop around bands or
within a band, having to reset a manual tuner each time gets old, real
fast, especially if the tuner is sitting on the windowsill or balcony
rail at the "feedpoint" and the rig is inside on the table where it's
more comfortable.

lay in a good pile of appropriate EMI suppression cores (I like the #31
mix from Fair-Rite, available in a variety of forms from Mouser and
Digikey, among others) so that you can deal with the inevitable RFI issues.

399. Re: HF action from a high rise apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-10 21:03:33 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <42cce5a8-2dcd-47d5-9f65-6e754f43e664@d37g2000yqa.googlegroups.com>
Source record: 11049

On Feb 10, 1:29 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> phaedrus wrote:
> > Hi guys, long time no see.
>
> > Well for various reasons I missed out on the last two solar peaks and
> > with another one comin' down the pike not so very far away I'm
> > determined not to miss out on that one, too. Trouble is, I'm several
> > floors up in a metropolitan area. It's not as bad as New York, but
> > nevertheless very far from ideal.
>
> > Any suggestions for an antenna type that's discreet (or at least not
> > too outrageous) that gets out well at HF? Anything from 80m through
> > 10m I'll take whatever I can get. I know given my geographical
> > limitations I have to be realistic so I'm not looking at winning any
> > contests or working DX every night. Just don't want to miss out
> > entirely yet again. Any suggestions?
>
> Got a outside facing window?
> Balcony?
>
> A 20 foot "black widow" collapsible fishing pole (try Cabelas online..
> they run about $20 each, as of a couple years ago) can easily support a
> pretty long wire hanging down away from the side of the building. You
> have to think about the "other side" of the antenna, but another wire
> serves there. If you have multiple windows, or some way to stick the
> wire to the side of the building, you can make a sort of "limited
> radials" scheme (think of a ground plane vertical turned on its side).
>
> A tuner at the base of the antenna makes the mismatch issue go away, and
> you can run the coax from the tuner to your rig. The SGC-239 is
> convenient and works pretty well. (if you want to hop around bands or
> within a band, having to reset a manual tuner each time gets old, real
> fast, especially if the tuner is sitting on the windowsill or balcony
> rail at the "feedpoint" and the rig is inside on the table where it's
> more comfortable.
>
> lay in a good pile of appropriate EMI suppression cores (I like the #31
> mix from Fair-Rite, available in a variety of forms from Mouser and
> Digikey, among others) so that you can deal with the inevitable RFI issues.

I have used something very similar to what Jim mentioned but literally
a collapsible fishing pole with wire tie-wrapped to it and another
dangling from the balcony rail. Matching was provided via MFJ tuner. I
found an antenna mount in the CB section of a truck stop that

consisted of a CB mount welded to a pair of locking pliers.

Jimmie

400. Re: HF action from a high rise apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-10 22:32:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hkvc5f$7hc$1@news.jpl.nasa.gov>
Source record: 11050

g very similar to what Jim mentioned but literally
> a collapsible fishing pole with wire tie-wrapped to it and another
> dangling from the balcony rail. Matching was provided via MFJ tuner. I
> found an antenna mount in the CB section of a truck stop that
> consisted of a CB mount welded to a pair of locking pliers.
>

There's also things like a locking pliers (Vise-Grip) welded to a
C-clamp or pipe clamp (which looks like a C-clamp, except the fixed part
is a V shaped piece. There's also a clamp that is like a vise-grip,
except instead of jaws, it has a piece of bicycle chain and a hook. You
wrap the chain around whatever it is you want to clamp to, squeeze the
handle and it locks it in place.
http://www.irwin.com/irwin/consumer/jhtml/detail.jhtml?prodId=IrwinProd100322
http://www.irwin.com/irwin/consumer/jhtml/browse.jhtml?catId=IrwinCat100299

Take a look at a catalog for stage and theatrical rigging, grip or
gaffer's supplies. There's a wealth of nifty things to attach stuff to
poles/standards/posts, etc. They're always having to temporarily attach
stuff on a set or stage. Things like grip clamps with a baby pin are
useful.. For fun, take a look at the Matthews Meat Axe (pricey, but you
can hang remarkable stuff from it)

http://www.filmtools.com/gripclipandc.html
http://www.stage-n-studio.com/Cat_04_PDF_pages/Cat04-Light-Grid-1.pdf

If you want to get elaborate, look at stuff used to attach cameras to
cars and other stuff.

401. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-10 23:38:24 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <d0c795aa-d400-4011-8abc-0f2c71228d72@u15g2000prd.googlegroups.com>
Source record: 11051

On Feb 9, 2:49 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> On Mon, 8 Feb 2010 15:14:59 -0800 (PST), Dave <k1...@arrl.net> wrote:
> >On Feb 7, 7:18 pm, "pdr...@coinet.com" <co_far...@yahoo.com> wrote:
> >> On Feb 7, 7:22 am, John Ferrell <jferrel...@triad.rr.com> wrote:
>
> >> > On Sun, 7 Feb 2010 05:02:58 -0800 (PST), Dave <k1...@arrl.net> wrote:
>
> >> Limited life expectancy????? I am still using some ropes I bought in
> >> the 1960's. Some type of synthetic material nicely woven into a 3/8
> >> inch rope. You need to investigate further, or buy some better class
> >> of rope!
>
> >> Paul, KD7HB
>
> I will keep that in mind. I have about 250 feet of blue 3/8" Nylon
> that was my primary anchor rope from my sail boating days. It has
> served from time to time as a temporary guy line for ham radio.
> However, to hoist the fixture a winch with a brake sounds more
> convenient.
> John Ferrell W8CCW

John, I think my ropes are dacron, as mentioned. That stuff really
lasts!!!! I still have two dacron sweaters my mother bought for me
when I started high school back in 1953. Still fit and have never worn
out. I haven't seen dacron ropes for a long time.

Paul, KD7HB

402. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 01:28:00 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hkvmf0$r2r$1@news.jpl.nasa.gov>
Source record: 11053

pdrahn@coinet.com wrote:

>
> John, I think my ropes are dacron, as mentioned. That stuff really
> lasts!!!! I still have two dacron sweaters my mother bought for me
> when I started high school back in 1953. Still fit and have never worn
> out. I haven't seen dacron ropes for a long time.
>
> Paul, KD7HB
>

Sure, you've seen Dacron ropes, just not under that name. Dacron is a
trade name for a particular form of Polyethylene Terephthalte (PET), aka
Polyester. Beverage bottles are a big use of PET, but a lot more winds
up as fabric or rope. In film form, one trade name is Mylar.
(originally, it was called Terylene, but Dupont called it Dacron,
probably because it sounded better, and it was similar to Nylon, another
Dupont product..)

You see it labeled as "polyester" rope these days (probably because
DuPont's patents have expired, so anyone can make the stuff, but only
DuPont can call it Dacron)

403. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 01:33:30 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <N7Jcn.84897$BV.27928@newsfe07.iad>
Source record: 11052

John Ferrell wrote:
> A friend gave me a forty foot Utility pole. Since I am not a climber I
> have not determined how to make the best of this in my continual
> antenna tinkering. I keep coming back to the hazer transit method. The
> device would be complicated by the fact that the pole is about 12
> inches in diameter at the bottom and 6 inches at the top. I expect to
> bury 5 feet of it. I hope to construct the device so that there is
> NEVER a need to climb the pole. The galvanized wire rope on my Crank
> up mast that I purchased in the late 1970's is still looking fine.
>
> Any experience or ideas are appreciated!

The Glen Martin hazer looks like (I've never seen one in person) it uses the tower as a track, and the constant cross section is key. The taper of the utility pole sorta kills that idea, so maybe some kind of curtain track turned vertical is what you need, something industrial like the kind used in theaters. Bolt it straight to the pole and fabricate a trolley to carry a rotor, thrust bearing, etc. Once you get the trolley to the top wrap the cables around the pole in a spiral to keep them from flopping around in the wind. I'd use a galvanized wire rope as opposed to something plastic to pull and hold it up.

> BTW, Any idea why this tram mechanism is called a "hazer?"
> John Ferrell W8CCW

I have no idea at all, I thought it might have been something nautical but dictionary searches don't show that at all.

- Galen, W8LNA

404. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 11:32:35 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <eVRcn.24488$yB6.7528@newsfe12.ams2>
Source record: 11054

Hi all

I have been reading loads.

I have managed to borrow a Rigexpert AA-200. Is it possible to measure the impedance with a AA-200 analyser and how would I do that?

And a big thank you for all the links and info.

"Ian White GM3SEK" <gm3sek@ifwtech.co.uk> wrote in message news:Kq8pRfeymbcLFA08@ifwtech.co.uk...
> Barett Wrote:
>
>
>
>>> The Fair-Rite part number for the 2.40in #31 toroid is 2631803802. Paste
>>> this number into the search fields at http://gb.mouser.com and
>>> http://uk.farnell.com and search out the best deal.
>>>
> [...]
>>
>>I only need about 3 of them I think, so the postage is a killer
>>unfortunately.
>>
>>I have found some FT140-43's.
>>
>>Do you know if I stacked 3 Ferrite FT140-43's rings and wound 6 winding of
>>RG58cu through, what would the maximum impedance Ohms could I expect @
>>3.5MHz?
>>
>
> You're in luck, as I happen to have a few FT-140-43, and the measurement
> equipment is out on the bench.
>
> That 3-core choke has its best performance around 15MHz (peaking at 4000
> ohms, broadband and predominantly resistive, which is quite a good result)
> but at 3.5MHz it's only about 1900 ohms and mostly inductive.
>
>>Also how much impedance could I expect to gain every time I added another
>>FT140-43 ferrite onto the stack?
>>
> I had only one more to add, which moved the peak down to 12MHz, 5000 ohms,
> but only added a few hundred ohms at 3.5MHz.
>
> Clearly these cores are not the best for your application.

>
> I'm working on a better approach from the new ARRL 2010 handbook, which
> uses cores that *are* available in the UK and gives the best "value for
> ferrite" of anything I've seen. Publication is due in the May Radcom, but
> I may be able to give some previews in the next few weeks.
>
>
>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
> http://www.ifwtech.co.uk/g3sek

405. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 14:05:31 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <Om7oi+Dr6AdLFAM7@ifwtech.co.uk>
Source record: 11055

Barett wrote:
>
>I have been reading loads.
>
Good for you!

>I have managed to borrow a Rigexpert AA-200. Is it possible to measure
>the impedance with a AA-200 analyser and how would I do that?
>
I don't have one of those particular analysers, but be VERY careful when measuring the high impedances that you'll typically see in RF chokes.

Most antenna analysers are primarily designed to measure impedances around 50 ohms, and they may be quite inaccurate for impedances of several k-ohms. Check with a 4.7k or 10k chip resistor... you may have a nasty surprise.

Also read Jim Brown's notes about the effects of the analyser's own shunt capacitance. Choke resonances in the HF region are the product of several uH of inductance but only a few pF of inter-winding capacitance, so a few pF of additional shunt capacitance from the analyser can make a big difference. The more advanced Vector Network Analysers have the facility to "calibrate out" such errors before making measurements, but the AA-200 doesn't seem to have that.

--

73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
http://www.ifwtech.co.uk/g3sek

406. Re: HF action from a high rise apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 15:35:19 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <93778d64-d679-4238-a762-1f48d9d95982@j31g2000yqa.googlegroups.com>
Source record: 11056

OK, thanks, guys. Antennas have always been my downfall. I'm afraid I am not very practical in that respect. I have read about some resourceful people running a wire around the edge of their living rooms under the carpet and working DX with 10W but I wouldn't feel comfortable with that. I believe antennas should be way up in the air away from other stuff. Stick a wire under your carpet just seems like taking a bath with your clothes on; there's something not right about it!

407. Transmission line stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 15:45:46 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <a2658342-4565-4a06-ae28-82946450cea9@f15g2000yqe.googlegroups.com>
Source record: 11057

HI all,

A few questions have arisen in my mind since some guy came around to
install a wi-fi system at my girlfriend's apartment. This system uses
a dish and the signal frequency is 5Ghz. I asked the installer what
type of fancy, low-loss coax he was going to route the down feed with
and he told me "CAT 5" which I've never heard of. Anyway, it turns out
this stuff is essentially just telephone wire!
There must be some serious gaps in my understanding about transmission
lines, because on further enquriy it transpires the loss with this
wire is pretty low and the installer told me he can have a run of 100
meters before he has to worry about signal loss.
What's the deal here? How come I have to have some fancy, military
grad coax that costs a fortune and must be as short as possible just
for the 23cm band when this guy can use what is basically just phone
wire at 5Ghz and slop the stuff over half the building without a worry?

408. Transmission line stuff 2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 15:47:57 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <9afe4f33-d030-405d-82a3-f011d9371302@x22g2000yqx.googlegroups.com>
Source record: 11059

Hi again,

What do operators in desert conditions do about getting an earth? I assume any antenna that relies on an earth image for its counterpoise is a non-starter? Are balanced systems the only way to go when all you have around you is sand?

409. get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 15:49:02 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <388f44b1-ae08-4c47-83b3-342ad4e733ed@z19g2000yqk.googlegroups.com>
Source record: 11058
Cross-posted to: rec.radio.cb,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Feb 8, 5:19 am, kenny smirkenberg <kenny.smirkenb...@gmail.com>
wrote:
> we all know your wife fucks niggers and dogs.

410. Transmission line stuff 3

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 15:55:30 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <c4468257-1bd5-4eaa-b87b-e7daf88d8973@f12g2000yqn.googlegroups.com>
Source record: 11060

Would I be right in thinking that line loss in coaxial feeders is so
poor compared to open-wire/laddered feeders solely due to the
proximity of the conductors and leakage of current through the
dialectric? I mean, the capactive and inductive distributed elements
in a tx line can't disipate power so such loss can only come from the
distributed series and shunt ohmic properties of the line, and since
the *series* loss in coax and open-wire is going to be pretty similar,
the principal cause of coax being so lossy comes from current leakage
across the dialectric. Is that right?

411. Transmission line stuff 4

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 15:59:23 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <8ec3c154-4a4b-493e-81ee-612148f16dbb@q16g2000yqq.googlegroups.com>
Source record: 11061

Just need to get these things clarified!

The velocity factor of a tx line is governed by its distributed
inductance and capacitance, is it not?
I mean the more L and C you have per meter of line the lower the
signal velocity, right?
How much is the signal speed retarded by typically and are there any
circumstances where we need to be concerned about this phenomenon?

412. Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 16:02:55 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <fe96541e-75fc-423a-8eb7-8cb8a4a34bd1@b7g2000yqd.googlegroups.com>
Source record: 11062

I seem to recall that ladder/open-wire feeders are relatively high
impedance ~500 ohms. Is it possible to construct 50 ohm open wire
feeder and if so, what would the spacing be?

Thanks!

413. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 16:22:57 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <p9Wcn.107661$RP4.93375@newsfe03.ams2>
Source record: 11063

"Ian White GM3SEK" <gm3sek@ifwtech.co.uk> wrote in message
news:Om7oi+Dr6AdLFAM7@ifwtech.co.uk...
> Barett wrote:
>>
>>I have been reading loads.
>>
> Good for you!
>
>
>>I have managed to borrow a Rigexpert AA-200. Is it possible to measure the
>>impedance with a AA-200 analyser and how would I do that?
>>
> I don't have one of those particular analysers, but be VERY careful when
> measuring the high impedances that you'll typically see in RF chokes.
>
> Most antenna analysers are primarily designed to measure impedances around
> 50 ohms, and they may be quite inaccurate for impedances of several
> k-ohms. Check with a 4.7k or 10k chip resistor... you may have a nasty
> surprise.
>
> Also read Jim Brown's notes about the effects of the analyser's own shunt
> capacitance. Choke resonances in the HF region are the product of several
> uH of inductance but only a few pF of inter-winding capacitance, so a few
> pF of additional shunt capacitance from the analyser can make a big
> difference. The more advanced Vector Network Analysers have the facility
> to "calibrate out" such errors before making measurements, but the AA-200
> doesn't seem to have that.
>
>
>
> --
>
> 73 from Ian GM3SEK 'In Practice' columnist for RadCom (RSGB)
> http://www.ifwtech.co.uk/g3sek

Ok Ian all noted.

Thanks

414. VNA coax recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 16:24:10 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <59280aa6-34e9-4669-94ea-ada5f74bdea8@15g2000yqi.googlegroups.com>
Source record: 11064

HI,

I have an old HP network analyzer that goes up to 1.3Ghz. I need to make up some more cables for it, though, as the existing ones (not original) are far too thick and inflexible for comfort.

I have to cut three identical 2-foot lengths (for phase matching purposes) of some 50 ohm coax for this purpose, to connect the VNA to its bridge. Can anyone suggest a suitable, readily available coax for this job? The terminations will be N-types, by the way. I'd like something flexible and easy to terminate, ideally. Just don't want a cable that will change its Zo every time it gets a bit bent!

415. Re: Transmission line stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 17:46:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ZMSdnZ3OMskb3-nWnZ2dnUVZ_oednZ2d@giganews.com>
Source record: 11065

phaedrus wrote:
> HI all,
>
> A few questions have arisen in my mind since some guy came around to
> install a wi-fi system at my girlfriend's apartment. This system uses
> a dish and the signal frequency is 5Ghz. I asked the installer what
> type of fancy, low-loss coax he was going to route the down feed with
> and he told me "CAT 5" which I've never heard of. Anyway, it turns out
> this stuff is essentially just telephone wire!
> There must be some serious gaps in my understanding about transmission
> lines, because on further enquriy it transpires the loss with this
> wire is pretty low and the installer told me he can have a run of 100
> meters before he has to worry about signal loss.
> What's the deal here? How come I have to have some fancy, military
> grad coax that costs a fortune and must be as short as possible just
> for the 23cm band when this guy can use what is basically just phone
> wire at 5Ghz and slop the stuff over half the building without a worry?

I believe there's a converter/demodulator at the feed point, so all that's being sent along the cat 5 cable is digital data at 100 MB/s or less. There's no reason you couldn't use cat 5 cable as transmission line up to 100 MHz or so, if you're willing to put up with the loss. It's specified as 24 dB/100 meters at 100 MHz, which is about twice (in dB) of the loss of RG-58. Loss of cat 5 cable would be extremely high, and it would likely radiate pretty badly, at 5 GHz.

Roy Lewallen, W7EL

416. Re: Transmission line stuff 2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 17:47:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ZMSdnZzOMslf3-nWnZ2dnUVZ_odi4p2d@giganews.com>
Source record: 11066

phaedrus wrote:
> Hi again,
>
> What do operators in desert conditions do about getting an earth? I
> assume any antenna that relies on an earth image for its counterpoise
> is a non-starter? Are balanced systems the only way to go when all you
> have around you is sand?

Elevated or buried radial wires suffice.

Roy Lewallen, W7EL

417. Re: Transmission line stuff 3

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 17:51:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <YMqdnb1z1ssS3unWnZ2dnUVZ_qCdnZ2d@giganews.com>
Source record: 11067

phaedrus wrote:
> Would I be right in thinking that line loss in coaxial feeders is so
> poor compared to open-wire/laddered feeders solely due to the
> proximity of the conductors and leakage of current through the
> dialectric? I mean, the capactive and inductive distributed elements
> in a tx line can't disipate power so such loss can only come from the
> distributed series and shunt ohmic properties of the line, and since
> the *series* loss in coax and open-wire is going to be pretty similar,
> the principal cause of coax being so lossy comes from current leakage
> across the dialectric. Is that right?

Depends on the frequency. Below about 1 - 10 GHz, the primary loss mechanism in coax is conductor resistance. In that range, coax is more lossy mainly because of its lower impedance, resulting in higher current and consequently greater I^2 * R loss. At higher frequencies, dielectric loss becomes a factor but parallel wire lines become impractical because of the need for very close spacing to reduce radiation, along with problems terminating the ends of the lines.

Roy Lewallen, W7EL

418. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:02:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p0h8n59p7u78648sbhj52h6en5u07rnp80@4ax.com>
Source record: 11068

On Thu, 11 Feb 2010 11:32:35 -0000, "Barett" <barett@blueyonder.co.uk>
wrote:

>I have managed to borrow a Rigexpert AA-200. Is it possible to measure the
>impedance with a AA-200 analyser and how would I do that?

Hi Barett,

Pass a single, short piece of wire through your core/bead. Connect it
to the analyzer. Read the Z. This will be enough to characterize
your ferrite material at any frequency within the range of the AA-200.
Now pass the wire (now longer) through your core/bead twice. Connect
it to the analyzer. Read the Z. You should observe four times the
earlier reading (you may have to perform complex math if the Z
contains substantial X).

Now pass the wire (now longer) through your core/bead three times.
Connect it to the analyzer. Read the Z. You should observe nine
times the earlier reading (you may have to perform complex math if the
Z contains substantial X).

Ferrite materials with one pass of wire will not exhibit a huge value
such as to lead to significant error, so as you progress through
successive passes of wire, you can be reasonably assured that the
square law will be observed within the capacity of the analyzer at low
HF frequencies (simply because the wire length being a significant
portion of a wavelength can confound measurements at higher
frequencies).

The single pass test will also help to select and compare previously
known and unknown ferrite materials.

73's
Richard Clark, KB7QHC

419. Re: Transmission line stuff 4

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:04:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <3YCdnR9R8IoI2-nWnZ2dnUVZ_tadnZ2d@giganews.com>
Source record: 11069

phaedrus wrote:
> Just need to get these things clarified!
>
> The velocity factor of a tx line is governed by its distributed
> inductance and capacitance, is it not?

Yes.

> I mean the more L and C you have per meter of line the lower the
> signal velocity, right?

Right.

> How much is the signal speed retarded by typically and are there any
> circumstances where we need to be concerned about this phenomenon?

The velocity factor for air dielectric cables is essentially unity. The slowest common velocity factor is about 0.66, which you'll find in coax (where the field is entirely in the dielectric) having solid polyethylene dielectric. Velocity factor is important in determining the physical length of cable needed to effect a specific time or phase delay.

Roy Lewallen, W7EL

420. Re: HF action from a high rise apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:10:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gjh8n5lt8s2fb0rv7fpn0nlsd8rlgdb6qc@4ax.com>
Source record: 11070

On Thu, 11 Feb 2010 07:35:19 -0800 (PST), phaedrus
<orion.osiris@virgin.net> wrote:

> I believe antennas should be way up in the air
>away from other stuff.

You are way up in the air. The floor is merely an illusion of being
on the ground.

>Stick a wire under your carpet just seems like
>taking a bath with your clothes on; there's something not right about
>it!

Understandable, but it confuses the issue that you are already up in
the air. Rather, it is like taking a very high antenna, and draping a
carpet over it and nailing a floor under it. The building composition
will certainly have an effect. However, if you have heard of
>people running a wire around the edge of their living
>rooms under the carpet and working DX with 10W
then it would seem reasonable that their building composition is only
marginally affecting their antenna high in the air.

The only unknown that remains is how much YOUR building composition
will impact the same loop under a carpet. This is something that only
you can investigate. It couldn't take much effort to lay out the
antenna and listen to how much you can hear. That would go a great
distance in answering this unknown.

73's
Richard Clark, KB7QHC

421. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:11:28 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <tt2dnQr0eLrN1enWnZ2dnUVZ_jGdnZ2d@giganews.com>
Source record: 11071

phaedrus wrote:
> I seem to recall that ladder/open-wire feeders are relatively high
> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
> feeder and if so, what would the spacing be?
>
> Thanks!

Possible, perhaps, but not practical. Assuming air insulation, the spacing between the wires would have to be just under 9% of the wire diameter, and this spacing would have to be maintained very closely to keep the impedance constant. I might still have some 72 ohm twinlead in my junk box, which consisted of wires embedded in molded polyethylene.

With your interest in transmission lines, you'd benefit a great deal from getting a copy of the _ARRL Antenna Book_.

Roy Lewallen, W7EL

422. Re: Transmission line stuff 4

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:15:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <56i8n5tjge5dpvvs03ll4pqupaqvonna05@4ax.com>
Source record: 11072

On Thu, 11 Feb 2010 07:59:23 -0800 (PST), phaedrus
<orion.osiris@virgin.net> wrote:

>How much is the signal speed retarded by typically and are there any
>circumstances where we need to be concerned about this phenomenon?

Look up the velocity factor, a simple multiplier/divider of the
relative speed of light in a transmission line. This means that the
signal that hits your antenna will hit your radio over the air before
that same signal reaches it through the transmission line.

73's
Richard Clark, KB7QHC

423. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:15:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6ai8n59faa101k0h7vku1u5hqv2em75jtg@4ax.com>
Source record: 11073

On Thu, 11 Feb 2010 08:02:55 -0800 (PST), phaedrus
<orion.osiris@virgin.net> wrote:

>Is it possible to construct 50 ohm open wire
>feeder and if so, what would the spacing be?

Look at your lamp zip cord - close enough.

73's
Richard Clark, KB7QHC

424. Re: VNA coax recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:21:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <idi8n5t59iiuj293ia8p9ne9r5o1vunahs@4ax.com>
Source record: 11074

On Thu, 11 Feb 2010 08:24:10 -0800 (PST), phaedrus
<orion.osiris@virgin.net> wrote:

>Just don't want a
>cable that will change its Zo every time it gets a bit bent!

Your goals are at cross purposes. If the line is flexible, it is more
likely to change Zo than not.

Your analyzer should have a self-calibration feature (and you are
probably lacking the calibrated open, load, and short if you are
lacking the original leads). This will satisfy any arrangement of
leads once they have been laid out such that you don't have to move
them again. That in its own right should solve your variable Zo
(which is an unlikely problem).

73's
Richard Clark, KB7QHC

425. Re: Transmission line stuff 3

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:29:42 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D1D37E5E564Cnonenowhere@61.9.191.5>
Source record: 11075

phaedrus <orion.osiris@virgin.net> wrote in news:c4468257-1bd5-4eaa-b87b-e7daf88d8973@f12g2000yqn.googlegroups.com:

> Would I be right in thinking that line loss in coaxial feeders is so
> poor compared to open-wire/laddered feeders solely due to the
> proximity of the conductors and leakage of current through the
> dialectric? I mean, the capactive and inductive distributed elements
> in a tx line can't disipate power so such loss can only come from the
> distributed series and shunt ohmic properties of the line, and since
> the *series* loss in coax and open-wire is going to be pretty similar,
> the principal cause of coax being so lossy comes from current leakage
> across the dialectric. Is that right?

A factor that you haven't considered is that the characteristic impedance of coax is typically much lower than open wire lines.

So, in a matched condition, coax usually operates at higher current and lower voltage, and for the same effective series resistance that you speak of, that would result in higher loss.

Under mismatch, the situation is different. You will see some graphs and formulas that purport to predict transmission line losses under mismatch, but the classic "Additional loss due to VSWR" methods depend on a bunch of underlying assumptions which are not usually stated and overlooked by most users.

You can learn from considering the following cases.

Which is lossier, a very short 300 ohm line or a 600 ohm air spaced line of the same length using the same conductors with a load of 10+j0 ohms? What about with a load of 10k+j0 ohms?

Owen

426. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:34:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D1D38B03DC6Enonenowhere@61.9.191.5>
Source record: 11076

phaedrus <orion.osiris@virgin.net> wrote in news:fe96541e-75fc-423a-8eb7-8cb8a4a34bd1@b7g2000yqd.googlegroups.com:

> I seem to recall that ladder/open-wire feeders are relatively high
> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
> feeder and if so, what would the spacing be?

Such a low characteristic impedance requires very close spacing of round conductors. Proximity effect which causes the current to mainly flow in a small adjacent portion of the conductors at close spacing makes achivement of very low Zo at low loss very difficult, and not very practical.

TWLLC at http://www.vk1od.net/calc/tl/twllc.htm will perform the calculations for you, including calculating the matched line loss and loss under mismatch conditions, but read the comments on the page re proximity effect.

Owen

427. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 18:47:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D1D3AE0CAC6Bnonenowhere@61.9.191.5>
Source record: 11077

Richard Clark <kb7qhc@comcast.net> wrote in
news:6ai8n59faa101k0h7vku1u5hqv2em75jtg@4ax.com:

> Look at your lamp zip cord - close enough.

There is an interesting example.

K8ZOA published a characterisation of ZIP line some years ago in this groupd, and Zo is approximately 100 ohms.

Considering a half wave of ZIP cord with a load of 100+j0 at 14MHz, loss is around 1dB.

Now, using N7WS's characterisation of Wireman 551 ladder line, again a half wave at 14MHz, smaller conductors, wider spacing, longer, Zo=400, higher VSWR, the loss with a load of 100+j0 at 14MHz, loss is around 0.14dB.

Owen

428. Re: Transmission line stuff 4

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 20:40:41 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <2e8df6be-6aaf-45ce-b09b-58c1d4654b08@z19g2000yqk.googlegroups.com>
Source record: 11078

On Feb 11, 6:04 pm, Roy Lewallen <w...@eznec.com> wrote:
> phaedrus wrote:
> > Just need to get these things clarified!
>
> > The velocity factor of a tx line is governed by its distributed
> > inductance and capacitance, is it not?
>
> Yes.
>
> > I mean the more L and C you have per meter of line the lower the
> > signal velocity, right?
>
> Right.
>
> > How much is the signal speed retarded by typically and are there any
> > circumstances where we need to be concerned about this phenomenon?
>
> The velocity factor for air dielectric cables is essentially unity. The
> slowest common velocity factor is about 0.66, which you'll find in coax
> (where the field is entirely in the dielectric) having solid
> polyethylene dielectric. Velocity factor is important in determining the
> physical length of cable needed to effect a specific time or phase delay.
>
> Roy Lewallen, W7EL

it is also important when you try to get cables to reach a certain
distance and still be a given phase length. this is why foam coax is
specified for 1/4 wave lines feeding most 4-square vertical systems.
a solid dielectric line 1/4 wave long is too short to reach from the
center to the feedpoints.

429. Re: VNA coax recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 21:38:56 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <77259750-c97f-495a-9795-baa447e75a04@a5g2000prg.googlegroups.com>
Source record: 11079

On Feb 11, 8:24 am, phaedrus <orion.osi...@virgin.net> wrote:
> HI,
>
> I have an old HP network analyzer that goes up to 1.3Ghz. I need to
> make up some more cables for it, though, as the existing ones (not
> original) are far too thick and inflexible for comfort.
>
> I have to cut three identical 2-foot lengths (for phase matching
> purposes) of some 50 ohm coax for this purpose, to connect the VNA to
> its bridge. Can anyone suggest a suitable, readily available coax for
> this job? The terminations will be N-types, by the way. I'd like
> something flexible and easy to terminate, ideally. Just don't want a
> cable that will change its Zo every time it gets a bit bent!

It's possible to buy very nice, reasonably flexible instrumentation grade coaxial cables, but they are quite expensive. Hundreds of dollars each for a 1 meter long cable is not unheard of. In general, you don't want to bend your cables in too sharp a radius. That's asking for trouble with pretty much any cable. If you can arrange things so that you can install the cables and leave them alone, you'll stand probably the best chance of having a stable system. You might consider a bit longer cables if it lets you arrange them with larger radius bends. I'd go for cable like RG-213/U, or better, RG-214/U if you can find it. If you can get cable with solid Teflon dielectric, that will likely be a bit more stable. In any event, I'd certainly go for cable with solid dielectric, as foam dielectric lets the center conductor move around too much.

Is you analyzer an HP8754, with the transmission/reflection test set? If so, I understand exactly the issue you're dealing with. ;-)

Since you're only going to 1.3GHz, it's possible to build a quite respectable set of calibration standards from SMA connectors and 0.1% (or even 1%) 100-ohm 0805 SMT resistors. They'll serve quite nicely for pretty much any ham work I can think of. Icing on the cake is if you can get someone to measure them for you with a freshly calibrated precision network analyzer. I have built these sorts of loads using thru-hole SMA connectors intended for vertical mounting on a PC board. I cut the center pin off so practically none is showing above the Teflon insulator for an open, cut the center pin off to perhaps 0.01" and solder a pair of 100 ohm 0805 resistors from the pin to the shell, radially symmetric, for a 50 ohm load, and just add either a disc of thin copper (copper tape) or four radially symmetric wires, about AWG28, from the pin out to the shell, down flush against the Teflon insulator, for a short. I've made a few such 50-ohm loads and

find that it's practically trivial to get at least 40dB return loss out to 1.3GHz, which is better than I need for any ham work I've ever done. (Beware: "50 ohm" coaxial cable typically has a tolerance of +/- several ohms...)

Cheers,
Tom

430. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 22:17:36 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <d631bcac-7c5a-4535-b52f-fa0e6bf0b270@l12g2000prg.googlegroups.com>
Source record: 11080

On Feb 11, 8:02 am, phaedrus <orion.osi...@virgin.net> wrote:
> I seem to recall that ladder/open-wire feeders are relatively high
> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
> feeder and if so, what would the spacing be?
>
> Thanks!

As hinted by others, especially Owen, it's quite possible to make parallel-conductor line of very low impedance. There are two ways that are easy to describe, and these may well bring others to your mind:

First, consider a line made of broad, flat conductors: copper ribbon. If the spacing is close compared with the conductor width, the impedance will be low. This is not particularly practical for "open-wire feeders," but is commonly used on printed circuit boards. In the extreme, you can make transmission lines with impedances under 10 ohms this way, if you're of a mind to. You can use thin, flexible Kapton tape, perhaps 0.1mm thick or less, and have conductors 10 or more mm wide. According to a formula in Sams' "Reference Data for Engineers," the impedance will be approximately 377*s/(sqrt(epsilon)*w), where w is the conductor width and s is the spacing. For air dielectric, where epsilon is 1, you can make a 10 ohm line if the width is about 38 times the spacing.

Second, consider a multi-wire line. One common construction is four wires arranged as in the corners of a square, with diagonally opposite wires connected together at the ends. That gets you a lower impedance than open wire with the same spacing as the side of the square and of course the same wire diameter...it's a bit more than half the impdeance. You could also have more wires arranged around a circle, with alternate wires fed in parallel. A variation on this theme has been used on occasion by rabid stereophiles to feed (~8ohm) speakers: use a 50-conductor ribbon cable. Mass-terminate with a standard two-row connector. Tie all the pins on each side of the mating connector together, so the transmission line is similar to 25 pairs that are fairly closely spaced. (IMO, there are better ways to accomplish flat frequency response in a stereo system...) But it does work to get a low impedance line. (And yes, if you look closely, you'll realize the transmission line impedance is NOT constant as you go to lower frequencies...)

On the other hand, there's generally not much advantage to making a low-impedance balanced line for RF work, so they are pretty uncommon in practice.

Cheers,
Tom

431. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 22:25:04 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <b614d92f-fd21-40fb-a622-20a6eee2ec36@k5g2000pra.googlegroups.com>
Source record: 11081

On Feb 11, 8:02 am, phaedrus <orion.osi...@virgin.net> wrote:
> I seem to recall that ladder/open-wire feeders are relatively high
> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
> feeder and if so, what would the spacing be?
>
> Thanks!

Oh, and to more directly answer your question, the formula generally given for accurate description of the impedance of two parallel, round conductors of the same diameter, in air, is:

Zo = 120 * invcosh(D/d)

where D/d is the center-center distance and d is the conductor diameter. So...

D/d for 50 ohms = cosh(50/120) = 1.088

For 1" diameter wires, you'd have to space them 0.088 inches apart, which is tough to maintain unless you embed them in a solid dielectric.

I suspect the formula above is in error for very close spacings because of proximity effects...I suspect it assumes a uniform thin cylinder of current...but I'm not sure about that.

Cheers,
Tom

432. Re: Transmission line stuff 4

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 22:37:22 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <6127ddec-cb22-4c22-ae69-cc3cb180eb7f@u19g2000prh.googlegroups.com>
Source record: 11082

On Feb 11, 7:59 am, phaedrus <orion.osi...@virgin.net> wrote:
> Just need to get these things clarified!
>
> The velocity factor of a tx line is governed by its distributed
> inductance and capacitance, is it not?
> I mean the more L and C you have per meter of line the lower the
> signal velocity, right?
> How much is the signal speed retarded by typically and are there any
> circumstances where we need to be concerned about this phenomenon?

Something not mentioned by other replies I've seen: some transmission lines are made specifically to get delay. They are generally called delay lines. Typical construction is to use a helical coil for the center conductor, to increase inductance per unit length.

In straight TEM transmission line (typical coax), the propagation velocity is the same as the speed of light (or more properly of electromagnetic radiation of the same frequency) in the dielectric. For any dielectric I've seen used in transmission lines, that's just free-space speed of light times 1/(relative dielectric constant) of the dielectric. If the magnetic properties of the dielectric differ from those of a vacuum, you also have to consider that.

You need to consider velocity factor any time you're concerned with the phase shift of the signal propagating through the line: phasing lines for antennas, impedance measurements made by an instrument at one end of the line of the impedance of a load at the other end of the line, how long it takes a signal to propagate over the line, ...

Cheers,
Tom

433. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-11 22:45:10 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <dae2722a-b037-4b37-8086-5a7ce7c5d8f6@y7g2000prc.googlegroups.com>
Source record: 11083

On Feb 11, 8:02 am, phaedrus <orion.osi...@virgin.net> wrote:
> I seem to recall that ladder/open-wire feeders are relatively high
> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
> feeder and if so, what would the spacing be?
>
> Thanks!

And something else for you to ponder: Coax is generally available commercially at about 50 ohms and about 75 ohms, with a few lines at about 95 ohms and some specials of other low impedances. What would ~500 ohm coax look like (assuming a straight center conductor, not a helix)?

Cheers,
Tom

434. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 01:35:14 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <6deb7c4c-0562-4194-92ef-2ec1bab2b893@b36g2000pri.googlegroups.com>
Source record: 11084

On Feb 9, 2:24 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Dave Platt wrote:
> > I used off-the-shelf (surplus-store) ferrite tubes - very probably a
> > 43 mix or something close to it, based on the simple inductance
> > measurements I did with an MFJ analyzer. They're roughly 1 inch long,
> > and large enough to allow three through-the-center passes of RG-8X coax.
>
> > I glued somewhere around six of them, end-to-end, to create a long
> > tube, and then ran the RG-8X through... creating a long three-turn
> > choke. Added N connectors to the ends of the coax and stuffed the
> > whole thing into a chunk of PVC tube with end-caps.
>
> You might do better breaking the thing up into multiple cores and
> multiple windings. That is, rather than 3 turns through 6 cores, do 3
> turns through 1 core, then 3 turns through another core, then 3 turns, etc.
>
> The logic here is that the impedance scales as the number of cores, but
> doing them all in one shot means that the input coax is very close to
> the output coax, so you have a lot more capacitance coupling the input
> to the output.
>
> I think Jim K9YC actually did some comparisons using #31 2.4" cores
> comparing stacking to stringing em out.

Jim's comment is a good one from another standpoint he didn't mention explicitly too: if you put a single choke right at the antenna feedpoint, and the feedline is in some sense resonant (e.g. a quarter-wave long with the far end grounded), the fields from the antenna may very well excite currents on the outside of the feedline anyway, even with a "perfect" choke. By putting the separate chokes spaced out along the line, say a quarter-wave apart at the highest operating frequency, you break up resonances that might otherwise occur in the line.

By the way, for a single-band choke on a band (10 meters) that was extremely troublesome for me in one installation many years ago, I wound (approx., from memory) 5 turns of the feedline coax into a solenoid coil about 12cm diameter, secured so they were stable. That made a coil of roughly 3 microhenries inductance, self-resonant just a bit above 30MHz. A pure 3uH would only be a little over 500 ohms reactance, but resonated with a wee bit of capacitance across the coil, the result was a very high impedance that solved the problem nicely. I've since found the technique valuable and easy to apply to RG-58C/U type line used at 147MHz--much smaller coils, secured on sections of PVC water pipe.

Cheers,
Tom

435. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 01:38:41 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hl2bf1$78v$1@news.jpl.nasa.gov>
Source record: 11086

K7ITM wrote:
> On Feb 11, 8:02 am, phaedrus <orion.osi...@virgin.net> wrote:
>> I seem to recall that ladder/open-wire feeders are relatively high
>> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
>> feeder and if so, what would the spacing be?
>>
>> Thanks!
>
> As hinted by others, especially Owen, it's quite possible to make
> parallel-conductor line of very low impedance. There are two ways
> that are easy to describe, and these may well bring others to your
> mind:
>
> First, consider a line made of broad, flat conductors: copper
> ribbon. If the spacing is close compared with the conductor width,
> the impedance will be low. This is not particularly practical for
> "open-wire feeders," but is commonly used on printed circuit boards.
> In the extreme, you can make transmission lines with impedances under
> 10 ohms this way, if you're of a mind to. You can use thin, flexible
> Kapton tape, perhaps 0.1mm thick or less, and have conductors 10 or
> more mm wide. According to a formula in Sams' "Reference Data for
> Engineers," the impedance will be approximately 377*s/
> (sqrt(epsilon)*w), where w is the conductor width and s is the
> spacing. For air dielectric, where epsilon is 1, you can make a 10
> ohm line if the width is about 38 times the spacing.
>

You see this in microstrip construction on various substrates,
particularly where it's part of a matching network for transistor
amplifiers (which can have Zs of a few ohms)

>
> On the other hand, there's generally not much advantage to making a
> low-impedance balanced line for RF work, so they are pretty uncommon
> in practice.

in RF communications, that's true.

In other high power RF applications, low Z can be desirable (because
you'd rather take the IR hit than deal with the high voltage).

In the pulsed nuclear research business you see lines with Z of a few
ohms in pulse forming networks :often using distilled water as the
dielectric.. that epsilon of 80 gets the C right up there so Sqrt(L/C)
is small.

>
> Cheers,
> Tom

436. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 01:39:19 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hl2bg7$78v$2@news.jpl.nasa.gov>
Source record: 11085

K7ITM wrote:
> On Feb 11, 8:02 am, phaedrus <orion.osi...@virgin.net> wrote:
>> I seem to recall that ladder/open-wire feeders are relatively high
>> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
>> feeder and if so, what would the spacing be?
>>
>> Thanks!
>
> Oh, and to more directly answer your question, the formula generally
> given for accurate description of the impedance of two parallel, round
> conductors of the same diameter, in air, is:
>
> Zo = 120 * invcosh(D/d)
>
> where D/d is the center-center distance and d is the conductor
> diameter. So...
>
> D/d for 50 ohms = cosh(50/120) = 1.088
>
> For 1" diameter wires, you'd have to space them 0.088 inches apart,
> which is tough to maintain unless you embed them in a solid
> dielectric.

or you go away from round wires...

437. Re: Transmission line stuff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 02:34:57 UTC
From: tom <news4792@taring.org>
Message-ID: <4b74be4c$0$641$8046368a@newsreader.iphouse.net>
Source record: 11087

Roy Lewallen wrote:
> phaedrus wrote:
>> HI all,
>>
>> A few questions have arisen in my mind since some guy came around to
>> install a wi-fi system at my girlfriend's apartment. This system uses
>> a dish and the signal frequency is 5Ghz. I asked the installer what
>> type of fancy, low-loss coax he was going to route the down feed with
>> and he told me "CAT 5" which I've never heard of. Anyway, it turns out
>> this stuff is essentially just telephone wire!
>> There must be some serious gaps in my understanding about transmission
>> lines, because on further enquriy it transpires the loss with this
>> wire is pretty low and the installer told me he can have a run of 100
>> meters before he has to worry about signal loss.
>> What's the deal here? How come I have to have some fancy, military
>> grad coax that costs a fortune and must be as short as possible just
>> for the 23cm band when this guy can use what is basically just phone
>> wire at 5Ghz and slop the stuff over half the building without a worry?
>
> I believe there's a converter/demodulator at the feed point, so all
> that's being sent along the cat 5 cable is digital data at 100 MB/s or
> less. There's no reason you couldn't use cat 5 cable as transmission
> line up to 100 MHz or so, if you're willing to put up with the loss.
> It's specified as 24 dB/100 meters at 100 MHz, which is about twice (in
> dB) of the loss of RG-58. Loss of cat 5 cable would be extremely high,
> and it would likely radiate pretty badly, at 5 GHz.
>
> Roy Lewallen, W7EL

I believe that standard fast ethernet (100Mbps) uses full duplex at
31.25 MHz with 4B5B encoding on top of MLT-3.

MLT-3 gives an effective rate of 4 bits per cycle, and 4B5B means you
need an extra 25% cycles. 100/4 -> 25. 25 * 1.25 for the 4B5B -> 31.25
MHz base frequency.

tom
K0TAR

438. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 03:21:14 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <3c29e11a-fef7-4c1b-b622-2a61776855a4@y7g2000prc.googlegroups.com>
Source record: 11088

On Feb 11, 5:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> K7ITM wrote:
> > On Feb 11, 8:02 am, phaedrus <orion.osi...@virgin.net> wrote:
> >> I seem to recall that ladder/open-wire feeders are relatively high
> >> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
> >> feeder and if so, what would the spacing be?
>
> >> Thanks!
>
> > As hinted by others, especially Owen, it's quite possible to make
> > parallel-conductor line of very low impedance. There are two ways
> > that are easy to describe, and these may well bring others to your
> > mind:
>
> > First, consider a line made of broad, flat conductors: copper
> > ribbon. If the spacing is close compared with the conductor width,
> > the impedance will be low. This is not particularly practical for
> > "open-wire feeders," but is commonly used on printed circuit boards.
> > In the extreme, you can make transmission lines with impedances under
> > 10 ohms this way, if you're of a mind to. You can use thin, flexible
> > Kapton tape, perhaps 0.1mm thick or less, and have conductors 10 or
> > more mm wide. According to a formula in Sams' "Reference Data for
> > Engineers," the impedance will be approximately 377*s/
> > (sqrt(epsilon)*w), where w is the conductor width and s is the
> > spacing. For air dielectric, where epsilon is 1, you can make a 10
> > ohm line if the width is about 38 times the spacing.
>
> You see this in microstrip construction on various substrates,
> particularly where it's part of a matching network for transistor
> amplifiers (which can have Zs of a few ohms)
>
>
>
> > On the other hand, there's generally not much advantage to making a
> > low-impedance balanced line for RF work, so they are pretty uncommon
> > in practice.
>
> in RF communications, that's true.
>
> In other high power RF applications, low Z can be desirable (because
> you'd rather take the IR hit than deal with the high voltage).
>
> In the pulsed nuclear research business you see lines with Z of a few
> ohms in pulse forming networks :often using distilled water as the

> dielectric.. that epsilon of 80 gets the C right up there so Sqrt(L/C)
> is small.
>
>
>
> > Cheers,
> > Tom
>
>

Yes, indeed a low impedance can be helpful sometimes...but the times I've been involved with low-Z lines, they've almost always been unbalanced (e.g. coaxial). For a PFN, the high epsilon is also an advantage in storing a lot of energy. Since even very pure water is pretty conductive (relative to seriously good dielectrics), I'm a bit surprised it's used. Are the cases you're thinking of balanced lines, or coaxial? Is the impedance also chosen to match the load (in some sense), or is there also a transformer at the output to match to a higher-impedance load?

It occurs to me that for a PFN, energy storage is a good thing...in fact, it's half of what a PFN is all about, the other half being delivering that energy in a controlled manner. But in power transmission, (excess) energy storage is generally a disadvantage. Lines with dielectric with high epsilon are lossier, and delay the signal more, than lines with low epsilon dielectric.

Cheers,
Tom

439. Re: VNA coax recommendation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 11:39:49 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <22c88dd3-ab99-483d-a1f5-a25eb0920a5c@j31g2000yqa.googlegroups.com>
Source record: 11089

On Feb 11, 10:38 pm, K7ITM <k7...@msn.com> wrote:
> On Feb 11, 8:24 am, phaedrus <orion.osi...@virgin.net> wrote:

> Is you analyzer an HP8754, with the transmission/reflection test set?
> If so, I understand exactly the issue you're dealing with. ;-)

I think so, Tom. I can't be sure as it isn't within reach at present.
ISTR is was built in around 1978/9. It would be great to have it
working properly again. It has some fault in that it will only display
in one mode (It can't show polar/smith chart output for some reason.
However, I have all the service manuals and a ton of test gear and
whatnot so must get around to fixing it. Do you own one of these
beauties?

440. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 15:56:00 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <feb9e673-58fb-4654-bfd6-cfc9e530482c@o16g2000prh.googlegroups.com>
Source record: 11090

On Feb 11, 7:21 pm, K7ITM <k7...@msn.com> wrote:
> On Feb 11, 5:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > > In other high power RF applications, low Z can be desirable (because
> > > you'd rather take the IR hit than deal with the high voltage).
>
> > > In the pulsed nuclear research business you see lines with Z of a few
> > > ohms in pulse forming networks :often using distilled water as the
> > > dielectric.. that epsilon of 80 gets the C right up there so Sqrt(L/C)
> > > is small.
>
> Yes, indeed a low impedance can be helpful sometimes...but the times
> I've been involved with low-Z lines, they've almost always been
> unbalanced (e.g. coaxial). For a PFN, the high epsilon is also an
> advantage in storing a lot of energy. Since even very pure water is
> pretty conductive (relative to seriously good dielectrics), I'm a bit
> surprised it's used.

Both coaxial and parallel plate balanced.. For short pulses, the water
isn't all that conductive (because it takes time for the water
molecules to dissociate); you worry more about particulate or gas
bubble contaminants cause a dielectric breakdown.

For a spectacular example, look at the Z-machine.

441. quad spreader material?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 16:14:44 UTC
From: Steve <zarco@sonic.net>
Message-ID: <4b757e78$0$1995$742ec2ed@news.sonic.net>
Source record: 11092

I'm thinking of building a 3 element 20 meter quad (full size)
and I'm stuck on the spreaders. Many people use bamboo
or aluminum with insulators at the tips. Can anyone suggest
alternatives....hopefully inexpensive, common materials?
TIA
Steve

442. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 16:14:45 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <cd964a18-6932-407b-86fd-baf48db1c77a@36g2000yqu.googlegroups.com>
Source record: 11091

On Feb 11, 4:02 pm, phaedrus <orion.osi...@virgin.net> wrote:
> I seem to recall that ladder/open-wire feeders are relatively high
> impedance ~500 ohms. Is it possible to construct 50 ohm open wire
> feeder and if so, what would the spacing be?
>
> Thanks!

Some simple experimental work here:

http://www.karinya.net/g3txq/twin_feed/

73,
Steve G3TXQ

443. Re: quad spreader material?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 19:00:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <21662492-5739-41a5-92ea-b2790896ef84@h2g2000yqj.googlegroups.com>
Source record: 11093

On Feb 12, 10:14 am, "Steve" <za...@sonic.net> wrote:
> Can anyone suggest alternatives...

I use fiberglass poles and rods for a number of non-conductive
applications including quads. Here's one supplier in Ohio.

http://www.tencom.com/02/index.htm

I had one supplier in Houston, but I don't remember the company name.
Fiberglass rods and poles were available in 40 foot lengths. Fishing
rods make almost any kind of quad spreader that you might desire.
--
73, Cecil, w5dxp.com

444. Re: Transmission line stuff 5

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 20:06:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D1E484037FB6nonenowhere@61.9.191.5>
Source record: 11094

steveeh131047 <google@karinya.net> wrote in news:cd964a18-6932-407b-86fd-baf48db1c77a@36g2000yqu.googlegroups.com:

> http://www.karinya.net/g3txq/twin_feed/

An interesting read.

I think that if you had measured the loss, none of the options tried would be very attractive. Measuring a short stub with your new AIM4170 will allow calculation of the effective loss of the line.

I don't understand the detail of the connection neatness thing, but one way to construct a 50 ohm 'balanced line' line is with four 50 ohm coax lines. Cut equal lengths, tie all of the shields at each end together, tie pairs of inner conductors together, and use the now paired inner conductors as a 50 ohm 'balanced line'. Of course, the line is only balanced (in current terms) by virtue of its usage rather than its construction.

Owen

445. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-12 22:36:06 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <865a0c49-6d6d-4f28-baf4-1f104bd73cfb@t31g2000prh.googlegroups.com>
Source record: 11095

On Feb 10, 5:28 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> pdr...@coinet.com wrote:
>
> > John, I think my ropes are dacron, as mentioned. That stuff really
> > lasts!!!! I still have two dacron sweaters my mother bought for me
> > when I started high school back in 1953. Still fit and have never worn
> > out. I haven't seen dacron ropes for a long time.
>
> > Paul, KD7HB
>
> Sure, you've seen Dacron ropes, just not under that name. Dacron is a
> trade name for a particular form of Polyethylene Terephthalte (PET), aka
> Polyester. Beverage bottles are a big use of PET, but a lot more winds
> up as fabric or rope. In film form, one trade name is Mylar.
> (originally, it was called Terylene, but Dupont called it Dacron,
> probably because it sounded better, and it was similar to Nylon, another
> Dupont product..)
>
> You see it labeled as "polyester" rope these days (probably because
> DuPont's patents have expired, so anyone can make the stuff, but only
> DuPont can call it Dacron)

Thanks, Jim.

Paul

446. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 00:25:43 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <1971a80a-4c44-490d-8a4e-b3a1d3930b20@e1g2000yqh.googlegroups.com>
Source record: 11096

On Feb 6, 3:29 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> A friend gave me a forty foot Utility pole. Since I am not a climber I
> have not determined how to make the best of this in my continual
> antenna tinkering. I keep coming back to the hazer transit method. The
> device would be complicated by the fact that the pole is about 12
> inches in diameter at the bottom and 6 inches at the top. I expect to
> bury 5 feet of it. I hope to construct the device so that there is
> NEVER a need to climb the pole. The galvanized wire rope on my Crank
> up mast that I purchased in the late 1970's is still looking fine.
>
> Any experience or ideas are appreciated!
>
> BTW, Any idea why this tram mechanism is called a "hazer?"
> John Ferrell W8CCW

I ve seen an antenna where a utility pole is used for the "crane" for
a foldover tower. I think that is the way I would go.

Jimmie

447. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 06:03:58 UTC
From: 328X1 <328X1.5bc3e76@radiobanter.com>
Message-ID: <328X1.5bc3e76@radiobanter.com>
Source record: 11097

'John Ferrell[_2_ Wrote:
> ;699186']A friend gave me a forty foot Utility pole. Since I am not a
> climber I
> have not determined how to make the best of this in my continual
> antenna tinkering. I keep coming back to the hazer transit method. The
> device would be complicated by the fact that the pole is about 12
> inches in diameter at the bottom and 6 inches at the top. I expect to
> bury 5 feet of it. I hope to construct the device so that there is
> NEVER a need to climb the pole. The galvanized wire rope on my Crank
> up mast that I purchased in the late 1970's is still looking fine.
>
> Any experience or ideas are appreciated!
>
> BTW, Any idea why this tram mechanism is called a "hazer?"
> John Ferrell W8CCW

John, it will probably be easier [rather than redesigning either the pole, or a hazer] You can find plans for planting two sections of a powerpole, spaced slightly on each side of your pole. Those to be used as the 'base' for your pole to be sandwiched between. You want the base poles to be reasonably tall, to allow your's to be pulled to the vertical. You'll need substantial solid diameter rod, for your pole to pivot on. Don't forget to include a 'over-travel'
stop, and a means to secure your pole in place once swung up into vertical. There are photos of such antenna supports in Ham Radio references circa the 1930's and later. Remember you MUST periodically treat wood with anti-termite chemical. Approach your local telephone and/or electric companies for a source of pole material, and perhaps they'll even be able to place your base & swing-up section [for a fee ?]. All told, it might be more economical to buy a used tower in GOOD condition.

--
328X1

448. Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 14:54:08 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <a13bcffd-9fb6-4132-b3ef-79b6d1f1a1bd@s36g2000prf.googlegroups.com>
Source record: 11098

Andy writes:

I remember from 50 or so years ago reading a copy of POP
electronics, or
maybe ELEC illustrated, which featured a couple of young boys named
Carl
and Jerry and the stuff they messed about with each month. Kind of
like
a "Mr Wizard" story.....

One of the articles was winding a coil of wire around a plastic
bottle of
water and exciting it , then watching the output from the coil as "the
water
molecules oscillated"..... I don't remember the details, but they
called
the affair a "differential proton magnetometer", and used it to
measure
magnetic fields....

Does anyone else here remember this article, and do you have any
means
to clarify the method, and possibly the practice ?

Being retired, I have a lot of time on my hands to do experiments,
especially
simple ones, and I thought it would be a hoot to explore this for a
day or
two. However, I don't remember enough details to be able to put
together
a proof of concept in my workshop...

Thanks in advance for anything anyone here can suggest...

Andy W4OAH in Eureka, Texas

449. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 15:45:37 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <jN2dnQZ7qI52VevWnZ2dnUVZ_hOdnZ2d@earthlink.com>
Source record: 11099

"AndyS" <andysharpe@juno.com> wrote in message
news:a13bcffd-9fb6-4132-b3ef-79b6d1f1a1bd@s36g2000prf.googlegroups.com...
> Andy writes:
>
> I remember from 50 or so years ago reading a copy of POP
> electronics, or
> maybe ELEC illustrated, which featured a couple of young boys named
> Carl
> and Jerry and the stuff they messed about with each month. Kind of
> like
> a "Mr Wizard" story.....
>
> One of the articles was winding a coil of wire around a plastic
> bottle of
> water and exciting it , then watching the output from the coil as "the
> water
> molecules oscillated"..... I don't remember the details, but they
> called
> the affair a "differential proton magnetometer", and used it to
> measure
> magnetic fields....
>
> Does anyone else here remember this article, and do you have any
> means
> to clarify the method, and possibly the practice ?
>
> Being retired, I have a lot of time on my hands to do experiments,
> especially
> simple ones, and I thought it would be a hoot to explore this for a
> day or
> two. However, I don't remember enough details to be able to put
> together
> a proof of concept in my workshop...
>
> Thanks in advance for anything anyone here can suggest...
>
> Andy W4OAH in Eureka, Texas

The one you want is from April 1964 Popular Electronics. There are many of
them here, but not the one you want.
http://home.gwi.net/~jdebell/pe/cj/cnjindex.htm

What they did was to wrap a plastic baby bottle full of water with a lot of
wire. Then it was hooked to a switch so a battery could be placed across
the coil for a second or so. Then it was switched to a high gain amp and

into the vertical channel of an oscilloscope. The horizontal channel was fed with an oscillator of around 2000 to 2500 Hz. The osicllator was adjusted so a circle was displayed on the scope. This was the self resonate frequency of the water molecules or whatever in the bottle. When the bottle was passed over an object the circle would spin or change indicating the frequency of the bottle had changed.
I must have been about 14 years old when I read this.

450. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 16:16:43 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <ceidn5d7jsebnblvcidhrfgqunhs2athvg@4ax.com>
Source record: 11100

On Sat, 13 Feb 2010 06:03:58 +0000, 328X1
<328X1.5bc3e76@radiobanter.com> wrote:

>John, it will probably be easier [rather than redesigning either the
>pole, or a hazer] You can find plans for planting two sections of a
>powerpole, spaced slightly on each side of your pole. Those to be used
>as the 'base' for your pole to be sandwiched between. You want the base
>poles to be reasonably tall, to allow your's to be pulled to the
>vertical. You'll need substantial solid diameter rod, for your pole to
>pivot on. Don't forget to include a 'over-travel'
>stop, and a means to secure your pole in place once swung up into
>vertical. There are photos of such antenna supports in Ham Radio
>references circa the 1930's and later. Remember you MUST periodically
>treat wood with anti-termite chemical. Approach your local telephone
>and/or electric companies for a source of pole material, and perhaps
>they'll even be able to place your base & swing-up section [for a fee
>?]. All told, it might be more economical to buy a used tower in GOOD
>condition.
Part of the problem here is that I failed to heed the old advice "Be
careful of what you wish for, you might get it!"

The pole was a gift from a friend in the construction business. I
never dreamed he would come up with it until one afternoon he showed
up with it at my house. I live in a rural setting with my house in a 3
acre field with trees down one side and across the back, a lane down
the other side. The house is set back 120 feet from the road. Being
zoned agriculture means pretty much free from regulation. I feel
obligated to at least make an effort to take advantage of these
circumstances...

Since I am now 70 years old, this thing does not have to last forever
and the pole seems to be nearly new condition now. As I see it at
this point, I intend to set the pole 5 feet in the ground far enough
from surrounding structures so that a fixture with a rotor platform
can be hoisted and stabilized into operating position with an electric
winch. I will endeavor to use as much as possible from my existing
stock of "junk" rather than accumulate more.

Perhaps what I learn & share will be of benefit to others in the
future if only as a bad idea.

Please keep the advice coming!

John Ferrell W8CCW

451. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 17:48:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jfpdn5lh0mfi43m7qak2ijgu3bnah7d99r@4ax.com>
Source record: 10951

On Sat, 13 Feb 2010 06:54:08 -0800 (PST), AndyS <andysharpe@juno.com>
wrote:

>Does anyone else here remember this article

Printed books may be ordered through Lulu.com at the following URL:
http://www.lulu.com/copperwood

73's
Richard Clark, KB7QHC

452. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 18:11:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dpqdn59no3ki934f2mt1hafrfjq9if09dh@4ax.com>
Source record: 10952

On Sat, 13 Feb 2010 06:54:08 -0800 (PST), AndyS <andysharpe@juno.com>
wrote:

> "differential proton magnetometer"

See:
http://gerf.org/~jasegler/proton_mag/proton.htm

73's
Richard Clark, KB7QHC

453. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 18:13:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ftqdn557k8g47va8td5c66ffnp7lik69j5@4ax.com>
Source record: 10953

On Sat, 13 Feb 2010 10:45:37 -0500, "Ralph Mowery"
<rmowery28146@earthlink.net> wrote:

>The horizontal channel was
>fed with an oscillator of around 2000 to 2500 Hz.

From link previously offered:
>The frequency at which the protons precess is directly proportional to the strength of the earth's magnetic field. This is the Proton Gyromagnetic Ratio, equal to .042576 Hertz / nanoTesla. For example, in an area with a field strength of 57,780 nT (such as my home), the frequency of precession would be approximately 2460 Hz.

73's
Richard Clark, KB7QHC

454. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 22:20:29 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hl78ja$1g7$1@speranza.aioe.org>
Source record: 10954

On 2/9/2010 9:32 AM, UKMonitor wrote:
>
>>
>> Also how much impedance could I expect to gain every time I added another
>> FT140-43 ferrite onto the stack?
>
>
> You need to double the number of beads each time to make a noticable
> difference.
>
> For worthwhile common mode suppression you need at least ten and
> ideally eighty type 43 beads over a length of cable.
>
> It's more cost effective to wind more turns. 2 x the turns 4 x the
> inductance.
>
> UKM

If I am understanding the data associated with the device (bead) you suggested, correctly--"EMI/RFI Dï¿½mpare och ferriter Z=375 OHM @ 100 MHz", it would, indeed, take a number of them. Personally, I like to see a Z of 10 times that of the Z of the coax. For example, for 50 ohm coax, I would like to see a choke which would provide a "resistance" (Z) of 5,000 ohms to any rf currents which would be tempted to ride the braid(radiate.) While 10 of these devices may be sufficient (and would be affected\effected by the frequencies they would be used with); I would probably choose to use a few more.

If cost\design-needs is\are any sort of factor(s) in your design needs, I would tend to go multiple turns on a proper core size(power handling requirements of correct material(frequency(s) designed for.)

While ferrite may have advantages over iron cores at vhf\uhf\shf--and become quite noticible, I have found any losses or heating tolerable at hf and below--again, given proper core size\material--and I have used them at much higher freqs.

The beads you mentioned are very useful though. If in a hurry, if experimenting and time is valuable--just slap too many on the line and go for it! :)

Regards,
JS

455. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-13 23:38:39 UTC
From: amdx <amdx@knology.net>
Message-ID: <b0bc8$4b7737fa$18ec6dd7$2456@KNOLOGY.NET>
Source record: 10955

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:dpqdn59no3ki934f2mt1hafrfjq9if09dh@4ax.com...
> On Sat, 13 Feb 2010 06:54:08 -0800 (PST), AndyS <andysharpe@juno.com>
> wrote:
>
>> "differential proton magnetometer"
>
> See:
> http://gerf.org/~jasegler/proton_mag/proton.htm
>
> 73's
> Richard Clark, KB7QHC

I went to the page listed above,
and all of these links are dead!
Must be the technology was deemed TOP SECRET.
http://www.diamondjim.bc.ca/ppm.htm
http://protonmag.listbot.com/
http://www.webspan.net/~magres/
http://gerf.org/~jasegler/proton_mag/magsound.wav
http://www.peopleconnectionblog.com/2008/11/06/hometown-has-been-shutdown
http://gretchen.geo.rpi.edu/roecker/AppGeo/lectures/mag/main.html
http://mars.ark.com/~koehler/ppm.htm
http://www.portup.com/~dfount/home.htm
Mike ahh, err I mean Jeff :-)

456. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 00:18:33 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hl7fgn$al2$1@speranza.aioe.org>
Source record: 10956

On 2/13/2010 6:54 AM, AndyS wrote:
> Andy writes:
> ...
> Thanks in advance for anything anyone here can suggest...
>
> Andy W4OAH in Eureka, Texas

Well, I can suggest PPM's are kewl! (Proton Precession Magnetometers)
But, I probably would not get much thanks for that ...

So:

http://prints.iiap.res.in/bitstream/2248/979/1/BHARGAVA.pdf

The above gives complete circuitry. Unfortuantly, the preamp is
tube--so the complete unit ends up a hybrid. I would substitute Fets
for the tubes.

http://www.ilotresor.com/prospection/pro_magn_protons.html

The above offers some good ideas--click the pictures (small images) on
it for relevant pages and info. Sensor construction data also.

... and ...

http://www.copperwood.com/carlandjerry.htm
... you did mean this Carl and Jerry, right? :)

Regards,
JS

457. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 05:38:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r03fn5lb5hvk97svojoc4rl577gvi8aidf@4ax.com>
Source record: 10957

On Sat, 13 Feb 2010 17:38:39 -0600, "amdx" <amdx@knology.net> wrote:

>I went to the page listed above,
>and all of these links are dead!

The page that contains the complete math and physics can be found at:
http://www.geotech1.com/pages/mag/info/koehler/KoehlerMag.pdf

73's
Richard Clark, KB7QHC

458. Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 09:33:58 UTC
From: phaedrus <orion.osiris@virgin.net>
Message-ID: <487a29fe-55d5-4948-ae46-86196a2e18c8@g11g2000yqe.googlegroups.com>
Source record: 10958

Hi again,

Well I have read your informative replies on the problems with making a low Zo twin feed with much interest. Clearly it's not really a practical proposition. Shame.

So the obvious question is: why are transmitters normalised to 50 ohms when clearly 450 ohms would enable us to enjoy cheaper, do-it-yourself, lower loss feeders? Was this some oversight at the time, or good practice for some obscure reason that I simply cannot think of?

459. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 09:48:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <JqGdnZzW7Nx3W-rWnZ2dnUVZ_oWdnZ2d@giganews.com>
Source record: 10959

phaedrus wrote:
> Hi again,
>
> Well I have read your informative replies on the problems with making
> a low Zo twin feed with much interest. Clearly it's not really a
> practical proposition. Shame.
>
> So the obvious question is: why are transmitters normalised to 50 ohms
> when clearly 450 ohms would enable us to enjoy cheaper, do-it-
> yourself, lower loss feeders? Was this some oversight at the time, or
> good practice for some obscure reason that I simply cannot think of?

Twinlead transmission lines have to be kept away from other conductors, can't be taped to a tower leg, run through a metallic trough, or be buried. If there's a substantial amount of solid insulation between the conductors, it can get very lossy when wet. Even when properly balanced (often not easy to do), some field escapes so it can be subject to undesired radiation and signal pickup.

Coaxial cable has none of these limitations. It's a good trade for most people.

Roy Lewallen, W7EL

460. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 10:00:03 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4b77c9a8$0$1109$4fafbaef@reader2.news.tin.it>
Source record: 10960

Additional information can be found at
http://www.microwaves101.com/encyclopedia/why50ohms.cfm

73

Tony I0JX

461. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 12:24:03 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrnhnfqit.h8i.gsm@cable.mendelson.com>
Source record: 10961

phaedrus wrote:

> So the obvious question is: why are transmitters normalised to 50 ohms
> when clearly 450 ohms would enable us to enjoy cheaper, do-it-
> yourself, lower loss feeders? Was this some oversight at the time, or
> good practice for some obscure reason that I simply cannot think of?

One story is that when radar was first developed coaxial feed lines were made by buying copper pipe at the local plumbing supply and the impedance resulting from using two standard sizes (one as the center conductor and one as the shield was 50 ohms.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

462. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 19:14:29 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ieign5lmpoe2ringlak6p9iec8b5355jcq@4ax.com>
Source record: 10962

On Sun, 14 Feb 2010 01:33:58 -0800 (PST), phaedrus
<orion.osiris@virgin.net> wrote:

>why are transmitters normalised to 50 ohms
>when clearly 450 ohms would enable us to enjoy cheaper, do-it-
>yourself, lower loss feeders?

A 450 ohm coaxial cable would be rather large.
Zo = 450 = 138 log(b/a) (where b=OD and a=ID)
For an inner conductor diameter of 1 mm, the outer shield diameter
would need to be 1800 mm or about 71 inches.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

463. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 19:33:24 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <W$QozmMEAFeLFw3e@b-howie.demon.co.uk>
Source record: 10963

In message <slrnhnfqit.h8i.gsm@cable.mendelson.com>, Geoffrey S.
Mendelson <gsm@cable.mendelson.com> writes
>phaedrus wrote:
>
>> So the obvious question is: why are transmitters normalised to 50 ohms
>> when clearly 450 ohms would enable us to enjoy cheaper, do-it-
>> yourself, lower loss feeders? Was this some oversight at the time, or
>> good practice for some obscure reason that I simply cannot think of?
>
>
>One story is that when radar was first developed coaxial feed lines were
>made by buying copper pipe at the local plumbing supply and the
>impedance resulting from using two standard sizes (one as the center
>conductor and one as the shield was 50 ohms.

Well I've made 50 ohm line samplers (Bird 43 lookalikes) with standard
UK copper tee pipe fittings and pipe.

Brian GM4DIJ
--
Brian Howie

464. Re: quad spreader material?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 19:40:57 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <h1jgn5549mp62fpe7u4dfjmm50euvhngev@4ax.com>
Source record: 10964

On Fri, 12 Feb 2010 08:14:44 -0800, "Steve" <zarco@sonic.net> wrote:

>I'm thinking of building a 3 element 20 meter quad (full size)
>and I'm stuck on the spreaders. Many people use bamboo
>or aluminum with insulators at the tips. Can anyone suggest
>alternatives....hopefully inexpensive, common materials?
>TIA
> Steve

PVC pipe? Probably too heavy and too easy.

Maybe vinyl tubing or thin wall pipe. For stiffness, fill the tubing
with expanding foam urethane fence post compount, cement, or epoxy.

Perhaps an inflatable antenna using rolled vinyl tubing for the
structural elements? Just get a sheet of thin vinyl tubing, or heat
seal packing material, some glue, a hot wire sealing contrivance, and
build the quad.
<http://www.uline.com/BL_2107/4-Mil-Poly-Tubing>
The connecting wires will provide the required dimensional stability
(assuming they don't stretch under tension). Obviously, this would
not be a permanent installation. Something like this with a different
arrangement of supports:
<http://www.china-inflatable.com/products/sports/T11-364.htm>

Incidentally, there's no reason that the quad has to be square shaped.
The quad can be circular. A large round cardboard cylinder, with the
wire elements wrapped around the outside should work. Be sure to add
a tail so that it doubles as a wind vane.

You can also build an inflatable tower to support your quad:
<http://towers.ltaprojects.com/LTA_Towers/LTA_Tower_Home.html>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

465. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-14 21:14:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f4pgn5ltdm89ougto7319ngqscoc5ng2oq@4ax.com>
Source record: 10965

On Sun, 14 Feb 2010 11:14:29 -0800, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>A 450 ohm coaxial cable would be rather large.
> Zo = 450 = 138 log(b/a) (where b=OD and a=ID)
>For an inner conductor diameter of 1 mm, the outer shield diameter
>would need to be 1800 mm or about 71 inches.

This solution for the formula also reveals the diminishing increase in
Zo for two-line or one line against earth as the separation grows
astronomically.

Let's put a 1mm wire 1000m in the air,
Zo = (138/e^.5) ï¿½ log(4h/d)
(138/1.667) ï¿½ log(4000/0.001)
82.8 ï¿½ log(4000000)
82.8 ï¿½ 6.6
546 Ohms

73's
Richard Clark, KB7QHC

466. Re: quad spreader material?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 03:09:32 UTC
From: dplatt@radagast.org
Message-ID: <cgqm47-76r.ln1@radagast.org>
Source record: 10966

In article <h1jgn5549mp62fpe7u4dfjmm50euvhngev@4ax.com>,
Jeff Liebermann <jeffl@cruzio.com> wrote:

>>I'm thinking of building a 3 element 20 meter quad (full size)
>>and I'm stuck on the spreaders. Many people use bamboo
>>or aluminum with insulators at the tips. Can anyone suggest
>>alternatives....hopefully inexpensive, common materials?
>>TIA
>> Steve
>
>PVC pipe? Probably too heavy and too easy.

Tends to bend pretty easily under sidewise stress (including gravity).
Unless you fix the end of the spreader to the wire element so that the
wire takes up the bending stress, you'd find a PVC-based 20-meter quad
starting to sag badly quite quickly, I'd think.

Also, much standard PVC tubing doesn't stand up to sunlight very well.

>Maybe vinyl tubing or thin wall pipe. For stiffness, fill the tubing
>with expanding foam urethane fence post compount, cement, or epoxy.

I'd be concerned about the weight of the filling.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

467. receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 04:51:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b08abc8b-059f-4407-8ec4-f9f1527fe722@k19g2000yqc.googlegroups.com>
Source record: 10967

Has there ever been a study that shows the relative consistency of
received signal polarity to see if it would be advantageous for multi
polarity receive antennas?

468. Re: quad spreader material?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 04:55:02 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <iqjhn5tmdrkoaefn2oajtrb345nsklbk1g@4ax.com>
Source record: 10968

On Sun, 14 Feb 2010 19:09:32 -0800, dplatt@radagast.org (Dave Platt)
wrote:

>In article <h1jgn5549mp62fpe7u4dfjmm50euvhngev@4ax.com>,
>Jeff Liebermann <jeffl@cruzio.com> wrote:
>
>>>I'm thinking of building a 3 element 20 meter quad (full size)
>>>and I'm stuck on the spreaders. Many people use bamboo
>>>or aluminum with insulators at the tips. Can anyone suggest
>>>alternatives....hopefully inexpensive, common materials?
>>>TIA
>>> Steve

>>PVC pipe? Probably too heavy and too easy.

>Tends to bend pretty easily under sidewise stress (including gravity).
>Unless you fix the end of the spreader to the wire element so that the
>wire takes up the bending stress, you'd find a PVC-based 20-meter quad
>starting to sag badly quite quickly, I'd think.

I've seen plans for PVC structures that have two different methods of
stiffening. One is to run fiberglass rope inside to a pair of eye
bolts. The threaded part of the eye bolts goes through a hole drilled
into the end caps. A nut at each end tightens the fiberglass rope.
Ordinary rope can be used but it tends to stretch and absorb water.
Once tightened, the PVC pipe is substantially more rigid.

Another method is to build a cross braced 3D structure. For a 2
element quad, that would be a box. Suitable end caps can be bought or
fabricated out of block of plastic (or a mess of PVC adapters).
Putting the box under tension between opposite end points should be
sufficient to provide structural stiffness.

>Also, much standard PVC tubing doesn't stand up to sunlight very well.

True. Per the advice of Dr Barry Ornitz, spraying the PVC with Krylon
acrylic clear plastic spray is sufficient to protect the PVC (and any
electrical tape wrapped around the connectors) from UV embrittlement.
However, the really good stuff has been recalled:
<http://www.cpsc.gov/cpscpub/prerel/prhtml09/09036.html>

>>Maybe vinyl tubing or thin wall pipe. For stiffness, fill the tubing
>>with expanding foam urethane fence post compount, cement, or epoxy.
>
>I'd be concerned about the weight of the filling.

Ok, forget the concrete antenna spreaders.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

469. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 05:26:25 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3vkhn5di5md9bs5ds7dhimjrbk0vdqkhv1@4ax.com>
Source record: 10969

On Sun, 14 Feb 2010 20:51:21 -0800 (PST), Art Unwin
<arthurunwin@gmail.com> wrote:

>Has there ever been a study that shows the relative consistency of
>received signal polarity to see if it would be advantageous for multi
>polarity receive antennas?

Yes. I did one for a company doing exactly that at various
frequencies between 120 to 450Mhz. Sorry, but I don't have a copy of
the report. For convenience, we use ham frequencies for most of the
testing. What we found is that once a signal is reflected, the
reflected signals polarization is fairly random. There are few flat
plate reflectors in both man made and natural objects. The measured
result was a mess of varying polarization angles.

You can expect similar results for HF signals reflected off the
ionosphere with the added complexity of Faraday rotation.

However, it is beneficial to build polarization insensitive antennas.
In a common dipole, there's very little loss for polarization mismatch
until you get very close to perpendicular. There, the signal drops
off quickly. Filling in this hole is considered to be a good thing.

You can get a crude idea of how it works using an Adcock DF antenna
array, or just two cross polarized dipoles. Since you're not building
a direction finder, the crossed dipoles are easier to explain. Just
setup two perpendicular dipoles with the center feeds fairly close
together. Connect two well matched receivers to the two antennas.
Connect the IF or audio outputs to the vertical and horizontal of an
oscilloscope. The resulting Lissajous pattern will give you a rough
idea of the polarization (assuming the signal arrives from above).
Pick a strong steady signal like WWV. You'll probably see the
polarization change erratically when the skip is in. (Last time I did
this was 20 years ago). You'll also see that vertical and horizontal
parts of the Lissajous display to wander around in amplitude fairly
independently. This is the main advantage of a polarization
independent antenna. The antenna will automagically select the
strongest polarization to feed the receiver.

There are circularly polarized HF antennas, but I'm too lazy to Google
for them tonite.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com

Skype: JeffLiebermann AE6KS 831-336-2558

470. Re: quad spreader material?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 12:51:34 UTC
From: amdx <amdx@knology.net>
Message-ID: <ea79$4b794350$18ec6dd7$24569@KNOLOGY.NET>
Source record: 10970

"Steve" <zarco@sonic.net> wrote in message
news:4b757e78$0$1995$742ec2ed@news.sonic.net...
> I'm thinking of building a 3 element 20 meter quad (full size)
> and I'm stuck on the spreaders. Many people use bamboo
> or aluminum with insulators at the tips. Can anyone suggest
> alternatives....hopefully inexpensive, common materials?
> TIA
> Steve

Here are some 1-1/2" fiberglass mast poles at a very good price.
I think I paid a lot more 3 years ago.

http://cgi.ebay.com/12-Military-Fiberglass-Mast-Poles-Great-for-Antenna-WOW_W0QQitemZ11049
1718380QQcmdZViewItemQQptZLH_DefaultDomain_0?hash=item19b9d1d2ec

I used them to build my Flag antenna, The (Y) pieces. About 2 and 1/2
sections each.
http://i395.photobucket.com/albums/pp37/Qmavam/P1010128.jpg

Mike

471. OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 14:34:40 UTC
From: ve2pid <ve2pid@videotron.ca>
Message-ID: <e7536acc-6fec-4836-8aaf-d6cf3697d71f@t42g2000vbt.googlegroups.com>
Source record: 10971

I have a question about OCF dipoles; it refers to the choice of the type of balun transformer (voltage or current) to be used with that type of antenna:

Since an OCF has by nature an asymmetrical distribution of currents in its two legs, the use of a current balun seems a kind of 'brute force' imposing a symmetrization of the currents in the legs.

For the transformation of impedances, would it be more appropriate to use a voltage balun instead?

73 de Pierre VE2PID

472. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 16:01:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bb0304d3-416e-41d5-8024-53e6a829eafe@z19g2000yqk.googlegroups.com>
Source record: 10972

On Feb 14, 11:26 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Sun, 14 Feb 2010 20:51:21 -0800 (PST), Art Unwin
>
> <arthurun...@gmail.com> wrote:
> >Has there ever been a study that shows the relative consistency of
> >received signal polarity to see if it would be advantageous for multi
> >polarity receive antennas?
>
> Yes. I did one for a company doing exactly that at various
> frequencies between 120 to 450Mhz. Sorry, but I don't have a copy of
> the report. For convenience, we use ham frequencies for most of the
> testing. What we found is that once a signal is reflected, the
> reflected signals polarization is fairly random. There are few flat
> plate reflectors in both man made and natural objects. The measured
> result was a mess of varying polarization angles.
>
> You can expect similar results for HF signals reflected off the
> ionosphere with the added complexity of Faraday rotation.
>
> However, it is beneficial to build polarization insensitive antennas.
> In a common dipole, there's very little loss for polarization mismatch
> until you get very close to perpendicular. There, the signal drops
> off quickly. Filling in this hole is considered to be a good thing.
>
> You can get a crude idea of how it works using an Adcock DF antenna
> array, or just two cross polarized dipoles. Since you're not building
> a direction finder, the crossed dipoles are easier to explain. Just
> setup two perpendicular dipoles with the center feeds fairly close
> together. Connect two well matched receivers to the two antennas.
> Connect the IF or audio outputs to the vertical and horizontal of an
> oscilloscope. The resulting Lissajous pattern will give you a rough
> idea of the polarization (assuming the signal arrives from above).
> Pick a strong steady signal like WWV. You'll probably see the
> polarization change erratically when the skip is in. (Last time I did
> this was 20 years ago). You'll also see that vertical and horizontal
> parts of the Lissajous display to wander around in amplitude fairly
> independently. This is the main advantage of a polarization
> independent antenna. The antenna will automagically select the
> strongest polarization to feed the receiver.
>
> There are circularly polarized HF antennas, but I'm too lazy to Google
> for them tonite.
>
> --

> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

Thank you for that!
I have not seen the like printed any where soto me it is good stuff.
When I model a polarization independent antenna the individual gains
confuse me as each of the individual gains are some what 3 db down
from the "total" gain. In other words "total" is not the addition of
all the polarizations gains. I find it very difficult to get my mind
wrapped around that fact. On the surface it would suggest that
competition types would benefit from a polarization independent
antenna.

473. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 17:55:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a62jn55go2av5emh8pudusi4c8ri288v9b@4ax.com>
Source record: 10973

On Mon, 15 Feb 2010 06:34:40 -0800 (PST), ve2pid <ve2pid@videotron.ca>
wrote:

>I have a question about OCF dipoles; it refers to the choice of the
>type of balun transformer (voltage or current) to be used with that
>type of antenna:

What is most important is the choking action which then demands a
current BalUn. As the transmission line falls away from an unbalanced
dipole, it also upsets they symettry further by its presence. This
further demands you choke it at quarter wave intervals away from the
feed point. As the OCF Dipole is meant to be multiband, this then
demands a number of such quarterwave-away chokes. My solution has
been to place a bead every foot along the entire drop.

The next trick is with the BalUn ratio. Few describe that accurately,
defend their choice, or even pretend to know. Further, the degree of
off-centeredness is another wild guess that none suggest makes a
difference.

73's
Richard Clark, KB7QHC

474. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 19:21:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2140A322F91nonenowhere@61.9.191.5>
Source record: 10974

ve2pid <ve2pid@videotron.ca> wrote in news:e7536acc-6fec-4836-8aaf-d6cf3697d71f@t42g2000vbt.googlegroups.com:

> I have a question about OCF dipoles; it refers to the choice of the
> type of balun transformer (voltage or current) to be used with that
> type of antenna:
>
> Since an OCF has by nature an asymmetrical distribution of currents in
> its two legs, the use of a current balun seems a kind of 'brute
> force' imposing a symmetrization of the currents in the legs.
>
> For the transformation of impedances, would it be more appropriate to
> use a voltage balun instead?

Pierre,

An interesting question, especially in the light of some versions of OCF dipole that are attributed magic properties.

If you were to feed a half wave dipole in free space at the centre directly using a minute transmitter, the currents in the legs must be equal an opposite by Kirchoff's Current Law (KCL)... there are no other connections to the nodes, the tx is small wrt wavelength (deals with the standing wave issue), easy. It is an ideal antenna, not necessarily practical, but current distribution is ideal.

Now, if the development of the off resonance OCF dipole logic is to find a feedpoint with a more suitable Z, then feeding it with the same physically small tx would give the same 'ideal' performance. No matter how you achieve it, the objective is equal but opposite currents each side of the feedpoint.

However, as you know, using a remote tx with feedline doesn't compare with the above ideal case. It is very challenging to reduce common mode feedline current to the point that it is insignificant on all frequencies, even with one or more current baluns.

So, if you want to market such an antenna, how do you deal with the nay-sayers?

You get creative. Don't hide the disadvantage, call the effect out as a positive feature. Yes, feedline radiation (in the right place) is one of the advantages! There, that has neutralised the nay-sayers, and 'enlightened' buyers will go beyond conventional thinking and embrace this new concept.

Now, how do you maximise this fill-in vertical radiation? Use a voltage balun and explain it to people using DC circuit theory that the voltage balun (extremely low common mode impedance) will not impede common mode current flow at this all important circuit node.

Ah, but now you will have the dreaded 'RF-in-the-shack syndrome'. Ok, lets fix that with a magic component, an 'isolator' that is explained again using DC circuit theory as a switch, that blocks the common mode current at the bottom of the designate vertical radiator. Of course, this explanation is not consistent with KCL.

Brilliant! No wonder the Carolina Windom is so popular. With the trend to 'rebalance' the amateur population from a bunch of self taught OFs with knowlege related to experience and age with infusion of a growing proportion of six hour hams, the Carolina Windom's future is assured. A solution to the ham's quest for the Holy Grail, a low cost antenna for all HF bands with most importantly good VSWR, no need for a lossy tuner.

It was explained to me by many people as we created our structure for six hour hams that modern hams have no need for circuit theory. I counter with the example that a common component of HF stations is a simple device with three passive components, two capacitors and an inductor, and it is capable of consuming the majority of a tranmitter's output power when used without appropriate knowledge, and it is not well understood. Yes, it is the humble T-Match ATU. If you are interested, have a look at my article "Is a 4:1 balun a good choice for use with an ATU on HF?" at http://vk1od.net/blog/?p=987 . There are a bunch of recent articles in the blog on ATU and feedline matters that might prompt thinking about traditional ATU designs and advice on feedlines and balun types and ratios.

I am unusally sarcastic this morning, but the above is not really written in humour, and not really a lament.

A current balun at the feedpoint will not of itself reliably eliminate common mode current on the OCF feedline, nor will an 'isolator' of itself at another point reliably eliminate common mode current in the shack.

The same can be said for the same components in a symmetric centre fed dipole system, just that the common mode current is (much?) lower by virtue of antenna symmetry.

Owen

475. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 20:11:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <wcudnakvb6H9N-TWnZ2dnUVZ_gmdnZ2d@giganews.com>
Source record: 10975

Richard made a good summary about the problem with common mode currents. I'm a little leery, however, of the suggestion of putting a bead every foot. The reason is that a common mode choke (aka current balun, or bead) has low loss if its impedance is either much higher or much lower than the common mode impedance. Loss is maximized when it's roughly the same. So I can see situations where the distributed beads might end up dissipating a significant fraction of the applied power. But I've never set up and measured such a system, or modeled one, so don't have any evidence this would happen.

As the developer and seller of antenna modeling software, I also caution people that models of the types of baluns and transformers commonly used for OCF dipoles are greatly in error when used as an OCF feed. The problem is that on many bands the transformer or balun is operating with impedances well outside its design range, and consequently adds series and shunt impedance and exhibits a changed transformation ratio.

Here are a couple of postings I made on this forum some time ago:

3/10/07

Here are some characteristics of off-center fed dipoles which I've observed in doing careful measurements:

1. The feepoint balun is commonly a voltage balun, which may have the nominal claimed impedance transformation ratio over most of the HF range when terminated with 50 + j0 ohms times the tranformation ratio. However, the antenna doesn't have this impedance at hardly any frequency, and can be very different at some frequencies. When presented with load impedances typical of the antenna, the transformation ratio is way off and becomes complex, and the balun adds considerable shunt and series reactance.

2. Whenever a voltage balun is used to feed an asymmetrical antenna, it creates an imbalance current in its attempt to equalize the voltages at the two halves relative to the "cold" side of the input. This imbalance current flows down the feedline as a common mode current.

3. Additional common mode current results from the unequal mutual coupling between the feedline and unequal antenna halves.

4. It takes very concentrated efforts to reduce the common mode current to a low level on all bands. Multiple current baluns (probably what the CW calls and "isolator") are required, and even then it might also require feedline length adjustments to get low common mode current on all bands.

5. Without being able to quantify what the feedpoint balun will do in terms of transformation, reactance, and common mode current generation, it's impossible to build a model of one of these antennas with any confidence, even if the feedline is included in the model. The best efforts I made to measure a real antenna and its balun and build a model based on the measurements led to generally poor agreement between the measured and model impedance. Consequently I'm extremely skeptical of any model that purports to predict anything about OCF dipole performance.

9/22/08

A while back I did some pretty careful measurements of an OCF dipole. I found that ferrites were required at both the feedpoint and at one or more places along the feedline. The ferrites at the feedpoint suppress the conducted common mode current (which is actually forced to exist by the voltage balun). But the asymmetry of the antenna results in common mode current being induced onto the feedline by mutual coupling to the antenna. This isn't a problem in a symmetrical dipole if the feedline is positioned symmetrically relative to the antenna, since the currents induced by the two equal halves cancel. But the OCF dipole can result in quite a lot of induced common mode current.

Ideally, you'd put at least a second bunch of snap on cores about a quarter wavelength from the feedpoint. But one of the main reasons people use OCFs is for multi-band operation. So the thing to do is to place the cores for maximum effectiveness on the band(s) where you have the most trouble -- the common mode current also depends on the feedline length and position, and will vary considerably from band to band even if you do nothing.

My opinion is that users of OCF dipoles are just about always going to have to deal with some amount of common mode current, and the best you can do is reduce it to a level you can tolerate.

Roy Lewallen, W7EL

476. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 20:22:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k5ajn5h91d589e9dsqqgl0eh4lumj1k1au@4ax.com>
Source record: 10976

On Mon, 15 Feb 2010 19:21:15 GMT, Owen Duffy <none@no.where> wrote:

>A current balun at the feedpoint will not of itself reliably eliminate
>common mode current on the OCF feedline, nor will an 'isolator' of itself
>at another point reliably eliminate common mode current in the shack.

Hi Owen,

Maintaining your DC analogy (argumentum), the isolator (if, indeed, we mean isolation of CM from the shack) can be achieved if the drop line's coaxial shield at the bottom end is immediately driven into an RF ground, AND the line routed on or beneath ground to the shack (where it can emerge from ground for normal considerations of terminating to the rig).

Routing the transmission line (coaxial cable) in close proximity to ground alone (no separate connection to ground) for a sufficient distance could easily eliminate common mode RF from the shack.

Thus, we would have a tripole antenna with three off-centers. The vertical element would be grounded at the end and would present a wealth of marketing opportunities. It wouldn't necessarily be a bad antenna (performance-wise), but the design variables could eliminate a significant population of customers.

73's
Richard Clark, KB7QHC

477. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 21:13:47 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hlcdec$h81m$1@tr22n12.aset.psu.edu>
Source record: 10977

Roy Lewallen wrote:

> My opinion is that users of OCF dipoles are just about always going to
> have to deal with some amount of common mode current, and the best you
> can do is reduce it to a level you can tolerate.

I've always wondered, when people take these antennas that are likely to have feedline radiation, and try as they may to stop it, isn't it likely that they are making the antenna not work as well as it might have if we just left the feedline radiate as it would? You might be taking away a major part of the antenna performance?

I have to expect that a radiating feedline would have to be a pretty inconsistent sort of antenna from one installation to another.

- 73 de Mike N3LI -

478. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 21:16:22 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D215427A7B24nonenowhere@61.9.191.5>
Source record: 10978

Richard Clark <kb7qhc@comcast.net> wrote in
news:k5ajn5h91d589e9dsqqgl0eh4lumj1k1au@4ax.com:

...
>
> Thus, we would have a tripole antenna with three off-centers.

Richard, are you sure you didn't serve an apprenticeship in the marketing department?

So could you calculate the advantage as 20log(tripole/dipole), or is it just 10log(tripole/dipole)? Maybe the FCC's bodgy 40*log?

The common mode path to dirt helps to tame VSWR excursions, between that and a lossy voltage balun at the feedpoint, you might keep VSWR under 1.5. And a bodged interpretation of Mismatch Loss could let the seller claim, VSWR<1.5, no expensive lossy tuner, MismatchLoss<0.2dB.

Owen

479. Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 21:25:12 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hlce3u$ok0e$1@tr22n12.aset.psu.edu>
Source record: 10979

From time to time I lift my head, blink a few times, and utter some banalities, so here we go.

The OCF topic got me to thinking, what is a Zepp?

I may even have the wrong terminoligy, I'm speaking of the antenna fed with ladder or open line, and one end of the line is fed to the antenna, and the other just sets up there, lonely and tied to nothing.

Is this the ultimate waaayyy off center dipole? I'm assuming the feedline radiates a LOT.

- 73 de Mike N3LI -

480. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 21:52:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n1gjn51pkku2svttlj1bocaarq42l8belb@4ax.com>
Source record: 10980

On Mon, 15 Feb 2010 16:25:12 -0500, Michael Coslo <mjc5@psu.edu>
wrote:

>Is this the ultimate waaayyy off center dipole? I'm assuming the
>feedline radiates a LOT.

Hi Mike,

For one, as we understand a Zepp, it is very long in relation to
wavelength. This means at some frequency it is a Hi Z resonance we
are feeding and hence a very small current. As current is generally
regarded as the indicator of radiation, any pigtail (that portion of
the remaining off-center) would barely contribute at all.

However, for what we understand to be a Zepp, there is no pigtail;
except, perhaps, the transmitter itself as the Zepp is classically fed
from the antenna connector (or the plate tank). This, of course,
gives rise to RF being in the shack and all the concomittant problems
that follow from that. (How in the world did they ever come to this
design in a hydrogen filled balloon? Such is the anachronism of
naming conventions, actual dimensions, history, and the Hindenburg.)

To return to your question, yes, the Zepp is the degenerate form of an
OCF dipole.

73's
Richard Clark, KB7QHC

481. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 22:07:35 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <7aa8fac2-7302-4d36-8bb3-9cbd8302f3dd@j31g2000yqa.googlegroups.com>
Source record: 10981

On Feb 15, 11:01 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Feb 14, 11:26 pm, Jeff Liebermann <je...@cruzio.com> wrote:
>
>
>
> > On Sun, 14 Feb 2010 20:51:21 -0800 (PST), Art Unwin
>
> > <arthurun...@gmail.com> wrote:
> > >Has there ever been a study that shows the relative consistency of
> > >received signal polarity to see if it would be advantageous for multi
> > >polarity receive antennas?
>
> > Yes. I did one for a company doing exactly that at various
> > frequencies between 120 to 450Mhz. Sorry, but I don't have a copy of
> > the report. For convenience, we use ham frequencies for most of the
> > testing. What we found is that once a signal is reflected, the
> > reflected signals polarization is fairly random. There are few flat
> > plate reflectors in both man made and natural objects. The measured
> > result was a mess of varying polarization angles.
>
> > You can expect similar results for HF signals reflected off the
> > ionosphere with the added complexity of Faraday rotation.
>
> > However, it is beneficial to build polarization insensitive antennas.
> > In a common dipole, there's very little loss for polarization mismatch
> > until you get very close to perpendicular. There, the signal drops
> > off quickly. Filling in this hole is considered to be a good thing.
>
> > You can get a crude idea of how it works using an Adcock DF antenna
> > array, or just two cross polarized dipoles. Since you're not building
> > a direction finder, the crossed dipoles are easier to explain. Just
> > setup two perpendicular dipoles with the center feeds fairly close
> > together. Connect two well matched receivers to the two antennas.
> > Connect the IF or audio outputs to the vertical and horizontal of an
> > oscilloscope. The resulting Lissajous pattern will give you a rough
> > idea of the polarization (assuming the signal arrives from above).
> > Pick a strong steady signal like WWV. You'll probably see the
> > polarization change erratically when the skip is in. (Last time I did
> > this was 20 years ago). You'll also see that vertical and horizontal
> > parts of the Lissajous display to wander around in amplitude fairly
> > independently. This is the main advantage of a polarization
> > independent antenna. The antenna will automagically select the
> > strongest polarization to feed the receiver.
>

> > There are circularly polarized HF antennas, but I'm too lazy to Google
> > for them tonite.
>
> > --
> > Jeff Liebermann   je...@cruzio.com
> > 150 Felker St #D   http://www.LearnByDestroying.com
> > Santa Cruz CA 95060http://802.11junk.com
> > Skype: JeffLiebermann   AE6KS   831-336-2558
>
> Thank you for that!
> I have not seen the like printed any where soto me it is good stuff.
> When I model a polarization independent antenna the individual gains
> confuse me as each of the individual gains are some what 3 db down
> from the "total" gain. In other words "total" is not the addition of
> all the polarizations gains. I find it very difficult to get my mind
> wrapped around that fact. On the surface it would suggest that
> competition types would benefit from a polarization independent
> antenna.

What is/are "polarizations gains". That's a term with which I am not
familiar.

Jimmie

482. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 22:43:43 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <d4717d76-797e-4392-9383-110745a290d3@k19g2000yqc.googlegroups.com>
Source record: 10982

On Feb 15, 4:51 am, Art Unwin <arthurun...@gmail.com> wrote:
> Has there ever been a study that shows the relative consistency of
> received signal polarity to see if it would be advantageous for multi
> polarity receive antennas?

there have been studies of polarization of signals over various paths
and frequencies. but i don't know that anyone has studied their
polarity... why don't you try that and let us know how it comes out.

483. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 23:14:27 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <50ljn5hrfoveukfcfs97dvghbc1m0qgvlu@4ax.com>
Source record: 10983

On Mon, 15 Feb 2010 14:07:35 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>On Feb 15, 11:01ï¿½am, Art Unwin <arthurun...@gmail.com> wrote:
>> I have not seen the like printed any where soto me ï¿½it is good stuff.
>> When I model a polarization independent antenna the individual gains
>> confuse me as each of the individual gains are some what 3 db down
>> from the "total" gain. In other words "total" is not the addition of
>> all the polarizations gains. I find it very difficult to get my mind
>> wrapped around that fact. On the surface it would suggest that
>> competition types would benefit from a polarization independent
>> antenna.

>What is/are "polarizations gains". That's a term with which I am not
>familiar.
>
>Jimmie

It's part of Polarity Therapy:
<http://en.wikipedia.org/wiki/Polarity_therapy>
I think it has something to do with yin and yang polarization.
Applying acupuncture to the coax cable is known to activate and
improve the flow of Chi, as well as increase the life force energy,
which is what produces the necessary gain.

(Sorry, I couldn't resist).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

484. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 23:38:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4uljn5hbqu4oac0v5fvam67or4t1e156hc@4ax.com>
Source record: 10984

On Mon, 15 Feb 2010 14:07:35 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>What is/are "polarizations gains". That's a term with which I am not
>familiar.

Hi Jimmie,

EZNEC, for one, reports antenna "gain"/directivity (re dBi) for each
polarization, azimuthum or elevation; or their sum as a total field
for a 3D model.

When two antennas (one receive, one transmit) are cross polarized, the
gain between them can vanish to zero. In a real application this zero
is something larger, but still small like 30dB down compared to two
antennas employing the same polarization.

This last is observed in line of sight transmissions of VHF and above
(try hitting your favorite 2M repeater with the wrong antenna
polarization orientation). It is not so common at HF as long paths
(aka skip) can blur the polarization (as can nearby reflectors for any
frequency) causing intermittant fading.

73's
Richard Clark, KB7QHC

485. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-15 23:48:41 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <ba95395b-739f-4cd0-8804-2cc58dc5f248@g28g2000yqh.googlegroups.com>
Source record: 10985

On Feb 15, 4:43 pm, Dave <k1...@arrl.net> wrote:
> On Feb 15, 4:51 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Has there ever been a study that shows the relative consistency of
> > received signal polarity to see if it would be advantageous for multi
> > polarity receive antennas?
>
> there have been studies of polarization of signals over various paths
> and frequencies. but i don't know that anyone has studied their
> polarity... why don't you try that and let us know how it comes out.

Apparently Art believes that a radiated, linearly-polarized a-c
waveform has a unique polarity, rather than a unique polarization.

RF

486. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 00:02:15 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <kimjn554rsclpfrsnft3pqleptlc7ijr38@4ax.com>
Source record: 10986

On Mon, 15 Feb 2010 08:01:18 -0800 (PST), Art Unwin
<arthurunwin@gmail.com> wrote:

>I have not seen the like printed any where soto me it is good stuff.

This might offer a clue as to how such antennas are built:
<http://ieeexplore.ieee.org/iel3/4812/13333/00608613.pdf?arnumber=608613>
<http://www.springerlink.com/content/g215405815642611/>
Plenty more under IEEE Ants and Props search. Check if your local
library or college library has a subscription:
<http://www.ieeeaps.org>
<http://ieeeaps.org/aps_trans/>

>When I model a polarization independent antenna the individual gains
>confuse me as each of the individual gains are some what 3 db down
>from the "total" gain. In other words "total" is not the addition of
>all the polarizations gains.

If you use a circularly polarized antenna, and feed it a linearly
polarized signal (either vertical or horizontal) you'll see a -3dB
polarization mismatch loss.
<http://www.antenna-theory.com/basics/antennapol.php>

>I find it very difficult to get my mind
>wrapped around that fact. On the surface it would suggest that
>competition types would benefit from a polarization independent
>antenna.

Nope. According to my friends that do contesting, the major
requirement of an antenna is NOT to maximize the gain in all
directions. It's to reduce the gain to the side and back, where all
the other interfering stations are usually located. Directionality is
important or all you're going to hear are other local hams. A truely
isotropic antenna is fairly useless for contesting. (Note: I don't
do contesting).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

487. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 00:22:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <fr2dnYSnMOjeeOTWnZ2dnUVZ_hadnZ2d@giganews.com>
Source record: 10987

Michael Coslo wrote:
>
> I've always wondered, when people take these antennas that are likely to
> have feedline radiation, and try as they may to stop it, isn't it likely
> that they are making the antenna not work as well as it might have if we
> just left the feedline radiate as it would? You might be taking away a
> major part of the antenna performance?
>
> I have to expect that a radiating feedline would have to be a pretty
> inconsistent sort of antenna from one installation to another.
>
> - 73 de Mike N3LI -

Absolutely. A radiating feedline is part of the antenna, as is the entire path to the Earth along the outside of the rig, through the mains power system or whatever other path it can take. So two people thinking they have the same "antenna" can really have very different radiating systems.

Sometimes the radiation from the feedline, mains wiring, and stuff in the shack can be beneficial -- it might, for instance, fill in deep nulls in the main antenna's pattern and result in a spectacular signal strength improvement in particular directions. On the other hand, it can cause lots of problems. For example, when I was testing an OCF dipole a while back, on one band my electronic keyer would lock up after the first "dit" due to RF in the shack and on all the station connecting wires. And having the power wiring be part of your antenna system can lead to trouble with telephone, TV, and other kinds of interference. But then you might get lucky and get away with it.

Probably because of the same personality quirk that led me to become an engineer, I prefer to be able to predict and understand how my antenna system will work, and design it to work as I want, rather than making it a crap shoot. But that's surely not the only, or necessarily the best, way to get on the air and talk to people.

Roy Lewallen, W7EL

488. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 00:31:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <LN-dnTAwOtD2euTWnZ2dnUVZ_jGsnZ2d@giganews.com>
Source record: 10988

Michael Coslo wrote:
> From time to time I lift my head, blink a few times, and utter some
> banalities, so here we go.
>
> The OCF topic got me to thinking, what is a Zepp?
>
> I may even have the wrong terminoligy, I'm speaking of the antenna fed
> with ladder or open line, and one end of the line is fed to the antenna,
> and the other just sets up there, lonely and tied to nothing.
>
> Is this the ultimate waaayyy off center dipole? I'm assuming the
> feedline radiates a LOT.
>
> - 73 de Mike N3LI -

Yep, you've got it right.

Here's a way to understand why the Zepp feedline *has* to radiate. If the feedline didn't radiate, it would mean that the currents on the two conductors were equal and opposite. At the antenna end, one conductor is open so no current flows from it. If the currents were equal and opposite, there would be no current flowing from the other conductor to the antenna. And if the antenna had zero current, it wouldn't radiate. So if the feedline didn't radiate, neither would the antenna.

In fact, the radiating and non-symmetrically placed feedline also couples into the antenna, altering its current flow somewhat.

The Zepp antenna is so named because it was allegedly used in the form of an end fed trailing wire on Zeppelin airships.

Roy Lewallen, W7EL

489. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 00:55:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9a3ca366-f372-4aba-998f-07eb4795fa2f@h2g2000yqj.googlegroups.com>
Source record: 10989

On Feb 15, 6:02 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Mon, 15 Feb 2010 08:01:18 -0800 (PST), Art Unwin
>
> <arthurun...@gmail.com> wrote:
> >I have not seen the like printed any where soto me it is good stuff.
>
> This might offer a clue as to how such antennas are built:
> <http://ieeexplore.ieee.org/iel3/4812/13333/00608613.pdf?arnumber=608613>
> <http://www.springerlink.com/content/g215405815642611/>
> Plenty more under IEEE Ants and Props search. Check if your local
> library or college library has a subscription:
> <http://www.ieeeaps.org>
> <http://ieeeaps.org/aps_trans/>
>
> >When I model a polarization independent antenna the individual gains
> >confuse me as each of the individual gains are some what 3 db down
> >from the "total" gain. In other words "total" is not the addition of
> >all the polarizations gains.
>
> If you use a circularly polarized antenna, and feed it a linearly
> polarized signal (either vertical or horizontal) you'll see a -3dB
> polarization mismatch loss.
> <http://www.antenna-theory.com/basics/antennapol.php>
>
> >I find it very difficult to get my mind
> >wrapped around that fact. On the surface it would suggest that
> >competition types would benefit from a polarization independent
> >antenna.
>
> Nope. According to my friends that do contesting, the major
> requirement of an antenna is NOT to maximize the gain in all
> directions. It's to reduce the gain to the side and back, where all
> the other interfering stations are usually located. Directionality is
> important or all you're going to hear are other local hams. A truely
> isotropic antenna is fairly useless for contesting. (Note: I don't
> do contesting).
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

To be honest Jeff the antennas I design are based on starting with a full wavelength radiators which I presume you are already aware of. Initially I was basing efficiency on all forces being accounted for with a higher gain resulting. In fact this aproach to design provides diversity of polarizations instead of linear thus linear seamed to supply top gains.
The full wave length aproach gives the option of dual polarity or even all forms.
The penalty is usually in the 1db range where as the multiple polarity may drop down a bit on gain but makes use of signals that a linear design cannot hear as well as zero side lobes and good front to rear figures. So without knowing what polarizations one has to deal with a reasonable choice is hard to come by. On top of these questions one has to look t what "gain" really represents since cross polarization can be reduced to just noise with the rest of the db gain value representing quality signal. Thus it is difficult to quantify gain when the real advantage comes about on weak signals that others cannot hear. In other words gain itself is not important unless it is a measure of discernabilitity or quality above
noise or none matching polarities.
Two antenna designs come to mind 1 is the two element array that can supply 2 polarities,
horizontal and one direction circular and 2 the helical that can accept all that is thrown at it
with a prime gain around 13 db and 10 db for the others. Thus if polarizations are random
with weather fluctuations in city or wooded area it would seam reasonable to discard linear forms in favour of helicals. To sum up, all the above has placed me on a zero level as to what antenna efficiency really means which to the reader must now be obvious, as one does not know what variables should be weighted and by how much.,

490. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 02:47:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ha-dnaN0D8DHmufWnZ2dnUVZ_q6dnZ2d@giganews.com>
Source record: 10990

ve2pid wrote:
> On 15 fi¿½v, 19:22, Roy Lewallen <w...@eznec.com> wrote:
>> Sometimes the radiation from the feedline, mains wiring, and stuff in
>> the shack can be beneficial -- it might, for instance, fill in deep
>> nulls in the main antenna's pattern and result in a spectacular signal
>> strength improvement in particular directions.
>
> I am slightly OT here, but the same argumentation could be used about
> non-resonant antennas like the G5RV. Yes, ATU needed, but L-type
> autotuners for example have very small insertion loss.
>
> I am wondering about the real advantage of a razor cut dipole
> (resonant anyway on a small region around a freq) versus a multi-band
> dipole using a length of feed line matching section like the G5RV or
> ZS6BKW/G0GSF Antenna System...
>
> 73 de Pierre VE2PID

No, the phenomenon I'm talking about is feedline radiation, which is very difficult to prevent with a non-symmetrical antenna like an OCF dipole because of their asymmetry. It has nothing to do with resonance or non-resonance, or wideband or narrowband characteristics. You can, of course, cause feedlines of symmetrical antennas to radiate by imbalanced feeding. But this is as true of a resonant dipole as a random length symmetrical antenna.

Roy Lewallen, W7EL

491. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 03:04:51 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <70888aa4-fe96-4363-89c0-47f5cbb02e35@d27g2000yqn.googlegroups.com>
Source record: 10991

On Feb 15, 6:38 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 15 Feb 2010 14:07:35 -0800 (PST), JIMMIE
>
> <JIMMIEDEE...@YAHOO.COM> wrote:
> >What is/are "polarizations gains". That's a term with which I am not
> >familiar.
>
> Hi Jimmie,
>
> EZNEC, for one, reports antenna "gain"/directivity (re dBi) for each
> polarization, azimuthum or elevation; or their sum as a total field
> for a 3D model.
>
> When two antennas (one receive, one transmit) are cross polarized, the
> gain between them can vanish to zero. In a real application this zero
> is something larger, but still small like 30dB down compared to two
> antennas employing the same polarization.
>
> This last is observed in line of sight transmissions of VHF and above
> (try hitting your favorite 2M repeater with the wrong antenna
> polarization orientation). It is not so common at HF as long paths
> (aka skip) can blur the polarization (as can nearby reflectors for any
> frequency) causing intermittant fading.
>
> 73's
> Richard Clark, KB7QHC

A different perspective on polarization loss?

Jimmie

492. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 06:44:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jnekn5h4o5o3lp7cu55scdrss3niisense@4ax.com>
Source record: 10992

On Mon, 15 Feb 2010 19:04:51 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>A different perspective on polarization loss?

Different? How? All pretty standard stuff.

As for different literal perspectives of polarization, I am sitting here with two sets of 3D glasses for "Avatar" (just got back from the IMAX version) and these two pair of glasses are very different from my experience with Polaroid lenses of days gone by. And they are very different from each other for the same movie.

The Real3D glasses at IMAX didn't work as normally worn, I still saw a double image; but viewing the movie through the lenses backwards (ear pieces going forward) rendered the IMAX 3D as 2D.

Now, when I sit here at the console and view the display (flat screen) through the IMAX lenses, I can dim the display by rotating the pair. One eye piece goes black at 45 degrees rotation, and the other eye piece goes black at -45 degrees rotation. Flip them to look through them backwards, and the same effect is observed.

When I take the Real3D pair and rotate them, only a slight shift in hue: yellow tint in both lenses at 45 degrees rotation, and a blue tint at -45 degrees rotation. When I flip them to look through them backwards, I encounter a slight brightening for both lenses at 45 degrees rotation and a complete blocking for both lenses at -45 degrees.

I am familiar with display technology employing LCDs with double polarization to increase contrast, and I could easily expect this from the lenses of these two pairs of 3D glasses. Without having gone further into researching it, I have a hunch that I am encountering circular polarization here.

A little digging will tell.

73's
Richard Clark, KB7QHC

493. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 07:23:39 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <jbhkn5h3q3lqalkv1orkli2r6k3n11ahl9@4ax.com>
Source record: 10993

On Mon, 15 Feb 2010 22:44:13 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>Without having gone
>further into researching it, I have a hunch that I am encountering
>circular polarization here.

Yep. RealD XL 3D is circularly polarized:
<http://en.wikipedia.org/wiki/RealD_Cinema>
<http://en.wikipedia.org/wiki/List_of_RealD_films>

"How to avoid getting a 3D headache while watching Avatar"
<http://www.shadowlocked.com/index.php?option=com_content&view=article&id=70:how-to-avoid-getting-a-3d-headache-while-watching-avatar&catid=41:feature>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

494. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 08:25:33 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <sM+WfpC9ZleLFwSD@b-howie.demon.co.uk>
Source record: 10994

In message
<b08abc8b-059f-4407-8ec4-f9f1527fe722@k19g2000yqc.googlegroups.com>, Art
Unwin <arthurunwin@gmail.com> writes
>
>Has there ever been a study that shows the relative consistency of
>received signal polarity to see if it would be advantageous for multi
>polarity receive antennas?

When I listen to the local 2m beacon (horizontal polarisation) which
is north of me ,I get a strong reflection from something to the south
that turns the polarisation vertical. I noticed that while testing an
antenna in the garden.

Brian GM4DIJ
--
Brian Howie

495. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 11:52:35 UTC
From: nm5k@wt.net
Message-ID: <3545992a-9b36-4364-9c83-a2fb699b7739@f8g2000yqn.googlegroups.com>
Source record: 10995

On Feb 15, 6:55 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I was basing efficiency on all forces being accounted for
> with a higher gain resulting.

Whether or not you account for all forces will not have any
effect on gain. :/
This is another case of the hopeful free lunch..
But the cupboard was bare. :(
The radiation from the vertical and horizontal polarizations
added together will never end up being more than you started
with.
And an antenna that is a mix of both will be a compromise
if the other antenna is purely one way or the other assuming
no reflections, etc skewing the path.
No free lunch.. :(

496. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 12:48:22 UTC
From: ve2pid <ve2pid@videotron.ca>
Message-ID: <55d5614a-1c02-4fef-b8ee-f8b63e44f351@b2g2000yqi.googlegroups.com>
Source record: 10996

On 15 f v, 19:22, Roy Lewallen <w...@eznec.com> wrote:
> Sometimes the radiation from the feedline, mains wiring, and stuff in
> the shack can be beneficial -- it might, for instance, fill in deep
> nulls in the main antenna's pattern and result in a spectacular signal
> strength improvement in particular directions.

I am slightly OT here, but the same argumentation could be used about non-resonant antennas like the G5RV. Yes, ATU needed, but L-type autotuners for example have very small insertion loss.

I am wondering about the real advantage of a razor cut dipole (resonant anyway on a small region around a freq) versus a multi-band dipole using a length of feed line matching section like the G5RV or ZS6BKW/G0GSF Antenna System...

73 de Pierre VE2PID

497. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 17:58:26 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <84e2310f-980b-45db-9e57-73ad512ac23c@b9g2000pri.googlegroups.com>
Source record: 10997

On Feb 16, 4:48 am, ve2pid <ve2...@videotron.ca> wrote:
> On 15 f v, 19:22, Roy Lewallen <w...@eznec.com> wrote:
>
> > Sometimes the radiation from the feedline, mains wiring, and stuff in
> > the shack can be beneficial -- it might, for instance, fill in deep
> > nulls in the main antenna's pattern and result in a spectacular signal
> > strength improvement in particular directions.
>
> I am slightly OT here, but the same argumentation could be used about
> non-resonant antennas like the G5RV. Yes, ATU needed, but L-type
> autotuners for example have very small insertion loss.
>
> I am wondering about the real advantage of a razor cut dipole
> (resonant anyway on a small region around a freq) versus a multi-band
> dipole using a length of feed line matching section like the G5RV or
> ZS6BKW/G0GSF Antenna System...
>
> 73 de Pierre VE2PID

As far as I know, the key advantage of a resonant half-wave dipole is that its feedpoint impedance is a pure resistance, and generally low enough to provide a decent match to a coaxial feedline. The radiation pattern of a dipole changes very little with fairly large changes in frequency, until it becomes somewhat longer than one wavelength. Even then, it doesn't become inefficient; it just develops lots of lobes and nulls as its length in wavelengths increases (which may or may not be a disadvantage). Reading between the lines of what Roy wrote, a bit of feedline radiation will at least change where those lobes and nulls are. But even a relatively short antenna (e.g. a dipole that's only 0.1 wavelength long) can be quite efficient--the loss is typically mainly in the network (including the feedline) used to feed power to it. Another factor to consider for electrically short antenna is that you have to tune out a reactance that's large compared with the radiation resistance, and that makes them narrow-band if the matching network is efficient. You have to re-tune for even small changes in frequency.

Cheers,
Tom

498. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 18:05:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7c76fd29-4066-4d81-873d-928f426d0f2f@x22g2000yqx.googlegroups.com>
Source record: 10998

On Feb 15, 3:25 pm, Michael Coslo <m...@psu.edu> wrote:
> Is this the ultimate waaayyy off center dipole? I'm assuming the
> feedline radiates a LOT.

Historically, a Zepp has been defined as a 1/2WL wire end-fed with 1/4WL of parallel feedline, a single-band antenna. MFJ sells such HF antennas modified for 50 ohm feed. The 1/2WL end-fed wire has a very high feedpoint impedance thus minimizing the current at the feedpoint and minimizing the absolute magnitude of imbalance (but not the percentage of imbalance). For instance, the current for 100 watts into a 5000 ohm feedpoint impedance is 141 ma., a magnitude less than the 1.41 amps into 50 ohms for the same 100 watts. Seems to me, the low current at the feedpoint, which can be considered to be common-mode, ensures a current minimum for both differential and common-mode standing waves.

P.S. A Double Zepp is the same thing as a 1WL center-fed dipole.
--
73, Cecil, w5dxp.com

499. Re: OCF: Proprer type of balun (transformer)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 18:31:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5dcedf43-fc12-410a-8879-332d99253781@f15g2000yqe.googlegroups.com>
Source record: 10999

Something that hasn't been mentioned is that common-mode energy forms into standing waves, e.g. on the outside braid of the coax. An isolator (choke), as exists on a Carolina Windom, may only change that point to a current minimum while simply moving the current maximum point to a different location. Has anyone actually measured the common-mode current on a Carolina Windom on all bands up and down the coax on the shack side of the isolator?
--
73, Cecil, w5dxp.com

500. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 19:13:47 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hleqpb$j7r$1@news.jpl.nasa.gov>
Source record: 11000

Jeff Liebermann wrote:
> On Mon, 15 Feb 2010 22:44:13 -0800, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>> Without having gone
>> further into researching it, I have a hunch that I am encountering
>> circular polarization here.
>
> Yep. RealD XL 3D is circularly polarized:
> <http://en.wikipedia.org/wiki/RealD_Cinema>
> <http://en.wikipedia.org/wiki/List_of_RealD_films>
>
> "How to avoid getting a 3D headache while watching Avatar"
> <http://www.shadowlocked.com/index.php?option=com_content&view=article&id=70:how-to-avoi
d-getting-a-3d-headache-while-watching-avatar&catid=41:feature>
>
>
>
>

Which makes perfect sense, since it means that if you tilt your head,
you don't swap images between left and right eyes. A very clever use of CP.

501. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 23:38:00 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hlfa8o$1bv$1@news.jpl.nasa.gov>
Source record: 10901

AndyS wrote:
> Andy writes:
>
> I remember from 50 or so years ago reading a copy of POP
> electronics, or
> maybe ELEC illustrated, which featured a couple of young boys named
> Carl
> and Jerry and the stuff they messed about with each month. Kind of
> like
> a "Mr Wizard" story.....
>
> One of the articles was winding a coil of wire around a plastic
> bottle of
> water and exciting it , then watching the output from the coil as "the
> water
> molecules oscillated"..... I don't remember the details, but they
> called
> the affair a "differential proton magnetometer", and used it to
> measure
> magnetic fields....
>
> Do

Other references exist, but you probably want to take a look at
Scientific American, "The Amateur Scientist", "How to make a sensitive
magnetometer" February 1968, page 124. Used discrete transistors and LC
filters on pot cores. I suspect one can do much better today with opamps
and microcontrollers, and I'm sure someone has done it if you google around.

See also
http://www.gellerlabs.com/PMAGThoughts.htm for an update..

502. Re: Hazer for Utility Pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-16 23:41:14 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hlfaeq$1bv$2@news.jpl.nasa.gov>
Source record: 10902

328X1 wrote:
> 'John Ferrell[_2_ Wrote:
>> ;699186']A friend gave me a forty foot Utility pole. Since I am not a
>> climber I
>> have not determined how to make the best of this in my continual
>>

Approach your local telephone
> and/or electric companies for a source of pole material, and perhaps
> they'll even be able to place your base & swing-up section [for a fee
> ?]. All told, it might be more economical to buy a used tower in GOOD
> condition.

A lot of the temporary job-site companies (e.g. Andy Gump, here in Southern California) that supply restrooms, power, etc. can plant a pole for you.

Cable TV companies plant a fair number of poles, but almost universally hire contractors to do it, so what you'd need to do is find the contractor. Watch for their trucks.

503. Re: an otnopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-17 17:58:05 UTC
From: "Mark du U.P." <Mark@chicken.poop>
Message-ID: <bad.pooh.from.netfront@chicken.poop>
Source record: 10903
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Sun, 7 Feb 2010 12:15:28 -0500, kb9rqz <kb9rqz@home.com> spammed:
[drivel snip]

Why the ocd posting? Get a life.

504. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-17 20:06:56 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1a1dd526-f947-482c-84d9-dd789a6b8f75@e19g2000prn.googlegroups.com>
Source record: 10904

On Feb 16, 10:05 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Feb 15, 3:25 pm, Michael Coslo <m...@psu.edu> wrote:
>
> > Is this the ultimate waaayyy off center dipole? I'm assuming the
> > feedline radiates a LOT.
>
> Historically, a Zepp has been defined as a 1/2WL wire end-fed with
> 1/4WL of parallel feedline, a single-band antenna. MFJ sells such HF
> antennas modified for 50 ohm feed. The 1/2WL end-fed wire has a very
> high feedpoint impedance thus minimizing the current at the feedpoint
> and minimizing the absolute magnitude of imbalance (but not the
> percentage of imbalance). For instance, the current for 100 watts into
> a 5000 ohm feedpoint impedance is 141 ma., a magnitude less than the
> 1.41 amps into 50 ohms for the same 100 watts. Seems to me, the low
> current at the feedpoint, which can be considered to be common-mode,
> ensures a current minimum for both differential and common-mode
> standing waves.
>
> P.S. A Double Zepp is the same thing as a 1WL center-fed dipole.
> --
> 73, Cecil, w5dxp.com

re: "ensures a current minimum for both differential and common-mode
standing waves..."

I don't think it guarantees it. Consider the case of end-feeding a
"fat" half-wave-resonant antenna, like a cage or what I recall used to
be called a "flat-top" with several wires running parallel in the same
horizontal plane, connected together at the feed end (at least).
Consider feeding it with high impedance (600 ohm) open wire line. The
data I have suggests it's possible to have a feed line impedance
higher than the feed-point impedance of the end-fed half-wave (fed
against the counterpoise represented by the feeder). In that case,
the differential load impedance at the end of the feed line (the feed-
point impedance of the antenna) is lower than the feed line
differential impedance, and we must be at a maximum current point on
the feed line.

Admittedly, it's not a case you'd run into very often, but it appears
to me to be quite possible.

Cheers,
Tom

505. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-17 21:40:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D235850A81CCnonenowhere@61.9.191.5>
Source record: 10905

K7ITM <k7itm@msn.com> wrote in news:1a1dd526-f947-482c-84d9-dd789a6b8f75
@e19g2000prn.googlegroups.com:
...
> I don't think it guarantees it.

That is the issue with the Zepp. Radiation is the result of current flowing in the 'flat top' and the common mode component of current flowing in the not-standardised feed line.

If the feedline was say a quarter wave vertical section (as is often depicted) with the common mode point at the bottom effectively grounded (not usually clearly described), you have a three quarter wave L fed one quarter wave from the end. If the common mode point referred to above was effectively isolated from ground, you have a different antenna, different boundary conditions to satisfy. Still, the are all Zepps to us!

Owen

506. Re: Carl and Jerry Magnetometer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-17 22:18:57 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hlhq0f$p4e$1@speranza.aioe.org>
Source record: 10906

On 2/16/2010 3:38 PM, Jim Lux wrote:

> ...
> Other references exist, ...

http://www.geotech1.com/pages/mag/projects/huggard/huggard300.pdf

I would never use a relay to switch from polarizing current to detection mode on the sensor\coil ... even a simple two transistor flip-flop would be immensely preferable.

Regards,
JS

507. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-17 22:21:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <s6udnV4yccRH9uHWnZ2dnUVZ_oOdnZ2d@giganews.com>
Source record: 10907

Owen Duffy wrote:
> K7ITM <k7itm@msn.com> wrote in news:1a1dd526-f947-482c-84d9-dd789a6b8f75
> @e19g2000prn.googlegroups.com:
> ...
>> I don't think it guarantees it.
>
> That is the issue with the Zepp. Radiation is the result of current flowing
> in the 'flat top' and the common mode component of current flowing in the
> not-standardised feed line.
>
> If the feedline was say a quarter wave vertical section (as is often
> depicted) with the common mode point at the bottom effectively grounded
> (not usually clearly described), you have a three quarter wave L fed one
> quarter wave from the end. If the common mode point referred to above was
> effectively isolated from ground, you have a different antenna, different
> boundary conditions to satisfy. Still, the are all Zepps to us!
>
> Owen

Exactly. People tend to look at the flat top as the "antenna" and the twinlead as the "feedline". In actuality, the "feedline" is an essential part of the antenna, and any changes in it modify the radiation characteristics as well as the impedance. The same binary thinking often misleadingly separates "antenna" from "ground".

Roy Lewallen, W7EL

508. Re: Mag light corrosion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 01:42:16 UTC
From: "Oper. Boob (he who takes it in the ass)" <irwin.hagglebloom@gmail.com>
Message-ID: <bcee5a88-8d03-4b32-8a84-a76135c3f14d@q16g2000yqq.googlegroups.com>
Source record: 10908
Cross-posted to: rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,rec.ponds,rec.radio.amateur.antenna

On Feb 17, 11:53 am, Bob Dobbs <Bob-Luvs-Cock@OPERATOR.BOB.SUCKS.NIGGER.COCK.com> wrote:
> Stormin Mormon wrote:
> >I recently had a battery corrode in my black
> >4D cell Mag light. Old style bulb, if that's
> >relevant.
>
> If you need to keep a bludgeon class light on hand,
> at least get one of the LED retrofit bulbs
> (about twenty bucks w/tax and well worth it)
>
>
>
> >The 4D mag light by my front door was dead. I
> >managed to get the tail cap off (two big pipe
> >wrenches) and find the bottom battery had
> >corroded. Brand new battery, Endurance, from
> >Advance Auto Parts. After considerable scrubbing
> >and sanding, the light works again. I'm leaving it
> >in peices over night to dry. Then load up with
> >four Rayovac cells, and a shot of grease on the
> >tail cap threads.
>
> Haven't had to relive that (used to be) common scenario in quite awhile,
> thanks to modern alternatives.
>
> >The 4D mag is my "grab and go" light, in case I
> >need to go some where in a hurry.
>
> I suggest you install a cup hook in the door frame to hang one of the Emissive
> Energy Inova XO3 lights from. It's not the cudgel the 4D is, but as bright if
> not brighter and the Li batteries outlast those old leaky "D's" by a substantial
> margin,
> IOW; light when you need it, plus will fit in your pocket.http://www.inovalight.com/x.html
>
> >It was only happy coincidence that I found the
> >corroded battery. Might have been there for
> >years, if I'd not needed the light for a bulb
> >test.
>
> Get the torch I suggested and consider the price as tuition
> so you don't have to endure a repeat during a worse case event

> that might be really serious. &#65533;
>
> >Since that time, others have told me that
> >batteries
> >corrode only in D cell mags,
>
> BS
>
> >and typically the
> >battery next to the tail cap.
>
> more BS
>
> >Has anyone else
> >had this happen? Is it a common problem?
>
> Yes,
> I've had people supply me with bullshit anecdotes,
> if that's what you mean.
>
> C'mon Chris,
> you've been on the survival groups long enough
> to know better than rely on obsolete trinkets.
> Pack up all those parts
> and send them over to Gummer <g>
>
> --
>
> Operator Bob
> Echo Charlie 42

Do you have any idea how fucking stupid you appear when you put
"operator" in front of your name?

Typical CB idiot. Welcome to the new Ham radio.

509. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 03:22:06 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <43b25871-2e0f-40c0-8377-fd5663de1d4e@k41g2000yqm.googlegroups.com>
Source record: 10909

On Feb 17, 2:06 pm, K7ITM <k7...@msn.com> wrote:
> Admittedly, it's not a case you'd run into very often, but it appears
> to me to be quite possible.

You're right, Tom. I was assuming an end-fed 1/2WL "thin wire"
configuration. Here's a question for the experts. If the current at
the feedpoint is 140 ma into the 5000 ohm 1/2WL wire and zero on the
other (open) wire at the feedpoint, what are the currents in each wire
1/4WL back down the feedline at a 1:1 choke-balun, for instance? What
would those currents be when fed from a link coupling not referenced
to ground?
--
73, Cecil, w5dxp.com

510. Hello I'm new can you give me some directions?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 13:18:59 UTC
From: Tonyfrost <jupalmer@gmail.com>
Message-ID: <eb5a4320-014f-40f7-bea3-ed9ce4276914@y33g2000yqb.googlegroups.com>
Source record: 10910

Hello, I am a new member of this group,
I just want to know wether this group is spam or is it made by radio
lover like me.

511. Re: Mag light corrosion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 15:19:15 UTC
From: A Paul Ing <bobandcarolesneighbortynk@gmail.com>
Message-ID: <9f3eeb64-1265-4b16-95b3-d122f9cc47af@g28g2000prb.googlegroups.com>
Source record: 10911
Cross-posted to: rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,rec.ponds,rec.radio.amateur.antenna

On Feb 17, 7:42 pm, "Oper. Boob (he who takes it in the ass)"
<irwin.hagglebl...@gmail.com> wrote:
> On Feb 17, 11:53 am, Bob Dobbs <Bob-Luvs-
>
>
>
> C...@OPERATOR.BOB.SUCKS.NIGGER.COCK.com> wrote:
> > Stormin Mormon wrote:
> > >I recently had a battery corrode in my black
> > >4D cell Mag light. Old style bulb, if that's
> > >relevant.
>
> > If you need to keep a bludgeon class light on hand,
> > at least get one of the LED retrofit bulbs
> > (about twenty bucks w/tax and well worth it)
>
> > >The 4D mag light by my front door was dead. I
> > >managed to get the tail cap off (two big pipe
> > >wrenches) and find the bottom battery had
> > >corroded. Brand new battery, Endurance, from
> > >Advance Auto Parts. After considerable scrubbing
> > >and sanding, the light works again. I'm leaving it
> > >in peices over night to dry. Then load up with
> > >four Rayovac cells, and a shot of grease on the
> > >tail cap threads.
>
> > Haven't had to relive that (used to be) common scenario in quite awhile,
> > thanks to modern alternatives.
>
> > >The 4D mag is my "grab and go" light, in case I
> > >need to go some where in a hurry.
>
> > I suggest you install a cup hook in the door frame to hang one of the Emissive
> > Energy Inova XO3 lights from. It's not the cudgel the 4D is, but as bright if
> > not brighter and the Li batteries outlast those old leaky "D's" by a substantial
> > margin,
> > IOW; light when you need it, plus will fit in your
pocket.http://www.inovalight.com/x.html
>
> > >It was only happy coincidence that I found the
> > >corroded battery. Might have been there for
> > >years, if I'd not needed the light for a bulb
> > >test.

>
> > Get the torch I suggested and consider the price as tuition
> > so you don't have to endure a repeat during a worse case event
> > that might be really serious.
>
> > >Since that time, others have told me that
> > >batteries
> > >corrode only in D cell mags,
>
> > BS
>
> > >and typically the
> > >battery next to the tail cap.
>
> > more BS
>
> > >Has anyone else
> > >had this happen? Is it a common problem?
>
> > Yes,
> > I've had people supply me with bullshit anecdotes,
> > if that's what you mean.
>
> > C'mon Chris,
> > you've been on the survival groups long enough
> > to know better than rely on obsolete trinkets.
> > Pack up all those parts
> > and send them over to Gummer <g>
>
> > --
>
> > Operator Bob
> > Echo Charlie 42
>
> Do you have any idea how fucking stupid you appear when you put
> "operator" in front of your name?
>
> Typical CB idiot. Welcome to the new Ham radio.- Hide quoted text -
>
> - Show quoted text -

Whats he supposed to put, dick licker like assembly wizard?

512. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 16:33:39 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <qZdfn.47815$7Q1.35513@newsfe14.ams2>
Source record: 10912

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:p0h8n59p7u78648sbhj52h6en5u07rnp80@4ax.com...
> On Thu, 11 Feb 2010 11:32:35 -0000, "Barett" <barett@blueyonder.co.uk>
> wrote:
>
>>I have managed to borrow a Rigexpert AA-200. Is it possible to measure the
>>impedance with a AA-200 analyser and how would I do that?
>
> Hi Barett,
>
> Pass a single, short piece of wire through your core/bead. Connect it
> to the analyzer. Read the Z. This will be enough to characterize
> your ferrite material at any frequency within the range of the AA-200.
> Now pass the wire (now longer) through your core/bead twice. Connect
> it to the analyzer. Read the Z. You should observe four times the
> earlier reading (you may have to perform complex math if the Z
> contains substantial X).
>
> Now pass the wire (now longer) through your core/bead three times.
> Connect it to the analyzer. Read the Z. You should observe nine
> times the earlier reading (you may have to perform complex math if the
> Z contains substantial X).
>
> Ferrite materials with one pass of wire will not exhibit a huge value
> such as to lead to significant error, so as you progress through
> successive passes of wire, you can be reasonably assured that the
> square law will be observed within the capacity of the analyzer at low
> HF frequencies (simply because the wire length being a significant
> portion of a wavelength can confound measurements at higher
> frequencies).
>
> The single pass test will also help to select and compare previously
> known and unknown ferrite materials.
>
> 73's
> Richard Clark, KB7QHC

Nice info how to use the AA-200. Thanks

I read on the internet while reading through all the links that I should
make sure when ordering the 2631803802 #31 that they have been coated with a
hardener. Because a ferrite ring #31 that has not been treated with hardener
will break easily because the material will be too brittle.

I have been in touch with http://gb.mouser.com and http://uk.farnell.com and they both say that there Fair-rite ring 2631803802 #31 does not come treated with any hardener.

How important is it that they should be treated with hardener and if not treated how easy are they to break?

513. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 17:37:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <KOKdncxMsO1L5-DWnZ2dnUVZ_sWdnZ2d@giganews.com>
Source record: 10913

Barett wrote:
>
> Nice info how to use the AA-200. Thanks
>
> I read on the internet while reading through all the links that I should
> make sure when ordering the 2631803802 #31 that they have been coated with a
> hardener. Because a ferrite ring #31 that has not been treated with hardener
> will break easily because the material will be too brittle.
>
> I have been in touch with http://gb.mouser.com and http://uk.farnell.com
> and they both say that there Fair-rite ring 2631803802 #31 does not come
> treated with any hardener.
>
> How important is it that they should be treated with hardener and if not
> treated how easy are they to break?
>

Don't worry about it. All ferrites are hard, brittle ceramics, but quite rugged and not easily broken. They're already harder than most steels, so I don't really believe they're ever coated with a "hardener". I've seen them coated with an epoxy type material, but assume that's to make them less porous and abrasive. It doesn't make them any easier to break.

Roy Lewallen, W7EL

514. Re: an ontopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 18:18:37 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <0d551e4d-2be6-48ee-b5c8-6f0e820711cc@f29g2000yqa.googlegroups.com>
Source record: 10914
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Feb 7, 12:15 pm, "kb9rqz" <kb9...@home.com> wrote:
> <kb9...@yahoooo.com> wrote in message
>
> news:hdg1d5dp2jkd1052m7otmq29vudhs4475u@4ax.com...
>
>
>
>
>
> > On Fri, 01 Dec 2006 09:36:47 -0800, John Smith
> > <assemblywiz...@gmail.com> wrote:
>
> >>K4YZ wrote:
> >>>   Nope.
>
> >>>   The IP Address and servers are complete proof that I do NOT share
> >>> any annonymous character's "address".
>
> >>>   Sounds like Lennie, to me....
>
> >>> Steve, K4YZ
>
> >>To anyone with even an elementary understanding of anonymous proxies,
> >>anonymous remailers, zombie backdoors, etc., the ability to change ones
> >>IP address and header details is simplistic, indeed, with little time
> >>spent anyone can appear to be "coming" from anywhere in the world.
>
> >>You waste my time. Worse, you think us all idiots here. You remind me
> >>of the "street smart" prosecutors and defense attorneys who stack jurys
> >>with members of little or no technical knowledge and then call in
> >>"expert witnesses" and propose arguments of technical details to boggle
> >>their minds.
>
> >>You have only proven that you, yourself are either ignorant to such
> >>technical details, or else you are indeed street smart, I favor the
> >>latter in this case (however, if you in the dark about such things, 15
> >>minutes on google will enlighten you.)
>
> >>JS
>
> > "one useless man is disgrace 2 become a law firm 3 or more become a
> > congress"
> > adams

>
> > woger you are a Congress all in your own head
> > "http://www.3ix.org/sys/aff.php?aff=7439" target="_blank"
>
> > altopia is never used by KB9RQZ
> >http://kb9rqz.cc.cc
> >http://kd8ctl.com
> > nor is Konst...@hotmail.com ever
> > btw i can be found at
> > 17366 N River Rd
> > Chassel Mi
>
> > but the cowards asking lack the gut to act
>
> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---- Hide quoted text
-
>
> - Show quoted text -

515. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 20:16:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hlk76phme1@news.jpl.nasa.gov>
Source record: 10916

Roy Lewallen wrote:

>
> Don't worry about it. All ferrites are hard, brittle ceramics, but quite
> rugged and not easily broken. They're already harder than most steels,
> so I don't really believe they're ever coated with a "hardener". I've
> seen them coated with an epoxy type material, but assume that's to make
> them less porous and abrasive. It doesn't make them any easier to break.
>

Yes indeed.. they're hard and brittle.. Drop one of those 2.4" toroids
off a ladder onto a concrete floor, and they break.

But other than that, they appear to be pretty tough. The ones I've
gotten don't have any mold flash or lines and are smooth surfaced.

516. Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 20:51:41 UTC
From: Tonyfrost <jupalmer@gmail.com>
Message-ID: <ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com>
Source record: 10915

Fldigi 1.2 is a popular new program for Linux and FreeBSD which
enables amateur radio operators to join their radios and their
computers at the hip and create a new kind of ham shack: a digital ham
shack. Quite amuzing:
Article: http://www.linux.com/archive/articles/59958

517. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-18 23:38:55 UTC
From: Nigel Rowe <see@signature.invalid>
Message-ID: <_bWdnRK6V5MMUuDWnZ2dnUVZ7rydnZ2d@westnet.com.au>
Source record: 10917

On Fri, 19 Feb 2010 07:51, Tonyfrost wrote in rec.radio.amateur.antenna
<<ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com>>:

> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
> enables amateur radio operators to join their radios and their
> computers at the hip and create a new kind of ham shack: a digital ham
> shack. Quite amuzing:
> Article: http://www.linux.com/archive/articles/59958

That article is dated "February 06, 2007 (8:00:00 AM)" so it's not
exactly breaking news.

Fldigi is currently at version 3.12.5, available via
<http://www.w1hkj.com/Fldigi.html>

So, what exactly is "amuzing" [sic]?

--
Nigel Rowe
A pox upon the spammers that make me write my address like..
rho (snail) fisheggs (stop) name

518. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 00:14:12 UTC
From: "D. Stussy" <spam+newsgroups@bde-arc.ampr.org>
Message-ID: <hlkl4i$fp6$1@snarked.org>
Source record: 10918

"Tonyfrost" <jupalmer@gmail.com> wrote in message
news:ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com...
> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
> enables amateur radio operators to join their radios and their
> computers at the hip and create a new kind of ham shack: a digital ham
> shack. Quite amuzing:
> Article: http://www.linux.com/archive/articles/59958

1) Written by yet another asshole who doesn't understand that "ham" is a
derrogatory term.
2) Nothing in that article is anything new, as compared to the 1990's, as
far as digital operation goes.

519. Re: Mag light corrosion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 01:00:01 UTC
From: "mark@kb9rqz.com" <frankgilligan.gilligan@gmail.com>
Message-ID: <56ccddd1-cc06-4571-8f86-9d8a1c01080c@o30g2000yqb.googlegroups.com>
Source record: 10919
Cross-posted to: rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,rec.ponds,rec.radio.amateur.antenna

On Feb 18, 9:19 am, A Paul Ing <bobandcarolesneighbort...@gmail.com>
wrote:
> On Feb 17, 7:42 pm, "Oper. Boob (he who takes it in the ass)"
>
>
>
>
>
> <KB9RQZ@gmail.com> wrote:
> > On Feb 17, 11:53 am, Bob Dobbs <Bob-Luvs-
>
> > C...@OPERATOR.BOB.SUCKS.NIGGER.COCK.com> wrote:
> > > Stormin Mormon wrote:
> > > >I recently had a battery corrode in my black
> > > >4D cell Mag light. Old style bulb, if that's
> > > >relevant.
>
> > > If you need to keep a bludgeon class light on hand,
> > > at least get one of the LED retrofit bulbs
> > > (about twenty bucks w/tax and well worth it)
>
> > > >The 4D mag light by my front door was dead. I
> > > >managed to get the tail cap off (two big pipe
> > > >wrenches) and find the bottom battery had
> > > >corroded. Brand new battery, Endurance, from
> > > >Advance Auto Parts. After considerable scrubbing
> > > >and sanding, the light works again. I'm leaving it
> > > >in peices over night to dry. Then load up with
> > > >four Rayovac cells, and a shot of grease on the
> > > >tail cap threads.
>
> > > Haven't had to relive that (used to be) common scenario in quite awhile,
> > > thanks to modern alternatives.
>
> > > >The 4D mag is my "grab and go" light, in case I
> > > >need to go some where in a hurry.
>
> > > I suggest you install a cup hook in the door frame to hang one of the Emissive
> > > Energy Inova XO3 lights from. It's not the cudgel the 4D is, but as bright if
> > > not brighter and the Li batteries outlast those old leaky "D's" by a substantial
> > > margin,
> > > IOW; light when you need it, plus will fit in your pocket.http://www.inovalight.com/x.html

>
> > > >It was only happy coincidence that I found the
> > > >corroded battery. Might have been there for
> > > >years, if I'd not needed the light for a bulb
> > > >test.
>
> > > Get the torch I suggested and consider the price as tuition
> > > so you don't have to endure a repeat during a worse case event
> > > that might be really serious.
>
> > > >Since that time, others have told me that
> > > >batteries
> > > >corrode only in D cell mags,
>
> > > BS
>
> > > >and typically the
> > > >battery next to the tail cap.
>
> > > more BS
>
> > > >Has anyone else
> > > >had this happen? Is it a common problem?
>
> > > Yes,
> > > I've had people supply me with bullshit anecdotes,
> > > if that's what you mean.
>
> > > C'mon Chris,
> > > you've been on the survival groups long enough
> > > to know better than rely on obsolete trinkets.
> > > Pack up all those parts
> > > and send them over to Gummer <g>
>
> > > --
>
> > > Operator Bob
> > > Echo Charlie 42
>
> > Do you have any idea how fucking stupid you appear when you put
> > "operator" in front of your name?
>
> > Typical CB idiot. Welcome to the new Ham radio.- Hide quoted text -
>
> >
>
> Whats he supposed to put, dick licker like assembly wizard?- Hide quoted text -
>
Well, if the arch idiot "operator Boob" called himself dick licker

he'd be confused with mopy and land-fag.

520. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 03:30:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4b7e05dc$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10920

D. Stussy wrote:
> "Tonyfrost" <jupalmer@gmail.com> wrote in message
> news:ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com...
>> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
>> enables amateur radio operators to join their radios and their
>> computers at the hip and create a new kind of ham shack: a digital ham
>> shack. Quite amuzing:
>> Article: http://www.linux.com/archive/articles/59958
>
> 1) Written by yet another asshole who doesn't understand that "ham" is a
> derrogatory term.
> 2) Nothing in that article is anything new, as compared to the 1990's, as
> far as digital operation goes.
>
>

Ham is a "derrogatory" term?

You can't spell, or run a spell check. And apparently you haven't a
clue which would indicate you aren't a ham either.

tom
K0TAR

521. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 05:12:46 UTC
From: OldbieOne <1986944@comcast.net>
Message-ID: <j47sn5t41ip8d30qqst02guumf00mtauci@4ax.com>
Source record: 10921

On Fri, 19 Feb 2010 10:38:55 +1100, Nigel Rowe <see@signature.invalid> did make me awaken from my chaotic existentialism when they didst announce:

>On Fri, 19 Feb 2010 07:51, Tonyfrost wrote in rec.radio.amateur.antenna
><<ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com>>:
>
>> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
>> enables amateur radio operators to join their radios and their
>> computers at the hip and create a new kind of ham shack: a digital ham
>> shack. Quite amuzing:
>> Article: http://www.linux.com/archive/articles/59958

There is even a complete linux live CD based on the puppy distro that has fldigi and a host of other ham software "out of the box"

There's a blog on it here
http://w3dbj.blogspot.com/2009/03/re-using-old-computer-hardware-for.html
--
OldbieOne -
The guy who tells it like it is!

522. Test - do not read

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 05:42:28 UTC
From: Al Lorona <al_lorona@agilent.com>
Message-ID: <hll8cj$8bv$1@speranza.aioe.org>
Source record: 10922

does this thing work?

523. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 05:55:30 UTC
From: dplatt@radagast.org
Message-ID: <inl157-eq5.ln1@radagast.org>
Source record: 10923

>> 1) Written by yet another asshole who doesn't understand that "ham" is a
>> derrogatory term.

>Ham is a "derrogatory" term?
>
>You can't spell, or run a spell check. And apparently you haven't a
>clue which would indicate you aren't a ham either.

Well, to give D. Stussy some credit, it's true that "ham" did start out as a derogatory term. It was used by some commercial (ship?) radio operators, back in the Olde Days, to refer to some early high-ego amateur operators who were cluttering up the airwaves with their spark-gap transmissions (long since outlawed).

The term has long since been absorbed by most of the amateur radio community as a self-deprecating term of identity and pride. It's certainly possible that some of the licensed amateur operators I know would take offense at being referred to as "a ham", but I can't recall ever hearing anyone object to it. I certainly don't mind. In fact I think it's a good thing when somebody looks at my car's license plate and says "Oh, you must be a ham!" - it says that a member of the public is at least aware of us. If the term isn't meant in an offensive way, why take offense at it?

I think the modern linguistic equivalent to the original derogatory meaning of the term would be "a lid"... and this is *not* something I would ever hope to be called with justice!

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

524. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 06:22:01 UTC
From: "D. Stussy" <spam+newsgroups@bde-arc.ampr.org>
Message-ID: <hllam3$iq1$1@snarked.org>
Source record: 10924

```
"tom" <news4792@taring.org> wrote in message
news:4b7e05dc$0$50145$8046368a@newsreader.iphouse.net...
> D. Stussy wrote:
> > "Tonyfrost" <jupalmer@gmail.com> wrote in message
> >
news:ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com...
> >> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
> >> enables amateur radio operators to join their radios and their
> >> computers at the hip and create a new kind of ham shack: a digital ham
> >> shack. Quite amuzing:
> >> Article: http://www.linux.com/archive/articles/59958
> >
> > 1) Written by yet another asshole who doesn't understand that "ham" is
a
> > derrogatory term.
> > 2) Nothing in that article is anything new, as compared to the 1990's,
as
> > far as digital operation goes.
> >
> >
>
> Ham is a "derrogatory" term?
>
> You can't spell, or run a spell check. And apparently you haven't a
> clue which would indicate you aren't a ham either.

There's no requirement to run a "speling-chek" on any Usenet article.

Ham: Correct - I'm NOT a "ham." I'm a licensed amateur radio operator.

In addition to the historical meaning recognized by another response,
there's another relevent meaning: Have you noticed that many operators are
not only overweight but actually obese. Maybe they are "hams" - they
certainly are pigs! Their fat proves such.
```

525. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 06:24:39 UTC
From: rgc@nodomain.none
Message-ID: <7en157x178.ln2@dog.did.it>
Source record: 10925

<4b7e05dc$0$50145$8046368a@newsreader.iphouse.net>,
tom <news4792@taring.org> writes:
>
> Ham is a "derrogatory" term?

Tony Hancock - The Radio Ham:

<http://www.youtube.com/watch?v=8mEiM0DyVBI>
<http://www.youtube.com/watch?v=XWuXsDj_ppI&feature=related>
<http://www.youtube.com/watch?v=9IcN2_a_GgA&feature=related>

526. Re: FT200-2 RF Toroid RF Choke

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 07:42:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D24BE3D43AD8nonenowhere@61.9.191.5>
Source record: 10926

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:hlk76phme1@news.jpl.nasa.gov:

...
> Yes indeed.. they're hard and brittle.. Drop one of those 2.4" toroids
> off a ladder onto a concrete floor, and they break.

Or, put two of them loose and with not protection in the post.

Actually, the easiest way I have found to chip them is to thread them on coax for a W2DU balun, and let them fall just a couple of inches (hang on, we are metric, that would be 50.8mm).

Owen

527. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 09:35:04 UTC
From: Claude Frantz <Claude.Frantz@unibw.de>
Message-ID: <hllm08res1@news.mixmin.net>
Source record: 10927

On 02/19/2010 06:12 AM, OldbieOne wrote:

> There's a blog on it here
> http://w3dbj.blogspot.com/2009/03/re-using-old-computer-hardware-for.html

If you want to use fldigi, it's probably not a good idea to use any old computer.

528. Re: an otnopic post about code

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 14:40:07 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <0d551e4d-2290f-48ee-b5c8-6f0e820711cc@f29g2000yqa.googlegroups.com>
Source record: 10928
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.policy,rec.radio.amateur.antenna

gte kelp.

529. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 16:40:58 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hlmeuq$cs08$1@tr22n12.aset.psu.edu>
Source record: 10929

D. Stussy wrote:
> "tom" <news4792@taring.org> wrote in message
> news:4b7e05dc$0$50145$8046368a@newsreader.iphouse.net...
>> D. Stussy wrote:
>>> "Tonyfrost" <jupalmer@gmail.com> wrote in message
>>>
> news:ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com...
>>>> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
>>>> enables amateur radio operators to join their radios and their
>>>> computers at the hip and create a new kind of ham shack: a digital ham
>>>> shack. Quite amuzing:
>>>> Article: http://www.linux.com/archive/articles/59958
>>> 1) Written by yet another asshole who doesn't understand that "ham" is
> a
>>> derrogatory term.
>>> 2) Nothing in that article is anything new, as compared to the 1990's,
> as
>>> far as digital operation goes.
>>>
>>>
>> Ham is a "derrogatory" term?
>>
>> You can't spell, or run a spell check. And apparently you haven't a
>> clue which would indicate you aren't a ham either.
>
> There's no requirement to run a "speling-chek" on any Usenet article.
>
> Ham: Correct - I'm NOT a "ham." I'm a licensed amateur radio operator.
>
>
> In addition to the historical meaning recognized by another response,
> there's another relevent meaning: Have you noticed that many operators are
> not only overweight but actually obese. Maybe they are "hams" - they
> certainly are pigs! Their fat proves such.

Here we go again. I'd rather be super fat than be an ignnorant fellow
that thinks that weight is a metric of worth.

And seriously, if you have such a problem with being called a Ham, there
are classes and counseling available to improve your "self worth" image.

Then you might not be so touchy or feel the need to denigrate the obese.

- Mike N3LI -

530. Re: Mag light corrosion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 17:06:57 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <78c0adbf-37e7-48a1-956d-9839bb593315@c22g2000vbb.googlegroups.com>
Source record: 10930
Cross-posted to: rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,rec.ponds,rec.radio.amateur.antenna

On Feb 18, 8:00 pm, "m...@kb9rqz.com"
<frankgilligan.gilli...@gmail.com> wrote:
>
grow up fake

531. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 17:58:40 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9D2479D82EC86VeebleFetzer@216.250.188.140>
Source record: 10931

In news:hlkl4i$fp6$1@snarked.org "D. Stussy"
<spam+newsgroups@bde-arc.ampr.org> wrote:

> 1) Written by yet another asshole who doesn't understand that "ham"
> is a derrogatory term.

Derrogatory [sic]?

Oh! That explains why "Ham Radio Magazine" had to stop publishing after
only 22 years.

--
Bert Hyman St. Paul, MN bert@iphouse.com

532. Beverag antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 18:05:35 UTC
From: ai8o <ai8o@lexcominc.net>
Message-ID: <0f0e05b5-0e5c-4971-847a-8fa6b17315df@j27g2000yqn.googlegroups.com>
Source record: 10932

Can anyone direct me to webpages that discuss the design and
installation of beverage antennae?

533. Re: Beverag antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 18:20:13 UTC
From: rgc@nodomain.none
Message-ID: <tb1357x6bo.ln2@dog.did.it>
Source record: 10933

<0f0e05b5-0e5c-4971-847a-8fa6b17315df@j27g2000yqn.googlegroups.com>,
ai8o <ai8o@lexcominc.net> writes:
>
> Can anyone direct me to webpages that discuss the design and
> installation of beverage antennae?

<http://www.google.ch/search?source=ig&hl=en&rlz=&=&q=beverage+antennae&btnG=Google+Search
&meta=lr%3D&aq=&oq=>

Results 1 - 10 of about 714,000 for beverage antennae. (0.29 seconds)q

1. Beverage Antenna Construction
3. Beverage : Antennas: Beverage
4. design
...

534. Re: Beverag antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 18:51:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <c_2dne_h-LBYQOPWnZ2dnUVZ_shi4p2d@giganews.com>
Source record: 10934

I recommend http://w8ji.com/beverages.htm and http://w8ji.com/receiving.htm.

Roy Lewallen, W7EL

535. Re: Mag light corrosion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 19:00:44 UTC
From: A Paul Ing <bobandcarolesneighbortynk@gmail.com>
Message-ID: <7925b7be-641a-4a9f-8a3c-edf2482acbdf@g8g2000pri.googlegroups.com>
Source record: 10935
Cross-posted to: rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,rec.ponds,rec.radio.amateur.antenna

On Feb 19, 11:06 am, kb9rqz <m...@kb9rqz.com> wrote:
> On Feb 18, 8:00 pm, "m...@kb9rqz.com"<frankgilligan.gilli...@gmail.com> wrote:
>
> grow up fake

Here dude, this thing between my legs is growing, want to see if you
can take it down for me? That way I can vouch for your expertise at
dick sucking!

Assemblywizard Rules!

536. Re: Mag light corrosion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-19 19:45:37 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <3e816488-aecb-41ff-9c71-783129c5e6ec@b18g2000vbl.googlegroups.com>
Source record: 10936
Cross-posted to: rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,rec.ponds,rec.radio.amateur.antenna

On Feb 19, 12:06 pm, kb9rqz <m...@kb9rqz.com> wrote:
> On Feb 18, 8:00 pm, "m...@kb9rqz.com"<frankgilligan.gilli...@gmail.com> wrote:
>
> grow up fake

537. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-20 00:18:49 UTC
From: "D. Stussy" <spam+newsgroups@bde-arc.ampr.org>
Message-ID: <hln9p1vb1@snarked.org>
Source record: 10937

```
"Michael Coslo" <mjc5@psu.edu> wrote in message
news:hlmeuq$cs08$1@tr22n12.aset.psu.edu...
> D. Stussy wrote:
> > "tom" <news4792@taring.org> wrote in message
> > news:4b7e05dc$0$50145$8046368a@newsreader.iphouse.net...
> >> D. Stussy wrote:
> >>> "Tonyfrost" <jupalmer@gmail.com> wrote in message
> >>>
> >
news:ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com...
> >>>> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
> >>>> enables amateur radio operators to join their radios and their
> >>>> computers at the hip and create a new kind of ham shack: a digital
ham
> >>>> shack. Quite amuzing:
> >>>> Article: http://www.linux.com/archive/articles/59958
> >>> 1) Written by yet another asshole who doesn't understand that "ham"
is
> > a
> >>> derrogatory term.
> >>> 2) Nothing in that article is anything new, as compared to the
1990's,
> > as
> >>> far as digital operation goes.
> >>>
> >>>
> >> Ham is a "derrogatory" term?
> >>
> >> You can't spell, or run a spell check. And apparently you haven't a
> >> clue which would indicate you aren't a ham either.
> >
> > There's no requirement to run a "speling-chek" on any Usenet article.
> >
> > Ham: Correct - I'm NOT a "ham." I'm a licensed amateur radio
operator.
> >
> >
> > In addition to the historical meaning recognized by another response,
> > there's another relevent meaning: Have you noticed that many operators
are
> > not only overweight but actually obese. Maybe they are "hams" - they
> > certainly are pigs! Their fat proves such.
>
> Here we go again. I'd rather be super fat than be an ignnorant fellow
```

> that thinks that weight is a metric of worth.
>
> And seriously, if you have such a problem with being called a Ham, there
> are classes and counseling available to improve your "self worth" image.

No one calls me a ham. They know better. They are not ignorant.

> Then you might not be so touchy or feel the need to denigrate the obese.

You haven't seen my local licenseholder population. When one exceeds 300
pounds, what would you call them? Thin?

538. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-20 04:15:52 UTC
From: tom <news4792@taring.org>
Message-ID: <4b7f61ed$0$50146$8046368a@newsreader.iphouse.net>
Source record: 10938

D. Stussy wrote:

>
> There's no requirement to run a "speling-chek" on any Usenet article.
>
> Ham: Correct - I'm NOT a "ham." I'm a licensed amateur radio operator.
>
>
> In addition to the historical meaning recognized by another response,
> there's another relevent meaning: Have you noticed that many operators are
> not only overweight but actually obese. Maybe they are "hams" - they
> certainly are pigs! Their fat proves such.
>
>

I'm a ham.

I do public service.

I have elmer'd 6 new hams so far. And I expect to do more.

I've done hundreds of hours of public service.

I've done work which enhanced the art, at least a little.

What does weight have to do with anything I mentioned? What would it
have to do with those "hams" that showed up by the dozens ON SITE during
Katrina?

expletive deleted

tom
K0TAR

539. Horward Stern replacing Simon Cowell!!!!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-20 16:55:07 UTC
From: Tonyfrost <jupalmer@gmail.com>
Message-ID: <8cc6f4a8-6ada-4f3f-a31d-b848b82e4b6c@m37g2000yqf.googlegroups.com>
Source record: 10939

I new this was gonna happen sooner or later,,,,,,,,,,,, read full
article

http://www.radaronline.com/exclusives/2010/02/report-idol-producers-courting-howard-stern-replace-simon-cowell

540. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-20 17:56:43 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <HamdnVySpqbFvx3WnZ2dnUVZ_tWdnZ2d@bright.net>
Source record: 10940

Dear Group:

Words often communicate different things to different people - perhaps
because of their background. I would never describe a licensed radio
amateur as a "ham" unless his/her behavior justified that tag.

Obviously, each reader has a different background and thus their reaction to
the use of "ham" is expected to be different. Let us not reject outright
the interpretation of others just because their interpretation is different.

73, Mac N8TT
--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net

541. Re: What The Hell Happened?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-20 23:55:45 UTC
From: Eric TEH Onion <eric.onionberg@gmail.com>
Message-ID: <962d4811-365a-4314-89a5-51ceff17aa19@l26g2000yqd.googlegroups.com>
Source record: 10941
Cross-posted to: rec.radio.amateur.antenna,rec.radio.cb,alt.usenet.kooks,rec.radio.amateur.policy,misc.legal

On Feb 20, 12:33 pm, n7zzt <eric.o...@gmail.com> wrote:
> On Feb 12, 1:09 pm, Eric <patsfan1...@gmail.com> wrote:
>
> > On Feb 11, 1:42 pm, GAhunter <ga.resa...@gmail.com> wrote:
>
> > Well look at the state of cb radio itself. most of the same bull thats
> > posted on this site is also spewed over the air by shameles users. its
> > a fact that we will all have to deal with with the state of the
> > internet and radio today
>
> it is particularly bad here in the phoenix area. you have some of the
> channel 19 crowd that
> "dis" truckers for whatever reasons (I'd repeat the words, but then
> I'd have to wash my
> hands after wards). Some of them even run upwards of 2 kilowatts and
> more and don't care what
> they are doing to their neighbors equipment or the adjacent bands that
> other users might be using.
>
> This mentality is not strictly limited to the 11 meter band either. we
> have it (in a much smaller fashion) in
> ham radio (and it exists in commercial radio and TV). It all goes to
> one simple problem: the stupid have
> a much higher reproduction rate than the intelligent do.

well,well,well.....if it isn't n7zzt the cb rat.

whats the matter shit stain, they got tired of your crying over on
qrz ?

you're a piece of shit, eric.

542. 'Hams', was Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-21 00:06:17 UTC
From: gwatts <gwatts@frontiernet.net>
Message-ID: <ZN_fn.1458$mn6.514@newsfe07.iad>
Source record: 10942

J. Mc Laughlin wrote:
> Dear Group:
>
> Words often communicate different things to different people - perhaps
> because of their background. I would never describe a licensed radio
> amateur as a "ham" unless his/her behavior justified that tag.

I have commercial licenses, have quite a bit of education, experience
and make my living in various aspects of radio, should I be offended
when referred to as an 'amateur'?

> Obviously, each reader has a different background and thus their reaction to
> the use of "ham" is expected to be different.

Context is a clue but comprehension is the responsibility of the reader.
If offense is taken but not intended whose problem should that be?

> Let us not reject outright
> the interpretation of others just because their interpretation is different.

That goes for the writer as well as the reader.

My advice: Start with context and comprehension, because there are more
worthy things to get upset about.

Of all the groups I interact with the radio crowd is the last I'd ever
thought would get all Politically Correct.

543. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-21 00:30:55 UTC
From: ai8o <ai8o@lexcominc.net>
Message-ID: <95363e5e-1c3a-410b-80f8-4c14666ce59a@x22g2000yqx.googlegroups.com>
Source record: 10943

On Feb 14, 4:33 am, phaedrus <orion.osi...@virgin.net> wrote:
> Hi again,
>
> Well I have read your informative replies on the problems with making
> a low Zo twin feed with much interest. Clearly it's not really a
> practical proposition. Shame.
>
> So the obvious question is: why are transmitters normalised to 50 ohms
> when clearly 450 ohms would enable us to enjoy cheaper, do-it-
> yourself, lower loss feeders? Was this some oversight at the time, or
> good practice for some obscure reason that I simply cannot think of?

The RG8 (and RG58 RG6 RG 56) standards were developed during WW2 as US military standards.
The RG8 52 OHM feedline standard goes back to the original RG8 MIL SPEC, which has long since been abandoned.

The demand for COAX cable during the early days of WW2 FAR outstripped the existing manufacturing capacity.

RG8, given the existing constraints on the amount and type of available matierials available and the volume needed; was deemed the most economical and easiest to produce.

HENCE RG8's impedance (52 ohms) became the standard.

Many RF devices outputs and and RF connectors were harmonised to work easily with RG8 cables.

Several factors have led to 52 ohms CONTINUING IN USE FOR ALL THESE YEARS:

1)Because of the large installed base of RF devices, after WW2 52 ohms became the de facto standard.
2) large numbers of RG8 compatible connectors and accessories are available.
3) RG8 cable does not "leak" RF like 450 open ladder feedlines, consequently,several cables of the RG8 family can be run physically close to reach other without encountering cross talk problems.
4) RG8 cable is easier the thread through contricted spaces like bulkheads and walls.
5) RG8 is physically more rubust than 450 ohm ladder line

544. Re: Horward Stern replacing Simon Cowell!!!!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-21 10:36:09 UTC
From: TJ <nospam@virgin.com>
Message-ID: <hlr2au$1ug$1@news.eternal-september.org>
Source record: 10944

"Tonyfrost" <jupalmer@gmail.com> wrote in message
news:8cc6f4a8-6ada-4f3f-a31d-b848b82e4b6c@m37g2000yqf.googlegroups.com...
>I new this was gonna happen sooner or later,,,,,,,,,,,, read full
> article
>

No thanks, you give us your opinio from what you have read.
People post far too many links they think are great or important, it would
take days.

545. Re: Zepp antenna the ultimate OCF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-21 20:07:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <15f54276-2a0d-4cd1-b200-800d1d1ca84f@g19g2000yqe.googlegroups.com>
Source record: 10945

On Feb 17, 9:22 pm, Cecil Moore <w5...@hotmail.com> wrote:

Here's a graphic that might shed some photons on the subject:

http://www.w5dxp.com/ZeppCrnt.JPG
--
73, Cecil, w5dxp.com

546. long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-21 21:04:49 UTC
From: Jeff D <djdieterle@hughes.net>
Message-ID: <1ehgn.267718$o06.4061@en-nntp-08.dc1.easynews.com>
Source record: 10946

Trying to improve my reception from Chicago with baseball season approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from my radio across the attic and outdoors to a tree. I had maybe 10 extra feet of coax so I wrapped it around the tree. I strung about 50' of #9 steel wire between 2 trees going east/west about 15' above ground and attached the copper conductor to it. I terminated the coax shield at the tree with a ground rod. At the radio I attached the shield to the ground terminal and the center cu conductor to the other am external antenna terminal.
It greatly improved my reception I get all the major Chicago sports channels, but the one I was most interested in 670 is the worst. What all did I do wrong and what can I do to improve 670?

547. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-21 23:06:14 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <046f261a-06bd-42a5-a9ad-124e46b8916c@b7g2000yqd.googlegroups.com>
Source record: 10947

On Feb 21, 4:04 pm, "Jeff D" <djdiete...@hughes.net> wrote:
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from
> my radio across the attic and outdoors to a tree. I had maybe 10 extra feet
> of coax so I wrapped it around the tree. I strung about 50' of #9 steel wire
> between 2 trees going east/west about 15' above ground and attached the
> copper conductor to it. I terminated the coax shield at the tree with a
> ground rod. At the radio I attached the shield to the ground terminal and
> the center cu conductor to the other am external antenna terminal.
> It greatly improved my reception I get all the major Chicago sports
> channels, but the one I was most interested in 670 is the worst. What all
> did I do wrong and what can I do to improve 670?

When I was a kid I tried to pick up a 50Kwatt station that was about
100 miles away. I lliked the station because it always played the
music I liked while none of the local stations did. If I was 30 miles
south or east of my location I could pick it up fine on the car radio.
No antenna I tried worked reliably from my home. It was just too far
away.

Jimmie

Jimmie

548. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 03:39:00 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <fdOdnUzVb6jNYRzWnZ2dnUVZ_oGdnZ2d@bright.net>
Source record: 10948

Dear Jeff D (no call sign):

WSCR 670 kHz appears to be sports station - as you suggested. It streams audio on the internet at:
http://radiotime.com/station/s_22732/670_The_Score.aspx

It is a 50 kW station with a nondirectional antenna. I had thought that it might have a dip in your direction, which would explain why is was especially weak.

In the AM broadcast band it is expected that the SNR (signal to noise ratio) is externally determined when using some sort of antenna, which includes what you described. In other words, you have not done anything wrong - the probability is that the signal is too weak. Of course, if you have the room for one or two km of beverage antenna pointing at Chicago, the results might change, but I doubt it.

73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"Jeff D" <djdieterle@hughes.net> wrote in message
news:1ehgn.267718$o06.4061@en-nntp-08.dc1.easynews.com...
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from
> my radio across the attic and outdoors to a tree. I had maybe 10 extra
> feet of coax so I wrapped it around the tree. I strung about 50' of #9
> steel wire between 2 trees going east/west about 15' above ground and
> attached the copper conductor to it. I terminated the coax shield at the
> tree with a ground rod. At the radio I attached the shield to the ground
> terminal and the center cu conductor to the other am external antenna
> terminal.
> It greatly improved my reception I get all the major Chicago sports
> channels, but the one I was most interested in 670 is the worst. What all
> did I do wrong and what can I do to improve 670?

549. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 03:45:03 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2a7e0e3a-26ce-4058-9c54-5715433ab8cc@g26g2000yqn.googlegroups.com>
Source record: 10949

Model of 2 element multi polarization.

http://users.sdsc.edu/~unwin/art/Picture6.png
http://users.sdsc.edu/~unwin/art/Picture7.png
http://users.sdsc.edu/~unwin/art/Picture10.png
http://users.sdsc.edu/~unwin/art/Picture11.png

550. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 04:40:49 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <lVngn.9128$pv.4546@news-server.bigpond.net.au>
Source record: 10950

Jeff,
How about finding a circuit for a pre amplifier for the MW band and building it, I am sure that will make a difference, but if there is a strong or a local station, it may swamp the receiver, but then you could construct a trap.

Over here one can receive AM stations at that distance during the day, but I guess it depends on how my RF crud there is in your area..

Two questions, what is the power of the station you are trying to receive? What type of a receiver are you using?

Another thought is to decrease your coax length and increase the amount of bare wire, more wire in the air the better.

John

"Jeff D" <djdieterle@hughes.net> wrote in message
news:1ehgn.267718$o06.4061@en-nntp-08.dc1.easynews.com...
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from
> my radio across the attic and outdoors to a tree. I had maybe 10 extra
> feet of coax so I wrapped it around the tree. I strung about 50' of #9
> steel wire between 2 trees going east/west about 15' above ground and
> attached the copper conductor to it. I terminated the coax shield at the
> tree with a ground rod. At the radio I attached the shield to the ground
> terminal and the center cu conductor to the other am external antenna
> terminal.
> It greatly improved my reception I get all the major Chicago sports
> channels, but the one I was most interested in 670 is the worst. What all
> did I do wrong and what can I do to improve 670?
>

551. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 05:18:19 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3h44o512f96ebbg1mi2tdet97st0ui5h5a@4ax.com>
Source record: 10751

On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
<arthurunwin@gmail.com> wrote:

>Model of 2 element multi polarization.
>http://users.sdsc.edu/~unwin/art/Picture6.png
>http://users.sdsc.edu/~unwin/art/Picture7.png
>http://users.sdsc.edu/~unwin/art/Picture10.png
>http://users.sdsc.edu/~unwin/art/Picture11.png

I don't see a model. There is no .EZ, .GAA, .N4W or .NEC file for me
to play with and tear apart. I can't even tell what the antenna looks
like from what you've posted.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

552. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 05:44:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <55d177a7-8a4e-4c2d-bdcf-bd3d1b7e33da@f8g2000yqn.googlegroups.com>
Source record: 10752

On Feb 21, 11:18 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
>
> <arthurun...@gmail.com> wrote:
> >Model of 2 element multi polarization.
> >http://users.sdsc.edu/~unwin/art/Picture6.png
> >http://users.sdsc.edu/~unwin/art/Picture7.png
> >http://users.sdsc.edu/~unwin/art/Picture10.png
> >http://users.sdsc.edu/~unwin/art/Picture11.png
>
> I don't see a model. There is no .EZ, .GAA, .N4W or .NEC file for me
> to play with and tear apart. I can't even tell what the antenna looks
> like from what you've posted.
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

You have two elements each located with x,y and z co ordinates at
each end, so you make your own file to suit the program you intend to
use or is available.
Surely you can model anything if you know the end locations of the
elements. If you are unable to do that then may be it is better that
you don't. There are to many programs around for me to make files for
every body and every program that is available so I supplied x,y,z co
ordinates which every body can translate.These are the points you
should look for to determine what the antenna looks like. Either way I
have supplied the results to save you the work.

553. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 08:38:59 UTC
From: nm5k@wt.net
Message-ID: <32f0fb92-c484-47ab-8970-d4311a1485f4@g10g2000yqh.googlegroups.com>
Source record: 10753

On Feb 21, 3:04 pm, "Jeff D" <djdiete...@hughes.net> wrote:
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from
> my radio across the attic and outdoors to a tree. I had maybe 10 extra feet
> of coax so I wrapped it around the tree. I strung about 50' of #9 steel wire
> between 2 trees going east/west about 15' above ground and attached the
> copper conductor to it. I terminated the coax shield at the tree with a
> ground rod. At the radio I attached the shield to the ground terminal and
> the center cu conductor to the other am external antenna terminal.
> It greatly improved my reception I get all the major Chicago sports
> channels, but the one I was most interested in 670 is the worst. What all
> did I do wrong and what can I do to improve 670?

I suspect you would be much better off using a small receiving loop.
But there are many variables such as time of day, etc.
For instance good reception of that station 100 miles away should be
a piece of cake in the daytime if you used a loop, and using ground
wave reception. A random wire is usually not the best antenna for
such a case. You have no way to null out unwanted stations.
At night, things change quite drastically, and you may or may not
have good reception due to additional interference from skywave
stations. But even at night, I think you would have the best results
using a loop vs a random wire. The ground wave never changes from
day to night. It's always the same. But the sky wave stations will
constantly be changing, and those are the ones that will ruin your
ground wave reception of the desired station.
The trick will be to reduce the reception of the offending stations
down to a point to where you can cull out the ground wave from
670. If you can do that, the reception of 670 should be fairly
reliable.
I know I generally have no problem doing this with stations 100-200
miles away, assuming they have the power and pattern to have
a decent ground wave signal at your location. And if 670 is a
50KW non directional as one claims, it should be fairly easy.

I remember doing a test comparing small loops to larger
verticals and horizontal wire antennas. You might find this
interesting. The audio files are still on my server, and you
can actually listen to the difference between the various
antennas as I switch between them.
Also the frequencies I'm using are also in the lower end of
the MW band.

Quote from old post..

> I have this feeling I don't know what I am supposed to experience from a
> working loop.

> Anyone have a mp3 file which can show what happens using a loop?

Here is one I did in 2002 comparing my 16 inch circle loop
vs my T vertical on the BC band.

I did a few quick comparisons between a 16 inch loop, and my "T"
vertical, which is about 42 ft tall, with a 120 ft long flat top wire.
It's pretty hot on MW. The radio was my ic-706mk2g. I'll let the
recordings speak for themselves.
You can click on the URL for the sound files, and your media player
"should" bring them right up and start playing. Hopefully anyway...

I did three tests, on three different frequencies, at different times
in the evening. I'm in Houston, and used mainly San Antonio as the
"target" city. "good 200 miles away" I recorded each test. I did
compress the audio greatly to save d/l time, but the audio is still
good enough to tell which is best. The files are pretty small and will
d/l quickly. They were huge files in the original sample rate and
format...I will "narrate" each test, so you will know which antenna
was used, and the exact times I switched. You can use the counter in
the media player to keep track of the time.

Test #1 was at about 7:30 PM on 550 kc.
http://home.comcast.net/~nm5k/mwtest1.mpeg
"Time in seconds"
0-13 -----loop
13-26 -----wire
26-38 -----loop
At 38 seconds I nulled the station, so you can hear the null.
46 -----loop, back pointed to the station
57-69 -----wire
69-end -----loop

Test #2 was at about 8:00 PM on 680 kc.
http://home.comcast.net/~nm5k/mwtest2.mpeg
"Time in seconds"
0-11 -----loop
11-23 -----wire
At 37 seconds I nulled the station
46 -----back pointed to the station
55-67 -----wire
67-end -----loop

Test #3 was at about 9:00 PM on 570 kc. Multiple stations on this
freq...
http://home.comcast.net/~nm5k/mwtest3.mpeg
"Time in seconds"

0-10 ----loop
10-23 ----wire
23-37 ----loop
37-48 ----wire
At 62 seconds, I turn the loop 90 degrees to get a totally different
station.
At 74, I turned back to the first station.
85 ----turned back to 2nd station again
91 ----back to the first

Here is another one on the BC where I turn the loop to null the
station.
http://home.comcast.net/~nm5k/mwtest4.mpeg
At first the station is nulled, and you can hear
a Mexican station in the background. At about 12 seconds,
I turn to the desired station. At 20 seconds I switch to
the T vertical. At 30 seconds I go back to the loop.
At 40 seconds, I null the station again.

End of old post..

Anyway, I'd try a MW loop.. It's going to be your
best bet.
One fairly simple design using PVC for the frame..
http://home.comcast.net/~nm5k/loop5.jpg

554. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 11:44:50 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <hltqni$ns1$1@ra.nrl.navy.mil>
Source record: 10754

On 2/22/2010 3:38 AM, nm5k@wt.net wrote:
> On Feb 21, 3:04 pm, "Jeff D"<djdiete...@hughes.net> wrote:
>> Trying to improve my reception from Chicago with baseball season
>> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from
>> my radio across the attic and outdoors to a tree. I had maybe 10 extra feet
>> of coax so I wrapped it around the tree. I strung about 50' of #9 steel wire
>> between 2 trees going east/west about 15' above ground and attached the
>> copper conductor to it. I terminated the coax shield at the tree with a
>> ground rod. At the radio I attached the shield to the ground terminal and
>> the center cu conductor to the other am external antenna terminal.
>> It greatly improved my reception I get all the major Chicago sports
>> channels, but the one I was most interested in 670 is the worst. What all
>> did I do wrong and what can I do to improve 670?
>
> I suspect you would be much better off using a small receiving loop.
> But there are many variables such as time of day, etc.
> For instance good reception of that station 100 miles away should be
> a piece of cake in the daytime if you used a loop, and using ground
> wave reception.

Hello, and a loop should be worthwhile. I've seen folks selling MW
receiving loops at Hamfests that consisted of a requisite number of
turns installed inside a plastic (mini hula-hoop) loop with a variable
capacitor for tuning. These loops were intended to work with a portable
radio (the radio is placed inside the loop). It is remarkable how the
sensitivity of a cheap portable radio is increased by the addition of a
simple tuned loop. This configuration should allow usable reception of
a 50kW AM station 100 mi. distant. BTW, the WSCR AM 670 website
indicates they also stream on the web. Sincerely, and 73s from N4GGO,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

555. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 11:51:53 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <ad0b8d6b-854b-4680-8b5f-d9601e39c971@o30g2000yqb.googlegroups.com>
Source record: 10755

On Feb 21, 3:04 pm, "Jeff D" <djdiete...@hughes.net> wrote:
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. <snip> What
> all did I do wrong and what can I do to improve 670?

WSCR is a "Class A" 50 kW, omnidirectional station with no other stations close enough geographically to cause co-channel interference to their daytime groundwave signal even 150 miles from their transmit site (at 41 56 North, 88 04 West). They use a 182-degree vertical radiator.

The FCC's groundwave propagation curves for WSCR show that about a 2 millivolt/meter field intensity should exist at your location maybe 110 miles away, over the 8 mS/m ground conductivity for that path. Normally that field intensity should provide fairly noise-free reception even on an inexpensive, indoor clock radio. Other things equal, your daytime reception quality should be nearly identical for WSCR and WGN (720 kHz).

You might try using a vertically-polarized receive antenna, as that is the polarization being broadcast. It doesn't need to be high above the earth - in fact the lower end of it can be nearly touching the earth and connect to the center conductor of your coax, with the coax shield going to a good r-f ground. The required protection from nearby lightning strikes should be used with it if it installed outside.

The loop antennas suggested by others may work well, as they are vertically polarized for the E-field (as is the loopstick of a typical consumer-type AM broadcast receiver).

One other possibility is that a local noise source produces more interference for you on 670 kHz than on the other channels you're trying to receive. That will take some investigation.

Good luck,

RF

556. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 13:54:43 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <b3b70ab1-5dde-4a90-928f-1876f723b157@d2g2000yqa.googlegroups.com>
Source record: 10756

On Feb 22, 5:51 am, Richard Fry wrote:

> The loop antennas suggested by others may work well, as they are
> vertically polarized for the E-field (as is the loopstick of a typical
> consumer-type AM broadcast receiver).

To correct myself, loopsticks respond to the magnetic field of an EM
wave -- which, for vertical polarization, lie in the horizontal plane.

557. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 15:27:18 UTC
From: Jitt <tser827@yahoo.com>
Message-ID: <MPG.25ec4233421c72f29896e3@news.bcsupernet.com>
Source record: 10757

In article <1ehgn.267718$o06.4061@en-nntp-
08.dc1.easynews.com>, djdieterle@hughes.net says...
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from
> my radio across the attic and outdoors to a tree. I had maybe 10 extra feet
> of coax so I wrapped it around the tree. I strung about 50' of #9 steel wire
> between 2 trees going east/west about 15' above ground and attached the
> copper conductor to it. I terminated the coax shield at the tree with a
> ground rod. At the radio I attached the shield to the ground terminal and
> the center cu conductor to the other am external antenna terminal.
> It greatly improved my reception I get all the major Chicago sports
> channels, but the one I was most interested in 670 is the worst. What all
> did I do wrong and what can I do to improve 670?
>
>
Try disconnecting the ground rod at the tree and connect
the braid of the coax to the antenna input. Ground the
radio.

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

558. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 15:36:22 UTC
From: Jeff D <djdieterle@hughes.net>
Message-ID: <9wxgn.350017$H15.77053@en-nntp-02.dc1.easynews.com>
Source record: 10758

"Jitt" <tser827@yahoo.com> wrote in message
news:MPG.25ec4233421c72f29896e3@news.bcsupernet.com...
> In article <1ehgn.267718$o06.4061@en-nntp-
> 08.dc1.easynews.com>, djdieterle@hughes.net says...
>> Trying to improve my reception from Chicago with baseball season
>> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6
>> from
>> my radio across the attic and outdoors to a tree. I had maybe 10 extra
>> feet
>> of coax so I wrapped it around the tree. I strung about 50' of #9 steel
>> wire
>> between 2 trees going east/west about 15' above ground and attached the
>> copper conductor to it. I terminated the coax shield at the tree with a
>> ground rod. At the radio I attached the shield to the ground terminal
>> and
>> the center cu conductor to the other am external antenna terminal.
>> It greatly improved my reception I get all the major Chicago sports
>> channels, but the one I was most interested in 670 is the worst. What all
>> did I do wrong and what can I do to improve 670?
>>
>>
> Try disconnecting the ground rod at the tree and connect
> the braid of the coax to the antenna input. Ground the
> radio.
>
> --- news://freenews.netfront.net/ - complaints: news@netfront.net ---

Thanks for all the replies and help. I did try grounding at the radio but I disconnected the shield at the radio not out at the outdoor connection. I'll try Jitt's suggestion. I've goggled around on constructing a loop antenna and it looks do-able for me so I may try that.
Most of the information I used to construct the long wire came from this link http://www.hard-core-dx.com/nordicdx/antenna/lab/coupler.html the author also describes a coupler which I may attempt if I can scrounge the parts unless anyone knows if something like that is available commercially.
Also could somebody recommend a lighting arrestor that would work with the RG-6 male and female connectors where the long wire connects to the coax.

559. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 18:48:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <RIadnUy0EIcITB_WnZ2dnUVZ_oednZ2d@giganews.com>
Source record: 10759

Jeff D wrote:
>
> Thanks for all the replies and help. I did try grounding at the radio
> but I disconnected the shield at the radio not out at the outdoor
> connection. I'll try Jitt's suggestion. I've goggled around on
> constructing a loop antenna and it looks do-able for me so I may try that.
> Most of the information I used to construct the long wire came from this
> link http://www.hard-core-dx.com/nordicdx/antenna/lab/coupler.html the
> author also describes a coupler which I may attempt if I can scrounge
> the parts unless anyone knows if something like that is available
> commercially. Also could somebody recommend a lighting arrestor that
> would work with the RG-6 male and female connectors where the long wire
> connects to the coax.

Fiddling with the long wire, couplers, and tuners will change both the signal and noise by the same amount, which won't help you at all. You might as well turn your volume control up and down. A loop, however, gives you the ability to improve the signal to noise ratio by decreasing the noise from some directions, so you can hear the station better.

Roy Lewallen, W7EL

560. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 18:54:19 UTC
From: Steve Stone <n2ubp@hotmail.com>
Message-ID: <hlujt1uba1@news.eternal-september.org>
Source record: 10760

What make/model radio are you using?

If you have an option to tune in broadcast band AM stations using SSB
(sideband)
you may improve reception at the cost of limiting audio quality.

Steve

561. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 19:43:58 UTC
From: Jeff D <djdieterle@hughes.net>
Message-ID: <h8Bgn.350676$H15.205000@en-nntp-02.dc1.easynews.com>
Source record: 10761

"Steve Stone" <n2ubp@hotmail.com> wrote in message
news:hlujt1uba1@news.eternal-september.org...
> What make/model radio are you using?
>
> If you have an option to tune in broadcast band AM stations using SSB
> (sideband)
> you may improve reception at the cost of limiting audio quality.
>
> Steve

Got it on the loop antenna thanks Roy Lewallen, W7EL, sounds like that's what I need to start researching. My radio is just an older RCA 5.1 surround sound, I've got a ton of music vinyl and digital and use it mainly for that, but it's in my shop where I'm the boss and can smoke cigars if I want and where I listen to most of the baseball. I don't really care much for the RCA radio because I don't like the digital tuning, if I wanted to get a descent radio for am reception what's a good choice? I've got a couple older portables a GE Super Radio and a Midland 8-band, but I'd like a table model so I can take advantage of the surround sound and speakers I've got throughout my shop.

562. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 20:18:45 UTC
From: TJ <nospam@virgin.com>
Message-ID: <hluorbipv1@news.eternal-september.org>
Source record: 10762

"Jeff D" <djdieterle@hughes.net> wrote in message
news:1ehgn.267718$o06.4061@en-nntp-08.dc1.easynews.com...
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6 from
> my radio across the attic and outdoors to a tree. I had maybe 10 extra
> feet of coax so I wrapped it around the tree. I strung about 50' of #9
> steel wire between 2 trees going east/west about 15' above ground and
> attached the copper conductor to it. I terminated the coax shield at the
> tree with a ground rod. At the radio I attached the shield to the ground
> terminal and the center cu conductor to the other am external antenna
> terminal.
> It greatly improved my reception I get all the major Chicago sports
> channels, but the one I was most interested in 670 is the worst. What all
> did I do wrong and what can I do to improve 670?

I wouldn't bother with the braid on the coax, use it as one long wire!
50feet is far too short, it's not resonant, you would need about 3 times
that.
You could also try loading the aerial with a large coil of wire or use an
ATU.
Be aware an ATU doesn't match the antenna as such, it doesn't make it
resonant, it only acts to make the reciever see 50 ohms. The aerial will
still remain unresonant!
Other than that, go to www.reciva.com and get the station via the Internet.

563. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 20:41:37 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <hluq63$214$1@ra.nrl.navy.mil>
Source record: 10763

On 2/22/2010 8:54 AM, Richard Fry wrote:
> On Feb 22, 5:51 am, Richard Fry wrote:
>
>> The loop antennas suggested by others may work well, as they are
>> vertically polarized for the E-field (as is the loopstick of a typical
>> consumer-type AM broadcast receiver).
>
> To correct myself, loopsticks respond to the magnetic field of an EM
> wave -- which, for vertical polarization, lie in the horizontal plane.

Hello, and this is a common misunderstanding, which may owe to the fact of the response of a receiving antenna in a near (induction) field of a transmitting antenna. In the far field (several wavelengths or greater) from the transmitting antenna the receiving antenna responds to the propagated electromagnetic field. Now, how a particular antenna is oriented wrt this EM field will determine its ability to extract a given amount of available power from the incident EM wave. One can of course think of the action of loops or dipoles in the far field as per Richard's statement but that sidesteps the underlying physics. Sincerely,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

564. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 20:53:14 UTC
From: amdx <amdx@knology.net>
Message-ID: <79e66$4b82eebb$d8baf3ed$7503@KNOLOGY.NET>
Source record: 10764

"Jeff D" <djdieterle@hughes.net> wrote in message
news:h8Bgn.350676$H15.205000@en-nntp-02.dc1.easynews.com...
>
> "Steve Stone" <n2ubp@hotmail.com> wrote in message
> news:hlujt1uba1@news.eternal-september.org...
>> What make/model radio are you using?
>>
>> If you have an option to tune in broadcast band AM stations using SSB
>> (sideband)
>> you may improve reception at the cost of limiting audio quality.
>>
>> Steve
>
> Got it on the loop antenna thanks Roy Lewallen, W7EL, sounds like that's
> what I need to start researching. My radio is just an older RCA 5.1
> surround sound, I've got a ton of music vinyl and digital and use it
> mainly for that, but it's in my shop where I'm the boss and can smoke
> cigars if I want and where I listen to most of the baseball. I don't
> really care much for the RCA radio because I don't like the digital
> tuning, if I wanted to get a descent radio for am reception what's a good
> choice? I've got a couple older portables a GE Super Radio and a Midland
> 8-band, but I'd like a table model so I can take advantage of the surround
> sound and speakers I've got throughout my shop.
Setup that GE Super Radio, orient it properly and see how it compares to
your RCA 5.1. Let us know.
Mike

565. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 21:25:27 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hlusod$f06s$1@tr22n12.aset.psu.edu>
Source record: 10765

D. Stussy wrote:
> "Michael Coslo" <mjc5@psu.edu> wrote in message
> news:hlmeuq$cs08$1@tr22n12.aset.psu.edu...
>> D. Stussy wrote:
>>> "tom" <news4792@taring.org> wrote in message
>>> news:4b7e05dc$0$50145$8046368a@newsreader.iphouse.net...
>>>> D. Stussy wrote:
>>>>> "Tonyfrost" <jupalmer@gmail.com> wrote in message
>>>>>
> news:ebd67996-9995-4290-be06-36dc7652abf3@f15g2000yqe.googlegroups.com...
>>>>>> Fldigi 1.2 is a popular new program for Linux and FreeBSD which
>>>>>> enables amateur radio operators to join their radios and their
>>>>>> computers at the hip and create a new kind of ham shack: a digital
> ham
>>>>>> shack. Quite amuzing:
>>>>>> Article: http://www.linux.com/archive/articles/59958
>>>>> 1) Written by yet another asshole who doesn't understand that "ham"
> is
>>> a
>>>>> derrogatory term.
>>>>> 2) Nothing in that article is anything new, as compared to the
> 1990's,
>>> as
>>>>> far as digital operation goes.
>>>>>
>>>>>
>>>> Ham is a "derrogatory" term?
>>>>
>>>> You can't spell, or run a spell check. And apparently you haven't a
>>>> clue which would indicate you aren't a ham either.
>>> There's no requirement to run a "speling-chek" on any Usenet article.
>>>
>>> Ham: Correct - I'm NOT a "ham." I'm a licensed amateur radio
> operator.
>>>
>>> In addition to the historical meaning recognized by another response,
>>> there's another relevent meaning: Have you noticed that many operators
> are
>>> not only overweight but actually obese. Maybe they are "hams" - they
>>> certainly are pigs! Their fat proves such.
>> Here we go again. I'd rather be super fat than be an ignnorant fellow
>> that thinks that weight is a metric of worth.
>>
>> And seriously, if you have such a problem with being called a Ham, there

>> are classes and counseling available to improve your "self worth" image.
>
> No one calls me a ham. They know better. They are not ignorant.

I don't care what anyone calls me as long as they don't call me late.

>> Then you might not be so touchy or feel the need to denigrate the obese.
>
> You haven't seen my local licenseholder population. When one exceeds 300
> pounds, what would you call them? Thin?

Doesn't really matter to It's really to me how fat or thin they are. If
you have a problem with fat people it isn't really their problem - it's
your problem.

Its really too bad too, I know a lot of obese people who are great folks.

- 73 de Mike N3LI -

566. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 21:42:38 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hlutoe$as5o$1@tr22n12.aset.psu.edu>
Source record: 10766

J. Mc Laughlin wrote:
> Dear Group:
>
> Words often communicate different things to different people - perhaps
> because of their background. I would never describe a licensed radio
> amateur as a "ham" unless his/her behavior justified that tag.
>
> Obviously, each reader has a different background and thus their reaction to
> the use of "ham" is expected to be different. Let us not reject outright
> the interpretation of others just because their interpretation is different.

People get way too wrapped around the axle in in what they want
themselves called.

You see it all the time, as in say with developmentally challenged
people. For a while, we were supposed to call tehm "special" before that
it was "slow learner", at one point it was "retarded".

There is even a list of names that correlate to different IQ levels and
abilities, such as moron, imbecile, and other similar things.

But at the moment, it's developmentally challenged.

And those who would deride such folks will pick up the new term, and
eventually it will become bad to call people developmentally challenged.

Now as for the Amateur in Amateur radio, there is the idea of Amateur as
"devotee" or "admirer" and then there are others.

It's interesting that some folks would choose a descriptive term that
includes the synonyms:

Dilletante
Dabbler
Tyro

I especially like the Dabbler, that suggests desultory habits of work
and lack of persistence

or Tyro that implies inexperience often combined with audacity with
resulting crudeness or blundering.

All synonyms for Amateur. All right there in Merriam Webster's

But I don't give a good rat's patoot. Call me a Ham, call me an Amateur
radio operator. I'm comfortable with what I do, and don't need a name to
define it.

Others might be a tad more sensitive.

- 73 de Mike N3LI -

567. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 21:48:11 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hluu2r$as5q$1@tr22n12.aset.psu.edu>
Source record: 10767

J. Mc Laughlin wrote:

Let us not reject outright
> the interpretation of others just because their interpretation is different.

Fine. My interpretation of Amateur is a person who cannot do things in a professional manner, a person who is interested in something, but for lack of intelligence, skill, persistence, or talent, will never become proficient in what they are interested in.

Therefore, everyone has to accept my definition of Amateur radio operators as unskilled incompetents, eh? Especially since that very thing can be found in the dictionary, not an interpretation, but as synonymous with the word.

Now that would be sad, wouldn't it?

Names - Bah Humbug!

- 73 de Mike N3LI -

568. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 21:53:38 UTC
From: Jeff D <djdieterle@hughes.net>
Message-ID: <Q1Dgn.270962$er1.182300@en-nntp-07.dc1.easynews.com>
Source record: 10768

The GE Super Radio is what I normally use to catch baseball on am 670, especially at night, but after about 10pm local time I get a Mexican station overpowering 670. I'm aware of the internet option but MLB doesn't allow broadcasting, they want you to buy their MLB network subscription. But anyway the ideal setup for me would be a good am table radio and antenna setup that I can input to my stereo system and not fight with Mexico over the channel.

"amdx" <amdx@knology.net> wrote in message
news:79e66$4b82eebb$d8baf3ed$7503@KNOLOGY.NET...
>
> "Jeff D" <djdieterle@hughes.net> wrote in message
> news:h8Bgn.350676$H15.205000@en-nntp-02.dc1.easynews.com...
>>
>> "Steve Stone" <n2ubp@hotmail.com> wrote in message
>> news:hlujt1uba1@news.eternal-september.org...
>>> What make/model radio are you using?
>>>
>>> If you have an option to tune in broadcast band AM stations using SSB
>>> (sideband)
>>> you may improve reception at the cost of limiting audio quality.
>>>
>>> Steve
>>
>> Got it on the loop antenna thanks Roy Lewallen, W7EL, sounds like that's
>> what I need to start researching. My radio is just an older RCA 5.1
>> surround sound, I've got a ton of music vinyl and digital and use it
>> mainly for that, but it's in my shop where I'm the boss and can smoke
>> cigars if I want and where I listen to most of the baseball. I don't
>> really care much for the RCA radio because I don't like the digital
>> tuning, if I wanted to get a descent radio for am reception what's a good
>> choice? I've got a couple older portables a GE Super Radio and a Midland
>> 8-band, but I'd like a table model so I can take advantage of the
>> surround sound and speakers I've got throughout my shop.
> Setup that GE Super Radio, orient it properly and see how it compares to
> your RCA 5.1. Let us know.
> Mike
>

569. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 23:05:19 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <guOdnVYa34g2kB7WnZ2dnUVZ_g6dnZ2d@bright.net>
Source record: 10769

Dear Jeff D.: Now we have the needed information. You do not have a signal to noise issue but do have a signal to interference issue. Thus you need a means for reducing the strength of the XE station as compared to Chicago. .... and we are back to a loop antenna.

The angle between the XE station and Chicago is large enough probably to allow you to reduce the signal to interference ratio to an acceptable level with some rotating of the loop.

73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"Jeff D" <djdieterle@hughes.net> wrote in message
news:Q1Dgn.270962$er1.182300@en-nntp-07.dc1.easynews.com...
> The GE Super Radio is what I normally use to catch baseball on am 670,
> especially at night, but after about 10pm local time I get a Mexican
> station overpowering 670. I'm aware of the internet option but MLB doesn't
> allow broadcasting, they want you to buy their MLB network subscription.
> But anyway the ideal setup for me would be a good am table radio and
> antenna setup that I can input to my stereo system and not fight with
> Mexico over the channel.
>
>
>

>>>
>>> Got it on the loop antenna thanks Roy Lewallen, W7EL, sounds like that's
>>> what I need to start researching. My radio is just an older RCA 5.1
>>> surround sound, I've got a ton of music vinyl and digital and use it
>>> mainly for that, but it's in my shop where I'm the boss and can smoke
>>> cigars if I want and where I listen to most of the baseball. I don't
>>> really care much for the RCA radio because I don't like the digital
>>> tuning, if I wanted to get a descent radio for am reception what's a
>>> good choice? I've got a couple older portables a GE Super Radio and a
>>> Midland 8-band, but I'd like a table model so I can take advantage of
>>> the surround sound and speakers I've got throughout my shop.
>> Setup that GE Super Radio, orient it properly and see how it compares to
>> your RCA 5.1. Let us know.
>> Mike
>>
>

570. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 23:09:59 UTC
From: amdx <amdx@knology.net>
Message-ID: <14219$4b830ec7$d8baf3ed$11984@KNOLOGY.NET>
Source record: 10770

"Jeff D" <djdieterle@hughes.net> wrote in message
news:Q1Dgn.270962$er1.182300@en-nntp-07.dc1.easynews.com...
> The GE Super Radio is what I normally use to catch baseball on am 670,
> especially at night, but after about 10pm local time I get a Mexican
> station overpowering 670. I'm aware of the internet option but MLB doesn't
> allow broadcasting, they want you to buy their MLB network subscription.
> But anyway the ideal setup for me would be a good am table radio and
> antenna setup that I can input to my stereo system and not fight with
> Mexico over the channel.
>
That's why I ask about the GE, if you can get it to work, you can
cobble audio into your stereo.
Regarding the interfering Mexican station, this a great application for a
loop, you can turn it to null out that offending station.
Even without a loop you should be able to turn the GE to null out the
Mexican Station.
Method;
Rotate the radio so the long dimension points at the Mexican station
(caution it might be in Cuba) :-) When you find the correct aim the audio
from the offender will attenuate. Also sometimes it helps to
tip the end that point towards the offender up a little.
Mike
PS. I hate it when baseball preempts talk radio programs:-)

571. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-22 23:10:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <EqidnS_hxs2ekh7WnZ2dnUVZ_hWdnZ2d@giganews.com>
Source record: 10771

Michael Coslo wrote:
> J. Mc Laughlin wrote:
>
> Let us not reject outright
>> the interpretation of others just because their interpretation is
>> different.
>
> Fine. My interpretation of Amateur is a person who cannot do things in a
> professional manner, a person who is interested in something, but for
> lack of intelligence, skill, persistence, or talent, will never become
> proficient in what they are interested in.
>
> Therefore, everyone has to accept my definition of Amateur radio
> operators as unskilled incompetents, eh? Especially since that very
> thing can be found in the dictionary, not an interpretation, but as
> synonymous with the word.
>
> Now that would be sad, wouldn't it?
>
> Names - Bah Humbug!
>
>
> - 73 de Mike N3LI -

This is especially apropos during the winter Olympics, where amateur athletes are competing. They look proficient to me. But then, I'm just an amateur myself. A ham, even.

Roy Lewallen, W7EL

572. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 00:20:37 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <7dae7fa3-7a30-402e-acd9-ac18d4495310@z35g2000yqd.googlegroups.com>
Source record: 10772

On Feb 22, 3:45 am, Art Unwin <arthurun...@gmail.com> wrote:
> Model of 2 element multi polarization.
>
> http://users.sdsc.edu/~unwin/art/Picture6.pnghttp://users.sdsc.edu/~unwin/art/Picture7.pnghttp://users.sdsc.edu/~unwin/art/Picture10.pnghttp://users.sdsc.edu/~unwin/art/Picture11.png

and this proves what?

573. Re: Beverag antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 00:50:27 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5f824a81-5214-4f3b-95c7-da8da3f62834@g19g2000yqe.googlegroups.com>
Source record: 10773

On Feb 19, 12:05 pm, ai8o <a...@lexcominc.net> wrote:
> Can anyone direct me to webpages that discuss the design and
> installation of beverage antennae?

May I point out that the beverage can be duplicated by winding in tight helix form such that it can be rotated on a tower.When made in garbage can shape the bottom acts as a reflector.
This provides multi polarity reception. Wire used can be zip cord or multi ribbon wire. The next step up from this design is if one adds electrically connected vertical wires so that it emulates inter woven wire (insect wire) which thus becomes a Faraday shield and is sensitive to all polarities. The helical wound beverage falls short by one polarity and short of a Faraday shield as the longitudinal spacing between the wound wires allows for wavelength penetration between them. Gains is in the same order as two FW radiators in equilibrium and both resonant as described yesterday on this newsgroup.Both of these designs may be placed close to the ground as with the beverage and may also be tilted in the vertical plane for maximum advantage.

574. Re: HF action from a high rise apartment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 02:11:16 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-C55DE3.21111522022010@5ad64b5e.bb.sky.com>
Source record: 10774

In article
<4eea2fe0-af87-48bd-96ac-57e248c7b73b@f12g2000yqn.googlegroups.com>,
phaedrus <orion.osiris@virgin.net> wrote:

> Any suggestions for an antenna type that's discreet (or at least not
> too outrageous) that gets out well at HF? Anything from 80m through
> 10m I'll take whatever I can get.

Several years ago I was in a second floor apartment with a balcony.
Someone had previously bolted a 3/8-24 antenna mirror mount to the
balcony rail.

I used a 40 Meter Hamstick mobile whip with no additional ground plane
or radials. The Kenwood TS-690S had a built-in tuner that seemed to
work OK. It didn't get out very well, but I was on the air.

I expect it would have worked better on higher bands, probably great on
Ten or Six Meters with the appropriate whip.

Fred
K4DII

575. Somebody should watch what phone number he dials :)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 02:17:42 UTC
From: Nomen Nescio <nobody@dizum.com>
Message-ID: <27ea7fb965d8d5452ebbf732358587d6@dizum.com>
Source record: 10775

```
Call received: 2010/16/01
Jose Ortiz
Age: 50 Years
Relatives:
Joseph Ortiz
Juan Ortiz
ARS: KD2CN
Luz Ortiz
77 Lake
Denville, NJ 07834
Property Report Phone Type: Land Line
Carrier: Verizon New Jersey Inc
Time: 5:31 PM EST
County: Morris
Average Income: $78,074
Average Home Value: $228,100
973-360-2032

AND THEN AGAIN!

Call received: 2010/21/02
Jose Ortiz
Age: 50 Years
Relatives:
Joseph Ortiz
Juan Ortiz
ARS: KD2CN
Luz Ortiz
77 Lake
Denville, NJ 07834
Property Report Phone Type: Land Line
Carrier: Verizon New Jersey Inc
Time: 10:12 AM EST
County: Morris
Average Income: $78,074
Average Home Value: $228,100
973-360-2032
```

576. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 02:22:11 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-D3566A.21221122022010@5ad64b5e.bb.sky.com>
Source record: 10776

In article
<487a29fe-55d5-4948-ae46-86196a2e18c8@g11g2000yqe.googlegroups.com>,
phaedrus <orion.osiris@virgin.net> wrote:

> Hi again,
>
> Well I have read your informative replies on the problems with making
> a low Zo twin feed with much interest. Clearly it's not really a
> practical proposition. Shame.
>
> So the obvious question is: why are transmitters normalised to 50 ohms
> when clearly 450 ohms would enable us to enjoy cheaper, do-it-
> yourself, lower loss feeders? Was this some oversight at the time, or
> good practice for some obscure reason that I simply cannot think of?

As others mentioned, the origin is probably based on military standards.

It is my understanding that the lowest loss air dielectric Co-Ax would
have an impedance of around 75 Ohms. If you use the same mechanical
dimensions but with a polyethylene dielectric, the impedance becomes 52
Ohms.

Fred
K4DII

577. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 07:49:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <qIKdnegkdo8FFR7WnZ2dnUVZ_oWdnZ2d@giganews.com>
Source record: 10777

blitz wrote:
>
> If you can't get Chicago at night on the GE SR, it's going to be a
> challenge on any radio.
>
> I think TJ is right- if you're going to bother with a long wire, it
> needs to be about 150' to get resonant (as in, tune the frequencies
> you want) down to 670 AM. My antenna, like yours (wire, then coax into
> the house) at 150', overloads most radios. So it needs some
> throttling. Otherwise, it's a monster for signals.
>
Making the antenna resonant won't help your signal/noise ratio at all. And it makes no sense to make the antenna larger to increase the signal (and noise), then adding an attenuator to decrease it so it doesn't overload your receiver.

> OTOH, a loop might really help you sort out the competing signal.
> . . .

Yep.

A lot of amateurs get confused about the requirements for sending a strong signal and those for receiving signals clearly. At HF, they're quite different. And a lot of amateurs have the mistaken idea that there's something magic about an antenna being resonant. That confusion is why you keep getting advice to make your antenna longer, higher, and resonant, while those aren't the solution to your problem at all, and in fact are likely to create additional problems due to receiver overload.

Roy Lewallen, W7EL

578. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 15:04:39 UTC
From: Jeff D <djdieterle@hughes.net>
Message-ID: <q8Sgn.359480$H15.172557@en-nntp-02.dc1.easynews.com>
Source record: 10778

"amdx" <amdx@knology.net> wrote in message
news:14219$4b830ec7$d8baf3ed$11984@KNOLOGY.NET...
>
> "Jeff D" <djdieterle@hughes.net> wrote in message
> news:Q1Dgn.270962$er1.182300@en-nntp-07.dc1.easynews.com...
>> The GE Super Radio is what I normally use to catch baseball on am 670,
>> especially at night, but after about 10pm local time I get a Mexican
>> station overpowering 670. I'm aware of the internet option but MLB
>> doesn't allow broadcasting, they want you to buy their MLB network
>> subscription. But anyway the ideal setup for me would be a good am table
>> radio and antenna setup that I can input to my stereo system and not
>> fight with Mexico over the channel.
>>
> That's why I ask about the GE, if you can get it to work, you can
> cobble audio into your stereo.
> Regarding the interfering Mexican station, this a great application for a
> loop, you can turn it to null out that offending station.
> Even without a loop you should be able to turn the GE to null out the
> Mexican Station.
> Method;
> Rotate the radio so the long dimension points at the Mexican station
> (caution it might be in Cuba) :-) When you find the correct aim the audio
> from the offender will attenuate. Also sometimes it helps to
> tip the end that point towards the offender up a little.
> Mike
> PS. I hate it when baseball preempts talk radio programs:-)
>
>
yep that's exactly what I do with the GE which helps but it's still pretty
scratchy and at the most 30-40% recognizable audio

579. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 18:32:52 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <ge78o51kf1vg35cl493s2dqt6rgt611mmc@4ax.com>
Source record: 10779

On Sun, 21 Feb 2010 21:44:56 -0800 (PST), Art Unwin
<arthurunwin@gmail.com> wrote:

>On Feb 21, 11:18ï¿½pm, Jeff Liebermann <je...@cruzio.com> wrote:
>> On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
>>
>> <arthurun...@gmail.com> wrote:
>> >Model of 2 element multi polarization.
>> >http://users.sdsc.edu/~unwin/art/Picture6.png
>> >http://users.sdsc.edu/~unwin/art/Picture7.png
>> >http://users.sdsc.edu/~unwin/art/Picture10.png
>> >http://users.sdsc.edu/~unwin/art/Picture11.png
>>
>> I don't see a model. ï¿½There is no .EZ, .GAA, .N4W or .NEC file for me
>> to play with and tear apart. ï¿½I can't even tell what the antenna looks
>> like from what you've posted. ï¿½

>You have two elements each located with x,y and z co ordinates at
>each end, so you make your own file to suit the program you intend to
>use or is available.

I do not have two elements. I can't located them in x, y, or z
because you didn't specify any such coordinates. I can make a
suitable NEC deck, but *YOU* need to supply the numbers.

>Surely you can model anything if you know the end locations of the
>elements.

I certainly can. Now, can you supply those end locations? While your
at it, the height above ground, element diameter, material
composition, etc might be good to disclose.

Also, why make me do all the work? You have obviously created a data
file for some unspecified NEC2 modeling program. Why not just post
the model?

>If you are unable to do that then may be it is better that
>you don't.

Try not. Do... or do not. There is no try.
Yoda

>There are to many programs around for me to make files for
>every body and every program that is available so I supplied x,y,z co
>ordinates which every body can translate.

Yep. Pick one.

>These are the points you
>should look for to determine what the antenna looks like.

These are what points? You haven't supplied any numbers.

>Either way I
>have supplied the results to save you the work.

Generous of you. If you don't disclose any numbers, it's not a model.
It's a bad joke. Try harder.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

580. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 21:02:28 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d6a02888-db8a-4142-a942-1eb4a7b625c0@g23g2000vbl.googlegroups.com>
Source record: 10780

On Feb 23, 12:32 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Sun, 21 Feb 2010 21:44:56 -0800 (PST), Art Unwin
>
>
>
> <arthurun...@gmail.com> wrote:
> >On Feb 21, 11:18 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> >> On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
>
> >> <arthurun...@gmail.com> wrote:
> >> >Model of 2 element multi polarization.
> >> >http://users.sdsc.edu/~unwin/art/Picture6.png
> >> >http://users.sdsc.edu/~unwin/art/Picture7.png
> >> >http://users.sdsc.edu/~unwin/art/Picture10.png
> >> >http://users.sdsc.edu/~unwin/art/Picture11.png
>
> >> I don't see a model. There is no .EZ, .GAA, .N4W or .NEC file for me
> >> to play with and tear apart. I can't even tell what the antenna looks
> >> like from what you've posted.
> >You have two elements each located with x,y and z co ordinates at
> >each end, so you make your own file to suit the program you intend to
> >use or is available.
>
> I do not have two elements. I can't located them in x, y, or z
> because you didn't specify any such coordinates. I can make a
> suitable NEC deck, but *YOU* need to supply the numbers.
>
> >Surely you can model anything if you know the end locations of the
> >elements.
>
> I certainly can. Now, can you supply those end locations? While your
> at it, the height above ground, element diameter, material
> composition, etc might be good to disclose.
>
> Also, why make me do all the work? You have obviously created a data
> file for some unspecified NEC2 modeling program. Why not just post
> the model?
>
> >If you are unable to do that then may be it is better that
> >you don't.
>
> Try not. Do... or do not. There is no try.
>   Yoda
>

> >There are to many programs around for me to make files for
> >every body and every program that is available so I supplied x,y,z co
> >ordinates which every body can translate.
>
> Yep. Pick one.
>
> >These are the points you
> >should look for to determine what the antenna looks like.
>
> These are what points? You haven't supplied any numbers.
>
> >Either way I
> >have supplied the results to save you the work.
>
> Generous of you. If you don't disclose any numbers, it's not a model.
> It's a bad joke. Try harder.
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

Just let it drop!
I use Minninec not NEC programs
I really do not want to fight with you or anybody on this even tho
many want to.
I made the post as a point of interest and to share only. To show
what polarities it was sensitive to even tho many want to fight
regardless of what I post.
The majority on this newsgroup are not able or interested
in modeling which is why I posted the results, otherwise the intent
would be lost on them.
Ever since I declared that a static field in equilibrium, when made
dynamic, is applicable to Maxwells equation for radiation it seems
like everybody wants a piece of me even tho they are completely
ignorant of the physics involved. The model provided is complete
evidence of this fact which as yet nobody has been able to refute
prefering to personaly harm the messenger. Maxwell gained fame just by
adding /dt to an equation which made it dynamic,
and apparently many on this newsgroup want to deny him of his
achievement because the importance is not illustrated in any physic
books. Frankly, if you can't live with history you should be
challenging computer programing that utelise 1/2 wavelength radiators
where the energy lost by the components is ignored as is the EXACT
length of a 1/2 wavelength which varies with every cycle!
Use of Maxwells equations are for radiator designs that are sensitive
to ALL polarities directed at it for maximum efficiency, and not for
those designs that it ignores or cannot handle.
Art KB9MZ

581. Choke balun on an elevated ground plane

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 23:13:27 UTC
From: TOF <ellis.spam@means.net>
Message-ID: <70o8o5lhioe0tl1eq75824pgnsiq245hed@4ax.com>
Source record: 10781

I have a (home built) 40 m ground plane with the base elevated about 8 feet and with 7 elevated sloping radials. The 50 Ohm feedline drops straight down the 8 feet and then runs on the surface of the ground.

Would a choke balun at the feed point be advisable?

W0BF

582. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-23 23:36:00 UTC
From: amdx <amdx@knology.net>
Message-ID: <59553$4b846657$18ec6dd7$25639@KNOLOGY.NET>
Source record: 10782

"Jeff D" <djdieterle@hughes.net> wrote in message
news:q8Sgn.359480$H15.172557@en-nntp-02.dc1.easynews.com...
>
> "amdx" <amdx@knology.net> wrote in message
> news:14219$4b830ec7$d8baf3ed$11984@KNOLOGY.NET...
>>
>> "Jeff D" <djdieterle@hughes.net> wrote in message
>> news:Q1Dgn.270962$er1.182300@en-nntp-07.dc1.easynews.com...
>>> The GE Super Radio is what I normally use to catch baseball on am 670,
>>> especially at night, but after about 10pm local time I get a Mexican
>>> station overpowering 670. I'm aware of the internet option but MLB
>>> doesn't allow broadcasting, they want you to buy their MLB network
>>> subscription. But anyway the ideal setup for me would be a good am table
>>> radio and antenna setup that I can input to my stereo system and not
>>> fight with Mexico over the channel.
>>>
>> That's why I ask about the GE, if you can get it to work, you can
>> cobble audio into your stereo.
>> Regarding the interfering Mexican station, this a great application for
>> a
>> loop, you can turn it to null out that offending station.
>> Even without a loop you should be able to turn the GE to null out the
>> Mexican Station.
>> Method;
>> Rotate the radio so the long dimension points at the Mexican station
>> (caution it might be in Cuba) :-) When you find the correct aim the audio
>> from the offender will attenuate. Also sometimes it helps to
>> tip the end that point towards the offender up a little.
>> Mike
>> PS. I hate it when baseball preempts talk radio programs:-)
>>
>>
> yep that's exactly what I do with the GE which helps but it's still pretty
> scratchy and at the most 30-40% recognizable audio
Hmm, do you get a good null? Sometimes environmental materials can
mix the signals and you don't get a good null. See if you can take the
GE radio outside away from the building and get a null on the Mexican
and a better signal on your prefered station. If not I don't see where a
larger loop is going to help.
Just had a thought, If the Mexican station is actually a Cuban then trying
to null the Cuban would also null the Chicago station. They are about 180*
apart on either side of you. I'm in Fl. the Cuban stations are my
interference.
Mike

583. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 00:41:34 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hm1sjt$96r$1@news.jpl.nasa.gov>
Source record: 10787

Fred McKenzie wrote:
> In article
> <487a29fe-55d5-4948-ae46-86196a2e18c8@g11g2000yqe.googlegroups.com>,
> phaedrus <orion.osiris@virgin.net> wrote:
>
>> Hi again,
>>
>> Well I have read your informative replies on the problems with making
>> a low Zo twin feed with much interest. Clearly it's not really a
>> practical proposition. Shame.
>>
>> So the obvious question is: why are transmitters normalised to 50 ohms
>> when clearly 450 ohms would enable us to enjoy cheaper, do-it-
>> yourself, lower loss feeders? Was this some oversight at the time, or
>> good practice for some obscure reason that I simply cannot think of?
>
> As others mentioned, the origin is probably based on military standards.
>
> It is my understanding that the lowest loss air dielectric Co-Ax would
> have an impedance of around 75 Ohms.

loss, at constant frequency, is proportional to
1/Z * (1/b + 1/a)
b= diameter of outer , a = diam of inner

This reflects the fact that at lowish frequencies (HF), the loss is
ohmic, so it's the series combination of the resistivity of the center
and outer conductors (the 1/b+1/a term), and the current flowing (the
1/Z term.. higher Z means lower current, so less IR loss)

Z is proportional to log(b/a)
so
loss = k/log(b/a)*(1/b+1/a)

Run the numbers and you see that a ratio of 1:3.6 gets you 50 ohms with
epsilon=2.3 and a ratio of 1:6.7 gets you about 75 ohms.

At 10 MHz loss is about 0.028 dB/meter for the 50 ohm, and 0.017
dB/meter for the 75 ohm.

but you can go higher in Z...and the loss keeps going down, but even at
1:20 diameter ratio, the impedance is 118 ohms, and the loss is 0.010
dB/meter. So 75 isn't a "lowest loss" frequency. More likely, 75 ohms
happens to be close to 72 ohms, which is the characteristic impedance of
a dipole in free space, or, more usefully, 1/4 of the 300 ohm impedance
of a folded dipole.

In air, the dimensions and loss are:
50 ohm 1:2.3 0.033 dB/meter
75 ohm 1:3.5 0.019 dB/meter

If you use the same mechanical
> dimensions but with a polyethylene dielectric, the impedance becomes 52
> Ohms.
>

I think that is just coincidence:

Z = 138/sqrt(epsilon)* log (b/a)

air has epsilon=1 (or very close)
polyethylene has 1/sqrt(epsilon) about 0.66, so, in fact, it happens to
work out (e.g. 50/75 = 0.66)

584. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 00:45:43 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <6879d5af-1eb3-4235-b25d-2177c4b6dda5@f42g2000yqn.googlegroups.com>
Source record: 10783

On Feb 23, 9:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Feb 23, 12:32 pm, Jeff Liebermann <je...@cruzio.com> wrote:
>
>
>
> > On Sun, 21 Feb 2010 21:44:56 -0800 (PST), Art Unwin
>
> > <arthurun...@gmail.com> wrote:
> > >On Feb 21, 11:18 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> > >> On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
>
> > >> <arthurun...@gmail.com> wrote:
> > >> >Model of 2 element multi polarization.
> > >> >http://users.sdsc.edu/~unwin/art/Picture6.png
> > >> >http://users.sdsc.edu/~unwin/art/Picture7.png
> > >> >http://users.sdsc.edu/~unwin/art/Picture10.png
> > >> >http://users.sdsc.edu/~unwin/art/Picture11.png
>
> > >> I don't see a model. There is no .EZ, .GAA, .N4W or .NEC file for me
> > >> to play with and tear apart. I can't even tell what the antenna looks
> > >> like from what you've posted.
> > >You have two elements each located with x,y and z co ordinates at
> > >each end, so you make your own file to suit the program you intend to
> > >use or is available.
>
> > I do not have two elements. I can't located them in x, y, or z
> > because you didn't specify any such coordinates. I can make a
> > suitable NEC deck, but *YOU* need to supply the numbers.
>
> > >Surely you can model anything if you know the end locations of the
> > >elements.
>
> > I certainly can. Now, can you supply those end locations? While your
> > at it, the height above ground, element diameter, material
> > composition, etc might be good to disclose.
>
> > Also, why make me do all the work? You have obviously created a data
> > file for some unspecified NEC2 modeling program. Why not just post
> > the model?
>
> > >If you are unable to do that then may be it is better that
> > >you don't.
>
> > Try not. Do... or do not. There is no try.

> >   Yoda
>
> > >There are to many programs around for me to make files for
> > >every body and every program that is available so I supplied x,y,z co
> > >ordinates which every body can translate.
>
> > Yep. Pick one.
>
> > >These are the points you
> > >should look for to determine what the antenna looks like.
>
> > These are what points? You haven't supplied any numbers.
>
> > >Either way I
> > >have supplied the results to save you the work.
>
> > Generous of you. If you don't disclose any numbers, it's not a model.
> > It's a bad joke. Try harder.
>
> > --
> > Jeff Liebermann   je...@cruzio.com
> > 150 Felker St #D   http://www.LearnByDestroying.com
> > Santa Cruz CA 95060http://802.11junk.com
> > Skype: JeffLiebermann   AE6KS   831-336-2558
>
> Just let it drop!
> I use Minninec not NEC programs
> I really do not want to fight with you or anybody on this even tho
> many want to.
> I made the post as a point of interest and to share only.   To show
> what polarities it was sensitive to even tho many want to fight
> regardless of what I post.
> The majority on this newsgroup are not able or interested
> in modeling which is why I posted the results, otherwise the intent
> would be lost on them.
> Ever since I declared that a static field in equilibrium, when made
> dynamic, is applicable to Maxwells equation for radiation it seems
> like everybody wants a piece of me even tho they are completely
> ignorant of the physics involved. The model provided is complete
> evidence of this fact which as yet nobody has been able to refute
> prefering to personaly harm the messenger. Maxwell gained fame just by
> adding /dt to an equation which made it dynamic,
> and apparently many on this newsgroup want to deny him of his
> achievement because the importance is not illustrated in any physic
> books. Frankly, if you can't live with history you should be
> challenging computer programing that utelise 1/2 wavelength radiators
> where the energy lost by the components is ignored as is the EXACT
> length of a 1/2 wavelength which varies with every cycle!
> Use of Maxwells equations are for radiator designs that are sensitive
> to ALL polarities directed at it for maximum efficiency, and not for

> those designs that it ignores or cannot handle.
> Art KB9MZ

the only thing that should be ignored on here is you.

585. Re: Beverag antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 00:48:58 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <a30d05f6-0420-45cd-a66b-c9ccfbe0dd36@f42g2000yqn.googlegroups.com>
Source record: 10784

On Feb 23, 12:50 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Feb 19, 12:05 pm, ai8o <a...@lexcominc.net> wrote:
>
> > Can anyone direct me to webpages that discuss the design and
> > installation of beverage antennae?
>
> May I point out that the beverage can be duplicated by winding in
> tight helix form such that it can be rotated on a tower.When made in
> garbage can shape the bottom acts as a reflector.
> This provides multi polarity reception. Wire used can be zip cord or
> multi ribbon wire. The next step up from this design is if one adds
> electrically connected vertical wires so that it emulates inter woven
> wire (insect wire) which thus becomes a Faraday shield and is
> sensitive to all polarities. The helical wound beverage falls short by
> one polarity and short of a Faraday shield as the longitudinal spacing
> between the wound wires allows for wavelength penetration between
> them. Gains is in the same order as two FW radiators in equilibrium
> and both resonant as described yesterday on this newsgroup.Both of
> these designs may be placed close to the ground as with the beverage
> and may also be tilted in the vertical plane for maximum advantage.

total bs. besides not knowing the difference between polarity and
polarization, the rest of the post is gibberish. one of the main
features of a Beverage is its polarization discrimination which helps
reduce noise and the linear shape provides directivity.

586. Re: Choke balun on an elevated ground plane

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 00:51:09 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <08311ded-e220-4a7a-bc3b-03d89df795af@q21g2000yqm.googlegroups.com>
Source record: 10785

On Feb 23, 11:13 pm, TOF <ellis.s...@means.net> wrote:
> I have a (home built) 40 m ground plane with the base elevated about 8
> feet and with 7 elevated sloping radials. The 50 Ohm feedline drops
> straight down the 8 feet and then runs on the surface of the ground.
>
> Would a choke balun at the feed point be advisable?
>
> W0BF

it wouldn't hurt, but unless you have problems with rf on the feedline
getting back into the shack i wouldn't bother.

587. Re: Choke balun on an elevated ground plane

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 00:52:03 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <b672d646-376a-489a-b33e-494923c278f7@k41g2000yqm.googlegroups.com>
Source record: 10786

On Feb 24, 12:51 am, Dave <k1...@arrl.net> wrote:
> On Feb 23, 11:13 pm, TOF <ellis.s...@means.net> wrote:
>
> > I have a (home built) 40 m ground plane with the base elevated about 8
> > feet and with 7 elevated sloping radials. The 50 Ohm feedline drops
> > straight down the 8 feet and then runs on the surface of the ground.
>
> > Would a choke balun at the feed point be advisable?
>
> > W0BF
>
> it wouldn't hurt, but unless you have problems with rf on the feedline
> getting back into the shack i wouldn't bother.

p.s. it might also help if you are picking up local noise that is
being conducted on the shield.

588. Re: Choke balun on an elevated ground plane

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 03:50:50 UTC
From: TOF <ellis.spam@means.net>
Message-ID: <rd89o5h9c6rgoqrhsn480im2uths14ab8u@4ax.com>
Source record: 10788

On Tue, 23 Feb 2010 16:52:03 -0800 (PST), Dave <k1ttt@arrl.net> wrote:

>On Feb 24, 12:51ï¿½am, Dave <k1...@arrl.net> wrote:
>> On Feb 23, 11:13ï¿½pm, TOF <ellis.s...@means.net> wrote:
>>
>> > I have a (home built) 40 m ground plane with the base elevated about 8
>> > feet and with 7 elevated sloping radials. ï¿½The 50 Ohm feedline drops
>> > straight down the 8 feet and then runs on the surface of the ground.
>>
>> > Would ï¿½a choke balun at the feed point be advisable?
>>
>> > W0BF
>>
>> it wouldn't hurt, but unless you have problems with rf on the feedline
>> getting back into the shack i wouldn't bother.
>
>p.s. it might also help if you are picking up local noise that is
>being conducted on the shield.

The location is in the boonies of northern MN and is generally very
quiet. I am more concerned about disturbance to the radiation
pattern.

589. Re: Choke balun on an elevated ground plane

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 03:53:17 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hm27rf$57k$1@speranza.aioe.org>
Source record: 10789

On 2/23/2010 3:13 PM, TOF wrote:
> I have a (home built) 40 m ground plane with the base elevated about 8
> feet and with 7 elevated sloping radials. The 50 Ohm feedline drops
> straight down the 8 feet and then runs on the surface of the ground.
>
> Would a choke balun at the feed point be advisable?
>
> W0BF

If rf is on the feedline, to a noticible degree, there is an easy indication I have found and think worthwhile to look at. That is, a field strength meter placed at a strategic point to make it more "susceptible" to the rf on the feedline. Now move the feedline. If the feedline is carrying enough rf to worry about, you will see it, at least, that has been my experience.

The only problem with the above are those "weird" antennas where the feedline actually plays a role in the antennas performance ... so, use with caution.

I don't believe rf on the feedline is what you want with your groundplane.

Regards,
JS

590. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 04:35:52 UTC
From: tom <news4792@taring.org>
Message-ID: <4b84aca3$0$636$8046368a@newsreader.iphouse.net>
Source record: 10790

Jeff Liebermann wrote:
> On Sun, 21 Feb 2010 21:44:56 -0800 (PST), Art Unwin
> <arthurunwin@gmail.com> wrote:
>
>> On Feb 21, 11:18 pm, Jeff Liebermann <je...@cruzio.com> wrote:
>>> On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
>>>
>>> <arthurun...@gmail.com> wrote:
>>>> Model of 2 element multi polarization.
>>>> http://users.sdsc.edu/~unwin/art/Picture6.png
>>>> http://users.sdsc.edu/~unwin/art/Picture7.png
>>>> http://users.sdsc.edu/~unwin/art/Picture10.png
>>>> http://users.sdsc.edu/~unwin/art/Picture11.png
>>> I don't see a model. There is no .EZ, .GAA, .N4W or .NEC file for me
>>> to play with and tear apart. I can't even tell what the antenna looks
>>> like from what you've posted.
>
>> You have two elements each located with x,y and z co ordinates at
>> each end, so you make your own file to suit the program you intend to
>> use or is available.
>
> I do not have two elements. I can't located them in x, y, or z
> because you didn't specify any such coordinates. I can make a
> suitable NEC deck, but *YOU* need to supply the numbers.
>

Jeff

I hate to support Art, but he did give the endpoint data in picture6. I modeled it with eznec+ 5 and the pattern and gain are reasonably close to what he shows in the other "pictures". Close considering he appears to be using mininec and if he includes conductor loss and real ground it's off a fair amount (I show 9.36 dBi gain). I didn't run circular, and doubt that it has much in the way of circularity, which is kind of obvious from the elements. Even though they are skewed in a way which he probably patented.

tom
K0TAR

591. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 05:16:16 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <8c6e9fba-2aed-4e77-8364-233a7d8b2829@j27g2000yqn.googlegroups.com>
Source record: 10791

On Feb 23, 10:35 pm, tom <news4...@taring.org> wrote:
> Jeff Liebermann wrote:
> > On Sun, 21 Feb 2010 21:44:56 -0800 (PST), Art Unwin
> > <arthurun...@gmail.com> wrote:
>
> >> On Feb 21, 11:18 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> >>> On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
>
> >>> <arthurun...@gmail.com> wrote:
> >>>> Model of 2 element multi polarization.
> >>>>http://users.sdsc.edu/~unwin/art/Picture6.png
> >>>>http://users.sdsc.edu/~unwin/art/Picture7.png
> >>>>http://users.sdsc.edu/~unwin/art/Picture10.png
> >>>>http://users.sdsc.edu/~unwin/art/Picture11.png
> >>> I don't see a model. There is no .EZ, .GAA, .N4W or .NEC file for me
> >>> to play with and tear apart. I can't even tell what the antenna looks
> >>> like from what you've posted.
>
> >> You have two elements each located with x,y and z co ordinates at
> >> each end, so you make your own file to suit the program you intend to
> >> use or is available.
>
> > I do not have two elements. I can't located them in x, y, or z
> > because you didn't specify any such coordinates. I can make a
> > suitable NEC deck, but *YOU* need to supply the numbers.
>
> Jeff
>
> I hate to support Art, but he did give the endpoint data in picture6. I
> modeled it with eznec+ 5 and the pattern and gain are reasonably close
> to what he shows in the other "pictures". Close considering he appears
> to be using mininec and if he includes conductor loss and real ground
> it's off a fair amount (I show 9.36 dBi gain). I didn't run circular,
> and doubt that it has much in the way of circularity, which is kind of
> obvious from the elements. Even though they are skewed in a way which
> he probably patented.
>
> tom
> K0TAR

I got the same gain as you using lower segments but it went up when I
doubled the segments so I held to that figure. I thought I provided
the cp and it was something like 3 dbi down which is much better than
20 dbi or more down if the array was not sensitive to cp. The same

segment problem occured again when modeling the
Beverage in circular form as it requires a tremendous amount of
segments to get total accuracy but the actual antenna in practice
showed conformality to make me comfortable. The same problem occurs
again using wire mesh and it would cost me near $1000 to acomplish
that but in practice it functioned very close to the circular wound
Beverage. The best antenna in the trials appeared to be long dual
wire mesh curtains which I checked out on top band tho conditions were
not consistent to hang my hat on. I intent to check out the "tilt"
action during the coming year using "garbage can" shaped mesh and at
ground level.
The whole point of the modeling was to show two FW elements that were
not planar or parallel provided an array that was sensitive to more
than a yagi built for horizontal gain alone. This to my mind makes it
a more efficient antenna for conversion of signals that hit it.
Another interesting point showed up with the circular beverage which
clearly merges the two vector radiations instead of the saucer shape
radiation from the earths rotation vector
and the gravity vertical column radiation that is added to the above
to form a planar yagi radiation form.

592. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 06:31:39 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <E6SdnehFPNJTWhnWnZ2dnUVZ_oWdnZ2d@giganews.com>
Source record: 10792

tom wrote:
>
> Jeff
>
> I hate to support Art, but he did give the endpoint data in picture6. I
> modeled it with eznec+ 5 and the pattern and gain are reasonably close
> to what he shows in the other "pictures". Close considering he appears
> to be using mininec and if he includes conductor loss and real ground
> it's off a fair amount (I show 9.36 dBi gain). I didn't run circular,
> and doubt that it has much in the way of circularity, which is kind of
> obvious from the elements. Even though they are skewed in a way which
> he probably patented.
>
> tom
> K0TAR

Picture6 data show equal horizontal and total gain, which means it's purely horizontally polarized in the direction of the analysis. That's also consistent with equal CW and CCW (or right and left hand) circular components, which mean polarization (again in the direction of the analysis) is purely linear.

Roy Lewallen, W7EL

593. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 12:28:26 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <dbe225a0-b5c6-420d-b6c7-d179fc65eb74@y17g2000yqd.googlegroups.com>
Source record: 10794

On Feb 24, 5:16 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Feb 23, 10:35 pm, tom <news4...@taring.org> wrote:
>
>
>
> > Jeff Liebermann wrote:
> > > On Sun, 21 Feb 2010 21:44:56 -0800 (PST), Art Unwin
> > > <arthurun...@gmail.com> wrote:
>
> > >> On Feb 21, 11:18 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> > >>> On Sun, 21 Feb 2010 19:45:03 -0800 (PST), Art Unwin
>
> > >>> <arthurun...@gmail.com> wrote:
> > >>>> Model of 2 element multi polarization.
> > >>>>http://users.sdsc.edu/~unwin/art/Picture6.png
> > >>>>http://users.sdsc.edu/~unwin/art/Picture7.png
> > >>>>http://users.sdsc.edu/~unwin/art/Picture10.png
> > >>>>http://users.sdsc.edu/~unwin/art/Picture11.png
> > >>> I don't see a model. There is no .EZ, .GAA, .N4W or .NEC file for me
> > >>> to play with and tear apart. I can't even tell what the antenna looks
> > >>> like from what you've posted.
>
> > >> You have two elements each located with x,y and z co ordinates at
> > >> each end, so you make your own file to suit the program you intend to
> > >> use or is available.
>
> > > I do not have two elements. I can't located them in x, y, or z
> > > because you didn't specify any such coordinates. I can make a
> > > suitable NEC deck, but *YOU* need to supply the numbers.
>
> > Jeff
>
> > I hate to support Art, but he did give the endpoint data in picture6. I
> > modeled it with eznec+ 5 and the pattern and gain are reasonably close
> > to what he shows in the other "pictures". Close considering he appears
> > to be using mininec and if he includes conductor loss and real ground
> > it's off a fair amount (I show 9.36 dBi gain). I didn't run circular,
> > and doubt that it has much in the way of circularity, which is kind of
> > obvious from the elements. Even though they are skewed in a way which
> > he probably patented.
>
> > tom
> > K0TAR
>

> I got the same gain as you using lower segments but it went up when I
> doubled the segments so I held to that figure. I thought I provided
> the cp and it was something like 3 dbi down which is much better than
> 20 dbi or more down if the array was not sensitive to cp. The same
> segment problem occured again when modeling the
> Beverage in circular form as it requires a tremendous amount of
> segments to get total accuracy but the actual antenna in practice
> showed conformality to make me comfortable. The same problem occurs
> again using wire mesh and it would cost me near $1000 to acomplish
> that but in practice it functioned very close to the circular wound
> Beverage. The best antenna in the trials appeared to be long dual
> wire mesh curtains which I checked out on top band tho conditions were
> not consistent to hang my hat on. I intent to check out the "tilt"
> action during the coming year using "garbage can" shaped mesh and at
> ground level.
> The whole point of the modeling was to show two FW elements that were
> not planar or parallel provided an array that was sensitive to more
> than a yagi built for horizontal gain alone. This to my mind makes it
> a more efficient antenna for conversion of signals that hit it.
> Another interesting point showed up with the circular beverage which
> clearly merges the two vector radiations instead of the saucer shape
> radiation from the earths rotation vector
> and the gravity vertical column radiation that is added to the above
> to form a planar yagi radiation form.

if you wind a wire into a coil it is NOT a Beverage antenna. And note
it is properly Beverage with a capital B since it is named after it's
inventor. go invent something useful and make up your own name,
don't try to distort a perfectly good antenna that has well know
characteristics.

594. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 12:30:32 UTC
From: amdx <amdx@knology.net>
Message-ID: <65870$4b851bdd$18ec6dd7$21481@KNOLOGY.NET>
Source record: 10795

```
"Jeff D." <djdieterle@hughes.net> wrote in message
news:G78hn.233411$tq1.164293@en-nntp-03.dc1.easynews.com...
>
> "amdx" <amdx@knology.net> wrote in message
> news:59553$4b846657$18ec6dd7$25639@KNOLOGY.NET...
>>
>> "Jeff D" <djdieterle@hughes.net> wrote in message
>> news:q8Sgn.359480$H15.172557@en-nntp-02.dc1.easynews.com...
>>>
>>> "amdx" <amdx@knology.net> wrote in message
>>> news:14219$4b830ec7$d8baf3ed$11984@KNOLOGY.NET...
>>>>
>>>> "Jeff D" <djdieterle@hughes.net> wrote in message
>>>> news:Q1Dgn.270962$er1.182300@en-nntp-07.dc1.easynews.com...
>>>>> The GE Super Radio is what I normally use to catch baseball on am 670,
>>>>> especially at night, but after about 10pm local time I get a Mexican
>>>>> station overpowering 670. I'm aware of the internet option but MLB
>>>>> doesn't allow broadcasting, they want you to buy their MLB network
>>>>> subscription. But anyway the ideal setup for me would be a good am
>>>>> table radio and antenna setup that I can input to my stereo system and
>>>>> not fight with Mexico over the channel.
>>>>>
>>>> That's why I ask about the GE, if you can get it to work, you can
>>>> cobble audio into your stereo.
>>>> Regarding the interfering Mexican station, this a great application
>>>> for a
>>>> loop, you can turn it to null out that offending station.
>>>> Even without a loop you should be able to turn the GE to null out the
>>>> Mexican Station.
>>>> Method;
>>>> Rotate the radio so the long dimension points at the Mexican station
>>>> (caution it might be in Cuba) :-) When you find the correct aim the
>>>> audio
>>>> from the offender will attenuate. Also sometimes it helps to
>>>> tip the end that point towards the offender up a little.
>>>> Mike
>>>> PS. I hate it when baseball preempts talk radio programs:-)
>>>>
>>>>
>>> yep that's exactly what I do with the GE which helps but it's still
>>> pretty scratchy and at the most 30-40% recognizable audio
>> Hmm, do you get a good null? Sometimes environmental materials can
>> mix the signals and you don't get a good null. See if you can take the
>> GE radio outside away from the building and get a null on the Mexican
```

>> and a better signal on your prefered station. If not I don't see where a
>> larger loop is going to help.
>> Just had a thought, If the Mexican station is actually a Cuban then
>> trying
>> to null the Cuban would also null the Chicago station. They are about
>> 180*
>> apart on either side of you. I'm in Fl. the Cuban stations are my
>> interference.
>> Mike
>>
>>
>
> I don't even try indoors because it pointless, I go outside, but I've got
> some geographical problems being in a valley that's in a pretty dense
> woods. The Mexican or Cuban station has a period to it's interference,
> it's about a 60 second interval with a 20 second duration. I've been
> following the White Sox for 50 years and they've been on almost every
> Chicago am station, 720, 780, 890, 1000 but 670 is by far my biggest
> challenge to get good reception. I'll be happier when they move to another
> station.
>
Wow 50 years, maybe it's time for something new.
How about curling :-)
Mike

595. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 12:33:21 UTC
From: "Jeff D." <djdieterle@hughes.net>
Message-ID: <G78hn.233411$tq1.164293@en-nntp-03.dc1.easynews.com>
Source record: 10793

```
"amdx" <amdx@knology.net> wrote in message
news:59553$4b846657$18ec6dd7$25639@KNOLOGY.NET...
>
> "Jeff D" <djdieterle@hughes.net> wrote in message
> news:q8Sgn.359480$H15.172557@en-nntp-02.dc1.easynews.com...
>>
>> "amdx" <amdx@knology.net> wrote in message
>> news:14219$4b830ec7$d8baf3ed$11984@KNOLOGY.NET...
>>>
>>> "Jeff D" <djdieterle@hughes.net> wrote in message
>>> news:Q1Dgn.270962$er1.182300@en-nntp-07.dc1.easynews.com...
>>>> The GE Super Radio is what I normally use to catch baseball on am 670,
>>>> especially at night, but after about 10pm local time I get a Mexican
>>>> station overpowering 670. I'm aware of the internet option but MLB
>>>> doesn't allow broadcasting, they want you to buy their MLB network
>>>> subscription. But anyway the ideal setup for me would be a good am
>>>> table radio and antenna setup that I can input to my stereo system and
>>>> not fight with Mexico over the channel.
>>>>
>>> That's why I ask about the GE, if you can get it to work, you can
>>> cobble audio into your stereo.
>>> Regarding the interfering Mexican station, this a great application for
>>> a
>>> loop, you can turn it to null out that offending station.
>>> Even without a loop you should be able to turn the GE to null out the
>>> Mexican Station.
>>> Method;
>>> Rotate the radio so the long dimension points at the Mexican station
>>> (caution it might be in Cuba) :-) When you find the correct aim the
>>> audio
>>> from the offender will attenuate. Also sometimes it helps to
>>> tip the end that point towards the offender up a little.
>>> Mike
>>> PS. I hate it when baseball preempts talk radio programs:-)
>>>
>>>
>> yep that's exactly what I do with the GE which helps but it's still
>> pretty scratchy and at the most 30-40% recognizable audio
> Hmm, do you get a good null? Sometimes environmental materials can
> mix the signals and you don't get a good null. See if you can take the
> GE radio outside away from the building and get a null on the Mexican
> and a better signal on your prefered station. If not I don't see where a
> larger loop is going to help.
> Just had a thought, If the Mexican station is actually a Cuban then
```

> trying
> to null the Cuban would also null the Chicago station. They are about 180*
> apart on either side of you. I'm in Fl. the Cuban stations are my
> interference.
> Mike
>
>

I don't even try indoors because it pointless, I go outside, but I've got some geographical problems being in a valley that's in a pretty dense woods. The Mexican or Cuban station has a period to it's interference, it's about a 60 second interval with a 20 second duration. I've been following the White Sox for 50 years and they've been on almost every Chicago am station, 720, 780, 890, 1000 but 670 is by far my biggest challenge to get good reception. I'll be happier when they move to another station.

596. Re: Choke balun on an elevated ground plane

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 12:44:36 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d83a37a1-cf87-4ead-a835-bab1c5b6ee26@d27g2000yqf.googlegroups.com>
Source record: 10796

On 24 feb, 00:13, TOF <ellis.s...@means.net> wrote:
> I have a (home built) 40 m ground plane with the base elevated about 8
> feet and with 7 elevated sloping radials. The 50 Ohm feedline drops
> straight down the 8 feet and then runs on the surface of the ground.
>
> Would a choke balun at the feed point be advisable?
>
> W0BF

Hello,

When that 7 radials don't touch ground and are about 1/4 lambda in
size, you have a very good floating ground. It will depend on the
length of the radiator whether you get significant voltage between
your floating ground and Earth.

When using a 1/4 lambda radiator (or longer with a series capacitor
and transformer) in my opinion you don't need it. During JOTA we use
a 0.4 lambda radiator over 6 elevated quarter wave radials (7..8 ft).
Last year we only used three of them. Moving high impedance cores
(for 7 MHz) along the coaxial feeder did not change VSWR. Also a good
diode probe with whip didn't show common mode issues with the coaxial
feeder.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc you have a functioning email address.

597. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 13:19:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4b85274d$0$633$8046368a@newsreader.iphouse.net>
Source record: 10797

Roy Lewallen wrote:
> tom wrote:
>>
>> Jeff
>>
>> I hate to support Art, but he did give the endpoint data in picture6.
>> I modeled it with eznec+ 5 and the pattern and gain are reasonably
>> close to what he shows in the other "pictures". Close considering he
>> appears to be using mininec and if he includes conductor loss and real
>> ground it's off a fair amount (I show 9.36 dBi gain). I didn't run
>> circular, and doubt that it has much in the way of circularity, which
>> is kind of obvious from the elements. Even though they are skewed in
>> a way which he probably patented.
>>
>> tom
>> K0TAR
>
> Picture6 data show equal horizontal and total gain, which means it's
> purely horizontally polarized in the direction of the analysis. That's
> also consistent with equal CW and CCW (or right and left hand) circular
> components, which mean polarization (again in the direction of the
> analysis) is purely linear.
>
> Roy Lewallen, W7EL

Thanks Roy. I was rushed at the time and also didn't care too much,
since it was obvious that even though the elements weren't parallel or
on quite the same centerline, they were very close to it. He picks at
nits when he says his antennas are different. I could get similar
results from a good windstorm.

tom
K0TAR

598. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 16:21:07 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <72919712-372a-40a1-918c-88027438fca4@g10g2000yqh.googlegroups.com>
Source record: 10798

On Feb 24, 7:19 am, tom <news4...@taring.org> wrote:
> Roy Lewallen wrote:
> > tom wrote:
>
> >> Jeff
>
> >> I hate to support Art, but he did give the endpoint data in picture6.
> >> I modeled it with eznec+ 5 and the pattern and gain are reasonably
> >> close to what he shows in the other "pictures". Close considering he
> >> appears to be using mininec and if he includes conductor loss and real
> >> ground it's off a fair amount (I show 9.36 dBi gain). I didn't run
> >> circular, and doubt that it has much in the way of circularity, which
> >> is kind of obvious from the elements. Even though they are skewed in
> >> a way which he probably patented.
>
> >> tom
> >> K0TAR
>
> > Picture6 data show equal horizontal and total gain, which means it's
> > purely horizontally polarized in the direction of the analysis. That's
> > also consistent with equal CW and CCW (or right and left hand) circular
> > components, which mean polarization (again in the direction of the
> > analysis) is purely linear.
>
> > Roy Lewallen, W7EL
>
> Thanks Roy. I was rushed at the time and also didn't care too much,
> since it was obvious that even though the elements weren't parallel or
> on quite the same centerline, they were very close to it. He picks at
> nits when he says his antennas are different. I could get similar
> results from a good windstorm.
>
> tom
> K0TAR

I don't know what your competing design would be but it avoids the
point that I am making.
By using the method where all elements are resonant and in equilibrium
proves the point of existing laws point to a dynamic field of
particles solvable by applying Maxwell.
One can thus see that accepted laws point to particles and not waves
in communication.
Extending these same points show that one can also manipulate both
elements in to smaller volumes while retaining equilibrium which

industry is now striving for. Probably, this can be done now by changing the radiaters into contra wound coils while retaining equilibrium.
Radcom of the UK showed an example of this some years ago when coils of wire were placed on a paper lunch plate which was exciting a neon tube placed above it. You would need a very large computer program to emulate this and that costs money. It also shows that the Standard Model consists of just two forces as the same two vectors follow the trail
of Newton's laws back to the "big bang" where the boundary fractures momentarily in trap door fashion to produce the same two vector forces of direct and occillatory helical rotations. The energy flow as envisaged by Einstein to prove this point is outlined on my page. One can also deduce from the above that the present speed of light cannot be exceeded unless a diamagnetic particle is found with less mass than that of a electron particle. None of the above is suggesting that the Yagi design should be abandoned by hams.

599. Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 17:00:33 UTC
From: ve2pid <ve2pid@videotron.ca>
Message-ID: <cd290c79-c0c7-4308-af41-aba48226d9be@b2g2000yqi.googlegroups.com>
Source record: 10799

Let's suppose that we use to identical length of coax, and on each
one, we connect the shield to the inner conductor at each of its ends.
If we use these two independant (?) sections as a substitute for an
open-wire line, could we use the usual formula Z=276*log(2S/D) to
compute the impedance of that line?

In that case, the characteristic impedance Zo of the coax could be
neglected. And what about the matched losses in dB/100' of the
resultant line? Twice the one of the coax?

73 de Pierre VE2PID

600. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 19:28:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2A41C62FDFEnonenowhere@61.9.191.5>
Source record: 10800

ve2pid <ve2pid@videotron.ca> wrote in news:cd290c79-c0c7-4308-af41-aba48226d9be@b2g2000yqi.googlegroups.com:

> Let's suppose that we use to identical length of coax, and on each
> one, we connect the shield to the inner conductor at each of its ends.
> If we use these two independant (?) sections as a substitute for an
> open-wire line, could we use the usual formula Z=276*log(2S/D) to
> compute the impedance of that line?
>
> In that case, the characteristic impedance Zo of the coax could be
> neglected. And what about the matched losses in dB/100' of the
> resultant line? Twice the one of the coax?

Pierre,

The formula you give is an approximation which is not good for low Zo, and it ignores the effect of the dielectric (coax jacket).

I have seen discussion of this recently in another place.

Yes, you can fabricate a two wire open line like this. You need to find a way to bind the two cables for consistent physical spacing, if the jacket is PVC you are using a lossy dielectric, the braided conductor is lossier at RF than an equivalent solid copper tube. So an expensive low Zo line, not a low as you might think, with poor performance.

Why would you do this?

Owen

601. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 19:45:25 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <f6f2c446-5128-4851-aab2-03394ce8ff5d@v20g2000yqv.googlegroups.com>
Source record: 10851

Pierre,

The matched loss of the resulting open-wire line is not related to the matched loss of the coax cablebecause those cables are not individually operating in "Transmission Line" mode. For the same reason, the velocity factor of the open-wire line will not be the same as the coax.

Here's a write-up of an experiment I did to produce low Zo balanced line. I didn't measure the loss because my application was for a very short run:

http://www.karinya.net/g3txq/twin_feed/

73,
Steve G3TXQ

602. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 20:16:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2A49F15444Enonenowhere@61.9.191.5>
Source record: 10852

steveeh131047 <google@karinya.net> wrote in news:f6f2c446-5128-4851-aab2-03394ce8ff5d@v20g2000yqv.googlegroups.com:

> Here's a write-up of an experiment I did to produce low Zo balanced
> line. I didn't measure the loss because my application was for a very
> short run:

Steve, you haven't let on much detail about the application of your low Zo line.

I think I suggested elsewhere that you could fabricate such a thing with parallel coaxes with all of their shields at each end bonded.

I explored using square tubes as a rigid transmission line. This finds application in a range of areas, eg the boom of a LP. See http://www.vk1od.net/calc/tstl.htm . A 50 ohm line (if that was your objective) requires an air spaced line of 1.19 D/d. The article contains a calculator to solve the curve fit.

Owen

603. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 20:53:53 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <228bd6f5-1338-43ff-9474-403c7fdb084b@d2g2000yqa.googlegroups.com>
Source record: 10853

On Feb 23, 4:41 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Fred McKenzie wrote:
> > In article
> > <487a29fe-55d5-4948-ae46-86196a2e1...@g11g2000yqe.googlegroups.com>,
> > phaedrus <orion.osi...@virgin.net> wrote:
>
> >> Hi again,
>
> >> Well I have read your informative replies on the problems with making
> >> a low Zo twin feed with much interest. Clearly it's not really a
> >> practical proposition. Shame.
>
> >> So the obvious question is: why are transmitters normalised to 50 ohms
> >> when clearly 450 ohms would enable us to enjoy cheaper, do-it-
> >> yourself, lower loss feeders? Was this some oversight at the time, or
> >> good practice for some obscure reason that I simply cannot think of?
>
> > As others mentioned, the origin is probably based on military standards.
>
> > It is my understanding that the lowest loss air dielectric Co-Ax would
> > have an impedance of around 75 Ohms.
>
> loss, at constant frequency, is proportional to
> 1/Z * (1/b + 1/a)
> b= diameter of outer , a = diam of inner
>
> This reflects the fact that at lowish frequencies (HF), the loss is
> ohmic, so it's the series combination of the resistivity of the center
> and outer conductors (the 1/b+1/a term), and the current flowing (the
> 1/Z term.. higher Z means lower current, so less IR loss)
>
> Z is proportional to log(b/a)
> so
> loss = k/log(b/a)*(1/b+1/a)
>
> Run the numbers and you see that a ratio of 1:3.6 gets you 50 ohms with
> epsilon=2.3 and a ratio of 1:6.7 gets you about 75 ohms.
>
> At 10 MHz loss is about 0.028 dB/meter for the 50 ohm, and 0.017
> dB/meter for the 75 ohm.
>
> but you can go higher in Z...and the loss keeps going down, but even at
> 1:20 diameter ratio, the impedance is 118 ohms, and the loss is 0.010
> dB/meter.   So 75 isn't a "lowest loss" frequency. More likely, 75 ohms

> happens to be close to 72 ohms, which is the characteristic impedance of
> a dipole in free space, or, more usefully, 1/4 of the 300 ohm impedance
> of a folded dipole.
>
> In air, the dimensions and loss are:
> 50 ohm 1:2.3 0.033 dB/meter
> 75 ohm 1:3.5 0.019 dB/meter
>
> If you use the same mechanical
>
> > dimensions but with a polyethylene dielectric, the impedance becomes 52
> > Ohms.
>
> I think that is just coincidence:
>
> Z = 138/sqrt(epsilon)* log (b/a)
>
> air has epsilon=1 (or very close)
> polyethylene has 1/sqrt(epsilon) about 0.66, so, in fact, it happens to
> work out (e.g. 50/75 = 0.66)

Agreed that (ignoring loss in the dielectric)

loss(dB) = k * (1/a + 1/b) / log(b/a)

k includes a factor for the permittivity of the dielectric, a factor
for unit length of line, and a factor for the units of a and b.

Now assume a fixed outer diameter b; does this function have a minimum
versus a? Let k=1 and b=1 for convenience (won't affect the ratio b/a
at minimum). So, find "a" to minimize

y = (1/a + 1)/ log(1/a)

I get that to be b/a = 3.5911 or so. It doesn't even matter if you
use log10 or natural log; same result. This says that loss for a line
constructed the same but with a larger b/a and same b will have higher
loss.

With vacuum dielectric, the impedance of coax with that 3.59:1 ratio
is about 76.7 ohms. With solid polyethylene dielectric, it's about
50.6 ohms.

I didn't see anything in your dB/meter numbers about line diameter,
and that's clearly important. You can make the line bigger to get
lower loss, or smaller and get more loss. Clearly if I keep "a"
constant and let "b" grow to get higher impedance, the predicted line
loss will go down monotonically with increasing b/a; things fall apart
when b becomes a significant fraction of a wavelength, of course.

If I calculate the dB loss for air-dielectric lines of several
impedances, all with the same outer conductor inside diameter, and
ratio the results, here's what I get. Note that the attenuation

doesn't really change much with impedance until you get to fairly high or fairly low impedances. Also...simply multiply the Zo numbers by 0.66 to get the ratios for lines filled with solid polyethylene dielectric (again assuming no loss in the dielectric itself; generally accurate up to at least several hundred MHz).

Zo (dB/unit length @ Zo)/(dB/unit length of 76.7ohm line)
25 1.682
30 1.475
35 1.333
40 1.231
45 1.157
50 1.103
60 1.035
70 1.005
75 1.000
80 1.001
90 1.018
100 1.052
120 1.168
140 1.350
160 1.607

One shouldn't read too much into these numbers with several significant figures; line attenuation also depends on things like whether the conductors are solid or stranded or braided. Stranding and braiding adds to the loss.

'Nuff for now...

Cheers,
Tom

604. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 21:11:08 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <fea97600-b83c-4c9c-878f-5df5b1db690d@b30g2000yqd.googlegroups.com>
Source record: 10854

On Feb 24, 11:28 am, Owen Duffy <n...@no.where> wrote:
> ve2pid <ve2...@videotron.ca> wrote in news:cd290c79-c0c7-4308-af41-
> aba48226d...@b2g2000yqi.googlegroups.com:
>
> > Let's suppose that we use to identical length of coax, and on each
> > one, we connect the shield to the inner conductor at each of its ends.
> > If we use these two independant (?) sections as a substitute for an
> > open-wire line, could we use the usual formula Z=276*log(2S/D) to
> > compute the impedance of that line?
>
> > In that case, the characteristic impedance Zo of the coax could be
> > neglected. And what about the matched losses in dB/100' of the
> > resultant line? Twice the one of the coax?
>
> Pierre,
>
> The formula you give is an approximation which is not good for low Zo,
> and it ignores the effect of the dielectric (coax jacket).
>
> I have seen discussion of this recently in another place.
>
> Yes, you can fabricate a two wire open line like this. You need to find a
> way to bind the two cables for consistent physical spacing, if the jacket
> is PVC you are using a lossy dielectric, the braided conductor is lossier
> at RF than an equivalent solid copper tube. So an expensive low Zo line,
> not a low as you might think, with poor performance.
>
> Why would you do this?
>
> Owen

I certainly agree with Owen that it's not a particularly good way to get a low-loss two-wire balanced line. To me, the attraction of a two-wire balanced line is the low loss when it's properly implemented at relatively higher impedance. That said, however, one can buy "Siamese twin" cables with two pieces of coax in the same jacket, arranged to make it easy to separate them. The web of jacket between the two lines is relatively thin. Such line is common in CATV installations in homes.

At low frequencies (HF, especially lower HF frequencies), the dielectric loss may not be too bad, especially for the low impedance involved. It may be a cheap way to get an approximately 100 ohm balanced line. Even though the braided conductors will have higher loss than equivalent diameter smooth conductors, the copper loss for

typical RG-6-type line used that way (about 5mm OD outer conductor) will almost certainly be less than that using, say, 2mm diameter solid conductors. You may be able to find surplus (e.g. reel-ends) of this sort of line at very attractive prices. Even new, it's not too bad--a lot cheaper than equivalent diameter solid copper!

Cheers,
Tom

605. Re: Why 50 ohms?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 22:06:32 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <f4a92ab9-e9db-476b-bd37-d239ce188902@g28g2000yqh.googlegroups.com>
Source record: 10855

On Feb 14, 2:14 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Sun, 14 Feb 2010 01:33:58 -0800 (PST), phaedrus
>
> <orion.osi...@virgin.net> wrote:
> >why are transmitters normalised to 50 ohms
> >when clearly 450 ohms would enable us to enjoy cheaper, do-it-
> >yourself, lower loss feeders?
>
> A 450 ohm coaxial cable would be rather large.
> Zo = 450 = 138 log(b/a) (where b=OD and a=ID)
> For an inner conductor diameter of 1 mm, the outer shield diameter
> would need to be 1800 mm or about 71 inches.
>
> --
> Jeff Liebermann je...@cruzio.com
> 150 Felker St #D http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann AE6KS 831-336-2558

I understand the Navy used to have some coaxial line you could drive
through. The center conducter was hung from huge ceramic insulators
similar to those used by the power company.

Jimmie

606. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 22:45:59 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <5649912d-d401-4ff6-bcc0-f47c552ba77a@c16g2000yqd.googlegroups.com>
Source record: 10856

On Feb 24, 8:16 pm, Owen Duffy <n...@no.where> wrote:
> steveeh131047 <goo...@karinya.net> wrote in news:f6f2c446-5128-4851-aab2-
> 03394ce8f...@v20g2000yqv.googlegroups.com:
>
> > Here's a write-up of an experiment I did to produce low Zo balanced
> > line. I didn't measure the loss because my application was for a very
> > short run:
>
> Steve, you haven't let on much detail about the application of your low Zo
> line.
>
> I think I suggested elsewhere that you could fabricate such a thing with
> parallel coaxes with all of their shields at each end bonded.
>
> I explored using square tubes as a rigid transmission line. This finds
> application in a range of areas, eg the boom of a LP.
Seehttp://www.vk1od.net/calc/tstl.htm. A 50 ohm line (if that was your
> objective) requires an air spaced line of 1.19 D/d. The article contains a
> calculator to solve the curve fit.
>
> Owen

Owen.

The application is no secret - the first paragraph in my linked page
explains it.

I was looking for line with a Zo in the range 50ohms-70ohms that could
be used for the band interconnects on the hexbeam. Arguably, balanced
line would be easier to handle, and might have some common-mode
advantages. Total length is about 4ft so loss is not an issue. It
would need to be very easily replicated, using materials readily
available to constructors world-wide.

At the end of the day it became more of a "self learning" exercise
than a serious quest !

73,
Steve G3TXQ

607. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 23:12:28 UTC
From: ve2pid <ve2pid@videotron.ca>
Message-ID: <e44076bb-dfdc-4aa4-8c13-707e25a64868@o3g2000yqb.googlegroups.com>
Source record: 10857

In the ARRL's Antenna Book 21st ed page 24-21, we see that if we connect the two shields of the coax cables together, we obtain 'Shielded parallel Lines' . In that case, the resultant impedance is simply the sum of the characteristic impedances of each coax.

So, there is quite a difference between the two independent coax I mentioned in my first message (we connect the shield to the inner conductor at each of its ends) (A) and the 'Shielded Parallel Lines' case (B).

I am trying to understand why and it is the reason I posted my first message...

In (A), the Z=276*log(2S/D) applies, so the Zo of each coax does not matter.. but in (B), Z=Zo1+Zo2, so the value of each Zo matters.

Am I right? And how to compute matched line loss in case (A) and in case (B) ?

608. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 23:14:19 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2A6823DCE2Enonenowhere@61.9.191.5>
Source record: 10858

steveeh131047 <google@karinya.net> wrote in
news:5649912d-d401-4ff6-bcc0-f47c552ba77a@c16g2000yqd.googlegroups.com:
> The application is no secret - the first paragraph in my linked page
> explains it.

I missed that!

> I was looking for line with a Zo in the range 50ohms-70ohms that could
> be used for the band interconnects on the hexbeam. Arguably, balanced
> line would be easier to handle, and might have some common-mode
> advantages. Total length is about 4ft so loss is not an issue. It

I am not so sure there would be much difference.

> would need to be very easily replicated, using materials readily
> available to constructors world-wide.

If you tried my calculator for the square tubes, you would have found
that you get lower Zo for the same D/d ration as for round tubes. For
example, a pair of 12mm tubes clamped together with 2mm spacing gives Zo
of around 50 ohms. If such an element could be used to replace one of the
spreaders, then you have neat solution... but it would take some custom
moulding to support such a spreader on the hub.

>
> At the end of the day it became more of a "self learning" exercise
> than a serious quest !

Well, that is a serious quest.

Cheers
Owen

>
> 73,
> Steve G3TXQ
>

609. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 23:21:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2A694999178nonenowhere@61.9.191.5>
Source record: 10859

ve2pid <ve2pid@videotron.ca> wrote in news:e44076bb-dfdc-4aa4-8c13-707e25a64868@o3g2000yqb.googlegroups.com:

> In the ARRL's Antenna Book 21st ed page 24-21, we see that if we
> connect the two shields of the coax cables together, we obtain
> 'Shielded parallel Lines' . In that case, the resultant impedance is
> simply the sum of the characteristic impedances of each coax.
>
> So, there is quite a difference between the two independent coax I
> mentioned in my first message (we connect the shield to the inner
> conductor at each of its ends) (A) and the 'Shielded Parallel Lines'
> case (B).
>
> I am trying to understand why and it is the reason I posted my first
> message...

That is not quite what you asked.

However, in the case you described in your first post, the shield of each cable carries the differential current on the outside of the shield.

In the case of B above, the differential current is carried entirely inside the shield, no differential current flows on the outside of the shield.

So, the field structures, and therefore Zo are different in the two cases.

> In (A), the Z=276*log(2S/D) applies, so the Zo of each coax does not
> matter.. but in (B), Z=Zo1+Zo2, so the value of each Zo matters.
>
> Am I right? And how to compute matched line loss in case (A) and in
> case (B) ?

I opine that you will have to measure MLL for case A, mainly because the effective RF resistance of the braid is not easy to estimate.

(B) can be found from tables, or better still, http://www.vk1od.net/calc/tl/tllc.php , it is the same as the single cable used to fabricate the pair... think about it.

Owen

610. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 23:36:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1a0791d4-6a20-4dfd-af75-338662799e1e@y33g2000yqb.googlegroups.com>
Source record: 10860

On Feb 24, 5:21 pm, Owen Duffy <n...@no.where> wrote:
>... mainly because the effective RF resistance of the braid is not easy to estimate.

Is there no data for the RF resistance of the center conductor vs the
RF resistance for the braid? One would think it could be ascertained
by comparing known coax losses to known parallel line losses when the
wires are the same size.
--
73, Cecil, w5dxp.com

611. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-24 23:41:35 UTC
From: Ed <Huckleberries_REMOVE_@q.com>
Message-ID: <Xns9D299FA28AE07HuckleberryQwest@74.209.136.92>
Source record: 10861

ve2pid <ve2pid@videotron.ca> wrote in news:cd290c79-c0c7-4308-af41-aba48226d9be@b2g2000yqi.googlegroups.com:

> Let's suppose that we use to identical length of coax, and on each
> one, we connect the shield to the inner conductor at each of its ends.
> If we use these two independant (?) sections as a substitute for an
> open-wire line, could we use the usual formula Z=276*log(2S/D) to
> compute the impedance of that line?
>
> In that case, the characteristic impedance Zo of the coax could be
> neglected. And what about the matched losses in dB/100' of the
> resultant line? Twice the one of the coax?
>
> 73 de Pierre VE2PID

Sounds kinda messy and unstable, to me.... but do-able I suppoes. I'd rather search for a few short pieces of 25 ohm coax and do the coaxial balanced line thing as normally done.

Ed K7AAT

612. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 01:50:47 UTC
From: tom <news4792@taring.org>
Message-ID: <4b85d76e$0$644$8046368a@newsreader.iphouse.net>
Source record: 10862

tom wrote:
>
> Thanks Roy. I was rushed at the time and also didn't care too much,
> since it was obvious that even though the elements weren't parallel or
> on quite the same centerline, they were very close to it. He picks at
> nits when he says his antennas are different. I could get similar
> results from a good windstorm.
>
> tom
> K0TAR
>

Ok, revisiting things now that I have time, I discovered something,
which The Art may (ok, will) get off into an incomprehensible rant about.

I did a simple normalization. I calculated the lengths of the elements
and the location of their centerpoints. I then calculated the distance
between the centerpoints. I then put it all in a nice level and square
2 element array. I left the diameters alone.

New endpoints -

-37.455 -219.135 707 -37.455 219.135 707 1
37.455 -195.45 707 37.455 195.45 707 1.25

Results at 14.175 using EZNEC+ 5

Gain F/B
Original 9.87 dBi 7.84
Normalized 10.29 dBi 8.58

The impedance curves were not different enough to be of note and were
matchable to 50 ohms with good efficiency.

I'll take the one with better gain and F/B that's also nice looking with
elements that are easier to mount because they're at 90 degree angles,
thank you. Yes, run-on sentence.

tom
K0TAR

613. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 02:14:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6imbo5l15i8vl8aelk3shoemfi1j94pc8p@4ax.com>
Source record: 10863

On Wed, 24 Feb 2010 19:50:47 -0600, tom <news4792@taring.org> wrote:

>Ok, revisiting things now that I have time, I discovered something,
>which The Art may (ok, will) get off into an incomprehensible rant about.

This outrage is largely due in part to revealing an inferior design:

> Gain F/B
>Original 9.87 dBi 7.84
>Normalized 10.29 dBi 8.58

I wonder whatever happened to the golden city shining on the top of
the hill that Art called "length efficiency?" A back of the envelope
calculation of Art's 20M antenna reveals elements that are
conventional half wave. This raises the more immediate
head-scratcher: whatever happened to the golden calf of his designs
being in equalithium?

73's
Richard Clark, KB7QHC

614. wanted mfj antenna analyzer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 02:19:57 UTC
From: walt <wbelsito@juno.com>
Message-ID: <b016a66f-76fb-4251-8260-6e4792769013@g28g2000yqh.googlegroups.com>
Source record: 10864

contact me ; wbelsito@aol.com

615. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 02:32:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4b85e114$0$636$8046368a@newsreader.iphouse.net>
Source record: 10865

Richard Clark wrote:
>
> I wonder whatever happened to the golden city shining on the top of
> the hill that Art called "length efficiency?" A back of the envelope
> calculation of Art's 20M antenna reveals elements that are
> conventional half wave. This raises the more immediate
> head-scratcher: whatever happened to the golden calf of his designs
> being in equalithium?
>
> 73's
> Richard Clark, KB7QHC

I believe his designs are the result of lackolithium.

tom
K0TAR

616. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 02:41:29 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <1a05f773-3920-4f31-bb7c-fb3c04e01dd6@c16g2000yqd.googlegroups.com>
Source record: 10866

```
On Feb 24, 7:50 pm, tom <news4...@taring.org> wrote:
> tom wrote:
>
> > Thanks Roy.  I was rushed at the time and also didn't care too much,
> > since it was obvious that even though the elements weren't parallel or
> > on quite the same centerline, they were very close to it.  He picks at
> > nits when he says his antennas are different.  I could get similar
> > results from a good windstorm.
>
> > tom
> > K0TAR
>
> Ok, revisiting things now that I have time, I discovered something,
> which The Art may (ok, will) get off into an incomprehensible rant about.
>
> I did a simple normalization.  I calculated the lengths of the elements
> and the location of their centerpoints.  I then calculated the distance
> between the centerpoints.  I then put it all in a nice level and square
> 2 element array.  I left the diameters alone.
>
> New endpoints -
>
> -37.455   -219.135   707   -37.455    219.135   707   1
>   37.455   -195.45    707    37.455    195.45    707   1.25
>
> Results at 14.175 using EZNEC+ 5
>
>               Gain       F/B
> Original     9.87 dBi   7.84
> Normalized  10.29 dBi   8.58
>
> The impedance curves were not different enough to be of note and were
> matchable to 50 ohms with good efficiency.
>
> I'll take the one with better gain and F/B that's also nice looking with
> elements that are easier to mount because they're at 90 degree angles,
> thank you.  Yes, run-on sentence.
>
> tom
> K0TAR

Tom I have no problem with your choice of going with the one with the
best front to back, what ever one that is. The crux of the matter is
under the equations of Maxwell optimiser programs do not provide the
```

planar form as the best radiator. I understand that Roy now has an optimiser program for sale and I fully expect for it to follow the same pattern as well as prove my point on the circular wound antenna as apparently he supplies more than enough segments assuming the computer has the power to use them.
However a look at the larger picture the same particulars provided state that one can manipulate the elements to occupy a small volume as long as the resonance and equilibrium restrictions are held to. I see that as the real prize that will come from my workif one had the equipment to do the optimization. Ofcourse if Roy's program still provide the yagi as the optimizer result then there is a definate conflict with other computer programs that use Maxwells equations.
Looking back at the idea that waves are the carrier of communication it leaves us with the silly propersition that a Faraday cage perforations must be less in size to that of the incoming wave! Thus for a cage for use on the top band
can live with openings that are a bit smaller than 180 metres! Now some text books have dropped the size opening to approx 1/10 of a WL which is still way to large to enclose the eddy current rotation.Einstein failed to prove his theorem and was forced to invent quantum mechanics which provided the answer of particles that he anticipated and now with the above standard physics figures supplies the same result. So it is up to the ham himself to decide whether it is worthwhile to have an antenna sensitive to all signals that are thrown at it, where it operates in a smaller volume than the yagi or stay with one more pleasing on the eye. I personally do not have the equipment to pursue what appears to be smaller antennas than presently used all the way down to point radiation.
What hams have to recognise now is that the much vaunted antenna programs do not consider the yagi as an optimized array and to decide whether to ditch the programs or pursue what the programs based on Maxwell provide to its limits.
Art Unwin KB9MZ......xg

617. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 03:05:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4b85e8f6$0$633$8046368a@newsreader.iphouse.net>
Source record: 10867

Art Unwin wrote:
> On Feb 24, 7:50 pm, tom <news4...@taring.org> wrote:
>> tom wrote:
>>
>>> Thanks Roy. I was rushed at the time and also didn't care too much,
>>> since it was obvious that even though the elements weren't parallel or
>>> on quite the same centerline, they were very close to it. He picks at
>>> nits when he says his antennas are different. I could get similar
>>> results from a good windstorm.
>>> tom
>>> K0TAR
>> Ok, revisiting things now that I have time, I discovered something,
>> which The Art may (ok, will) get off into an incomprehensible rant about.
>>
>> I did a simple normalization. I calculated the lengths of the elements
>> and the location of their centerpoints. I then calculated the distance
>> between the centerpoints. I then put it all in a nice level and square
>> 2 element array. I left the diameters alone.
>>
>> New endpoints -
>>
>> -37.455 -219.135 707 -37.455 219.135 707 1
>> 37.455 -195.45 707 37.455 195.45 707 1.25
>>
>> Results at 14.175 using EZNEC+ 5
>>
>> Gain F/B
>> Original 9.87 dBi 7.84
>> Normalized 10.29 dBi 8.58
>>
>> The impedance curves were not different enough to be of note and were
>> matchable to 50 ohms with good efficiency.
>>
>> I'll take the one with better gain and F/B that's also nice looking with
>> elements that are easier to mount because they're at 90 degree angles,
>> thank you. Yes, run-on sentence.
>>
>> tom
>> K0TAR
>
> Tom I have no problem with your choice of going with the one with the
> best front to back, what ever one that is. The crux of the matter is
> under the equations of Maxwell optimiser programs do not provide the
> planar form as the best radiator. I understand that Roy now has an

> optimiser program for sale and I fully expect for it to follow the
> same pattern as well as prove my point on the circular wound antenna
> as apparently he supplies more than enough segments assuming the
> computer has the power to use them.
> However a look at the larger picture the same particulars provided
> state that one can manipulate the elements to occupy a small volume as
> long as the resonance and equilibrium restrictions are held to. I see
> that as the real prize that will come from my workif one had the
> equipment to do the optimization. Ofcourse if Roy's program still
> provide the yagi as the optimizer result then there is a definate
> conflict with other computer programs that use Maxwells equations.
> Looking back at the idea that waves are the carrier of communication
> it leaves us with the silly propersition that a Faraday cage
> perforations must be less in size to that of the incoming wave! Thus
> for a cage for use on the top band
> can live with openings that are a bit smaller than 180 metres! Now
> some text books have dropped the size opening to approx 1/10 of a WL
> which is still way to large to enclose the eddy current
> rotation.Einstein failed to prove his theorem and was forced to invent
> quantum mechanics which provided the answer of particles that he
> anticipated and now with the above standard physics figures supplies
> the same result. So it is up to the ham himself to decide whether it
> is worthwhile to have an antenna sensitive to all signals that are
> thrown at it, where it operates in a smaller volume than the yagi or
> stay with one more pleasing on the eye. I personally do not have the
> equipment to pursue what appears to be smaller antennas than presently
> used all the way down to point radiation.
> What hams have to recognise now is that the much vaunted antenna
> programs do not consider the yagi as an optimized array and to decide
> whether to ditch the programs or pursue what the programs based on
> Maxwell provide to its limits.
> Art Unwin KB9MZ......xg

Yup, I was correct, pretty much incomprehensible nonsense. And the comprehensible parts were worthless, as usual.

Go back on your meds kid. And stay there.

tom
K0TAR

618. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 03:24:34 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5c58b4b1-8459-4c12-b943-06fca9ff165e@g26g2000yqn.googlegroups.com>
Source record: 10868

On Feb 24, 8:14 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 24 Feb 2010 19:50:47 -0600, tom <news4...@taring.org> wrote:
> >Ok, revisiting things now that I have time, I discovered something,
> >which The Art may (ok, will) get off into an incomprehensible rant about.
>
> This outrage is largely due in part to revealing an inferior design:
>
> >   Gain   F/B
> >Original   9.87 dBi   7.84
> >Normalized 10.29 dBi   8.58
>
> I wonder whatever happened to the golden city shining on the top of
> the hill that Art called "length efficiency?" A back of the envelope
> calculation of Art's 20M antenna reveals elements that are
> conventional half wave. This raises the more immediate
> head-scratcher: whatever happened to the golden calf of his designs
> being in equalithium?
>
> 73's
> Richard Clark, KB7QHC

Richard,
I am sharing results provided by computer optimizers where an array
must be in equilibrium. I am not party to how these programs were
generated or how closely they adhere to maxwells equations.If they
provide results that are different then that seller has to answer for
it.
Obviously clever people such as yourself will guide hams on the
correct path to follow
as well as to explain why Maxwells equations do not favor the yagi.
Hopefully you will supply technical details and not just wordy fluff.
I would point out that Tom provided a planar form, which you copied,
for a different frequency to the one that I supplied which provided f/
b/r that greatly exceeded his design. If your idea is to be a pied
piper to lead ham radio away from
examining change then such tactics will certainly do the job. But
first to justify your dreams as a leader you have to provide reasons
that make optimizer programs suspect.
A point in your favor would be that Roy declares that his optimizer do
NOT supply the results that others do so that experts such as you can
direct your talents where they would be more profitable. Since you are
not wired the same as I am I will not respond to you any more so that
guilt by association may not be applied. But I will mention to all
that you are in total disagreement with the association of a static

field being made dynamic which is a staple in physics around which this discussion rests upon. Nobody, nobody, has come forward to provide academic reasons why this staple should not be held to or why people such as you should trash pursuit of that what I disclose. What I have provided is that computer programs side lines yagis in favor of arrays where elements are not parallel but all are resonant and where the array as a whole is in equilibrium. They do this because Maxwell supports the physics staple I proffer which you declare as NOT being correct but without supporting data other than you said so.

619. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 06:59:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <MYGdnQIpPKZwghvWnZ2dnUVZ_tidnZ2d@giganews.com>
Source record: 10869

tom wrote:
> Art Unwin wrote:
>>
>> I understand that Roy now has an
>> optimiser program for sale. . .

Regretfully, I don't.

Roy Lewallen, W7EL

620. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 08:49:35 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hm5dj4$4ls$1@speranza.aioe.org>
Source record: 10870

ve2pid wrote:
> In the ARRL's Antenna Book 21st ed page 24-21, we see that if we
> connect the two shields of the coax cables together, we obtain
> 'Shielded parallel Lines' . In that case, the resultant impedance is
> simply the sum of the characteristic impedances of each coax.
>
> So, there is quite a difference between the two independent coax I
> mentioned in my first message (we connect the shield to the inner
> conductor at each of its ends) (A) and the 'Shielded Parallel Lines'
> case (B).
>
> I am trying to understand why and it is the reason I posted my first
> message...
>
> In (A), the Z=276*log(2S/D) applies, so the Zo of each coax does not
> matter.. but in (B), Z=Zo1+Zo2, so the value of each Zo matters.
>

I am sure that in case B it is as for resistors in parallel, ie 2 50ohm cables in parallel give you 25ohms Zo.

Jeff

621. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 14:12:50 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <3ebd6499-6033-4932-9ebb-57af00d69848@g19g2000yqe.googlegroups.com>
Source record: 10871

On Feb 24, 4:21 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Feb 24, 7:19 am, tom <news4...@taring.org> wrote:
>
>
>
> > Roy Lewallen wrote:
> > > tom wrote:
>
> > >> Jeff
>
> > >> I hate to support Art, but he did give the endpoint data in picture6.
> > >> I modeled it with eznec+ 5 and the pattern and gain are reasonably
> > >> close to what he shows in the other "pictures". Close considering he
> > >> appears to be using mininec and if he includes conductor loss and real
> > >> ground it's off a fair amount (I show 9.36 dBi gain). I didn't run
> > >> circular, and doubt that it has much in the way of circularity, which
> > >> is kind of obvious from the elements. Even though they are skewed in
> > >> a way which he probably patented.
>
> > >> tom
> > >> K0TAR
>
> > > Picture6 data show equal horizontal and total gain, which means it's
> > > purely horizontally polarized in the direction of the analysis. That's
> > > also consistent with equal CW and CCW (or right and left hand) circular
> > > components, which mean polarization (again in the direction of the
> > > analysis) is purely linear.
>
> > > Roy Lewallen, W7EL
>
> > Thanks Roy. I was rushed at the time and also didn't care too much,
> > since it was obvious that even though the elements weren't parallel or
> > on quite the same centerline, they were very close to it. He picks at
> > nits when he says his antennas are different. I could get similar
> > results from a good windstorm.
>
> > tom
> > K0TAR
>
> I don't know what your competing design would be but it avoids the
> point that I am making.
> By using the method where all elements are resonant and in equilibrium
> proves the point of existing laws point to a dynamic field of
> particles solvable by applying Maxwell.

> One can thus see that accepted laws point to particles and not waves
> in communication.
> Extending these same points show that one can also manipulate both
> elements in to smaller volumes while retaining equilibrium which
> industry is now striving for. Probably, this can be done now by
> changing the radiaters into contra wound coils while retaining
> equilibrium.
> Radcom of the UK showed an example of this some years ago when coils
> of wire were placed on a paper lunch plate which was exciting a neon
> tube placed above it. You would need a very large computer program to
> emulate this and that costs money. It also shows that the Standard
> Model consists of just two forces as the same two vectors follow the
> trail
> of Newton's laws back to the "big bang" where the boundary fractures
> momentarily in trap door fashion to produce the same two vector forces
> of direct and occillatory helical rotations. The energy flow as
> envisaged by Einstein to prove this point is outlined on my page. One
> can also deduce from the above that the present speed of light cannot
> be exceeded unless a diamagnetic particle is found with less mass than
> that of a electron particle. None of the above is suggesting that the
> Yagi design should be abandoned by hams.

well, i'm glad you don't feel we should abandon Yagi-Uda antennas. of course the rest of what you said is incomprehensible gibberish.

622. Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 14:48:20 UTC
From: ".Richard Clark" <timothypwr@gmail.com>
Message-ID: <fb74c60b-be43-48a0-b771-06950e758c31@t23g2000yqt.googlegroups.com>
Source record: 10872

Spot the difference,
Actually I don't know if this is a joke or if it's for real,
could be really usefull in certain parts of America, but only if set
underground-
But the problem is.....where’s the water tank, the grey water tank,
black water tank, the propane tanks, solar panels and wheels and
hitch???

Certanly this could be seen as a U.F.O hahah

http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...

623. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 16:17:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B218361207nonenowhere@61.9.191.5>
Source record: 10873

Jeff <Jeff@fred.fredsystem.com> wrote in news:hm5dj4$4ls$1
@speranza.aioe.org:

> I am sure that in case B it is as for resistors in parallel, ie 2 50ohm
> cables in parallel give you 25ohms Zo.

Jeff, you you offer more explanation that just that your are "sure".

If you can't explain it, it speaks of whether you are sure.

Owen

624. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 16:51:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B2741E1151nonenowhere@61.9.191.5>
Source record: 10874

Owen Duffy <none@no.where> wrote in
news:Xns9D2A6823DCE2Enonenowhere@61.9.191.5:

> steveeh131047 <google@karinya.net> wrote in
> news:5649912d-d401-4ff6-bcc0-f47c552ba77a@c16g2000yqd.googlegroups.com:
>> The application is no secret - the first paragraph in my linked page
>> explains it.

Steve,

Another thought comes to mind, and that is a pair of rectangular
conductors, preformed to the parabolic like shape and screwed togeter with
insulated fixings.

You could achieve the Zo you seek with say 20mm wide flat with manageable
spacing... however it would be a water trap to some extent (just like LP
feeds using twin booms).

Owen

625. Re: Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 16:57:09 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hm6a55$ek76$1@tr22n12.aset.psu.edu>
Source record: 10875

.Richard Clark wrote:
> Spot the difference,
> Actually I don't know if this is a joke or if it's for real,
> could be really usefull in certain parts of America, but only if set
> underground-
> But the problem is.....whereï¿½s the water tank, the grey water tank,
> black water tank, the propane tanks, solar panels and wheels and
> hitch???
>
> Certanly this could be seen as a U.F.O hahah
>
>
> http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...

Ahhhh, life inside a white Brazil nut.

Looks like a student project that wasn't completely thought out. Reminds
me of the Weinermobile in white sans wheels.

- 73 de Mike N3LI -

626. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 17:03:11 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hm6agi$57a$1@speranza.aioe.org>
Source record: 10876

Owen Duffy wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in news:hm5dj4$4ls$1
> @speranza.aioe.org:
>
>> I am sure that in case B it is as for resistors in parallel, ie 2 50ohm
>> cables in parallel give you 25ohms Zo.
>
> Jeff, you you offer more explanation that just that your are "sure".
>
> If you can't explain it, it speaks of whether you are sure.
>
> Owen

Well having just tried it for real on a network analyser, and simulated
it on Ansoft designer I am now convinced rather than being sure!!

Jeff

627. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 17:08:51 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <57cdd41b-66b0-4d66-9b8d-b05c4bc141cf@a18g2000yqc.googlegroups.com>
Source record: 10877

On Feb 25, 4:51 pm, Owen Duffy <n...@no.where> wrote:
> Owen Duffy <n...@no.where> wrote innews:Xns9D2A6823DCE2Enonenowhere@61.9.191.5:
>
> > steveeh131047 <goo...@karinya.net> wrote in
> >news:5649912d-d401-4ff6-bcc0-f47c552ba77a@c16g2000yqd.googlegroups.com:
> >> The application is no secret - the first paragraph in my linked page
> >> explains it.
>
> Steve,
>
> Another thought comes to mind, and that is a pair of rectangular
> conductors, preformed to the parabolic like shape and screwed togeter with
> insulated fixings.
>
> You could achieve the Zo you seek with say 20mm wide flat with manageable
> spacing... however it would be a water trap to some extent (just like LP
> feeds using twin booms).
>
> Owen

Owen,

Thanks for the suggestion - water shouldn't be a problem because this
"band interconnect" TL can be installed within the hexbeam centre post
where it would be protected. One chap has already fabricated a "square
coaxial" version - second photo, here:

http://lema.epfl.ch/images/stories/LEMA/Members/zurcher/hexbeam/hexbeam_HB9MCZ_wb.html

but that will be beyond the capability of many constructors!

It's not a major issue - most constructors simply use RG213; but some
find the physical terminations "fiddly", especially if you try to
assemble it inside the centre-post for neatness and weather
protection. I'm pretty sure that twin line using the right gauge ecw
with teflon tubing on one of the wires would be about the correct Zo
and easy to fabricate. It's just another thing on my "to do" list - a
list which seems to get longer rather than shorter :)

73,
Steve G3TXQ

628. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 17:15:53 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B2B5EC5325nonenowhere@61.9.191.5>
Source record: 10878

steveeh131047 <google@karinya.net> wrote in
news:57cdd41b-66b0-4d66-9b8d-b05c4bc141cf@a18g2000yqc.googlegroups.com:

...
> Thanks for the suggestion - water shouldn't be a problem because this
> "band interconnect" TL can be installed within the hexbeam centre post
> where it would be protected. One chap has already fabricated a "square
> coaxial" version - second photo, here:
>
> http://lema.epfl.ch/images/stories/LEMA/Members/zurcher/hexbeam/hexbeam
> _HB9MCZ_wb.html

Seeing the construction, I think a pair of rectangular tubes would be
easier to construct, and raise less water retention issues.

I didn't realise that the line section is straight, I had visualised it
taking the shape of one of the spreaders if you understand what I mean.

Anyway, my recommendation would be like in the pic, but using two side by
side rectangular tubes, say 20mm with 4mm spacing.

Owen

629. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 17:18:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B2BD9CBE0Bnonenowhere@61.9.191.5>
Source record: 10879

Jeff <Jeff@fred.fredsystem.com> wrote in
news:hm6agi$57a$1@speranza.aioe.org:

> Owen Duffy wrote:
>> Jeff <Jeff@fred.fredsystem.com> wrote in news:hm5dj4$4ls$1
>> @speranza.aioe.org:
>>
>>> I am sure that in case B it is as for resistors in parallel, ie 2
>>> 50ohm cables in parallel give you 25ohms Zo.
>>
>> Jeff, you you offer more explanation that just that your are "sure".
>>
>> If you can't explain it, it speaks of whether you are sure.
>>
>> Owen
>
> Well having just tried it for real on a network analyser, and
> simulated it on Ansoft designer I am now convinced rather than being
> sure!!

That is not an explanation at all.

Your confirmation might just be confirmation of a wrong interpretation of
the B configuration.

Owen

630. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 17:24:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B2CC209F5Anonenowhere@61.9.191.5>
Source record: 10880

Owen Duffy <none@no.where> wrote in
news:Xns9D2B2B5EC5325nonenowhere@61.9.191.5:

...
>
> Anyway, my recommendation would be like in the pic, but using two side
> by side rectangular tubes, say 20mm with 4mm spacing.

I should have added that I would attach the coax at the bottom, and use a
ferrite cored broadband balun.

Owen

631. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 17:51:44 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <hm6dbkatj1@speranza.aioe.org>
Source record: 10881

Owen Duffy wrote:
> Jeff <Jeff@fred.fredsystem.com> wrote in
> news:hm6agi$57a$1@speranza.aioe.org:
>
>> Owen Duffy wrote:
>>> Jeff <Jeff@fred.fredsystem.com> wrote in news:hm5dj4$4ls$1
>>> @speranza.aioe.org:
>>>
>>>> I am sure that in case B it is as for resistors in parallel, ie 2
>>>> 50ohm cables in parallel give you 25ohms Zo.
>>> Jeff, you you offer more explanation that just that your are "sure".
>>>
>>> If you can't explain it, it speaks of whether you are sure.
>>>
>>> Owen
>> Well having just tried it for real on a network analyser, and
>> simulated it on Ansoft designer I am now convinced rather than being
>> sure!!
>
> That is not an explanation at all.
>
> Your confirmation might just be confirmation of a wrong interpretation of
> the B configuration.
>
> Owen

and you just might be trolling.

Jeff

632. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 18:04:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B3393CE647nonenowhere@61.9.191.5>
Source record: 10882

Jeff <Jeff@fred.fredsystem.com> wrote in
news:hm6dbkatj1@speranza.aioe.org:

> Owen Duffy wrote:
>> Jeff <Jeff@fred.fredsystem.com> wrote in
>> news:hm6agi$57a$1@speranza.aioe.org:
>>
>>> Owen Duffy wrote:
>>>> Jeff <Jeff@fred.fredsystem.com> wrote in news:hm5dj4$4ls$1
>>>> @speranza.aioe.org:
>>>>
>>>>> I am sure that in case B it is as for resistors in parallel, ie 2
>>>>> 50ohm cables in parallel give you 25ohms Zo.
>>>> Jeff, you you offer more explanation that just that your are
>>>> "sure".
>>>>
>>>> If you can't explain it, it speaks of whether you are sure.
>>>>
>>>> Owen
>>> Well having just tried it for real on a network analyser, and
>>> simulated it on Ansoft designer I am now convinced rather than being
>>> sure!!
>>
>> That is not an explanation at all.
>>
>> Your confirmation might just be confirmation of a wrong
>> interpretation of the B configuration.
>>
>> Owen
>
> and you just might be trolling.

And you just might be wrong on both counts.

I will offer you an explanation of why the ARRL position is IMHO correct.

The configuration is a pair of identical coaxial cables, shields tied
together at each end, and the inner conductors used as a two wire
transmission line (http://www.vk1od.net/transmissionline/stcm/Fig02.png).

Question is what is Zo of the combination?

for each of the coaxial lines, its intinsic Zo defines the ratio of V/I
for a travelling wave at any point. If the two inner conductors are
driven by a differential signal, then I in one conductor equals -I in the
other (defined by differential mode), and V conductor to conductor is

twice V conductor to shield, so V'=2*(I*Zo), and
Zo'=V'/I=2*(I*Zo)/I=2*Zo.

Owen

633. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 18:10:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B34A2D7E59nonenowhere@61.9.191.5>
Source record: 10883

Owen Duffy <none@no.where> wrote in
news:Xns9D2B3393CE647nonenowhere@61.9.191.5:

...
...
> in the other (defined by differential mode), and V conductor to
> conductor is twice V conductor to shield, so V'=2*(I*Zo), and
> Zo'=V'/I=2*(I*Zo)/I=2*Zo.

I should have expected that this is not obvious to you Jeff, and expand that
to:

...
in the other (defined by differential mode), and V conductor to
conductor is (by definition of differential mode) V'=(I*Zo-(-I*Zo))=2*I*Zo,
and Zo'=V'/I=2*(I*Zo)/I=2*Zo.

Owen

634. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 18:45:15 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <9fe5c633-f2a7-4894-ae01-6f8223ba2690@u5g2000prd.googlegroups.com>
Source record: 10884

On Feb 24, 3:36 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Feb 24, 5:21 pm, Owen Duffy <n...@no.where> wrote:
>
> >... mainly because the effective RF resistance of the braid is not easy to estimate.
>
> Is there no data for the RF resistance of the center conductor vs the
> RF resistance for the braid? One would think it could be ascertained
> by comparing known coax losses to known parallel line losses when the
> wires are the same size.
> --
> 73, Cecil, w5dxp.com

There was an article published maybe 15 years ago (RF Design magazine?? Electronics Design?? EDN??), authored by a fellow from Andrew as I recall, about some of the finer points of coaxial cable. I thought it was quite a good article. He had "rules of thumb" for loss in stranded center conductors versus solid that I remember for sure, and perhaps for braid as well--I don't recall that for certain. It wasn't huge, just a few percent, for the stranded center. Of course in coax, since there's a lot more surface area to the outer conductor than the inner, the braid would have to be considerably worse than a solid conductor to significantly add to the total series RF resistance, so it wouldn't be trivial to resolve by measuring coax with a solid outer versus a braided outer. You'd have to go to considerable effort to keep the rest of the construction identical to nail down the contribution of the braid versus solid outer.

In any event, it seems a reasonable way to get a large diameter RF conductor that remains flexible...I'd be very surprised if a 5mm diameter coax braid was a worse two-wire line conductor than 2.5mm solid, smooth copper. I would want to keep the jacket on it, sealed against weather at the ends, to keep the copper clean.

Cheers,
Tom

635. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 19:35:12 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <9952cf6f-399c-4290-900f-6c9164da4b01@k36g2000prb.googlegroups.com>
Source record: 10885

On Feb 24, 3:12 pm, ve2pid <ve2...@videotron.ca> wrote:
> In the ARRL's Antenna Book 21st ed page 24-21, we see that if we
> connect the two shields of the coax cables together, we obtain
> 'Shielded parallel Lines' . In that case, the resultant impedance is
> simply the sum of the characteristic impedances of each coax.
>
> So, there is quite a difference between the two independent coax I
> mentioned in my first message (we connect the shield to the inner
> conductor at each of its ends) (A) and the 'Shielded Parallel Lines'
> case (B).
>
> I am trying to understand why and it is the reason I posted my first
> message...
>
> In (A), the Z=276*log(2S/D) applies, so the Zo of each coax does not
> matter.. but in (B), Z=Zo1+Zo2, so the value of each Zo matters.
>
> Am I right? And how to compute matched line loss in case (A) and in
> case (B) ?

I suppose what follows has already been covered, but perhaps different words to say it will help...

In the case of the two pieces of coax, used as coax, the fields are entirely inside the coaxial lines. The center conductors carry current, and as they have relatively little surface area compared with the outer conductors, they contribute most of the loss (assuming good dielectric with negligible loss). Balance depends on the load and how the lines are fed; there is nothing inherently balanced about the line itself. In fact, you could make such a line out of two pieces of coax with different constructions: same outer conductor diameter, but solid polyethylene dielectric for one and foamed polyethylene for the other. The result would be different attenuations in the two, and different propagation velocities, so that for the same physical length for each, fed 180 degrees out of phase, the signals at the other end would not be "balanced." Fed as a two-wire line, it would be balanced (assuming it's kept away from un-balancing structures). The effective impedance for two identical lines (back to the same dielectric, etc.) fed that way is just the twice the impedance of a single line.

In the case of the two pieces arranged with constant spacing, fed as a balanced line, all the fields are external to the lines. There is essentially no field inside the outer conductor of each line. The center conductors carry no current, so there is no particular need to connect them electrically to the outer conductors. The loss is

determined by the RF resistance to the current carried on the outside of the outer conductor, and by loss in the dielectric between the wires (or more properly, dielectric in the area around the wires where the electric field is significant). Since the fields are external to the coax (not used as coax), the impedance depends only on the physical configuration outside the coax -- not on the coax inner conductor diameter, and not on the dielectric inside the coax. Those are invisible to the fields carrying energy on the two-wire balanced line.

Note that it's possible to transmit three independent TEM signals on a couple pieces of coax configured as a two-wire line: one on each coax and one on the balanced line.

There's a useful formula for estimating the loss of coax or balanced lines. It includes a term for loss in the resistance of the conductors, and another term for loss in the dielectric. For coax using good dielectric, up to a few hundred MHz at least, the second term can almost always be ignored. In English units (conversion to metric left as an exercise...), it's:

A100 = 4.34*Rt/Zo + 2.78*f*Fp*sqrt(epsilon)

where
A100 = matched line loss in dB/100 feet
Rt = total conductor RF resistance (see below), ohms
Zo = characteristic impedance of the line
f = operating frequency in MHz
Fp = power factor of dielectric at frequency f
epsilon = permittivity of the dielectric, relative to air
(Note: Fp is essentially the same as the dielectric power factor for any dielectric you'd care to use in an RF transmission line.)

A good estimate of Rt for copper conductors thicker than a couple of skin-depths is:

Rt = 0.1*(1/d + 1/D)*sqrt(f)

where
d = diameter of inner coax conductor, or the wire diameter for two-wire balanced line
D = diameter of the outer coax conductor, or = d for two-wire balanced line

This formula is from the "Transmission Lines" chapter of Sams' "Reference Data for Engineers." You can replace 1/d and 1/D in the Rt formula with Rrf/d and Rrf/D for non-copper conductors, where Rrf is the RF resistance of the conductor relative to copper. Normally, that would be sqrt(Rdc(material)/Rdc(copper)), for non-magnetic conductors. So for aluminum, use 1.23 in the numerator for that conductor instead of 1.00. It is _probably_ reasonable to use 1.07 instead of 1.00 for stranded copper, and maybe 1.10 for braid, but "your mileage may vary."

Cheers,
Tom

636. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 19:57:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0ecfef5f-8fe4-498d-abc0-b630dfdeb2b7@j27g2000yqn.googlegroups.com>
Source record: 10886

Maybe a simplified approach to the problem would work. Visualize two
separate flat 50-ohm systems where Source2 is 180 degrees out of phase
with Source1, equal in amplitude, and phase locked.

```
GND=================braid====================
Source1----------------------50 ohm
coax---------------------------------50 ohm load1
GND=================braids==================Center Tap
Source2----------------------50 ohm
coax---------------------------------50 ohm load2
GND=================braid====================
```

Can the center tap at the load be disconnected without changing
anything?
--
73, Cecil, w5dxp.com

637. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 20:01:39 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7e32bffc-a3f2-49cf-a1c6-6e8071a62e49@e1g2000yqh.googlegroups.com>
Source record: 10887

```
On Feb 25, 1:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
GND==================braid====================
Sourc---------50 ohm coax---------------------------------50 ohm
load1
GND==========braids==================Center Tap
Source2----------------------50 ohm coax-----------------50 ohm load2
GND==================braid====================

Let's see if this one looks any better.
--
73, Cecil, w5dxp.com
```

638. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 20:12:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D2B493AAE3BCnonenowhere@61.9.191.5>
Source record: 10888

K7ITM <k7itm@msn.com> wrote in
news:9fe5c633-f2a7-4894-ae01-6f8223ba2690@u5g2000prd.googlegroups.com:

...
> In any event, it seems a reasonable way to get a large diameter RF
> conductor that remains flexible...I'd be very surprised if...

Tom,

I have attempted to predict the behaviour of bootstrap coax traps, and an important factor is the effective RF resistance of the outside of the coax which forms an inductor.

My measurement capacity is quite limited.

Trying to reconcile my prediction with W8JI's measurements of such traps makes me think that the effective RF resistance is much poorer than a tube of the same size. Factors causing this would be braiding, proximity effect and dielectric losses in PVC jacket.

Owen

639. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-25 23:31:38 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <ff75b823-ad8d-4fac-8aab-73eaa094c0c8@c34g2000pri.googlegroups.com>
Source record: 10889

On Feb 25, 12:12 pm, Owen Duffy <n...@no.where> wrote:
> K7ITM <k7...@msn.com> wrote
innews:9fe5c633-f2a7-4894-ae01-6f8223ba2690@u5g2000prd.googlegroups.com:
>
> ...
>
> > In any event, it seems a reasonable way to get a large diameter RF
> > conductor that remains flexible...I'd be very surprised if...
>
> Tom,
>
> I have attempted to predict the behaviour of bootstrap coax traps, and an
> important factor is the effective RF resistance of the outside of the coax
> which forms an inductor.
>
> My measurement capacity is quite limited.
>
> Trying to reconcile my prediction with W8JI's measurements of such traps
> makes me think that the effective RF resistance is much poorer than a tube
> of the same size. Factors causing this would be braiding, proximity effect
> and dielectric losses in PVC jacket.
>
> Owen

I think I'll be in good agreement with you, here, Owen, by saying that
the right way to find out about something like this is to actually
make some measurements on the configuration in question. Maybe I can
come up with something... I do have reasonable measurement technology
available, though getting it "right" isn't trivial, especially with
balanced open-wire line. I do have some ideas and if I can find time
will try a couple different ways to see if they agree. Time, right
now, will be the problem.

Cheers,
Tom

640. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 00:50:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <O4Sdne2hyOZZhxrWnZ2dnUVZ_radnZ2d@giganews.com>
Source record: 10890

In a line made up of two parallel coax cables with connected shields and with the shields floating at both ends, let's suppose that one center conductor (cable A) is carrying 1A and the other (cable B) 3A, exactly out of phase with each other -- that is, the line is not balanced. The inside of the cable A shield will have 1A and the inside of the cable shield B will have 3A, again exactly out of phase, and each one out of phase with its corresponding center conductor current.

Let's consider electrically short cables for simplicity -- short enough that the currents don't change much along the length.

As Tom said, the fields are contained within the coax cables -- on the inside of each one is a canceling pair of currents. But at the ends of the cables, the shield currents can escape to the outside, 1A from cable A, and an out of phase 3A from cable B. The result is a net 2A flowing on the outside of the shield. This current will cause the combined cable to radiate exactly the same amount as if the shield wasn't there at all! All we've done is to physically separate the differential and common mode currents, but we haven't changed their values.

So what happens when the conductor currents are balanced, i.e., equal and opposite? Well, then there's no net current on the outside of the shield. Now there's no line radiation, again exactly the same as if the shield wasn't there. The shield likewise has no effect on reception of unwanted signals -- it provides no shielding at all. The only way to make it provide shielding is to block the current path from the inside to the outside of the cables at both ends. In the case of an antenna feedline, however, this would require putting the antenna into a shielded box.

The shield has an impact on the differential mode impedance, but it doesn't help line balance or provide shielding at all.

Roy Lewallen, W7EL

641. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 02:45:09 UTC
From: nm5k@wt.net
Message-ID: <558f3501-c675-4812-ad38-f6baa5748e3e@m37g2000yqf.googlegroups.com>
Source record: 10891

On Feb 24, 9:24 pm, Art Unwin <arthurun...@gmail.com> wrote:

> Hopefully you will supply technical details and not just wordy fluff.

Talk about spray painting the kettle flat black... :/

642. Re: Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 03:54:23 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <2ef3da0c-2819-40f6-a99d-e0e0ed99a4ba@i39g2000yqm.googlegroups.com>
Source record: 10892

On Feb 25, 2:48 pm, ".Richard Clark" <timothy...@gmail.com> wrote:
> Spot the difference,
> Actually I don't know if this is a joke or if it's for real,
> could be really usefull in certain parts of America, but only if set
> underground-
> But the problem is.....where’s the water tank, the grey water tank,
> black water tank, the propane tanks, solar panels and wheels and
> hitch???
>
> Certanly this could be seen as a U.F.O hahah
>
> http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...

The above is not from Richard Clark, KB7QHC.

643. Watson Power-Max-45-NF any good

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 08:27:03 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <rBLhn.41597$Np2.21421@newsfe24.ams2>
Source record: 10893

Has anyone tried one of these power supplies a Watson Power-Max-45-NF and are they any good?

How loud is the fan and is it a thermally controlled fan?

I have been looking for some reviews but I haven't found any.

Thanks

644. KPS-450A NISSEI MS-450A Power Supply any good

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 09:45:31 UTC
From: Barett <barett@blueyonder.co.uk>
Message-ID: <0LMhn.174762$DL1.130047@newsfe25.ams2>
Source record: 10894

Has anyone tried one of these power supplies a and
are they any good?

How loud is the fan and is it a thermally controlled fan?

I have been looking for some reviews but I haven't found any.

Thanks

645. Re: Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 11:15:44 UTC
From: Tonyfrost <jupalmer@gmail.com>
Message-ID: <69f8b8a1-7be2-4bb8-a343-eb4a27ea5b68@y17g2000yqd.googlegroups.com>
Source record: 10895

On Feb 26, 4:54 am, Bill <k4...@arrl.net> wrote:
> On Feb 25, 2:48 pm, ".Richard Clark" <timothy...@gmail.com> wrote:
>
> > Spot the difference,
> > Actually I don't know if this is a joke or if it's for real,
> > could be really usefull in certain parts of America, but only if set
> > underground-
> > But the problem is.....where’s the water tank, the grey water tank,
> > black water tank, the propane tanks, solar panels and wheels and
> > hitch???
>
> > Certanly this could be seen as a U.F.O hahah
>
> >http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...
>
> The above is not from Richard Clark, KB7QHC.

My name is Richard, is there another Richard Clark?

646. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 16:59:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gdvfo5hcop498r2duimm416ptvtc19u41i@4ax.com>
Source record: 10896

On Thu, 25 Feb 2010 18:45:09 -0800 (PST), nm5k@wt.net wrote:

>On Feb 24, 9:24ï¿½pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>> Hopefully you will supply technical details and not just wordy fluff.
>
>Talk about spray painting the kettle flat black... :/
>
Is Art straining to come to terms with gain comparisons?

73's
Richard Clark, KB7QHC

647. Re: Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 17:27:58 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <d6e91226-6972-4bbc-bde5-1b85358df727@e7g2000yqf.googlegroups.com>
Source record: 10897

On Feb 25, 2:48 pm, ".Richard Clark" <timothy...@gmail.com> wrote:
> Spot the difference,
> Actually I don't know if this is a joke or if it's for real,
> could be really usefull in certain parts of America, but only if set
> underground-
> But the problem is.....where’s the water tank, the grey water tank,
> black water tank, the propane tanks, solar panels and wheels and
> hitch???
>
> Certanly this could be seen as a U.F.O hahah
>
> http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...

http://groups.google.com/groups/profile?hl=en&enc_user=f4KKdxQAAADFqdhWsAXfpkouPGD9qca7OPA
NdqfI6prRsqjc7uCt1A

648. Re: Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 18:42:58 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hm94ng$n1j$1@speranza.aioe.org>
Source record: 10898

On 2/25/2010 6:48 AM, .Richard Clark wrote:
> Spot the difference,
> Actually I don't know if this is a joke or if it's for real,
> could be really usefull in certain parts of America, but only if set
> underground-
> But the problem is.....whereï¿½s the water tank, the grey water tank,
> black water tank, the propane tanks, solar panels and wheels and
> hitch???
>
> Certanly this could be seen as a U.F.O hahah
>
>
> http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...

Where is the antenna mount? And, wheels would be nice ... :-)

Regards,
JS

649. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-26 22:15:25 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4ddea5df-5d4a-4e0f-a152-be2d55f0489e@o3g2000yqb.googlegroups.com>
Source record: 10899

On Feb 26, 10:59 am, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 25 Feb 2010 18:45:09 -0800 (PST), n...@wt.net wrote:
> >On Feb 24, 9:24 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> >> Hopefully you will supply technical details and not just wordy fluff.
>
> >Talk about spray painting the kettle flat black... :/
>
> Is Art straining to come to terms with gain comparisons?
>
> 73's
> Richard Clark, KB7QHC

Patent number 1 on my page has now been approved . If there
is anything there then my grandchildren will benefit.
If there isn't you can visit my grave and say "I told you so."
Now I await the 2nd request to go thru.
Yes anybody can get a patent and yes you knew all about
that years ago and couldn't be bothered. And yes it doesn't prove
anything
at least at this point. So I have saved you from having to post. The
other spammers can now go right aheadand show who and what they really
are and add to their profiles.
Look up patent number 2 on my page and start storing ammunition ready
to throw my way.
With respect to gain comparison, what I am providing is sensitivity to
all polarizations thrown at the antenna instead of concentrating on
horizontal alone and neglecting receipt of all others. Gain is just
one measurement but it is nice if you can hear what others neglect
or not sensitive to or cannot hear. If you want to see a model of the
arrays in number 2 I can supply.

650. A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 04:08:59 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <50b13015-e445-47d6-b8b6-e1e8372813c5@g28g2000yqh.googlegroups.com>
Source record: 10900

I made a time varying field addition to a static field in equilibrium
some time back. All on this group said it was and still is B.S.!
It was this finding that created the basis of a new antenna science
that I have shared with this group and with page Unwin antennas.
If one goes to
http://www.james-clerk-maxwell.com/

one can read in better in detail a description of my findings in a
much better way than I can fully explain where a mathematical error
existed when changing from MKS units 150 years ago when utelizing the
laws of statics in antenna design.
My findings are in the patents loosely described on my page
Unwin antennas!
The author of the paper goes on to say how this error has placed
physics back to the middle ages or something like that and for my self
I have the feeling that this error was the sole reason for Einstein
not solving the Standard model before he gave up and moved on to start
the idea of Quantum physics. For myself I am very comfortable with the
idea that communication is by the "particle" as a carrier of the
charge and not the often much quoted "wave." In addition I would point
out that the array I gave in another thread is further proof of the
correctness of what I have stated which is according to Maxwells
equations where accountability
is made of all forces. All antenna text books as well as those in
physics will now have to be updated to reflect the above findings
I am so pleased that I have been found not guilty of spreading B.S. in
the amateur radio community and thus exposing spammers for what they
really are. In summation it is now possible to make antennas in a
smaller volume such that a radiator for top band can now be placed
upon a tower or in a small garden as envisaged by Mr Moxon who has
since become a SK.
Regards
Art Unwin KB9MZ.....xg (uk)

651. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 06:33:41 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <adb970d9-e5a6-4737-91e8-972db15ac2b1@g28g2000yqh.googlegroups.com>
Source record: 10801

On Feb 26, 11:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I made a time varying field addition to a static field in equilibrium
> some time back. All on this group said it was and still is B.S.!
> It was this finding that created the basis of a new antenna science
> that I have shared with this group and with page Unwin antennas.
> If one goes to
>   http://www.james-clerk-maxwell.com/
>
> one can read in better in detail a description of my findings in a
> much better way than I can fully explain where a mathematical error
> existed when changing from MKS units 150 years ago when utelizing the
> laws of statics in antenna design.
> My findings are in the patents loosely described on my page
> Unwin antennas!
> The author of the paper goes on to say how this error has placed
> physics back to the middle ages or something like that and for my self
> I have the feeling that this error was the sole reason for Einstein
> not solving the Standard model before he gave up and moved on to start
> the idea of Quantum physics. For myself I am very comfortable with the
> idea that communication is by the "particle" as a carrier of the
> charge and not the often much quoted "wave." In addition I would point
> out that the array I gave in another thread is further proof of the
> correctness of what I have stated which is according to Maxwells
> equations where accountability
> is made of all forces. All antenna text books as well as those in
> physics will now have to be updated to reflect the above findings
> I am so pleased that I have been found not guilty of spreading B.S. in
> the amateur radio community and thus exposing spammers for what they
> really are. In summation it is now possible to make antennas in a
> smaller volume such that a radiator for top band can now be placed
> upon a tower or in a small garden as envisaged by Mr Moxon who has
> since become a SK.
> Regards
> Art Unwin KB9MZ.....xg (uk)

Yep the mesh antenna is pure BS. In efficient antennas the DC
resistance of the antenna is usually quite small, values in the
1/100ths or 1/1000th of ohms would be expected. Normally the RF
impedance of the antenna is hundreds or thousands of times greater
than this. Under these conditions most of the power is going to be
radiated and only a small part radiated as heat. In the case of the
mess antenna the feed point impedance of the antenna is what you would
expect the DC resistance to be(around 1/100th of an ohm) . This means
most of your power is going to be used to heat wire. Congratulation

Art, you have made another Dummy Load.

Jimmie

652. Re: Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 07:58:45 UTC
From: ai8o <ai8o@lexcominc.net>
Message-ID: <f8698ce9-81a4-42a5-88ec-90c6b0ae5310@d27g2000yqf.googlegroups.com>
Source record: 10802

On Feb 25, 9:48 am, ".Richard Clark" <timothy...@gmail.com> wrote:
> Spot the difference,
> Actually I don't know if this is a joke or if it's for real,
> could be really usefull in certain parts of America, but only if set
> underground-
> But the problem is.....where’s the water tank, the grey water tank,
> black water tank, the propane tanks, solar panels and wheels and
> hitch???
>
> Certanly this could be seen as a U.F.O hahah

Was this found near Colorado Springs?

Perhaps Mork from Ork left it here 30 years ago.

I Better call Mindy and check.

>
> http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...

653. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 15:47:14 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6cb669de-0af6-49a9-b473-fa4bda8a64fb@t41g2000yqt.googlegroups.com>
Source record: 10803

On Feb 27, 12:33 am, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Feb 26, 11:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > I made a time varying field addition to a static field in equilibrium
> > some time back. All on this group said it was and still is B.S.!
> > It was this finding that created the basis of a new antenna science
> > that I have shared with this group and with page Unwin antennas.
> > If one goes to
> >   http://www.james-clerk-maxwell.com/
>
> > one can read in better in detail a description of my findings in a
> > much better way than I can fully explain where a mathematical error
> > existed when changing from MKS units 150 years ago when utelizing the
> > laws of statics in antenna design.
> > My findings are in the patents loosely described on my page
> > Unwin antennas!
> > The author of the paper goes on to say how this error has placed
> > physics back to the middle ages or something like that and for my self
> > I have the feeling that this error was the sole reason for Einstein
> > not solving the Standard model before he gave up and moved on to start
> > the idea of Quantum physics. For myself I am very comfortable with the
> > idea that communication is by the "particle" as a carrier of the
> > charge and not the often much quoted "wave." In addition I would point
> > out that the array I gave in another thread is further proof of the
> > correctness of what I have stated which is according to Maxwells
> > equations where accountability
> > is made of all forces. All antenna text books as well as those in
> > physics will now have to be updated to reflect the above findings
> > I am so pleased that I have been found not guilty of spreading B.S. in
> > the amateur radio community and thus exposing spammers for what they
> > really are. In summation it is now possible to make antennas in a
> > smaller volume such that a radiator for top band can now be placed
> > upon a tower or in a small garden as envisaged by Mr Moxon who has
> > since become a SK.
> > Regards
> > Art Unwin KB9MZ.....xg (uk)
>
> Yep the mesh antenna is pure BS. In efficient antennas the DC
> resistance of the antenna is usually quite small, values in the
> 1/100ths or 1/1000th of ohms would be expected. Normally the RF
> impedance of the antenna is hundreds or thousands of times greater
> than this. Under these conditions most of the power is going to be

> radiated and only a small part radiated as heat. In the case of the
> mess antenna the feed point impedance of the antenna is what you would
> expect the DC resistance to be(around 1/100th of an ohm) . This means
> most of your power is going to be used to heat wire. Congratulation
> Art, you have made another Dummy Load.
>
> Jimmie

No Jimmie, the function of a Faraday shield is not the same as a wire antenna. It's function is to cancel the arriving fields to obtain the time varing current which is the product of same
so it can be used by a radio. There are plenty of descriptions on the web showing how the fields are separated and then cancelled by the movement of charge which in turn generates the current that the radio can use. The movement to cancel each other is an accelleration of charge which is the prime mover of communication.

654. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 17:13:22 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <4797d15b-b99d-41f3-b809-d3045662d5eb@j27g2000yqn.googlegroups.com>
Source record: 10804

On Feb 27, 4:08 am, Art Unwin <arthurun...@gmail.com> wrote:
> I made a time varying field addition to a static field in equilibrium
> some time back. All on this group said it was and still is B.S.!
> It was this finding that created the basis of a new antenna science
> that I have shared with this group and with page Unwin antennas.

From Art's web page http://unwinantennas.com/

"THE NATURE OF LIGHT AND RADIATION WITH RESPECT TO PARTICLES OF THE
UNIVERSE

"The Sun is very hot because it is burning. Burning as we know it
produces soot and other by products in abundance that when these
particles collect in the air they become visual to the eye as smoke
even tho the particles themselves are invisible to the eye unless
there is a contrast in light as with particles passing thru a shaft of
light thru a window.

"The particles produced by the Sun are called Leptons where the
difference between them is the colour of light that they can emit.
Thus we have three types of Leptons each able to produce one of the
primary colours, red, green or yellow. Thus we have three types of
Leptons each able to produce one of the primary colours, red, green or
yellow. When the pressure increases beyond a certain point the Sun's
boundary is unable to contain them so they escape to the tune of
millions per unit of time and float to all different directions."

And so on...

655. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 17:39:13 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <65767899-a82c-4788-984e-3215f1338045@g10g2000yqh.googlegroups.com>
Source record: 10805

On Feb 27, 11:13 am, Bill <k4...@arrl.net> wrote:
> On Feb 27, 4:08 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > I made a time varying field addition to a static field in equilibrium
> > some time back. All on this group said it was and still is B.S.!
> > It was this finding that created the basis of a new antenna science
> > that I have shared with this group and with page Unwin antennas.
>
> From Art's web pagehttp://unwinantennas.com/
>
> "THE NATURE OF LIGHT AND RADIATION WITH RESPECT TO PARTICLES OF THE
> UNIVERSE
>
> "The Sun is very hot because it is burning. Burning as we know it
> produces soot and other by products in abundance that when these
> particles collect in the air they become visual to the eye as smoke
> even tho the particles themselves are invisible to the eye unless
> there is a contrast in light as with particles passing thru a shaft of
> light thru a window.
>
> "The particles produced by the Sun are called Leptons where the
> difference between them is the colour of light that they can emit.
> Thus we have three types of Leptons each able to produce one of the
> primary colours, red, green or yellow. Thus we have three types of
> Leptons each able to produce one of the primary colours, red, green or
> yellow. When the pressure increases beyond a certain point the Sun's
> boundary is unable to contain them so they escape to the tune of
> millions per unit of time and float to all different directions."
>
> And so on...
xxxxxxxxx
Thanks for printing it again tho full completion of the article would
be much more rewarding

656. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 18:25:55 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <3512f213-0c8c-4dbd-99e2-06447d1eedb3@15g2000yqi.googlegroups.com>
Source record: 10806

On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Feb 27, 11:13 am, Bill <k4...@arrl.net> wrote:
>
> > On Feb 27, 4:08 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > I made a time varying field addition to a static field in equilibrium
> > > some time back. All on this group said it was and still is B.S.!
> > > It was this finding that created the basis of a new antenna science
> > > that I have shared with this group and with page Unwin antennas.
>
> > From Art's web pagehttp://unwinantennas.com/
>
> > "THE NATURE OF LIGHT AND RADIATION WITH RESPECT TO PARTICLES OF THE
> > UNIVERSE
>
> > "The Sun is very hot because it is burning. Burning as we know it
> > produces soot and other by products in abundance that when these
> > particles collect in the air they become visual to the eye as smoke
> > even tho the particles themselves are invisible to the eye unless
> > there is a contrast in light as with particles passing thru a shaft of
> > light thru a window.
>
> > "The particles produced by the Sun are called Leptons where the
> > difference between them is the colour of light that they can emit.
> > Thus we have three types of Leptons each able to produce one of the
> > primary colours, red, green or yellow. Thus we have three types of
> > Leptons each able to produce one of the primary colours, red, green or
> > yellow. When the pressure increases beyond a certain point the Sun's
> > boundary is unable to contain them so they escape to the tune of
> > millions per unit of time and float to all different directions."
>
> > And so on...
>
> xxxxxxxxx
> Thanks for printing it again tho full completion of the article would
> be much more rewarding

yeah, i'm sure everyone would want to read it again just to get a good
laugh. almost as good as the aetherist's non-profit organization's
site. i wonder how many donations they get? maybe you should join up
with them art, you would probably fit right in with your 3 color
leptons that can't recreate the whole electromagnetic spectrum.... you
do realize that everything from dc to gamma rays are all the same
phenomena, electromagnetic waves, right? or are they just

manifestations of your magical levitating diamagnetic neutrinos?

657. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 18:28:20 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <9a834574-27a2-480e-9a47-3a775f2c0a54@g26g2000yqn.googlegroups.com>
Source record: 10807

On Feb 26, 10:15 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Feb 26, 10:59 am, Richard Clark <kb7...@comcast.net> wrote:
>
> > On Thu, 25 Feb 2010 18:45:09 -0800 (PST), n...@wt.net wrote:
> > >On Feb 24, 9:24 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > >> Hopefully you will supply technical details and not just wordy fluff.
>
> > >Talk about spray painting the kettle flat black... :/
>
> > Is Art straining to come to terms with gain comparisons?
>
> > 73's
> > Richard Clark, KB7QHC
>
> Patent number 1 on my page has now been approved . If there
> is anything there then my grandchildren will benefit.
> If there isn't you can visit my grave and say "I told you so."
> Now I await the 2nd request to go thru.
> Yes anybody can get a patent and yes you knew all about
> that years ago and couldn't be bothered. And yes it doesn't prove
> anything
> at least at this point. So I have saved you from having to post. The
> other spammers can now go right aheadand show who and what they really
> are and add to their profiles.
> Look up patent number 2 on my page and start storing ammunition ready
> to throw my way.
> With respect to gain comparison, what I am providing is sensitivity to
> all polarizations thrown at the antenna instead of concentrating on
> horizontal alone and neglecting receipt of all others. Gain is just
> one measurement but it is nice if you can hear what others neglect
> or not sensitive to or cannot hear. If you want to see a model of the
> arrays in number 2 I can supply.

oh, oh, what is the number for it so i can submit it to the bad
patents examples page????

658. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 21:56:12 UTC
From: nm5k@wt.net
Message-ID: <4659551e-0dde-49ed-82de-8cd569513e61@y17g2000yqd.googlegroups.com>
Source record: 10808

On Feb 27, 12:25 pm, Dave <k1...@arrl.net> wrote:

>
> > > From Art's web pagehttp://unwinantennas.com/
>
> > > "THE NATURE OF LIGHT AND RADIATION WITH RESPECT TO PARTICLES OF THE
> > > UNIVERSE
>
> > > "The Sun is very hot because it is burning.
> > > And so on...
>
> > xxxxxxxxx
> > Thanks for printing it again tho full completion of the article would
> > be much more rewarding
>
> yeah, i'm sure everyone would want to read it again just to get a good
> laugh.

Just the name of this thread is a good laugh..
IE: bend the rules so the error in thinking becomes truth. :(
Make Maxwell applicable for what? Contra wound dummy loads?
BTW, my cat has new zircon encrusted mittens.. :)

659. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 23:39:56 UTC
From: tom <news4792@taring.org>
Message-ID: <4b89ad46$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10809

nm5k@wt.net wrote:
>>> Thanks for printing it again tho full completion of the article would
>>> be much more rewarding
>> yeah, i'm sure everyone would want to read it again just to get a good
>> laugh.
>
> Just the name of this thread is a good laugh..
> IE: bend the rules so the error in thinking becomes truth. :(
> Make Maxwell applicable for what? Contra wound dummy loads?
> BTW, my cat has new zircon encrusted mittens.. :)
>

They'd go good with the zircon encrusted tweezers I use at my Montana
dental floss farm.

tom
K0TAR

660. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-27 23:46:01 UTC
From: tom <news4792@taring.org>
Message-ID: <4b89aeb8$0$633$8046368a@newsreader.iphouse.net>
Source record: 10810

Art Unwin wrote:
> In this instance hams know that the impedance of the air is 377 ohms

No Art, the impedance of free space is 377 ohms. Air changes it a bit,
just not enough that we care.

tom
K0TAR

661. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 00:40:01 UTC
From: BillyBobMarley <whax44@gmail.com>
Message-ID: <49bea4be-5bff-43f8-8426-b9835f2f3327@15g2000yqi.googlegroups.com>
Source record: 10811

On Feb 27, 6:39 pm, tom <news4...@taring.org> wrote:
> n...@wt.net wrote:
> >>> Thanks for printing it again tho full completion of the article would
> >>> be much more rewarding
> >> yeah, i'm sure everyone would want to read it again just to get a good
> >> laugh.
>
> > Just the name of this thread is a good laugh..
> > IE: bend the rules so the error in thinking becomes truth. :(
> > Make Maxwell applicable for what? Contra wound dummy loads?
> > BTW, my cat has new zircon encrusted mittens.. :)
>
> They'd go good with the zircon encrusted tweezers I use at my Montana
> dental floss farm.
>
> tom
> K0TAR

You must still beware the Huskies and yellow snow.

662. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 00:56:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <dab96656-5ae7-4a87-8cdf-ce78c854879e@g28g2000yqh.googlegroups.com>
Source record: 10812

On Feb 27, 5:46 pm, tom <news4...@taring.org> wrote:
> Art Unwin wrote:
> > In this instance hams know that the impedance of the air is 377 ohms
>
> No Art, the impedance of free space is 377 ohms. Air changes it a bit,
> just not enough that we care.
>
> tom
> K0TAR

Yes, you are correct and I misspoke!
The point I was trying to make that space as we know it, yes free space, has a resistance value tha same as the carpet and balloons that I described earlier. This resistance gives substance that the atmosphere is a true substance or a dielectric and not just nothing or an empty space. After all, if it was a true nothing or vacuum then outside forces upon the boundary with in which it exists would compress that boundary until it really did not exist.
This same explanation explains why a plane or a satellite can transmit and receive a radio signal because in each case it qualifies as a Farady cage. As to whether we care or not is dependent on whether we need the outer layers around earth that sectionalize the boundary around earth because it is our boundary that hold the layers in position to provide frictional qualities against the communication particles. The bottom line is that the eather is not just nothing but a sea of particles separated by charge and can just as easily land on a sattellite or impinge on the high density magnetic field at our magnetic poles where light is created. I would also point out that the speed of light is determined by "white light" which thus limits the visible spectrum of light seen at the poles.
Bottom line is that our outer space is not just nothing but is a dielectric substance that has
a measurable resistance which puts us back fully into the camp of Newton from which we strayed 100 years ago. The mathematical error is real and just like a check book that doesn't balance time competes against its correction.Remember that all this is a result of illness which forced me back in years where my vocablery was that of a child and consisted of what, why, when, e.tc that reflects human curiousity and where one is forced to start from the same datum line which is one of first principles and not blind acceptance as our experiences and education system rewards.

663. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 04:59:25 UTC
From: 328X1 <328X1.5cfb08e@radiobanter.com>
Message-ID: <328X1.5cfb08e@radiobanter.com>
Source record: 10813

Jeff D;700226 Wrote:
> Trying to improve my reception from Chicago with baseball season
> approaching. I'm about 100 miles sse in Indiana. I ran about 75' RG-6
> from
> my radio across the attic and outdoors to a tree. I had maybe 10 extra
> feet
> of coax so I wrapped it around the tree. I strung about 50' of #9 steel
> wire
> between 2 trees going east/west about 15' above ground and attached the
>
> copper conductor to it. I terminated the coax shield at the tree with a
>
> ground rod. At the radio I attached the shield to the ground terminal
> and
> the center cu conductor to the other am external antenna terminal.
> It greatly improved my reception I get all the major Chicago sports
> channels, but the one I was most interested in 670 is the worst. What
> all
> did I do wrong and what can I do to improve 670?

I totally agree with using a loop antenna, though you may need to experiment with 'back shielding' [since you want to 'knock down' signals, coming from the undesired direction]. Too bad you couldn't latch on to some of the radio compass units, I maintained while in the USAF.

But, BEFORE screwing around with antenna connections [etc] get out your trusty AC voltmeter, and with the radio connected to power, VERIFY that none of the antenna connections/other exposed metal parts are 'live'. Older radios, particularly Shortwave units, had what is known in the repair trade, as a 'HOT CHASSIS'; where-in they lacked a power isolation transformer, & usually had non-polarized power cord plugs [both blades the same dimensions. Depending upon plug insertion, into the receptacle, it can put the full voltage of the power source, onto any metal, attached to chassis. Flip the plug over, and the chassis is no longer 'HOT].

Best to replace the plug with at least a newer version, with one wider blade. Or the latest '2 wire w/GND' style. Look at your receptacles, and note there is a longer slot (this is the a/c 'neutral' line {WHITE wire connection}, the short slot is the 'HOT' line {BLACK wire connection}, and if the receptacle is newer, it has the '3rd' wire round GROUND {GREEN wire connection}. If you don't know how to verify, find someone who does, like a member of your local Amateur Radio Club, Electrician, etc.

There is an inexpensive device to plug into the latest receptacles, and verify some connections; but may not always confirm that the GROUND/ Neutral are, in fact, seperated clear to the Utility Panel. Not vrifying, can result in DEATH.

A neumonic, to help remember proper connections 'BLACK on brass to save your ass', referring to the brass colored terminal. The WHITE goes to the silver screw terminal, and Green goes to {duh} the Green terminal.

NOTE: if your mounted receptacles are orientated with the Ground terminal UPWARDS, then 'WHITE on the RIGHT' applies.

--
328X1

664. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 05:34:43 UTC
From: 328X1 <328X1.5d004ed@radiobanter.com>
Message-ID: <328X1.5d004ed@radiobanter.com>
Source record: 10814

Art Unwin;699794 Wrote:
> Has there ever been a study that shows the relative consistency of
> received signal polarity to see if it would be advantageous for multi
> polarity receive antennas?

As I'm both a 'diehard scanner enthusiast' & an Amateur Radio Op, I've found that you can use two cheap antenna rotators, with either an ordinary TV antenna [for scanner hobby] or a 2/70cm antenna [normal versus SSB]. The idea, being to use one rotator to 'bore sight', in azimuth, on the desired signal. With a suitably designed bracket, the other rotator controls the vertical/horizontal antenna orientation. Naturally, you only need 90 degrees for polarity change; and it goes without saying, be sure your elements clear all parts of your antenna and guywire supports. !!! 'Crunchy' sounds eminating for your antenna location, usually means $$$.

--
328X1

665. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 13:46:09 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <47c289b0-e8df-4914-b6c2-7e8917244d8f@x22g2000yqx.googlegroups.com>
Source record: 10815

On Feb 28, 12:56 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> Yes, you are correct and I misspoke!

oh no! i never thought i would see this!

> The point I was trying to make that space as we know it, yes free
> space, has a resistance value tha same as the carpet and balloons that
> I described earlier.

resistance, reactance, impedance, they are all the same i guess in
your world.

> This same explanation explains why a plane or a satellite can transmit
> and receive a radio signal because in each case it qualifies as a
> Farady cage.

then why can a plastic model plane transmit a radio signal?

> speed of light is determined by "white light" which thus limits the
> visible spectrum of light seen at the poles.

is that why its dark at the poles in winter? they run out of magical
levitating diamagnetic neutrinos? I thought the speed of all
electromagnetic waves was equal in free space.... but thats just a
pesky fact that you are free to ignore in your own little world i
guess.

> Remember that all this is a result of illness
> which forced me back in years where my vocablery was that of a child

ah, now it all makes sense... you need your meds refilled!

666. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 15:56:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4b8a9209$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10816

BillyBobMarley wrote:
> On Feb 27, 6:39 pm, tom <news4...@taring.org> wrote:
>> n...@wt.net wrote:
>>>>> Thanks for printing it again tho full completion of the article would
>>>>> be much more rewarding
>>>> yeah, i'm sure everyone would want to read it again just to get a good
>>>> laugh.
>>> Just the name of this thread is a good laugh..
>>> IE: bend the rules so the error in thinking becomes truth. :(
>>> Make Maxwell applicable for what? Contra wound dummy loads?
>>> BTW, my cat has new zircon encrusted mittens.. :)
>> They'd go good with the zircon encrusted tweezers I use at my Montana
>> dental floss farm.
>>
>> tom
>> K0TAR
>
> You must still beware the Huskies and yellow snow.

I'll stick with blessed pancakes with stolen margareen on them.

tom
K0TAR

667. Models actor’s Photo Sexy hot

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 19:22:37 UTC
From: gffgfg <resourts63@gmail.com>
Message-ID: <ec9dbe05-aeb9-4363-965b-dcdb1c27408f@u19g2000prh.googlegroups.com>
Source record: 10817

Models actor’s Photo Sexy hot
http://bridephotogallary.blogspot.com

668. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-02-28 20:04:24 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <fa4111c3-7edd-4c24-a39e-316660793a55@k17g2000yqb.googlegroups.com>
Source record: 10818

On Feb 27, 11:34 pm, 328X1 <328X1.5d00...@radiobanter.com> wrote:
> Art Unwin;699794 Wrote:
>
> > Has there ever been a study that shows the relative consistency of
> > received signal polarity to see if it would be advantageous for multi
> > polarity receive antennas?
>
> As I'm both a 'diehard scanner enthusiast' & an Amateur Radio Op, I've
> found that you can use two cheap antenna rotators, with either an
> ordinary TV antenna [for scanner hobby] or a 2/70cm antenna [normal
> versus SSB]. The idea, being to use one rotator to 'bore sight', in
> azimuth, on the desired signal. With a suitably designed bracket, the
> other rotator controls the vertical/horizontal antenna orientation.
> Naturally, you only need 90 degrees for polarity change; and it goes
> without saying, be sure your elements clear all parts of your antenna
> and guywire supports. !!! 'Crunchy' sounds eminating for your antenna
> location, usually means $$$.
>
> --
> 328X1

Did you feel it was worthwhile to add the extra rotor to catch the
other signals that you couldn't hear before?

669. Cat contacting aliens using Morse Code!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 02:12:17 UTC
From: Tonyfrost <jupalmer@gmail.com>
Message-ID: <45fa55ed-95eb-45c8-8ede-7b26acbb1e90@e23g2000yqd.googlegroups.com>
Source record: 10819

This Cat is tapping out morse code on a box-telegraph: "send help...
trapped in a box..."
Have you evere received any messages from this one??

http://www.youtube.com/watch?v=2SkDOfYpGLI&feature=player_embedded

670. Re: receive polarity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 02:47:08 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7562f126-5dd7-4884-9c2e-067caaf8fb94@g7g2000yqe.googlegroups.com>
Source record: 10820

On Feb 24, 12:31 am, Roy Lewallen <w...@eznec.com> wrote:
> tom wrote:
>
> > Jeff
>
> > I hate to support Art, but he did give the endpoint data in picture6. I
> > modeled it with eznec+ 5 and the pattern and gain are reasonably close
> > to what he shows in the other "pictures". Close considering he appears
> > to be using mininec and if he includes conductor loss and real ground
> > it's off a fair amount (I show 9.36 dBi gain). I didn't run circular,
> > and doubt that it has much in the way of circularity, which is kind of
> > obvious from the elements. Even though they are skewed in a way which
> > he probably patented.
>
> > tom
> > K0TAR
>
> Picture6 data show equal horizontal and total gain, which means it's
> purely horizontally polarized in the direction of the analysis. That's
> also consistent with equal CW and CCW (or right and left hand) circular
> components, which mean polarization (again in the direction of the
> analysis) is purely linear.
>
> Roy Lewallen, W7EL

I am a bit lost on the above response basically on the use of the term
purely linear.
Could you please explain your emphasis on purely linear in your
analysis.
Does it in any way point to an error in the model

671. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 07:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1267426800@panix.com>
Source record: 10821
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

672. Re: Cat contacting aliens using Morse Code!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 12:42:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <16713f61-d8a5-41ab-a171-a678bf75274f@t41g2000yqt.googlegroups.com>
Source record: 10822

On Feb 28, 8:12 pm, Tonyfrost <jupal...@gmail.com> wrote:
> This Cat is tapping out morse code on a box-telegraph: "send help...
> trapped in a box..."

That could be a breakthrough in quantum physics if it is Schrodinger's
cat.
--
73, Cecil, w5dxp.com

673. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 18:32:22 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9731512a-55cd-4805-8859-9c56f31fb8ba@z35g2000yqd.googlegroups.com>
Source record: 10823

On Mar 1, 12:02 pm, Bill <k4...@arrl.net> wrote:
> On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> we have three types of Leptons each able to produce one of the
>
> > > primary colours, red, green or yellow. Thus we have three types of
> > > Leptons each able to produce one of the primary colours, red, green or
> > > yellow.
>
> > > And so on...
>
> > xxxxxxxxx
> > Thanks for printing it again tho full completion of the article would
> > be much more rewarding
>
> Do you really think green is a primary color, you great braying
> jackass?

It is not unusual for those involved in physics to see engineers as
trash.
But physicist have relied so much on mathematics to the point of
covering up errors
that it is now really the science of plagarism.I don't know what your
achievement in life are
but it would appear you are talking as a physicist possibly with a
phd. Earlier we had a phd from MIT post that the error I allude to
is indeed an error which occured when the cgs system was replaced I
therefore suggest that you and others should scan the web with respect
to errors made in physics and how they have been covered up. I suggest
you start with the errors of Maxwell and follow thru to see how these
errors have been magnified via plagarism. I am an engineer and not a
physicist such as you which puts me in the position of being able to
check mathematics and discern mathematical errors. I gave you a paper
that echoes the mathematical errors that I pointed out in a much more
readable and scientific fashion. So with the extensive knoweledge you
seem to suggest you have why not critique the math presented in the
article and show to others from a physics standpoint the paper is in
error? This would be so much informative in sending a string of posts
to defame me which is an example of free speech since it has no
scientific analysis to prove your point. This is why I do not respond
to you since you provide no facts of interest only spam as with a few
others on this newsgroup. If indeed you do have a doctorate in the
subject or some notable achievement in this area you will have my
attention but at the moment the only evidence i see is one of spam.

674. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 19:57:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4v5oo5t95gr6m727govjarisjh7grn3jeh@4ax.com>
Source record: 10824

On Mon, 1 Mar 2010 10:02:05 -0800 (PST), Bill <k4wge@arrl.net> wrote:

>On Feb 27, 5:39ï¿½pm, Art Unwin <arthurun...@gmail.com> wrote:
>we have three types of Leptons each able to produce one of the
>> > primary colours, red, green or yellow. Thus we have three types of
>> > Leptons each able to produce one of the primary colours, red, green or
>> > yellow.
>>
>> > And so on...
>>
>> xxxxxxxxx
>> Thanks for printing it again tho full completion of the article would
>> be much more rewarding
>
>Do you really think green is a primary color, you great braying
>jackass?

Green is a primary color - RGB

However, what is primary for one discipline is not primary for another
discipline. For instance, in color photography and in its negatives,
the colors are Cyan, Magenta, and -ahem- Yellow. This is the
difference between additive primaries and subtractive primaries.

These colors are actually dual band modes
Cyan is Blue + Green
Magenta is Blue + Red
Yellow is Green + Red

There is also the opponency color system that contains, as colors,
Red, Blue, Green, and Yellow.

However, color is a perception and has absolutely no connection to
sub-atomic leprechauns. All light emanates from electron orbital
displacements (aka charge acceleration).

73's
Richard Clark, KB7QHC

675. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 20:03:13 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hmh6i1$bs4k$1@tr22n12.aset.psu.edu>
Source record: 10825

Bill wrote:
> On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> we have three types of Leptons each able to produce one of the
>>> primary colours, red, green or yellow. Thus we have three types of
>>> Leptons each able to produce one of the primary colours, red, green or
>>> yellow.
>>> And so on...
>> xxxxxxxxx
>> Thanks for printing it again tho full completion of the article would
>> be much more rewarding
>
> Do you really think green is a primary color, you great braying
> jackass?

That he may be, but Green is one of the three primary colors. At least
in additive color mode Red Blue Green. If you are talking about
subtractive color, it is Cyan Magenta Yellow. Add black and it becomes
the standard printing system.

- Mike -

676. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 20:45:50 UTC
From: dplatt@radagast.org
Message-ID: <uklt57-sra.ln1@radagast.org>
Source record: 10826

In article <hmh6i1$bs4k$1@tr22n12.aset.psu.edu>,
Michael Coslo <mjc5@psu.edu> wrote:

>> Do you really think green is a primary color, you great braying
>> jackass?
>
>That he may be, but Green is one of the three primary colors. At least
>in additive color mode Red Blue Green. If you are talking about
>subtractive color, it is Cyan Magenta Yellow. Add black and it becomes
>the standard printing system.

True, but the "primariness" of the colors in these various color systems are far from universal. These colors are "primary" only with regard to the visual systems of human beings (and some other primates) which have a particular type of three-pigment visual receptor system.

Animals which have significantly different visual pigments in their optic receptors (and there are many!) would tend to have a different response than humans to various mixtures of red, green, and blue light... e.g. the "red light plus green light equals a yellow color" mixing trick would not necessarily work for them, as this is a perceptual "trick" of the human visual system. Although human eyes may not be able to distinguish between a red/green mix, and a true narrow-band yellow, a spectrograph (or a simple prism!) will demonstrate that they're very different!

If Art is actually claiming that there's some sort of binding or correspondence between the three families of leptons, and the "three primary colors" as seen by humans, then the only such correspondence I'm aware of is that both have the number "three" associated with them. There's no physical correspondence deeper than that, to the best of my knowledge.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

677. Re: Cat contacting aliens using Morse Code!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 20:58:18 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <0556d476-2758-412e-9b55-459b7ce98add@d27g2000yqf.googlegroups.com>
Source record: 10827

On Feb 28, 8:12 pm, Tonyfrost <jupal...@gmail.com> wrote:
> This Cat is tapping out morse code on a box-telegraph: "send help...
> trapped in a box..."
> Have you evere received any messages from this one??
>
> http://www.youtube.com/watch?v=2SkDOfYpGLI&feature=player_embedded

Andy comments:

I would think a cat would be sending " Morris Code
".... :>)))

678. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 21:02:39 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bec2669c-ca19-439f-9547-b970b4c1b1e0@f8g2000yqn.googlegroups.com>
Source record: 10828

On Mar 1, 1:57 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 1 Mar 2010 10:02:05 -0800 (PST), Bill <k4...@arrl.net> wrote:
> >On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> >we have three types of Leptons each able to produce one of the
> >> > primary colours, red, green or yellow. Thus we have three types of
> >> > Leptons each able to produce one of the primary colours, red, green or
> >> > yellow.
>
> >> > And so on...
>
> >> xxxxxxxxx
> >> Thanks for printing it again tho full completion of the article would
> >> be much more rewarding
>
> >Do you really think green is a primary color, you great braying
> >jackass?
>
> Green is a primary color - RGB
>
> However, what is primary for one discipline is not primary for another
> discipline. For instance, in color photography and in its negatives,
> the colors are Cyan, Magenta, and -ahem- Yellow. This is the
> difference between additive primaries and subtractive primaries.
>
> These colors are actually dual band modes
> Cyan is Blue + Green
> Magenta is Blue + Red
> Yellow is Green + Red
>
> There is also the opponency color system that contains, as colors,
> Red, Blue, Green, and Yellow.
>
> However, color is a perception and has absolutely no connection to
> sub-atomic leprechauns. All light emanates from electron orbital
> displacements (aka charge acceleration).
>
> 73's
> Richard Clark, KB7QHC

Thank you Richard for an explanation that I did not supply.
It also has not been ruled out that a lepton cannot change its
frequency
when it emerges from the boundary of the Sun until it arrives on
earth.

Either way it is a minor point in the discussion of communication.
It would be better if a separate discussion was posted for the
spammers as to how many colours are visible in the aurora beaurilas to
where the other colours come from and let them fight from there.

679. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 21:03:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c9916c1e-a8da-48b1-8042-8be68ca5fb76@c16g2000yqd.googlegroups.com>
Source record: 10829

On Mar 1, 2:03 pm, Michael Coslo <m...@psu.edu> wrote:
> Bill wrote:
> > On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> > we have three types of Leptons each able to produce one of the
> >>> primary colours, red, green or yellow. Thus we have three types of
> >>> Leptons each able to produce one of the primary colours, red, green or
> >>> yellow.
> >>> And so on...
> >> xxxxxxxxx
> >> Thanks for printing it again tho full completion of the article would
> >> be much more rewarding
>
> > Do you really think green is a primary color, you great braying
> > jackass?
>
> That he may be, but Green is one of the three primary colors. At least
> in additive color mode Red Blue Green. If you are talking about
> subtractive color, it is Cyan Magenta Yellow. Add black and it becomes
> the standard printing system.
>
>   - Mike -

Thank you

680. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 21:38:29 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a49fccf0-cb7d-4da0-b51c-a254f742356d@q16g2000yqq.googlegroups.com>
Source record: 10830

On Mar 1, 2:45 pm, dpl...@radagast.org (Dave Platt) wrote:
> In article <hmh6i1$bs4...@tr22n12.aset.psu.edu>,
> Michael Coslo <m...@psu.edu> wrote:
>
> >> Do you really think green is a primary color, you great braying
> >> jackass?
>
> >That he may be, but Green is one of the three primary colors. At least
> >in additive color mode Red Blue Green. If you are talking about
> >subtractive color, it is Cyan Magenta Yellow. Add black and it becomes
> >the standard printing system.
>
> True, but the "primariness" of the colors in these various color
> systems are far from universal. These colors are "primary" only with
> regard to the visual systems of human beings (and some other primates)
> which have a particular type of three-pigment visual receptor system.
>
> Animals which have significantly different visual pigments in their
> optic receptors (and there are many!) would tend to have a different
> response than humans to various mixtures of red, green, and blue
> light... e.g. the "red light plus green light equals a yellow color"
> mixing trick would not necessarily work for them, as this is a
> perceptual "trick" of the human visual system. Although human eyes
> may not be able to distinguish between a red/green mix, and a true
> narrow-band yellow, a spectrograph (or a simple prism!) will
> demonstrate that they're very different!
>
> If Art is actually claiming that there's some sort of binding or
> correspondence between the three families of leptons, and the "three
> primary colors" as seen by humans, then the only such correspondence
> I'm aware of is that both have the number "three" associated with
> them. There's no physical correspondence deeper than that, to the
> best of my knowledge.
>
> --
> Dave Platt <dpl...@radagast.org>   AE6EO
> Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
>   I do _not_ wish to receive unsolicited commercial email, and I will
>   boycott any company which has the gall to send me such ads!

David I am not ruling it out since I cannot personally state there is
a lepton for every color or hue. What I am deducing that particles
arrive on earth in the millions per cubic metre serching for a place
to rest on earth recognising at the same time the connection between

light(colour and particles) W#e see evidence of this every day where they seek a diamagnetic surface one of which is water where they form a skin on the surface and where this surface can be transformed by the addition of soap. The whole discussion is really about the standard model which became visual to me when I added a time vary field to a boundary containing static particles. I was unaware at that point of the huge disagreements in physics about the errors of maxwell. Either way the only avenue I had to pursue my thinking was to assume that programmers had kept faithfully to Maxwells equations alone. When I got hold of an optimizer I operated it with toally disconnected figures so that I could not be accused of propelling an answer that I would like., The results are on my page showing clearly the requirement of equilibrium. I am not considered a skilled programmer and I am unable to fathom the truth of my program. As always I went to an academic out of state who was familiar with antennas and physics for verification by using other alternative programs where he confirmed my findings. Whether my attempt at the standard model may be worthless the arrays that I was lead to were new ,correct and probably of some use. They in no way represent an effort to disprove the duallity theorem
because that doesn"t state that the particle in question doesn't change form ,only that they have similar properties. Yes there are spammers attacking me but as yet nobody has proved that my deductions are not correct. I don't listen to spammers but I do listen to those who have a modicom of interest into how radiation works since the true answers are not in any of the books.On the subject of the word "soot" being rediculled it becomes obvious that the spammer is quite old, possibly a redneck who lived in his early days where coal supplied the heat. The word "soot" is certainly not confined to coal burning which can be affirmed in many places.
Finally I am amazed that billions are still being spent at Cern when there is so much division on the question of particles and waves and where the divisions between physicists
that have been unable to open discussion, where the physics leadership has declared it to be frozen to further discussion. Again a error in a check book does not correct itself overtime! An error stays an error until it is recognised and action taken.
If a formula is correct when using CGS units there is absolutely no good reason that formulas derived using standard units should not amount to the same conclusions thus forcing professors to take their heads out of the sand.
Best regards
Art Unwin KB9MZ.......xg

681. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-01 22:37:45 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3a94d370-18c0-48ae-afe0-76fb170a71c9@c16g2000yqd.googlegroups.com>
Source record: 10831

On Mar 1, 3:38 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 1, 2:45 pm, dpl...@radagast.org (Dave Platt) wrote:
>
>
>
> > In article <hmh6i1$bs4...@tr22n12.aset.psu.edu>,
> > Michael Coslo <m...@psu.edu> wrote:
>
> > > >> Do you really think green is a primary color, you great braying
> > > >> jackass?
>
> > > >That he may be, but Green is one of the three primary colors. At least
> > > >in additive color mode Red Blue Green. If you are talking about
> > > >subtractive color, it is Cyan Magenta Yellow. Add black and it becomes
> > > >the standard printing system.
>
> > > True, but the "primariness" of the colors in these various color
> > > systems are far from universal. These colors are "primary" only with
> > > regard to the visual systems of human beings (and some other primates)
delete

David Platt made a comment on the subject of colour with reference to
who defines colour.
Animal eyes are different to human eyes in many ways including
physical distance apart.
angles of eyeball placement etc.
It doesn't hurt to think about what an eyeball is and its function.
A eyeball to my mind is nothing but a small FaradyCage that is
impinged upon by charge carrying particles where the impact is
transformed into a electric current so it may traverse the brain.
Their is really no way to descriminate the amount of filtering, prisms
and oils that is around with the species , or in the differences of
different brain abilities to decipher the character of different
colors. So I would imagine that some species can not identify the
color as humans see it and may not even discern color from black and
white. So nobody should take the step of assumption and making it a
fact.
Thanks to all you made the correscting comments
Art

682. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-02 14:34:42 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hmj7m3$8s3m$1@tr22n12.aset.psu.edu>
Source record: 10832

Dave Platt wrote in part:

> If Art is actually claiming that there's some sort of binding or
> correspondence between the three families of leptons, and the "three
> primary colors" as seen by humans, then the only such correspondence
> I'm aware of is that both have the number "three" associated with
> them. There's no physical correspondence deeper than that, to the
> best of my knowledge.

That may be so, but my point is that if a person says that green is a primary color, it is not incorrect.

It isn't even a mmatter of wht other animals see, they can come up with their own color theory.

I use the different systems every day, from when I worked in a darkroom and used Cyan MAgenta yellow, to present day RGB for television and computer work, and CMYK for print. They work.

As for Art's theory, people assign colors, or funny names as a tool of understanding. The greenness or redness is only that, an electromagnetic oscillation at a frequency our eyes see as green.

Side note: there is no magenta in the spectrum, so there are some who are loathe to call it a primary color.

- Mike -

683. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-02 15:24:05 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <8ea7db36-ac1e-4cec-b207-0778443a39e4@b7g2000yqd.googlegroups.com>
Source record: 10833

On Mar 2, 8:34 am, Michael Coslo <m...@psu.edu> wrote:
> Dave Platt wrote in part:
>
> > If Art is actually claiming that there's some sort of binding or
> > correspondence between the three families of leptons, and the "three
> > primary colors" as seen by humans, then the only such correspondence
> > I'm aware of is that both have the number "three" associated with
> > them. There's no physical correspondence deeper than that, to the
> > best of my knowledge.
>
> That may be so, but my point is that if a person says that green is a
> primary color, it is not incorrect.
>
> It isn't even a mmatter of wht other animals see, they can come up with
> their own color theory.
>
> I use the different systems every day, from when I worked in a darkroom
> and used Cyan MAgenta yellow, to present day RGB for television and
> computer work, and CMYK for print. They work.
>
> As for Art's theory, people assign colors, or funny names as a tool of
> understanding. The greenness or redness is only that, an electromagnetic
> oscillation at a frequency our eyes see as green.
>
> Side note: there is no magenta in the spectrum, so there are some who
> are loathe to call it a primary color.
>
>   - Mike -

Were you aware that Maxwell gave a lecture to the Royal Society in
England on this very subject of primary colours? Presumably he was
persueing a connection with waves and particles or something like
that. As for electromagnetic oscillation at a given frequency, that is
beyond my pay grade, but I do have difficulty with discerning
differences between blue and green the same as the 10% of the
population!

684. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-02 17:35:38 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <3d689408-1df0-4690-a048-36c8e864d383@19g2000yqu.googlegroups.com>
Source record: 10834

On Mar 1, 7:57 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 1 Mar 2010 10:02:05 -0800 (PST), Bill <k4...@arrl.net> wrote:
> >On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> >we have three types of Leptons each able to produce one of the
> >> > primary colours, red, green or yellow. Thus we have three types of
> >> > Leptons each able to produce one of the primary colours, red, green or
> >> > yellow.
>
> >> > And so on...
>
> >> xxxxxxxxx
> >> Thanks for printing it again tho full completion of the article would
> >> be much more rewarding
>
> >Do you really think green is a primary color, you great braying
> >jackass?
>
> Green is a primary color - RGB

Not when I was doing my fingerpaints in Kindergarten. When I wanted
green, I mixed blue and yellow. As you all attained your advanced
degrees, did you learn otherwise?

685. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-02 18:19:01 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hmjkql$bg6s$1@tr22n12.aset.psu.edu>
Source record: 10835

Bill wrote:
> On Mar 1, 7:57 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Mon, 1 Mar 2010 10:02:05 -0800 (PST), Bill <k4...@arrl.net> wrote:
>>> On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
>>> we have three types of Leptons each able to produce one of the
>>>>> primary colours, red, green or yellow. Thus we have three types of
>>>>> Leptons each able to produce one of the primary colours, red, green or
>>>>> yellow.
>>>>> And so on...
>>>> xxxxxxxxx
>>>> Thanks for printing it again tho full completion of the article would
>>>> be much more rewarding
>>> Do you really think green is a primary color, you great braying
>>> jackass?
>> Green is a primary color - RGB
>
> Not when I was doing my fingerpaints in Kindergarten. When I wanted
> green, I mixed blue and yellow. As you all attained your advanced
> degrees, did you learn otherwise?

There are different ways to come up with colors, transmitted or
reflected. And the magic is that they will perform differently depending
on the mode.

You were actually using subtractive mode - Cyan-magenta-yellow. Your
blue and yellow combined and there you have it - green. Just like it was
supposed to.

Note that you color mixing fails at the lower and upper end. where the
color mixing won't be able to produce pure white or black. But for
colors in the middle of the range, it works well. That's why printers
use a cyan-magenta-yellow-and black model, with percentages rather than
steps.

We'll just ignore the anti-education zinger. Not sure what that's about.
This isn't rocket surgery.

- 73 de Mike N3LI -

686. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-02 19:41:04 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <t7qqo5led9bougofjnh2rcj7afig4bjlvp@4ax.com>
Source record: 10836

On Tue, 2 Mar 2010 09:35:38 -0800 (PST), Bill <k4wge@arrl.net> wrote:

>On Mar 1, 7:57ï¿½pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Mon, 1 Mar 2010 10:02:05 -0800 (PST), Bill <k4...@arrl.net> wrote:
>> >On Feb 27, 5:39ï¿½pm, Art Unwin <arthurun...@gmail.com> wrote:
>> >we have three types of Leptons each able to produce one of the
>> >> > primary colours, red, green or yellow. Thus we have three types of
>> >> > Leptons each able to produce one of the primary colours, red, green or
>> >> > yellow.
>>
>> >> > And so on...
>>
>> >> xxxxxxxxx
>> >> Thanks for printing it again tho full completion of the article would
>> >> be much more rewarding
>>
>> >Do you really think green is a primary color, you great braying
>> >jackass?
>>
>> Green is a primary color - RGB

>Not when I was doing my fingerpaints in Kindergarten. When I wanted
>green, I mixed blue and yellow. As you all attained your advanced
>degrees, did you learn otherwise?

<http://www.schoolofcolor.com/acatalog/Blue_and_Yellow.html>
A pure yellow and a pure blue would make black not green,
a pure red and a pure blue would also produce black.

I left my crayons at home so I can't try it.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

687. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-02 23:32:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gj7ro55kburjnk06n4k76iem6941jc9vie@4ax.com>
Source record: 10837

On Tue, 02 Mar 2010 11:41:04 -0800, Jeff Liebermann <jeffl@cruzio.com>
wrote:

><http://www.schoolofcolor.com/acatalog/Blue_and_Yellow.html>
> A pure yellow and a pure blue would make black not green,
> a pure red and a pure blue would also produce black.
>
>I left my crayons at home so I can't try it.

Hi Jeff,

I went to your link above, and spent some time browsing. I came
across the statement you offer - and more:
>I have attempted to offer a total reassessment of the principles
>underlying color mixing. It is, I believe, the first major break away
>from the traditional and limited concepts that have caused artists
>and others who work with color so many problems.

.... Classic Unwin writing there = Buy my idea to find out how.

I have met with soooo many inventors to listen to their pitch for
venture capital, and like this example above, they all hedge their
presentation by obfuscating. To a man (or woman), they all perceive
that their "secret sauce" is too valuable to reveal.

73's
Richard Clark, KB7QHC

688. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 00:45:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <AeudnU4rl6ffLBDWnZ2dnUVZ_oGdnZ2d@giganews.com>
Source record: 10838

Bill wrote:
>
> Not when I was doing my fingerpaints in Kindergarten. When I wanted
> green, I mixed blue and yellow. As you all attained your advanced
> degrees, did you learn otherwise?

It's been obvious to me since kindergarten that if I roll a ball on the floor, it comes to a stop all by itself. Then in high school them edjukated egg-heads tried to tell me it'll just keep going. No telling what them guys with advanced degrees must believe!

But I've been lookin' for the blue dots on my color TV, and couldn't find any. Musta been designed by one of them eggheads and not by a kindergarten pupil. Can't possibly work.

Roy Lewallen, W7EL

689. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 01:41:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <z6Kdncdbi_aiIxDWnZ2dnUVZ_gxi4p2d@giganews.com>
Source record: 10839

Roy Lewallen wrote:
> Bill wrote:
>>
>> Not when I was doing my fingerpaints in Kindergarten. When I wanted
>> green, I mixed blue and yellow. As you all attained your advanced
>> degrees, did you learn otherwise?
>
> It's been obvious to me since kindergarten that if I roll a ball on the
> floor, it comes to a stop all by itself. Then in high school them
> edjukated egg-heads tried to tell me it'll just keep going. No telling
> what them guys with advanced degrees must believe!
>
> But I've been lookin' for the blue dots on my color TV, and couldn't
> find any. Musta been designed by one of them eggheads and not by a
> kindergarten pupil. Can't possibly work.

Oops, found the blue dots. But no yellow. So how can it make the
"primary" color yellow?

Roy Lewallen, W7EL

690. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 02:46:36 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <69hro51efprton3hivgphlkpjuvvtns8er@4ax.com>
Source record: 10840

On Tue, 02 Mar 2010 15:32:32 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Tue, 02 Mar 2010 11:41:04 -0800, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>
>><http://www.schoolofcolor.com/acatalog/Blue_and_Yellow.html>
>> A pure yellow and a pure blue would make black not green,
>> a pure red and a pure blue would also produce black.
>>
>>I left my crayons at home so I can't try it.

>Hi Jeff,
>
>I went to your link above, and spent some time browsing. I came
>across the statement you offer - and more:
>>I have attempted to offer a total reassessment of the principles
>>underlying color mixing. It is, I believe, the first major break away
>>from the traditional and limited concepts that have caused artists
>>and others who work with color so many problems.
>
>.... Classic Unwin writing there = Buy my idea to find out how.

Good point. The author is selling a book. I wouldn't expect him to
disclose too many of his "discoveries" or one might not need to buy
the book.

I wouldn't exactly call it "classic Unwin writing". The difference is
that the author of the color book is intentionally creating confusion
so that the only solution for the reader is to purchase the book. This
is a common marketing ploy. A clear explanation would not require a
book to show how it works. A not so clear explanation does. Art has
the right idea, but isn't selling anything, so that's out. His style
of writing would be very useful, if he didn't over-do it. For example,
the right approach would be a long series of one-line comments that
everyone can agree with. Make it sound like a beginning of a logical
argument, but it can also just be some marginally related factoids.
After a series of generally agreed upon statements, drop in a dubious
factoid and immediately generate an "obvious" conclusion. If Art did
that, instead of starting with multiple dubious factoids, it would
probably be quite effective.

It's not really a new method. Cults and special interest groups have
been dealing with mysteries since the dawn of civilization. For
example:
<http://en.wikipedia.org/wiki/Mithraic_Mysteries>

2000 years ago, we would be debating the merits of how the various deities control antenna gain, VSWR, pattern, and propagation. The sales pitch today is similar. Spoon feed the GUM (great unwashed masses) with small portions of truth. When they become complacent, shovel manure down their gullible throats.

>I have met with soooo many inventors to listen to their pitch for
>venture capital, and like this example above, they all hedge their
>presentation by obfuscating. To a man (or woman), they all perceive
>that their "secret sauce" is too valuable to reveal.

Same here. In the late 1990's, I doing sanity checks on business plans for venture capitalists. Before handing someone a few million dollars, running a sanity check was considered useful. Much of the technology was little better than science fiction, but was so well written, that it was difficult to detect. Some even had patents. Gorgeous desktop publishing and graphics were great for gift wrapping. Even the serious ones tended to camouflage shaky areas under a cloud of technobabble and obfuscation.

Here's a classic:
<http://www.bizjournals.com/dallas/stories/2004/03/22/story5.html>
Patents: 6765479 and 5982276
Using a MASER to couple 2.4Gbits/sec to power lines for what's now called BPL (broadband power line) to the GUM.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

691. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 03:04:16 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <uvjro5pumo2so7e7oaqjlkrqo3gvdarohk@4ax.com>
Source record: 10841

On Tue, 2 Mar 2010 07:24:05 -0800 (PST), Art Unwin
<arthurunwin@gmail.com> wrote:

>Were you aware that Maxwell gave a lecture to the Royal Society in
>England on this very subject of primary colours?

Yep. See:
<http://www.greatreality.com/color/ColorMaxwell.htm>
He created the first color photograph using his idea of 3 primary
colors (red, blue, yellow) but without sensitivity to red or green.
Maxwell left a few unanswered questions about his method of color
photogrpahy:
<http://www.greatreality.com/color/ColorDidMKnow.htm>
Maxwell had a good start, but not the whole answer:
<http://www.greatreality.com/ColorPrimary.htm>

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

692. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 03:17:12 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <960f6dff-62bd-47a2-8a41-bbf8828ae13d@b7g2000yqd.googlegroups.com>
Source record: 10842

On Mar 2, 8:46 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Tue, 02 Mar 2010 15:32:32 -0800, Richard Clark <kb7...@comcast.net>
> wrote:
>
>
>
> >On Tue, 02 Mar 2010 11:41:04 -0800, Jeff Liebermann <je...@cruzio.com>
> >wrote:
>
> >><http://www.schoolofcolor.com/acatalog/Blue_and_Yellow.html>
> >> A pure yellow and a pure blue would make black not green,
> >> a pure red and a pure blue would also produce black.
>
> >>I left my crayons at home so I can't try it.
> >Hi Jeff,
>
> >I went to your link above, and spent some time browsing. I came
> >across the statement you offer - and more:
> >>I have attempted to offer a total reassessment of the principles
> >>underlying color mixing. It is, I believe, the first major break away
> >>from the traditional and limited concepts that have caused artists
> >>and others who work with color so many problems.
>
> >.... Classic Unwin writing there = Buy my idea to find out how.
>
> Good point. The author is selling a book. I wouldn't expect him to
> disclose too many of his "discoveries" or one might not need to buy
> the book.
>
> I wouldn't exactly call it "classic Unwin writing". The difference is
> that the author of the color book is intentionally creating confusion
> so that the only solution for the reader is to purchase the book. This
> is a common marketing ploy. A clear explanation would not require a
> book to show how it works. A not so clear explanation does. Art has
> the right idea, but isn't selling anything, so that's out. His style
> of writing would be very useful, if he didn't over-do it. For example,
> the right approach would be a long series of one-line comments that
> everyone can agree with. Make it sound like a beginning of a logical
> argument, but it can also just be some marginally related factoids.
> After a series of generally agreed upon statements, drop in a dubious
> factoid and immediately generate an "obvious" conclusion. If Art did
> that, instead of starting with multiple dubious factoids, it would
> probably be quite effective.
>

> It's not really a new method. Cults and special interest groups have
> been dealing with mysteries since the dawn of civilization. For
> example:
> <http://en.wikipedia.org/wiki/Mithraic_Mysteries>
> 2000 years ago, we would be debating the merits of how the various
> deities control antenna gain, VSWR, pattern, and propagation. The
> sales pitch today is similar. Spoon feed the GUM (great unwashed
> masses) with small portions of truth. When they become complacent,
> shovel manure down their gullible throats.
>
> >I have met with soooo many inventors to listen to their pitch for
> >venture capital, and like this example above, they all hedge their
> >presentation by obfuscating. To a man (or woman), they all perceive
> >that their "secret sauce" is too valuable to reveal.
>
> Same here. In the late 1990's, I doing sanity checks on business
> plans for venture capitalists. Before handing someone a few million
> dollars, running a sanity check was considered useful. Much of the
> technology was little better than science fiction, but was so well
> written, that it was difficult to detect. Some even had patents.
> Gorgeous desktop publishing and graphics were great for gift wrapping.
> Even the serious ones tended to camouflage shaky areas under a cloud
> of technobabble and obfuscation.
>
> Here's a classic:
> <http://www.bizjournals.com/dallas/stories/2004/03/22/story5.html>
> Patents: 6765479 and 5982276
> Using a MASER to couple 2.4Gbits/sec to power lines for what's now
> called BPL (broadband power line) to the GUM.
>
> --
> # Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
> # 831-336-2558
> #http://802.11junk.com   je...@cruzio.com
> #http://www.LearnByDestroying.com   AE6KS

Ok. Jeff. What did I do wrong? I am still being trashed because of my
statement.
I started off with the statement that if you add a time varying field
to a arbitrary Gaussian border containing static particles, in
equilibrium, then Maxwells laws for radiation was applicable. My
education was based around cgs units.
Every body stated at that point that it was incorrect, ala you can't
mix static particles with waves, or something like that. The group
never backed off from the position that the statement was in error and
the arguement and insults went on for a few months. Then a Phd from
MIT chimed in and stated I was correct and explained why. He also was
then trashed by all.
The group have not, as yet, moved away from that position.
What should I have done so as to continueing sharing my work since

denial of my statement stopped all necessary explanations ,as the statement was the discovery upon which antennas and radiation advancement was based upon. Note I was sharing my discovery not concealing it as Richard said.

693. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 04:34:37 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <b4a8c280-95fb-444f-8421-ea65af17ebab@y17g2000yqd.googlegroups.com>
Source record: 10843

On Mar 2, 10:17 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 2, 8:46 pm, Jeff Liebermann <je...@cruzio.com> wrote:
>
>
>
>
>
> > On Tue, 02 Mar 2010 15:32:32 -0800, Richard Clark <kb7...@comcast.net>
> > wrote:
>
> > >On Tue, 02 Mar 2010 11:41:04 -0800, Jeff Liebermann <je...@cruzio.com>
> > >wrote:
>
> > >><http://www.schoolofcolor.com/acatalog/Blue_and_Yellow.html>
> > >> A pure yellow and a pure blue would make black not green,
> > >> a pure red and a pure blue would also produce black.
>
> > >>I left my crayons at home so I can't try it.
> > >Hi Jeff,
>
> > >I went to your link above, and spent some time browsing. I came
> > >across the statement you offer - and more:
> > >>I have attempted to offer a total reassessment of the principles
> > >>underlying color mixing. It is, I believe, the first major break away
> > >>from the traditional and limited concepts that have caused artists
> > >>and others who work with color so many problems.
>
> > >.... Classic Unwin writing there = Buy my idea to find out how.
>
> > Good point. The author is selling a book. I wouldn't expect him to
> > disclose too many of his "discoveries" or one might not need to buy
> > the book.
>
> > I wouldn't exactly call it "classic Unwin writing". The difference is
> > that the author of the color book is intentionally creating confusion
> > so that the only solution for the reader is to purchase the book. This
> > is a common marketing ploy. A clear explanation would not require a
> > book to show how it works. A not so clear explanation does. Art has
> > the right idea, but isn't selling anything, so that's out. His style
> > of writing would be very useful, if he didn't over-do it. For example,
> > the right approach would be a long series of one-line comments that
> > everyone can agree with. Make it sound like a beginning of a logical
> > argument, but it can also just be some marginally related factoids.
> > After a series of generally agreed upon statements, drop in a dubious

> > factoid and immediately generate an "obvious" conclusion. If Art did
> > that, instead of starting with multiple dubious factoids, it would
> > probably be quite effective.
>
> > It's not really a new method. Cults and special interest groups have
> > been dealing with mysteries since the dawn of civilization. For
> > example:
> > <http://en.wikipedia.org/wiki/Mithraic_Mysteries>
> > 2000 years ago, we would be debating the merits of how the various
> > deities control antenna gain, VSWR, pattern, and propagation. The
> > sales pitch today is similar. Spoon feed the GUM (great unwashed
> > masses) with small portions of truth. When they become complacent,
> > shovel manure down their gullible throats.
>
> > >I have met with soooo many inventors to listen to their pitch for
> > >venture capital, and like this example above, they all hedge their
> > >presentation by obfuscating. To a man (or woman), they all perceive
> > >that their "secret sauce" is too valuable to reveal.
>
> > Same here. In the late 1990's, I doing sanity checks on business
> > plans for venture capitalists. Before handing someone a few million
> > dollars, running a sanity check was considered useful. Much of the
> > technology was little better than science fiction, but was so well
> > written, that it was difficult to detect. Some even had patents.
> > Gorgeous desktop publishing and graphics were great for gift wrapping.
> > Even the serious ones tended to camouflage shaky areas under a cloud
> > of technobabble and obfuscation.
>
> > Here's a classic:
> > <http://www.bizjournals.com/dallas/stories/2004/03/22/story5.html>
> > Patents: 6765479 and 5982276
> > Using a MASER to couple 2.4Gbits/sec to power lines for what's now
> > called BPL (broadband power line) to the GUM.
>
> > --
> > # Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
> > # 831-336-2558
> > #http://802.11junk.com   je...@cruzio.com
> > #http://www.LearnByDestroying.com   AE6KS
>
> Ok. Jeff. What did I do wrong? I am still being trashed because of my
> statement.
> I started off with the statement that if you add a time varying field
> to a arbitrary Gaussian border containing static particles, in
> equilibrium, then Maxwells laws for radiation was applicable. My
> education was based around cgs units.
> Every body stated at that point that it was incorrect, ala you can't
> mix static particles with waves, or something like that. The group
> never backed off from the position that the statement was in error and
> the arguement and insults went on for a few months. Then a Phd from

> MIT chimed in and stated I was correct and explained why. He also was
> then trashed by all.
> The group have not, as yet, moved away from that position.
> What should I have done so as to continueing sharing my work since
> denial of my statement stopped all necessary explanations ,as the
> statement was the discovery upon which antennas and radiation
> advancement was based upon. Note I was sharing my discovery not
> concealing it as Richard said.- Hide quoted text -
>
> - Show quoted text -

The only antenna you have shown so far is just a warped up Yagi. This is nothing like you described"randomly placed full wavelength elements in equalibrium". The antenna you described is just a slightly messsed up Yagi with a slightly messed up radiation pattern. It seems like you should be able to learn from your own data that you havent done anything new.Why dont you model the antenna as you described it. Full wavelength radiators fed in phase and randomly placed"

Jimmie.

694. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 06:32:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q2vro5ta2kf8vrhjcn5voajh9vpat452e8@4ax.com>
Source record: 10844

On Tue, 2 Mar 2010 20:20:42 -0800 (PST), Bill <k4wge@arrl.net> wrote:

>On Mar 2, 7:41ï¿½pm, Jeff Liebermann <je...@cruzio.com> wrote:
>>
>> <http://www.schoolofcolor.com/acatalog/Blue_and_Yellow.html>
>> ï¿½ ï¿½A pure yellow and a pure blue would make black not green,
>> ï¿½ ï¿½a pure red and a pure blue would also produce black.
>
>So I can believe School of Color or my own lying eyes...

You can believe your eyes for two different cases of primary color - transmission (additive) and reflection (subtractive) - and one of those examples will say your eyes are lying.

Jeff's example can be tested quite simply (and was suggested by Roy). Take a displayed image (on your computer) of a photo of your swatch of your two colors, yellow and blue, mixed on a piece of paper in exactly the fashion of your kindergarten experience. Arrange it so the paper has yellow and blue margins merging into your green center.

As I said, display your art work on your monitor. Place a very strong magnifying glass near the display to observe the areas at the pixel level (I had to use 20X) You will find, true to your experience that the green pels of the display correspond to the green area of the mixed colors. You will find blue pels that correspond to the blue area of mixed colors. However, you will find no yellow pels in the yellow pigment you mixed with the blue - those pels are red and green. So, looking at the transmitted light of a reflected light image would have your eyes witnessing that there was absolutely no yellow in your original finger paint. The evidence available to your own eyes (and everyone else) would say that Red+Green+Blue=Green Do you believe that? It is your own yellow pigment that you took a picture of and examined on your own computer. Your eyes are lying to you.

Color is an illusion of the mind and nothing else but a convention of terminology.

73's
Richard Clark, KB7QHC

695. Re: Egg Shaped Pod For Living!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 06:40:54 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <84818bdb-178f-44c1-8b6d-43cc335cc820@b36g2000pri.googlegroups.com>
Source record: 10845

On Feb 25, 6:48 am, ".Richard Clark" <timothy...@gmail.com> wrote:
> Spot the difference,
> Actually I don't know if this is a joke or if it's for real,
> could be really usefull in certain parts of America, but only if set
> underground-
> But the problem is.....where’s the water tank, the grey water tank,
> black water tank, the propane tanks, solar panels and wheels and
> hitch???
>
> Certanly this could be seen as a U.F.O hahah
>
> http://thedesigninspiration.com/articles/egg-shape-mobile-living-spac...

It looks like a walk-in closet. The presence of the woman in the
towel suggests that a small shower may be behind her in the back, but,
otherwise I see no fittings for other needs, like a toilet, a stove, a
refrigerator, a bed, a chair. Except for the roof vent, light and
ventilation appear to be managed by opening the shell. Does fresh
polyester emit fumes?

696. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 06:46:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5l0so5l30pqab7ahdl21tuier8c37vjcie@4ax.com>
Source record: 10846

On Tue, 02 Mar 2010 18:46:36 -0800, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>I wouldn't exactly call it "classic Unwin writing".

Well, let's return to the claim:
>> A pure yellow and a pure blue would make black not green,
and examine the specifics "pure" yellow for instance and see where the
author leads us courtesy of amazon's "look inside" feature for this
book. Chapter three's title reads:
"Pure reds, yellows, and blues do not exist"

Makes it pretty difficult (and absurd) to test the author's claim when
that author pens an entire chapter in self-negation out of the box.

This is a classic Unwinism. (Compare Art's patent for a yagi that has
a reflector with a length shorter than resonance, and a director
length longer than resonance.)

73's
Richard Clark, KB7QHC

697. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 07:37:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mi1so5lid8onanetavnmne9m49e0j54e8b@4ax.com>
Source record: 10847

>>Were you aware that Maxwell gave a lecture to the Royal Society in
>>England on this very subject of primary colours?

This has been beaten by an Englishman, Claude Friese-Greene, in 1927
with an additive system of only two colors: red and green. Note,
there is no blue, no yellow. I will quote a fuller description below.

For those who believe their eyes and the yellow of blond hair, and the
blue of the sky check out 5 seconds into:
Helmsdale, Scotland (1926) at youtube:
http://www.youtube.com/watch?v=dVy5gMTps3Q
There are also natural skin tones and reds too.

One can consider the blue of the Thames river in
The Thames opposite the Tower of London, London (1926)
http://www.youtube.com/watch?v=7BCfx651YQY

Then there is the classic
The Open Road London (1927)
http://www.youtube.com/watch?v=TwahIQz0o-M

Taken from Claude Friese-Greene's Colour Process
By BBC History:
http://www.bbc.co.uk/history/programmes/programme_archive/colour_process_03.shtml
>The film he used was panchromatic and so able to record colour in tones of black and
white. He also used a revolving colour filter wheel on the lens with one red filter, one
orange and the other clear.
>
>The processed film was then stained with red and green using a mechanical process on
alternate frames. It was then meant to be down to the viewer to effectively do the rest -
when projected at a fast enough speed, the eye plays a trick on the brain and creates the
illusion of a broader colour spectrum.

So, the primary colors your eye would believe come from
red/orange/green - something more suitable to Halloween than a colour
travelogue.

The original Technicolor (1916) was similar with an identical color
process (red and green) which had two separate color frames with
overlapping projection. Needless to say, the Technicolor we are used
to abandoned the first three versions of the two color methods to give
us the three color "The Adventures of Robin Hood."

I will repeat the cogent point about colour:
>the eye plays a trick on the brain and creates the illusion of a broader colour spectrum.

73's
Richard Clark, KB7QHC

698. Re: long wire AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 15:34:08 UTC
From: "Jeff D." <djdieterle@hughes.net>
Message-ID: <8rujn.16566$Vq1.14893@en-nntp-03.dc1.easynews.com>
Source record: 10848

<blitz> wrote in message news:3i6ko4.kf.19.1@news.alt.net...
> Roy Lewallen writes...
>
>>blitz wrote:
>>>
>>> If you can't get Chicago at night on the GE SR, it's going to be a
>>> challenge on any radio.
>>>
>>> I think TJ is right- if you're going to bother with a long wire, it
>>> needs to be about 150' to get resonant (as in, tune the frequencies
>>> you want) down to 670 AM. My antenna, like yours (wire, then coax into
>>> the house) at 150', overloads most radios. So it needs some
>>> throttling. Otherwise, it's a monster for signals.
>>>
>>Making the antenna resonant won't help your signal/noise ratio at all.
>>And it makes no sense to make the antenna larger to increase the signal
>>(and noise), then adding an attenuator to decrease it so it doesn't
>>overload your receiver.
>
> Depends on the receiver. I wish I had *more* signal for the R8. It
> might not matter, but I'd like to find out.
>
> The Sony I referenced (and most other digital 'hi-fi' tuners) do need
> attenuation. Some of the older analog tuners don't.
>
> Noise levels also vary. On some bands it's already down at S1, so I'd
> be willing to accommodate a stouter signal.
>
>>> OTOH, a loop might really help you sort out the competing signal.
>>> . . .
>>
>>Yep.
>>
>>A lot of amateurs get confused about the requirements for sending a
>>strong signal and those for receiving signals clearly. At HF, they're
>>quite different. And a lot of amateurs have the mistaken idea that
>>there's something magic about an antenna being resonant. That confusion
>>is why you keep getting advice to make your antenna longer, higher, and
>>resonant, while those aren't the solution to your problem at all, and in
>>fact are likely to create additional problems due to receiver overload.
>
> I equate it (length) with meat-ball impedance matching, which upped
> the number of stations considerably (BCB and international SW). It
> could also be the 100' of coax into the house.

>
>>Roy Lewallen, W7EL

I bought the Sony XDR-F1HD and I really like it, no problem getting am 670 even with my crappy long wire installation, daytime signal is very clear. Haven't tried the nighttime signal but I'll probably need a loop as noted by others to get rid of the Latin station interference. The fm is very good also, good value for $75 or so. I'm looking at different options with the coax. It's routed around the perimeter of 3 walls then into another room and down a parallel wall before getting outside. I have 4 cheapo 8' fluorescent lights inside the 3 walled loop of coax and they create an annoying level of interference. I've confirmed the polarity and grounding on all the ac stuff so I'll write the hum off as noisy Chinese ballasts and leave the lights off. But anyway the move to the Sony tuner was a quantum gain. I have a tower from a conversion to satellite tv I'll erect this spring and install a fm directional and am loop antennas with a rotor. At that time I should be able to cut the coax down to a 20' run to the outside in metal conduit and buried another 20' to the tower in plastic conduit.

699. Re: Two coax as substitute for open line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 20:30:57 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D314C6F07F67nonenowhere@61.9.191.5>
Source record: 10849

Roy Lewallen <w7el@eznec.com> wrote in
news:O4Sdne2hyOZZhxrWnZ2dnUVZ_radnZ2d@giganews.com:

...
> The shield has an impact on the differential mode impedance, but it
> doesn't help line balance or provide shielding at all.

Roy,

I quite agree with you.

I have received a third hand comment that something in my related article at http://www.vk1od.net/transmissionline/stcm/index.htm is incorrect. I say something because there is a language translation involved in the third hand process.

Have you read the article, and have you any issue with it?

Thanks
Owen

700. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 21:01:23 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hmmina$8s10$1@tr22n12.aset.psu.edu>
Source record: 10850

Jeff Liebermann wrote:
> On Tue, 2 Mar 2010 09:35:38 -0800 (PST), Bill <k4wge@arrl.net> wrote:
>
>> On Mar 1, 7:57 pm, Richard Clark <kb7...@comcast.net> wrote:
>>> On Mon, 1 Mar 2010 10:02:05 -0800 (PST), Bill <k4...@arrl.net> wrote:
>>>> On Feb 27, 5:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
>>>> we have three types of Leptons each able to produce one of the
>>>>>> primary colours, red, green or yellow. Thus we have three types of
>>>>>> Leptons each able to produce one of the primary colours, red, green or
>>>>>> yellow.
>>>>>> And so on...
>>>>> xxxxxxxxx
>>>>> Thanks for printing it again tho full completion of the article would
>>>>> be much more rewarding
>>>> Do you really think green is a primary color, you great braying
>>>> jackass?
>>> Green is a primary color - RGB
>
>> Not when I was doing my fingerpaints in Kindergarten. When I wanted
>> green, I mixed blue and yellow. As you all attained your advanced
>> degrees, did you learn otherwise?
>
> <http://www.schoolofcolor.com/acatalog/Blue_and_Yellow.html>
> A pure yellow and a pure blue would make black not green,
> a pure red and a pure blue would also produce black.
>
> I left my crayons at home so I can't try it.

Respectfully guys, Mixing colors like that doesn't give you black. And it's pointless telling Bill that his mixing of Yellow and blue didn't give him green.

If you place a dark blue gel in front of you, then place a dark yellow gel in front of that, it will certainly look black (though black isn't a color) But that's because all the frequencies are pretty well filtered out. That is what this guy who wrote that book is probably trying to say. That and a dollar gets ya a down payment on a cuppa at Starbucks.

Just as an experiment, Make three circles in a paint program. Each circle is on a different layer

Color one 255 red 0 green and blue.

The next 255 green, 0 others.

last one of 255 blue, 0 others.

So we now have three circles of the different primiary colors, the ones I learned about in 7th grade art class and have been using since the early 80's.

So we take the circles, and overlap them so that they cover each other in parts, yet leave most of their surface open.

Mike you idjit, they just cover each other up! SO let's try to make a transmission system on a solid piece of paper. Can be done, it can.

Make each color 50 percent transparent. There's a possibility you might need to arrange the layers a bit. sending one or the other to the back.

I did this, and viola! Got the red green and blue on the outside. they're looking a little pale, but they're the pure colors. Let's look in the overlap. Where blue and green overlap is a nice shade of cyan, blue and red is magenta, but what's this? Green and red is kinda brown!

This is a problem of the surface not being able to function exactly like transmission. But if you check your color tables, brown is just a darker version of yellow.

So we have the RGB, or the CYM primary colors.

- 73 de Mike N3LI -

701. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-03 21:14:10 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hmmjf2$8s12$1@tr22n12.aset.psu.edu>
Source record: 10701

Michael Coslo wrote:

BTW all this primary color business is pretty elementary stuff. Could
some folks be arguing about it just because "Art said it, it must be wrong"?

- 73 de Mike N3LI -

702. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-04 16:20:29 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <1d134b63-d877-4a2f-a786-540f8513c3f7@d27g2000yqf.googlegroups.com>
Source record: 10702

On Mar 4, 7:44 am, n...@wt.net wrote:
> On Mar 2, 10:10 pm, Bill <k4...@arrl.net> wrote:
>
> > On Mar 3, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:

This time I will respond to your silliness. I will try to put it as
simply as possible as you have stated your highest achievement was
junior high school after which you stumbled and thus did not go any
further.

>
> > > the arguement and insults went on for a few months. Then a Phd from
> > > MIT chimed in and stated I was correct and explained why. He also was
> > > then trashed by all.
>
> > Wasn't he from BU with a degree from Cornell?
>
> He was the one that took off running when he saw the light.
> Never to return. Nada..zilch.. zip..
He showed mathematically that I was correct. Theoretical physicists
use the cgs system of units the same as I was taught. When a book
along while ago decided to us SI units he made a mathematical error
which changed the whole concept of the law Because of plagarism all
school and college books now print this same error.

> He never amounted to more than plastic filler in the overall
> scheme of things. And the filler didn't stick too well.. :/
>
> Art is like a dog that chases it's tail. He's trying to validate
> an antenna that doesn't exist. If one could build a decently
> radiating dummy load on a stick, it would already be on the
> market.

No it would not be on the market has I hold the patent and it is based
on the cgs standard
which is known to be correct

In this area, an Isotron would be a close example
> of what he thinks he has. But note that the builders of the
> Isotron do not proclaim it to have magical properties, nor
> do they try to explain it's operation using mumbo gumbo
> technobabble.

I have nev er claimed magical properties. When the cgs system is
applied to modern days antenna designs the results show higher
efficiencies in being sensitive to ALL SIGNALS

that arrive and where the same array needs a smaller volume than the yag and is not limited to a single polarity signal. In other words the computer programs are now proven to follow the laws of Maxwell where all forces are accounted for.

Even they seem to realize that the feedline
> is doing a large part of the radiating. :/

This has certainly been the case for many frauds foisted onto the ham community but it is not applicable to all arrays that differ from the Yagi and it is not applicablke in this case according to the accepted NEC programs

>
> The same could be said for directive arrays using cockeyed
> skewed angle radiators. If there was some magical property
> to these designs, they would already be on the market.

It would be great if they were as I would have a piece of that cake but I have not taken on any commercial deals.

> There has been some uses of swept back radiators in the
> past, but not quite the same thing as Art proposes.
> And they do not try to proclaim they break or ignore the
> rules of science.

Tis not I who is breaking the rules of science but academia in Universities and schools!

> Art gave one example of a skewed angle yagi months back.
> I modeled one in about 4 minutes using conventional
> yagi elements that handily beat his design in both gain
> and F/B ratio. His designs are inferior. :(

I and the others on the group would love to see a model of your sampling so this whole question of whether the NEC programs are in error as well as my judgement.
As an engineer I passed well beyond the point of junior high school so I take your limited education for what it is and try to decifer what you really mean. But you are so far off with your deductions that I can only assume the true reasons for your postings is insult and spam where the true use of this forum is to educate one self regarding amateur antennas.
Some may not agree with that format but free speech always rules.

> He is good entertainment though.

703. Military HF Ionosphere study - USAF News Article

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-04 18:05:46 UTC
From: Tom <GMan@Invalid.com>
Message-ID: <Ve6dnehJnuHmaxLWnZ2dnUVZ_q6dnZ2d@giganews.com>
Source record: 10703

There are links on the articles page to Hi-res photos of the dipoles and the location of their facility.

From the article...

Mr. Battis described the unique nature of the HAARP array, consisting of 180 transmitters distributed over 35 to 40 acres of land, with a frequency range of 2.65 to 10 megahertz.

<http://www.af.mil/news/story.asp?id=123193118>

Military scientists study ionosphere
by Bob Freeman
Special to American Forces Press Service

3/3/2010 - WASHINGTON (AFNS) -- At a facility in a remote part of south-central Alaska, the largest radio transmitter on Earth sends high-frequency signals into the ionosphere to help scientists better understand the influence of charged particles on radio communications and satellite surveillance systems.

Surprisingly, it also is able to create a mini-ionosphere.

"The High Frequency Active Auroral Research Program, a program known as HAARP, is basically a joint Air Force-Navy program to investigate ionospheric physics and radio science," explained James Battis, HAARP program manager at the Air Force Research Laboratory, during a Feb. 24 interview on Pentagon Web Radio's audio webcast "Armed with Science: Research and Applications for the Modern Military."

Mr. Battis was joined in the interview by Craig Selcher, HAARP program manager at the Naval Research Laboratory, and Todd Pedersen, a senior research physicist at AFRL.

"The ionosphere is a region of the upper atmosphere where there are a significant number of charged particles," Mr. Pedersen said. He explained that energy from the sun, particularly in the ultraviolet wavelengths, strikes atmospheric gas molecules and atoms with enough force to dislodge electrons. This results in a field of negatively charged electrons and positively charged atoms and molecules (ions), maintained in a plasma state, which conducts electrical currents and responds to electric and magnetic fields.

Mr. Battis mentioned that radio waves passing through the ionosphere are affected by the charged particles. "This can affect things like the quality of the signal from a satellite to the ground, or short-wave communications from ground to ground," he said.

He added that the signals from satellite-based surveillance and positioning systems also can be affected by the ionosphere.

"When the signals from GPS come down (from the satellite), their paths are actually deflected by the structure of the ionosphere," he said, "and some GPS errors are due

to distortions created by the ionosphere." He explained that while these errors may not be significant to the average user, they can be significant for precise military positioning. "That's one of the reasons (the Defense Department) is interested," he noted.

But the scientists all agreed that communications are the major reason for Defense Department interest.

"These are the transmissions which are used to communicate with aircraft and satellites, so the Air Force is interested largely in effects of the ionosphere on communications," Battis said.

Mr. Selcher agreed. "We have ships all over the globe that we want to be in contact with at all times, so any effect the ionosphere has on communications is something that we want to study," he said.

Mr. Battis noted that the research conducted by HAARP will benefit civilian communication systems as well, including those supporting civil aviation and ground communications.

"Satellite radio and satellite television can also be impacted by naturally occurring ionospheric conditions," Mr. Selcher added. "And trying to understand those is to begin to learn to predict, and maybe to (improve), the problem."

Mr. Battis described much of the previous ionospheric research as passive, with the evaluation of ionospheric effects based on the quality of reception of a normally transmitted radio signal.

"The radio waves we transmit from the array at our facility actively create processes and interactions with the particles in the ionosphere," he said. "Hopefully, we can learn what the responses are and how to use them to improve transmissions through the ionosphere."

"We have radio-wave sensors which send waves up to the ionosphere and listen for a reflection or an echo off something up there," Mr. Pedersen remarked. "And we have passive sensors that will listen to waves produced in the ionosphere, and also optical sensors."

Mr. Pedersen explained that when energy is directed at the ionosphere, some of it eventually comes back in the form of radio waves and some in the form of optical emissions.

"When these electrons get moved around by the electric field, they ultimately run into molecules up there, and when they have enough energy they'll become excited and give off light, just like the inside of a fluorescent light bulb," he said.

Mr. Battis and Mr. Selcher said that the radio waves emitted from the HAARP array create reactions that mimic natural processes in the ionosphere, but they are more controlled and their time and frequency input is measured, allowing the researchers to differentiate them from natural occurrences and better understand the processes at play.

"You can actually repeat the experiment again and again to verify that you're getting the right data and that the data means what you think it means," Mr. Selcher said.

Mr. Battis described the unique nature of the HAARP array, consisting of 180 transmitters distributed over 35 to 40 acres of land, with a frequency range of 2.65 to 10 megahertz.

"We can actually direct the signal within about 15 degrees of the zenith and move the signal in time," he said. "We can paint the sky. Similar facilities are typically restricted to three or four frequencies in that band, whereas we're able to do more continuous frequencies."

"That allows you to really expand the kind of experiments that you can do," Mr. Selcher added. "You can start sweeping the beam around in space, and you can change frequencies to determine if there's a frequency that has a stronger interaction with the ionosphere."

Mr. Pedersen described a surprising advance in the use of HAARP transmitters. He explained that at full power, HAARP is energetic enough that its signals not only light up the gas molecules, they're also able to knock additional electrons off, creating small areas of artificial plasma.

"Sunlight does that, and that's how we get the ionosphere in the first place," Mr. Pedersen said. "The aurora also does it. Electrons come shooting in from the aurora, from far out in space, hit the gas molecules, knock electrons off and create a temporary ionosphere for the duration of time the aurora is there," he explained.

In short, HAARP is able to create a small addition to the ionosphere. "We can add to the ionosphere enough that we can actually start doing experiments in that little spot of plasma that we created from the transmitter," Mr. Pedersen said.

Mr. Pedersen remarked that the next step was to figure out exactly what's happening in this artificial plasma and how to control it.

"This field has been data-starved for many, many years," Mr. Selcher noted, "because there weren't enough facilities that had the kind of power that HAARP has." He explained that theorists proposed many ideas to explain ionospheric interactions, but the data wasn't available to support them. HAARP is changing that.

"It's a nice position to be in as an experimentalist," he said.

(Courtesy of American Forces Press Service)

704. Alliance Tenna-Rotor

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-04 21:15:40 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <hmp7tl$q55$1@news.eternal-september.org>
Source record: 10704

I have an Alliance Tenna-Rotor model T-20 with control box for sale.
It has about 87 feet of 4 conductor cable that goes with it. It can
be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz

I'm asking $100 plus shipping CUS.

Thanks

Henry

705. Re: Military HF Ionosphere study - USAF News Article

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-04 21:36:32 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hmp94v$dp9$1@news.jpl.nasa.gov>
Source record: 10705

Tom wrote:
> There are links on the articles page to Hi-res photos of the dipoles and
> the location of their facility.
>
> From the article...
>
> Mr. Battis described the unique nature of the HAARP array, consisting of
> 180 transmitters distributed over 35 to 40 acres of land, with a
> frequency range of 2.65 to 10 megahertz.
>
> <http://www.af.mil/news/story.asp?id=123193118>

There's plenty of detailed design information on HAARP available in the public literature. A bunch of technical papers on the antenna design and performance, the big transmitters (Eimac 10kW tetrodes) , how they control and phase it, etc.

google "HAARP IEEE" and you'll get plenty of hits. Most of the pubs are in the mid 90s.

706. Re: Alliance Tenna-Rotor

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-04 22:11:59 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <72b02bb6-5c18-44f1-ada9-5de55a23ae13@f8g2000yqn.googlegroups.com>
Source record: 10706

On Mar 4, 4:15 pm, Henry <wa0...@arrl.net> wrote:
> I have an Alliance Tenna-Rotor model T-20 with control box for sale.
> It has about 87 feet of 4 conductor cable that goes with it. It can
> be viewed at:
>
> http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf...
>
> or
>
> http://tinyurl.com/yktwxpz
>
> I'm asking $100 plus shipping CUS.
>
> Thanks
>
> Henry

OMG that thing is ancient, my grandparents had one back in the 50's.
Might be a nice collector's item for someone.

Jimmie

707. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-05 00:04:00 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <dc8ce0b2-8105-4d5f-8229-4370b3c5a670@q23g2000yqd.googlegroups.com>
Source record: 10707

On Mar 4, 4:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 4, 7:44 am, n...@wt.net wrote:
>
> > On Mar 2, 10:10 pm, Bill <k4...@arrl.net> wrote:
<snip art's blathering>
>
> > He is good entertainment though.

not so much any more, getting too repetitious. time for something new now. this latest kick on cgs vs si is just a weird side show. all the good engineering texts show the constants converted to multiple units. for instance in Jackson they show the equations in Electrostatic units (esu), Electromagnetic units (emu), Gaussian, Heaviside-Lorentz, and Rationalized MKSA. The equations still represent the same things, only the constants are changed to confuse the uneducated... thats how we engineers tell who is who, by the units they choose and the direction of their current flow.

for instance, art chooses cgs, which is incomplete, much like his thought processes. and he probably thinks current flows from negative to positive, and he seems to prefer cartesian coordinates. That puts him firmly in the crackpot physicist zone. I prefer Gaussian units and positive to negative flow in cartesian coordinates which marks me as an electrical engineer educated in eletromagnetics... though i am also happy with rationalized mksa as used in ramo whinnery and van duzer's communcations electronics text.

708. Re: A static field made dynamic to make Maxwell applicable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-06 01:36:15 UTC
From: tom <news4792@taring.org>
Message-ID: <4b91b17b$0$50155$8046368a@newsreader.iphouse.net>
Source record: 10708

nm5k@wt.net wrote:
> On Mar 4, 10:20 am, Art Unwin <arthurun...@gmail.com> wrote:
<snip>
>> As an engineer I passed well beyond the point of junior high school so
>> I take your limited education for what it is and try to decifer what
>> you really mean. But you are so far off with your deductions that I
>> can only assume the true reasons for your postings is insult and spam
>> where the true use of this forum is to educate one self regarding
>> amateur antennas.
>> Some may not agree with that format but free speech always rules.
>
> Well, excuse the hell out of me. But until you build and
> test one of these conglomerations against other known
> standards, I'll take it that your vast education was a waste of
> time and money. Your blithering rants an education of things RF?
> Give me a break, you silly old man..
>

I don't think I would have held back quite so much. He certainly
deserves anything you care to say to him.

I'll take what ever you've learned in school and since then, over what
Art, WHO IS NOT AN ELECTRICAL ENGINEER BY THE WAY, has to say about any
subject involving electrons and especially a subject dear to the hearts
of many here - Fields and Waves.

He is an idiot and a fool, and doesn't know anything about what he rants
about on this and other newsgroups.

I hope I was clear in my disapproval of Art (Im rite and EVEREE WON ELSE
IS RONG!) Unwin and everything he states. He is absolute proof that the
US patent system needs to be junked and rebuilt from scratch.

tom
K0TAR

709. Re: Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-06 03:56:52 UTC
From: Shall not be infringed <hot-ham-and-cheese@hotmail.com>
Message-ID: <a10498bd-d706-4304-ae16-e132b522b5d5@s25g2000prd.googlegroups.com>
Source record: 10709

I'm really not interested, but thanks for asking.

710. 2M Linear Amp for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-06 18:23:36 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <hmu6iv$3ig$1@news.eternal-september.org>
Source record: 10710

RF Concepts RFC2-117 linear 2M linear amp with GaAs FET receive pre-amp. 143-149 MHz. 10 W in 170 W out. Similar to the Mirage now advertised in QST for $330.

I'm asking $190 plus postage.

I can be reached at 651-426-4144.

Thanks

Henry

711. 2M Linear Amp for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-06 18:36:04 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <hmu7ac$90s$1@news.eternal-september.org>
Source record: 10711

RF Concepts RFC2-117 linear 2M linear amp with GaAs FET receive
pre-amp. 143-149 MHz. 10 W in 170 W out. Similar to the Mirage now
advertised in QST for $330.

I'm asking $190 plus postage from Stillwater, MN.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz

I can be reached at 651-426-4144.

Thanks

Henry

712. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-07 07:05:00 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1267945500@panix.com>
Source record: 10712
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

713. Re: 2M Linear Amp for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-08 17:00:10 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <hn3aes$e16$1@speranza.aioe.org>
Source record: 10713

On 3/6/2010 10:36 AM, Henry wrote:
> RF Concepts RFC2-117 linear 2M linear amp with GaAs FET receive
> pre-amp. 143-149 MHz. 10 W in 170 W out. Similar to the Mirage now
> advertised in QST for $330.
>
> I'm asking $190 plus postage from Stillwater, MN.
>
> It can be viewed at:
>
>
http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf
>...
> Henry

GREAT!!!

Would almost be perfect for this "LITTLE" project ... <grin>
http://cgi.ebay.com/2-meter-1-Kw-Amplifier-linear-Kit-with-6-7580-4CX250R_W0QQitemZ2705399
62405QQcmdZViewItemQQptZLH_DefaultDomain_0?hash=item3efd703825

Watch line wrapping above, remove breaks--if necessary ...

Regards,
JS

714. Re: 2M Linear Amp for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-08 20:41:45 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hn3ne9$h830$1@tr22n12.aset.psu.edu>
Source record: 10714

John Smith wrote:
> On 3/6/2010 10:36 AM, Henry wrote:
>> RF Concepts RFC2-117 linear 2M linear amp with GaAs FET receive
>> pre-amp. 143-149 MHz. 10 W in 170 W out. Similar to the Mirage now
>> advertised in QST for $330.
>>
>> I'm asking $190 plus postage from Stillwater, MN.
>>
>> It can be viewed at:
>>
>>
http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf
>>
>> ...
>> Henry
>
> GREAT!!!
>
> Would almost be perfect for this "LITTLE" project ... <grin>
> http://cgi.ebay.com/2-meter-1-Kw-Amplifier-linear-Kit-with-6-7580-4CX250R_W0QQitemZ27053
9962405QQcmdZViewItemQQptZLH_DefaultDomain_0?hash=item3efd703825

The questions and answers are hilarious, especially with what the guy
tells the other to do to power up his rig.

- Mike -

715. Which Coax (listening only) & Good Sources ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-08 21:31:42 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <hn3qc8jqk1@news.eternal-september.org>
Source record: 10715

Hello,

Senior citizen that enjos HF and vhf/uhf listening, but frankly not very technical.

A few years back, I had to order some bnc, etc. connectors.
Ordered from supposedly popular source who said they had it all in stock, and had to wait weeks and weeks to get it as they obviously didn't. Would sure like to avoid that kind of experience again.

Do listening only.

So, please let me ask you folks:

for sma and bnc connectors, as well as preassembled (bnc or sma on the ends)short (3 ft or so) coax assemblies, who do you recommend as being reasonably priced (I'll use reasonably rather than cheap) and usually having in stock ?

For short lengths of coax, and listening only up thru the scanner freq's, what coax should I go for that would be inexpensive ?
RG 8x, RG 59, or...?) What to stay away from ?

Again, I need something "usable" up to about 1.5 GHZ or so, listening only.

Thanks,
Bob

716. Re: Which Coax (listening only) & Good Sources ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-08 23:09:25 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <XKKdncQdFZ75HgjWnZ2dnUVZ_g-dnZ2d@earthlink.com>
Source record: 10716

"Bob" <rgsros@notme.invalid> wrote in message
news:hn3qc8jqk1@news.eternal-september.org...
> Hello,
>
> Senior citizen that enjos HF and vhf/uhf listening, but frankly not very
> technical.
>
> A few years back, I had to order some bnc, etc. connectors.
> Ordered from supposedly popular source who said they had it all in
> stock, and had to wait weeks and weeks to get it as they obviously didn't.
> Would sure like to avoid that kind of experience again.
>
> Do listening only.
>
> So, please let me ask you folks:
>
> for sma and bnc connectors, as well as preassembled (bnc or sma on the
> ends)short (3 ft or so) coax assemblies, who do you recommend as being
> reasonably priced (I'll use reasonably rather than cheap) and usually
> having in stock ?
>
> For short lengths of coax, and listening only up thru the scanner freq's,
> what coax should I go for that would be inexpensive ?
> RG 8x, RG 59, or...?) What to stay away from ?
>
> Again, I need something "usable" up to about 1.5 GHZ or so,
> listening only.
>
> Thanks,
> Bob

For short lengths just about any coax. The RG-6 is very good if you have a way of crimping it to the connectors and do not move it very much. The shield is usually aluminum or some material that will not take solder. Goo d thing about that is you can pixk it up almost anywhere wire and cable is sold.

Up to about 50 mhz any coax about 1/4 inch (rg 58 /rg 59 size) or larger is fine. As you go above 100 mhz, the larger the size the beter. It just depends on how large you want to go and how much you want to spend.

717. Re: Which Coax (listening only) & Good Sources ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-08 23:16:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hn40ft$c7u$1@news.jpl.nasa.gov>
Source record: 10717

Bob wrote:
> Hello,
>
> Senior citizen that enjos HF and vhf/uhf listening, but frankly not very
> technical.
>
> A few years back, I had to order some bnc, etc. connectors.
> Ordered from supposedly popular source who said they had it all in
> stock, and had to wait weeks and weeks to get it as they obviously
> didn't. Would sure like to avoid that kind of experience again.
>
> Do listening only.
>
> So, please let me ask you folks:
>
> for sma and bnc connectors, as well as preassembled (bnc or sma on the
> ends)short (3 ft or so) coax assemblies, who do you recommend as being
> reasonably priced (I'll use reasonably rather than cheap) and usually
> having in stock ?
>
> For short lengths of coax, and listening only up thru the scanner
> freq's, what coax should I go for that would be inexpensive ?
> RG 8x, RG 59, or...?) What to stay away from ?
>
> Again, I need something "usable" up to about 1.5 GHZ or so,
> listening only.
>
> Thanks,
> Bob

Use 75 ohm Cable TV coax (RG-6 and similar).. All you'll need to buy
that's at all unusual is appropriate F:whatever adapters for each end.
The foam dielectric coax is low loss, will have male F connectors
already on it in a variety of lengths, etc. Available everywhere.

For the adapters, try Mouser, Digikey, Newark, or Allied for regular
mailorder, or perhaps something like L-com or Pasternak for a more
specialty, or the various surplus places. BNC M to F Female run about
$2 from L-com. Radio Shack carries some adapters, but in-store stock is
variable.

For a receive application, the small impedance mismatch probably won't
be a big deal, unless you're looking for the last tenth of a dB of noise
figure.

718. Turn an FM Transmitter into a Micro Pirate Radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-09 04:25:35 UTC
From: chesucat <chessucat@gmail.com>
Message-ID: <0bccf75a-20a1-47b7-a9cb-be07202db7a7@i25g2000yqm.googlegroups.com>
Source record: 10718

Corporate radio is preprogrammed junk. But don’t curse the DJ; seize the airwaves!

With a soldering iron and a cheapo FM transmitter — the kind used to play an iPod through a car radio — you can transform your humble Honda into a Radio Free Civic that can broadcast your tunes up to ... 100 feet.

Step 1. Pry open the transmitter’s case with a putty knife and remove the internal antenna
(often labeled ant).
Step 2. In its place, solder a telescoping antenna or a piece of copper wire — no more than
35 inches long for broadcasting within the standard FM transmission spectrum.
Step 3. The transmitter may have a resistor, typically marked with an r, to limit the power of
the signal. Replace it with copper wire to boost the transmission.
Step 4. Slap a bumper sticker on your ride advertising your station’s frequency.

You’ll soon build a grateful audience of fellow commuters suffering through that traffic jam.

I would like to improve my little FM transmitter to broadcast my playlist music from my Zune. Got extra advice?

719. Alliance Tenna-Rotor for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-09 15:34:18 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <hn5ppn$sr9$1@news.eternal-september.org>
Source record: 10719

I have an Alliance Tenna-Rotor model T-20 with control box for sale.
It has about 87 feet of 4 conductor cable that goes with it. It can
be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz

I'm asking $50 plus shipping CUS.

Thanks

Henry

720. Re: Turn an FM Transmitter into a Micro Pirate Radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-09 16:09:00 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hn5rqsleq1@news.eternal-september.org>
Source record: 10720

"chesucat" <chessucat@gmail.com> wrote in message
news:0bccf75a-20a1-47b7-a9cb-be07202db7a7@i25g2000yqm.googlegroups.com...
>Corporate radio is preprogrammed junk. But don't curse the DJ; seize
>the airwaves!
snip

>You'll soon build a grateful audience of fellow commuters suffering
>through that traffic jam.

```
>I would like to improve my little FM transmitter to broadcast my
>playlist music from my Zune. Got extra advice?
-
Advice?.....save up some money for your legal defense?
```

721. Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-09 18:04:08 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f895b32c-a49b-4d09-b686-440300ec202b@g19g2000yqe.googlegroups.com>
Source record: 10721

My latest antenna is up!
It is a window mesh curtain 8 foot by 100 foot
about 1 foot off the ground.
It is an all bander with the xmitter tuner on all the time,
later I will trim it so I can leave the internal tuner off.
At the moment the red light comes on when I am right in the center
only
of the top band and the SWR reads 1.5 for the middle section only!.
Presume the tuner cannot handle above 1.5 on top band.
Very, very quiet antenna, but it has been up less than 24 hours.
Feed is on one side only with the ground connection about 2 inches
away
on the same side with the connections at the bottom some what towards
the center of the curtain length ways.Basically it is a long one wall
Faraday shield but without a drain ground on the front side.
Will find a relay so I can make it bi directional

722. Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-09 18:04:36 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ace7f19e-fe2b-4953-a2cf-53d4919690a3@q21g2000yqm.googlegroups.com>
Source record: 10722

My latest antenna is up!
It is a window mesh curtain 8 foot by 100 foot
about 1 foot off the ground.
It is an all bander with the xmitter tuner on all the time,
later I will trim it so I can leave the internal tuner off.
At the moment the red light comes on when I am right in the center
only
of the top band and the SWR reads 1.5 for the middle section only!.
Presume the tuner cannot handle above 1.5 on top band.
Very, very quiet antenna, but it has been up less than 24 hours.
Feed is on one side only with the ground connection about 2 inches
away
on the same side with the connections at the bottom some what towards
the center of the curtain length ways.Basically it is a long one wall
Faraday shield but without a drain ground on the front side.
Will find a relay so I can make it bi directional

723. Re: Art in Wonderland

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-09 20:22:54 UTC
From: TJ <nospam@virgin.com>
Message-ID: <hn6anb$jd6$1@news.eternal-september.org>
Source record: 10723

"Bill" <k4wge@arrl.net> wrote in message
news:8ece6a7c-b87f-458d-822f-338cc8908e90@g7g2000yqe.googlegroups.com...
>
> "If I had a world of my own, everything would be nonsense. Nothing
> would be what it is, because everything would be what it isn't. And
> contrary wise, what is, it wouldn't be. And what it wouldn't be, it
> would. You see?" Alice

Sounds like you are tripping!

724. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-09 21:16:06 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <965e0c99-e71e-48b7-b09b-b54d8702fbfb@g28g2000yqh.googlegroups.com>
Source record: 10724

On Mar 9, 1:04 pm, Art Unwin <arthurun...@gmail.com> wrote:
> My latest antenna is up!
> It is a window mesh curtain 8 foot by 100 foot
> about 1 foot off the ground.
> It is an all bander with the xmitter tuner on all the time,
> later I will trim it so I can leave the internal tuner off.
> At the moment the red light comes on when I am right in the center
> only
> of the top band and the SWR reads 1.5 for the middle section only!.
> Presume the tuner cannot handle above 1.5 on top band.
> Very, very quiet antenna, but it has been up less than 24 hours.
> Feed is on one side only with the ground connection about 2 inches
> away
> on the same side with the connections at the bottom some what towards
> the center of the curtain length ways.Basically it is a long one wall
> Faraday shield but without a drain ground on the front side.
> Will find a relay so I can make it bi directional

Very very quite antenna tells the whole story.

Jimmie

725. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 01:58:00 UTC
From: tom <news4792@taring.org>
Message-ID: <4b96fc97$0$50146$8046368a@newsreader.iphouse.net>
Source record: 10725

Art Unwin wrote:

> Very, very quiet antenna, but it has been up less than 24 hours.
> Feed is on one side only with the ground connection about 2 inches
> away on the same side with the connections at the bottom some what
> towards the center of the curtain length ways.

So he is center feeding a large curtain with a "_2 inch_" wide feed.

Yup, that WILL very definitely be quiet. I hope the tuner has a lot of loss in the way before the "antenna" (chortle) to dissipate the 99.999% of the power fed to the short at the end.

> Basically it is a long one wall
> Faraday shield but without a drain ground on the front side.

It's not a Faraday shield if it's not completely surrounding something. I'd suggest a smaller one. Of tinfoil. Around your head. It won't help, but it would be amusing.

tom
K0TAR

726. Re: Art in Wonderland

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 11:43:11 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <9f54c6b5-afc1-4520-8a40-21a1b95fc085@c34g2000pri.googlegroups.com>
Source record: 10726

On Mar 10, 7:21 am, Bill <k4...@arrl.net> wrote:
> On Mar 9, 3:22 pm, "TJ" <nos...@virgin.com> wrote:
>
> > "Bill" <k4...@arrl.net> wrote in message
>
> >news:8ece6a7c-b87f-458d-822f-338cc8908e90@g7g2000yqe.googlegroups.com...
>
> > > "If I had a world of my own, everything would be nonsense. Nothing
> > > would be what it is, because everything would be what it isn't. And
> > > contrary wise, what is, it wouldn't be. And what it wouldn't be, it
> > > would. You see?" Alice
>
> > Sounds like Art is tripping!
>
> Oh, certainly.

methinks you should apologize to TJ for changing his post
and attributing your insult to his name.
How low can you get?, don't answer that we already know.

Jaro

727. Follow Up On Coax & Connectors To Use

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 15:53:12 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <hn8f9l$b4g$1@news.eternal-september.org>
Source record: 10727

Hi,

Just a bit of a followup from my previous post.
Am in my 70's now, and not too sharp with this stuff anymore.
But, I really enjoy sw listening.

Doing some re-plumbing.

The suggestion was made that the common RG-6 that is everywhere would do
me just fine, as I'm talking about about 3 foot patch cord lengths.

Listening only; mainly the scanner vhf/uhf frequencies.
And possibly on occasion up to about 1.5 GHz, at most.

Everyone has them,from Wal-Mart on up

The RCA branded cables seem to be most popular.

Probably a very cheap implementation.

Think this would do me O.K. as the lengths are only 3 feet, and
listening only ?
Or, too cheaply made probably, and I should try to find somewhere a
better quality ?

They all use these F connectors.
Guess I'm old fashioned, but they "scare" me a little not having a
"real" center pin.

Any reluctance to using them ?

Thanks again,
Bob

728. Re: Follow Up On Coax & Connectors To Use

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 16:56:05 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hn8iv5$ek6q$1@tr22n12.aset.psu.edu>
Source record: 10728

Bob wrote:
> Hi,
>
> Just a bit of a followup from my previous post.
> Am in my 70's now, and not too sharp with this stuff anymore.
> But, I really enjoy sw listening.
>
> Doing some re-plumbing.
>
> The suggestion was made that the common RG-6 that is everywhere would do
> me just fine, as I'm talking about about 3 foot patch cord lengths.
>
> Listening only; mainly the scanner vhf/uhf frequencies.
> And possibly on occasion up to about 1.5 GHz, at most.
>
> Everyone has them,from Wal-Mart on up
>
> The RCA branded cables seem to be most popular.
>
> Probably a very cheap implementation.
>
> Think this would do me O.K. as the lengths are only 3 feet, and
> listening only ?
> Or, too cheaply made probably, and I should try to find somewhere a
> better quality ?
>
> They all use these F connectors.
> Guess I'm old fashioned, but they "scare" me a little not having a
> "real" center pin.
>
> Any reluctance to using them ?

They'll do you fine, Bob. In fact, if the center conductor isn't nicked during construction of the connector, your going right to the conductor, less in between stuff to fail.

Now that isn't a really big point, because RF connectors are a pretty reliable lot. But there is nothing wrong with the F connectors except for they're small, and I have big hands. SMA are better quality, but you're in good shape with the F's.

- 73 de Mike N3LI -

729. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 16:56:54 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <554dd385-4373-4931-9283-7ce825cfdef3@b7g2000yqd.googlegroups.com>
Source record: 10729

On Mar 9, 7:58 pm, tom <news4...@taring.org> wrote:
> Art Unwin wrote:
> > Very, very quiet antenna, but it has been up less than 24 hours.
> > Feed is on one side only with the ground connection about 2 inches
> > away on the same side with the connections at the bottom some what
> > towards the center of the curtain length ways.
>
> So he is center feeding a large curtain with a "_2 inch_" wide feed.
>
> Yup, that WILL very definitely be quiet. I hope the tuner has a lot of
> loss in the way before the "antenna" (chortle) to dissipate the 99.999%
> of the power fed to the short at the end.
>
> > Basically it is a long one wall
> > Faraday shield but without a drain ground on the front side.
>
> It's not a Faraday shield if it's not completely surrounding something.
> I'd suggest a smaller one. Of tinfoil. Around your head. It won't
> help, but it would be amusing.
>
> tom
> K0TAR

A Faraday shield allows for magnetic and elerctrical fields to
separate and cancell leaving a RF current thast radios are designed to
handle. The shield unlike what we view as radiators has two side that
are independent of each other where as a "normal" radiators surface is
not separated electrically. The Faraday shield operates at 90 degrees
to an oncomming signal by a blocking method and does not operate as a
recieving type surface
that is directly connected to a radio. The Faraday shield as a single
wall still has a blocking action as fields can encircle the wall but
it cannot protect all. It does however protect the rear surface from
field impingement and the field usually will connefct to a alternate
surface leaving a void directly behind the shielding wall.
The Faraday shield on the other hand is an enclosure that shields the
inside from encroachment on the outside such thast fields do not
interfere with activities within. It does not perform the function of
field separation. In most radio circuits you will see examples of bot
enclosures and shields where the latter incorporates physically
unconnected surfaces for electricaly closed loops.
I don't mind your postings Tom as it provides those that are educated
some idea of your true standing in life.
With respect to a closely aligned feed which to your mind leaves an

imediate short;.
I suggest you look at a three band dipole all connected at the same point. Each dipole provides a low resistance path for a particular applied frequency in its seach for a closed circuit. The applied current will not divert to a path of higher resistance or impedance in this case because we have to consider the effect of phase differences. With these sort of actions we can have several different paths for the current to follow but I assure you that it will pick the same one every time dependent on the frequency applied.
Now to the wire mesh curtain. It provides a separate low impedence path for every frequency applied to it as well as a separate path for the displacement current that encloses a separate field (see my page) which has the abilitity to accellerate mass as with an electric gun.The maximum accelleration applied to mass is obviously determined by its intrinsic mass where a minimum mass determines the speed of light. Today the smallest particle found is that of a Neutrino thus one can see the connection of the Sun to communication as we see it today.
Regarding your description of the shield to a long wire or dipole, gthe curtain or shield does not provide a electrical connection for both sides of the shield as a dipole or long wire does.
See Tom, your past postings are completely devoid of technical content and probably provide all readers with a silent chucklel
By the way, a curtain is able to supply a very large aperture which is synonimous with the amount of gain it supplies. You might want to ponder on that aspect before you disparage it.
The above is provided for you and your friends to salivate apon so you may provide a few more chuckles to those on the side lines.
Note I have left some grammerr and spelling errors for you to comment upon in the absence of any technical content.
Cheers and beers
Art Unwin KB9MZ.....xg

730. Re: Follow Up On Coax & Connectors To Use

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 17:23:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fqkfp51go64fpo7kruk6ajvg9qgqo4h4rl@4ax.com>
Source record: 10730

On Wed, 10 Mar 2010 10:53:12 -0500, Bob <rgsros@notme.invalid> wrote:

>The suggestion was made that the common RG-6 that is everywhere would do
>me just fine, as I'm talking about about 3 foot patch cord lengths.

Hi Bob,

Then RG-174 would work just as well - if you wanted something very
thin and flexible.

However, the common application of the term "patch cord" is a short
connector to a variety of very much longer transmission lines. If
that is the sense of "patch cord" that you mean, then your longer
lines, for your range of frequencies, should be very large diameter
cables. There the impedance doesn't really matter that much - so go
for biggest/cheapest.

>Think this would do me O.K. as the lengths are only 3 feet, and
>listening only ?

OK, so this is twice you have mentioned the 3 foot criteria. And you
have mentioned lengthS (not length) as though you need many.

Two questions arise:
1. Why do you need many?
B. How far away is/are your antenna/s?

>Or, too cheaply made probably, and I should try to find somewhere a
>better quality ?

You haven't described any problems that demand quality.

>They all use these F connectors.

They usually get by quite well under normal circumstances with them.
As you have not described any abnormal circumstances, you would get by
quite well with them too.

>Guess I'm old fashioned, but they "scare" me a little not having a
>"real" center pin.

Close your eyes, take a deep breath, calmly insert and tighten the
fittings.

>Any reluctance to using them ?

Not when they are appropriate.

73's
Richard Clark, KB7QHC

731. Re: Art in Wonderland

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 17:24:12 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <059a953d-4d0a-4012-a010-f0ec992e903e@q21g2000yqm.googlegroups.com>
Source record: 10731

On Mar 10, 11:52 am, Bill <k4...@arrl.net> wrote:
> On Mar 10, 11:43 am, jaroslav lipka <jaroli...@gmail.com> wrote:
>
>
>
> > On Mar 10, 7:21 am, Bill <k4...@arrl.net> wrote:
>
> > > On Mar 9, 3:22 pm, "TJ" <nos...@virgin.com> wrote:
>
> > > > "Bill" <k4...@arrl.net> wrote in message
>
> > > >news:8ece6a7c-b87f-458d-822f-338cc8908e90@g7g2000yqe.googlegroups.com...
>
> > > > > "If I had a world of my own, everything would be nonsense. Nothing
> > > > > would be what it is, because everything would be what it isn't. And
> > > > > contrary wise, what is, it wouldn't be. And what it wouldn't be, it
> > > > > would. You see?" Alice
>
> > > > Sounds like Art is tripping!
>
> > > Oh, certainly.
>
> > methinks you should apologize to TJ for changing his post
> > and attributing your insult to his name.
> > How low can you get?, don't answer that we already know.
>
> > Jaro
>
> Methinks Jaro and TJ are both Art's sock puppets.

I think they are all 3 sock puppets

Jimmie

732. Re: Turn an FM Transmitter into a Micro Pirate Radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 19:04:39 UTC
From: You <you@shadow.orgs>
Message-ID: <you-3EFE6F.10043410032010@unknown.hwng.net>
Source record: 10732

In article
<68d2f82d-c376-4fb7-8528-b38894f49a4a@q16g2000yqq.googlegroups.com>,
chesucat <chessucat@gmail.com> wrote:

> X-No-Archive: yes
>
> On Mar 9, 11:09 am, "Wayne" wrote:
> > -
> > Advice?.....save up some money for your legal defense?
>
> a 9mm and some body amour is a better defense against the piggies
>
> Go out in a blaze of glory!

won't work anymore, they now are trained to shoot you in the head.....

733. From OP: Re: Follow Up On Coax & Connectors To Use

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 21:55:51 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <hn94hjtru1@news.eternal-september.org>
Source record: 10733

Hi Dick, et al,

Thanks for help.

Sorry I wasn't too clear.

I have an outside receive only aerial for my HF that is probably 50 feet
from the room where I do my listening.
Also a Scantenna for my scanner up in the attic, overhead..

Getting a WinRadio G305. (has HF and vhf/uhf capability)

So the 3 foot, or so, lengths are just some simple plumbinmg in the room
between the ends of the present antenna lead ins, and two A/B switches
to switch the antennas between the present receivers and the new WinRadio.

No room to provide everything with their own antennas, so trying to do
it with A/B switches.

Regards,
Bob

On 3/10/2010 12:23 PM, Richard Clark wrote:
> On Wed, 10 Mar 2010 10:53:12 -0500, Bob<rgsros@notme.invalid> wrote:
>
>> The suggestion was made that the common RG-6 that is everywhere would do
>> me just fine, as I'm talking about about 3 foot patch cord lengths.
>
> Hi Bob,
>
> Then RG-174 would work just as well - if you wanted something very
> thin and flexible.
>
> However, the common application of the term "patch cord" is a short
> connector to a variety of very much longer transmission lines. If
> that is the sense of "patch cord" that you mean, then your longer
> lines, for your range of frequencies, should be very large diameter
> cables. There the impedance doesn't really matter that much - so go
> for biggest/cheapest.
>
>> Think this would do me O.K. as the lengths are only 3 feet, and
>> listening only ?
>
> OK, so this is twice you have mentioned the 3 foot criteria. And you
> have mentioned lengthS (not length) as though you need many.
>

> Two questions arise:
> 1. Why do you need many?
> B. How far away is/are your antenna/s?
>
>> Or, too cheaply made probably, and I should try to find somewhere a
>> better quality ?
>
> You haven't described any problems that demand quality.
>
>> They all use these F connectors.
>
> They usually get by quite well under normal circumstances with them.
> As you have not described any abnormal circumstances, you would get by
> quite well with them too.
>
>> Guess I'm old fashioned, but they "scare" me a little not having a
>> "real" center pin.
>
> Close your eyes, take a deep breath, calmly insert and tighten the
> fittings.
>
>> Any reluctance to using them ?
>
> Not when they are appropriate.
>
> 73's
> Richard Clark, KB7QHC

734. Re: Follow Up On Coax & Connectors To Use

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-10 23:01:10 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <trOdneqoToMtugXWnZ2dnUVZ_jmdnZ2d@earthlink.com>
Source record: 10734

"Bob" <rgsros@notme.invalid> wrote in message
news:hn8f9l$b4g$1@news.eternal-september.org...
> They all use these F connectors.
> Guess I'm old fashioned, but they "scare" me a little not having a "real"
> center pin.
>
> Any reluctance to using them ?
>

I don't see any probem with the F connectors. There are millions of them
used in cable TV and other TV applications. They are cheap enough that if
you leave the coax long you can just cut the end off and install another in
a short period of time.

735. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 02:07:48 UTC
From: tom <news4792@taring.org>
Message-ID: <4b985079$0$635$8046368a@newsreader.iphouse.net>
Source record: 10735

Art Unwin wrote:
>
> A Faraday shield allows for magnetic and elerctrical fields to
> separate and cancell leaving a RF current thast radios are designed to
> handle

No, that's absolutely incorrect. Nothing is separated. And what's left over, if anything measurable is, is an electromagnetic wave.

> The shield unlike what we view as radiators has two side that
> are independent of each other where as a "normal" radiators surface is
> not separated electrically. The Faraday shield operates at 90 degrees
> to an oncomming signal by a blocking method and does not operate as a
> recieving type surface
> that is directly connected to a radio.

No it doesn't. You are wrong.

The Faraday shield as a single
> wall still has a blocking action as fields can encircle the wall but
> it cannot protect all. It does however protect the rear surface from
> field impingement and the field usually will connefct to a alternate
> surface leaving a void directly behind the shielding wall.
> The Faraday shield on the other hand is an enclosure that shields the
> inside from encroachment on the outside such thast fields do not
> interfere with activities within. It does not perform the function of
> field separation. In most radio circuits you will see examples of bot
> enclosures and shields where the latter incorporates physically
> unconnected surfaces for electricaly closed loops.
> I don't mind your postings Tom as it provides those that are educated
> some idea of your true standing in life.
> With respect to a closely aligned feed which to your mind leaves an
> imediate short;.
> I suggest you look at a three band dipole all connected at the same
> point. Each dipole provides a low resistance path for a particular
> applied frequency in its seach for a closed circuit. The applied
> current will not divert to a path of higher resistance or impedance in
> this case because we have to consider the effect of phase differences.
> With these sort of actions we can have several different paths for the
> current to follow but I assure you that it will pick the same one
> every time dependent on the frequency applied.
> Now to the wire mesh curtain. It provides a separate low impedence
> path for every frequency applied to it as well as a separate path for
> the displacement current that encloses a separate field (see my page)
> which has the abilitity to accellerate mass as with an electric

> gun.The maximum accelleration applied to mass is obviously determined
> by its intrinsic mass where a minimum mass determines the speed of
> light. Today the smallest particle found is that of a Neutrino thus
> one can see the connection of the Sun to communication as we see it
> today.
> Regarding your description of the shield to a long wire or dipole,
> gthe curtain or shield does not provide a electrical connection for
> both sides of the shield as a dipole or long wire does.
> See Tom, your past postings are completely devoid of technical content
> and probably provide all readers with a silent chucklel
> By the way, a curtain is able to supply a very large aperture which is
> synonimous with the amount of gain it supplies. You might want to
> ponder on that aspect before you disparage it.
> The above is provided for you and your friends to salivate apon so you
> may provide a few more chuckles to those on the side lines.
> Note I have left some grammerr and spelling errors for you to comment
> upon in the absence of any technical content.
> Cheers and beers
> Art Unwin KB9MZ.....xg

And I'll just summarize all the last part, since it would be a total
waste of time to comment individually on points -

YOU ARE WRONG. Totally, completely, and terribly wrong.

And no, I'm not going into how or why, because you never ever listen or
understand.

tom
K0TAR

736. Re: From OP: Re: Follow Up On Coax & Connectors To Use

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 03:02:10 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <67ngp5ljaa5hask2mpn3lbgf42l3m67046@4ax.com>
Source record: 10736

On Wed, 10 Mar 2010 16:55:51 -0500, Bob <rgsros@notme.invalid> wrote:

You might look around here -- they have all kinds of cable assemblies.

http://www.cablexperts.com/cfdocs/index.cfm?BSKT=0&USA_ship=1

Bob

>Hi Dick, et al,
>
>Thanks for help.
>
>Sorry I wasn't too clear.
>
>I have an outside receive only aerial for my HF that is probably 50 feet
>from the room where I do my listening.
>Also a Scantenna for my scanner up in the attic, overhead..
>
>Getting a WinRadio G305. (has HF and vhf/uhf capability)
>
>So the 3 foot, or so, lengths are just some simple plumbinmg in the room
>between the ends of the present antenna lead ins, and two A/B switches
>to switch the antennas between the present receivers and the new WinRadio.
>
>No room to provide everything with their own antennas, so trying to do
>it with A/B switches.
>
>Regards,
>Bob
>--------------------
>
>On 3/10/2010 12:23 PM, Richard Clark wrote:
>> On Wed, 10 Mar 2010 10:53:12 -0500, Bob<rgsros@notme.invalid> wrote:
>>
>>> The suggestion was made that the common RG-6 that is everywhere would do
>>> me just fine, as I'm talking about about 3 foot patch cord lengths.
>>
>> Hi Bob,
>>
>> Then RG-174 would work just as well - if you wanted something very
>> thin and flexible.
>>
>> However, the common application of the term "patch cord" is a short
>> connector to a variety of very much longer transmission lines. If
>> that is the sense of "patch cord" that you mean, then your longer

>> lines, for your range of frequencies, should be very large diameter
>> cables. There the impedance doesn't really matter that much - so go
>> for biggest/cheapest.
>>
>>> Think this would do me O.K. as the lengths are only 3 feet, and
>>> listening only ?
>>
>> OK, so this is twice you have mentioned the 3 foot criteria. And you
>> have mentioned lengthS (not length) as though you need many.
>>
>> Two questions arise:
>> 1. Why do you need many?
>> B. How far away is/are your antenna/s?
>>
>>> Or, too cheaply made probably, and I should try to find somewhere a
>>> better quality ?
>>
>> You haven't described any problems that demand quality.
>>
>>> They all use these F connectors.
>>
>> They usually get by quite well under normal circumstances with them.
>> As you have not described any abnormal circumstances, you would get by
>> quite well with them too.
>>
>>> Guess I'm old fashioned, but they "scare" me a little not having a
>>> "real" center pin.
>>
>> Close your eyes, take a deep breath, calmly insert and tighten the
>> fittings.
>>
>>> Any reluctance to using them ?
>>
>> Not when they are appropriate.
>>
>> 73's
>> Richard Clark, KB7QHC

737. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 04:36:17 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7738114c-7d53-42ce-9da6-539b49c47cde@q21g2000yqm.googlegroups.com>
Source record: 10737

On Mar 10, 8:07 pm, tom <news4...@taring.org> wrote:
> Art Unwin wrote:
>
> > A Faraday shield allows for magnetic and elerctrical fields to
> > separate and cancell leaving a RF current thast radios are designed to
> > handle
>
> No, that's absolutely incorrect. Nothing is separated. And what's left
> over, if anything measurable is, is an electromagnetic wave.
>
> > The shield unlike what we view as radiators has two side that
> > are independent of each other where as a "normal" radiators surface is
> > not separated electrically. The Faraday shield operates at 90 degrees
> > to an oncomming signal by a blocking method and does not operate as a
> > recieving type surface
> > that is directly connected to a radio.
>
> No it doesn't. You are wrong.
>
>   The Faraday shield as a single
>
>
>
> > wall still has a blocking action as fields can encircle the wall but
> > it cannot protect all. It does however protect the rear surface from
> > field impingement and the field usually will connefct to a alternate
> > surface leaving a void directly behind the shielding wall.
> > The Faraday shield on the other hand is an enclosure that shields the
> > inside from encroachment on the outside such thast fields do not
> > interfere with activities within. It does not perform the function of
> > field separation. In most radio circuits you will see examples of bot
> > enclosures and shields where the latter incorporates physically
> > unconnected surfaces for electricaly closed loops.
> > I don't mind your postings Tom as it provides those that are educated
> > some idea of your true standing in life.
> > With respect to a closely aligned feed which to your mind leaves an
> > imediate short;.
> > I suggest you look at a three band dipole all connected at the same
> > point. Each dipole provides a low resistance path for a particular
> > applied frequency in its seach for a closed circuit. The applied
> > current will not divert to a path of higher resistance or impedance in
> > this case because we have to consider the effect of phase differences.
> > With these sort of actions we can have several different paths for the
> > current to follow but I assure you that it will pick the same one

> > every time dependent on the frequency applied.
> > Now to the wire mesh curtain. It provides a separate low impedence
> > path for every frequency applied to it as well as a separate path for
> > the displacement current that encloses a separate field (see my page)
> > which has the abilitity to accellerate mass as with an electric
> > gun.The maximum accelleration applied to mass is obviously determined
> > by its intrinsic mass where a minimum mass determines the speed of
> > light. Today the smallest particle found is that of a Neutrino thus
> > one can see the connection of the Sun to communication as we see it
> > today.
> > Regarding your description of the shield to a long wire or dipole,
> > gthe curtain or shield does not provide a electrical connection for
> > both sides of the shield as a dipole or long wire does.
> > See Tom, your past postings are completely devoid of technical content
> > and probably provide all readers with a silent chucklel
> > By the way, a curtain is able to supply a very large aperture which is
> > synonimous with the amount of gain it supplies. You might want to
> > ponder on that aspect before you disparage it.
> > The above is provided for you and your friends to salivate apon so you
> > may provide a few more chuckles to those on the side lines.
> > Note I have left some grammerr and spelling errors for you to comment
> > upon in the absence of any technical content.
> > Cheers and beers
> > Art Unwin KB9MZ.....xg
>
> And I'll just summarize all the last part, since it would be a total
> waste of time to comment individually on points -
>
> YOU ARE WRONG. Totally, completely, and terribly wrong.
>
> And no, I'm not going into how or why, because you never ever listen or
> understand.
>
> tom
> K0TAR

Oh My. I am wrong but you are unable to describe how I am wrong,how
convenient!
You need to brush up on attenuation versus skin depth, surface
conduction and a host of other things such as a sealed surface can be
considered as an aperture with respect to shielding. I would recommend
a book on shielding etc by Ralph Morrison 5 th edition that will bring
you up to date on the function of perforated shielding plates,
screening etc.Just saying that I am wrong without explanation or
explaining your record on the subject is nothing more than the voice
of a child exercising free speech.If you can provide technical data to
support your position we can discuss but just saying one is wrong
serves nobody.
One thing you really need to understand is the nature of a
accellerated and decellerated charge and its connection with a time

varient current, the latter being the only connection
that a xmitter or rcvr can handle to provide communication and its
connection with a parallel tank circuit.

Have a happy day
Art

738. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 12:22:45 UTC
From: joe <none@domain.invalid>
Message-ID: <hnan5i$b4r$1@speranza.aioe.org>
Source record: 10738

Art Unwin wrote:
> On Mar 10, 8:07 pm, tom <news4...@taring.org> wrote:
>> Art Unwin wrote:
>>
>>> A Faraday shield allows for magnetic and elerctrical fields to
>>> separate and cancell leaving a RF current thast radios are designed to
>>> handle
>> No, that's absolutely incorrect. Nothing is separated. And what's left
>> over, if anything measurable is, is an electromagnetic wave.
>>
>>> The shield unlike what we view as radiators has two side that
>>> are independent of each other where as a "normal" radiators surface is
>>> not separated electrically. The Faraday shield operates at 90 degrees
>>> to an oncomming signal by a blocking method and does not operate as a
>>> recieving type surface
>>> that is directly connected to a radio.
>> No it doesn't. You are wrong.
>>
>> The Faraday shield as a single
>>
>>
>>
>>> wall still has a blocking action as fields can encircle the wall but
>>> it cannot protect all. It does however protect the rear surface from
>>> field impingement and the field usually will connefct to a alternate
>>> surface leaving a void directly behind the shielding wall.
>>> The Faraday shield on the other hand is an enclosure that shields the
>>> inside from encroachment on the outside such thast fields do not
>>> interfere with activities within. It does not perform the function of
>>> field separation. In most radio circuits you will see examples of bot
>>> enclosures and shields where the latter incorporates physically
>>> unconnected surfaces for electricaly closed loops.
>>> I don't mind your postings Tom as it provides those that are educated
>>> some idea of your true standing in life.
>>> With respect to a closely aligned feed which to your mind leaves an
>>> imediate short;.
>>> I suggest you look at a three band dipole all connected at the same
>>> point. Each dipole provides a low resistance path for a particular
>>> applied frequency in its seach for a closed circuit. The applied
>>> current will not divert to a path of higher resistance or impedance in
>>> this case because we have to consider the effect of phase differences.
>>> With these sort of actions we can have several different paths for the
>>> current to follow but I assure you that it will pick the same one
>>> every time dependent on the frequency applied.

>>> Now to the wire mesh curtain. It provides a separate low impedence
>>> path for every frequency applied to it as well as a separate path for
>>> the displacement current that encloses a separate field (see my page)
>>> which has the abilitity to accellerate mass as with an electric
>>> gun.The maximum accelleration applied to mass is obviously determined
>>> by its intrinsic mass where a minimum mass determines the speed of
>>> light. Today the smallest particle found is that of a Neutrino thus
>>> one can see the connection of the Sun to communication as we see it
>>> today.
>>> Regarding your description of the shield to a long wire or dipole,
>>> gthe curtain or shield does not provide a electrical connection for
>>> both sides of the shield as a dipole or long wire does.
>>> See Tom, your past postings are completely devoid of technical content
>>> and probably provide all readers with a silent chucklel
>>> By the way, a curtain is able to supply a very large aperture which is
>>> synonimous with the amount of gain it supplies. You might want to
>>> ponder on that aspect before you disparage it.
>>> The above is provided for you and your friends to salivate apon so you
>>> may provide a few more chuckles to those on the side lines.
>>> Note I have left some grammerr and spelling errors for you to comment
>>> upon in the absence of any technical content.
>>> Cheers and beers
>>> Art Unwin KB9MZ.....xg
>> And I'll just summarize all the last part, since it would be a total
>> waste of time to comment individually on points -
>>
>> YOU ARE WRONG. Totally, completely, and terribly wrong.
>>
>> And no, I'm not going into how or why, because you never ever listen or
>> understand.
>>
>> tom
>> K0TAR
>
> Oh My. I am wrong but you are unable to describe how I am wrong,how
> convenient!

If you were to supply a sufficient description of what you have done,
you might to get more detailed responses. For example, it is unclear how
you have connected the feed line to the mesh. A photo (you have a
website, you could post it there) would make the details much clearer.
You have not specified the nature of the mesh (the material, the
thickness of the wire (assuming it is wire), how the intersections are
joined, etc.). The orientation of the mesh relative to the ground is not
specified.

You seem to expect detailed responses without out providing any details
on your part.

> You need to brush up on attenuation versus skin depth, surface
> conduction and a host of other things such as a sealed surface can be

> considered as an aperture with respect to shielding. I would recommend
> a book on shielding etc by Ralph Morrison 5 th edition that will bring
> you up to date on the function of perforated shielding plates,
> screening etc.

Just saying that I am wrong without explanation or
> explaining your record on the subject is nothing more than the voice
> of a child exercising free speech.

Just believing you are right without providing any details does not mean
we have to accept what you say.

If you can provide technical data to
> support your position we can discuss but just saying one is wrong
> serves nobody.

Where are the technical details to support what you are syaing about
this antenna? Frequency of operation: unspecified. Performace relative
to known/understood reference antennas: unspecified. Feedpoint
impedance: unspecified. Test conditions/setup: unspecified.

> One thing you really need to understand is the nature of a
> accellerated and decellerated charge and its connection with a time
> varient current, the latter being the only connection
> that a xmitter or rcvr can handle to provide communication and its
> connection with a parallel tank circuit.

You have failed to show how a parallel tank circuit applies.

>
> Have a happy day
> Art

739. Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 16:28:44 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9a05c1b1-776f-4af9-b983-d4f08d891999@q15g2000yqj.googlegroups.com>
Source record: 10739

A tank circuit represents an antenna closed circuit where in the
absence of friction shows the action of electric field changing to a
magnetic field as a sample of perpetual motion. However perpetual
motion does not exist so to account for all forces involved we have to
determine the amount of friction. We cannot use a series circuit as we
have no way of determining friction OR the point of the curve crossing
the the zero reactance level.
Thus we have to use a parallel circuit where we can use the cross over
point as being a period where it is seen as balanced and in
equilibrium.
The reason we cannot use a series circuit or anything pertaining to a
fractional wave in examining the performance of a radiator is because
the impedance curve does not represent a true sine wave. After a
period of time has occurred the source replaces any frictional losses
that have occurred. To do this the amplitude of the curve at the
beginning of a cycle moves higher than any othe point on the curve
where it replaces and exceeds the frictional losses that have
occurred. By doing this it uses time that is not in accordance to a
true sine wave and detracts from the accuracy of the following curve.
This useage of time during a period or cycle must be accounted for if
one is to determine all forces involved, which is why equilibrium or
balance must be followed when determining the characteristics of
radiation. There fore ,it should be seen that a full wave length or
multiples there of should be considered when dealing with radiators
since otherwise we are ignoring the overshoot effect required to
replace frictional losses.
Modern computer programs equiped with an optimiser are equiped to deal
with this as they will modify any inputs such that they are in
accordance with Maxwells laws where all forces are considered.
In the case of a yagi it must be seen that each element radiates
including the last one where the value is unknown and not included in
a fudged result. If one supplies an input that does not pre guide a
planar solution all optimiser programs will account for all forces
involved and will always supply an array that is not planar as a yagi
shows.
Thus for accurracy with respect to Maxwells laws one must have an
array that is in equilibrium which reflects Newtons laws where vectors
outside the "boundary" such as gravity and the Earths rotatation is
reflected by opposing vectors within the boundary. The consequences of
this is that the rotation vector in combination of that of gravity
will always produce an array that opposes gravity alone as with a
vertical at 90 degrees to the Earths surface if one pursuit is
accuracy.
The requirement of equilibrium is shown by the law of Gauss which when

added by a time varying field equates to the laws of Maxwell which demands the presence of equilibrium and shows that a static particle must be present to provide mass to which, via accelleration or decelleration, which serves as the carrier of charge or charge. This in no way conflicts with ideas or theories that particles and waves can provide similar properties under certain cercumstances but instead provides proof that particles are the carriers of what is known as communication.
Cheers and beers.
Art Unwin KB9MZ...xg

740. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 16:48:18 UTC
From: amdx <amdx@knology.net>
Message-ID: <ca73d$4b991ed1$18ec6dd7$32741@KNOLOGY.NET>
Source record: 10740

"joe" <none@domain.invalid> wrote in message
news:hnan5i$b4r$1@speranza.aioe.org...
> Art Unwin wrote:
>> On Mar 10, 8:07 pm, tom <news4...@taring.org> wrote:
>>> Art Unwin wrote:
>>>
>>>> A Faraday shield allows for magnetic and elerctrical fields to
>>>> separate and cancell leaving a RF current thast radios are designed to
>>>> handle
>>> No, that's absolutely incorrect. Nothing is separated. And what's left
>>> over, if anything measurable is, is an electromagnetic wave.
>>>
>>>> The shield unlike what we view as radiators has two side that
>>>> are independent of each other where as a "normal" radiators surface is
>>>> not separated electrically. The Faraday shield operates at 90 degrees
>>>> to an oncomming signal by a blocking method and does not operate as a
>>>> recieving type surface
>>>> that is directly connected to a radio.
>>> No it doesn't. You are wrong.
>>>
>>> The Faraday shield as a single
>>>
>>>
>>>
>>>> wall still has a blocking action as fields can encircle the wall but
>>>> it cannot protect all. It does however protect the rear surface from
>>>> field impingement and the field usually will connefct to a alternate
>>>> surface leaving a void directly behind the shielding wall.
>>>> The Faraday shield on the other hand is an enclosure that shields the
>>>> inside from encroachment on the outside such thast fields do not
>>>> interfere with activities within. It does not perform the function of
>>>> field separation. In most radio circuits you will see examples of bot
>>>> enclosures and shields where the latter incorporates physically
>>>> unconnected surfaces for electricaly closed loops.
>>>> I don't mind your postings Tom as it provides those that are educated
>>>> some idea of your true standing in life.
>>>> With respect to a closely aligned feed which to your mind leaves an
>>>> imediate short;.
>>>> I suggest you look at a three band dipole all connected at the same
>>>> point. Each dipole provides a low resistance path for a particular
>>>> applied frequency in its seach for a closed circuit. The applied
>>>> current will not divert to a path of higher resistance or impedance in
>>>> this case because we have to consider the effect of phase differences.
>>>> With these sort of actions we can have several different paths for the

>>>> current to follow but I assure you that it will pick the same one
>>>> every time dependent on the frequency applied.
>>>> Now to the wire mesh curtain. It provides a separate low impedence
>>>> path for every frequency applied to it as well as a separate path for
>>>> the displacement current that encloses a separate field (see my page)
>>>> which has the abilitity to accellerate mass as with an electric
>>>> gun.The maximum accelleration applied to mass is obviously determined
>>>> by its intrinsic mass where a minimum mass determines the speed of
>>>> light. Today the smallest particle found is that of a Neutrino thus
>>>> one can see the connection of the Sun to communication as we see it
>>>> today.
>>>> Regarding your description of the shield to a long wire or dipole,
>>>> gthe curtain or shield does not provide a electrical connection for
>>>> both sides of the shield as a dipole or long wire does.
>>>> See Tom, your past postings are completely devoid of technical content
>>>> and probably provide all readers with a silent chucklel
>>>> By the way, a curtain is able to supply a very large aperture which is
>>>> synonimous with the amount of gain it supplies. You might want to
>>>> ponder on that aspect before you disparage it.
>>>> The above is provided for you and your friends to salivate apon so you
>>>> may provide a few more chuckles to those on the side lines.
>>>> Note I have left some grammerr and spelling errors for you to comment
>>>> upon in the absence of any technical content.
>>>> Cheers and beers
>>>> Art Unwin KB9MZ.....xg
>>> And I'll just summarize all the last part, since it would be a total
>>> waste of time to comment individually on points -
>>>
>>> YOU ARE WRONG. Totally, completely, and terribly wrong.
>>>
>>> And no, I'm not going into how or why, because you never ever listen or
>>> understand.
>>>
>>> tom
>>> K0TAR
>>
>> Oh My. I am wrong but you are unable to describe how I am wrong,how
>> convenient!
>
> If you were to supply a sufficient description of what you have done, you
> might to get more detailed responses. For example, it is unclear how you
> have connected the feed line to the mesh. A photo (you have a website, you
> could post it there) would make the details much clearer. You have not
> specified the nature of the mesh (the material, the thickness of the wire
> (assuming it is wire), how the intersections are joined, etc.). The
> orientation of the mesh relative to the ground is not specified.
>
> You seem to expect detailed responses without out providing any details on
> your part.

> Where are the technical details to support what you are syaing about this
> antenna? Frequency of operation: unspecified. Performace relative to
> known/understood reference antennas: unspecified. Feedpoint impedance:
> unspecified. Test conditions/setup: unspecified.
joe
I'm with joe,
Some of us may be interested enough to actually build and test some
of the antennas you write about, but there is never enough detail for
anyone to attempt a build. And why don't you post a link to your site?
Mike

741. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 17:26:20 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5c48d1ad-f95c-4547-84cb-ad1e727395a9@b7g2000yqd.googlegroups.com>
Source record: 10741

On Mar 11, 10:28 am, Art Unwin <arthurun...@gmail.com> wrote:
> A tank circuit represents an antenna closed circuit where in the
> absence of friction shows the action of electric field changing to a
> magnetic field as a sample of perpetual motion. However perpetual
> motion does not exist so to account for all forces involved we have to
> determine the amount of friction. We cannot use a series circuit as we
> have no way of determining friction OR the point of the curve crossing
> the the zero reactance level.
> Thus we have to use a parallel circuit where we can use the cross over
> point as being a period where it is seen as balanced and in
> equilibrium.
> The reason we cannot use a series circuit or anything pertaining to a
> fractional wave in examining the performance of a radiator is because
> the impedance curve does not represent a true sine wave. After a
> period of time has occurred the source replaces any frictional losses
> that have occurred. To do this the amplitude of the curve at the
> beginning of a cycle moves higher than any othe point on the curve
> where it replaces and exceeds the frictional losses that have
> occurred. By doing this it uses time that is not in accordance to a
> true sine wave and detracts from the accuracy of the following curve.
> This useage of time during a period or cycle must be accounted for if
> one is to determine all forces involved, which is why equilibrium or
> balance must be followed when determining the characteristics of
> radiation. There fore ,it should be seen that a full wave length or
> multiples there of should be considered when dealing with radiators
> since otherwise we are ignoring the overshoot effect required to
> replace frictional losses.
> Modern computer programs equiped with an optimiser are equiped to deal
> with this as they will modify any inputs such that they are in
> accordance with Maxwells laws where all forces are considered.
> In the case of a yagi it must be seen that each element radiates
> including the last one where the value is unknown and not included in
> a fudged result. If one supplies an input that does not pre guide a
> planar solution all optimiser programs will account for all forces
> involved and will always supply an array that is not planar as a yagi
> shows.
>   Thus for accurracy with respect to Maxwells laws one must have an
> array that is in equilibrium which reflects Newtons laws where vectors
> outside the "boundary" such as gravity and the Earths rotatation is
> reflected by opposing vectors within the boundary. The consequences of
> this is that the rotation vector in combination of that of gravity
> will always produce an array that opposes gravity alone as with a
> vertical at 90 degrees to the Earths surface if one pursuit is
> accuracy.

> The requirement of equilibrium is shown by the law of Gauss which when
> added by a time varying field equates to the laws of Maxwell which
> demands the presence of equilibrium and shows that a static particle
> must be present to provide mass to which, via accelleration or
> decelleration, which serves as the carrier of charge or charge.
> This in no way conflicts with ideas or theories that particles and
> waves can provide similar properties under certain cercumstances but
> instead provides proof that particles are the carriers of what is
> known as communication.
> Cheers and beers.
> Art Unwin   KB9MZ...xg

If Maxwell and Gauss building on the observations of Newton
postulated that particles were the carriers of charge fpr
communication it is essential that we determiune where the particle of
mass came from together with its properties.
For consistencies sake we will continue with what boundary laws leads
us to.
Obviously the particle was initially with in a boundary when the
boundary was broken.
Since the Sun shows that it has a connection with communication let us
assume that It is the Sun inside the boundary or something else within
that boundary. If the boundary is to be broken mass is to escape. This
it can do by applying a vector on the boundary that removes
equilibrium. At the same time as the mass proceeds thro the hinged
breakage another vector is created on the escaping particle which
imparts spin. It is these same two vectors that are at the end of a
long chain of vectors which are those of gravity and the Earths
rotation. It is known that each cubic metre of volume of air on Earth
contains billions of particles that arrive from outer space where they
look for a place to rest. Most of the Earth is covered by diamagnetic
materials or surface and we can see the effect of these particles that
provide a skin upon diamagnetic surface such as water, aluminum. These
particles squeeze themselves together such that they can form water
into droplets where the particles are strong enough to completely
encapsulate the water or most liquides that
do not retain the effects of magnetism.
We make our antennas of diamagnetic materials where the surface is
completely covered with the smallest particles known to man.
Application of a time varying field applies vector forces upon the
material surface where these vectors are three dimensional form such
that they can elevate and eject these particles in a accellerated
manner so they may carry a charge (see my page for current flow
diag). The particles being the smallest known mass
represents the highest acceleration possible and where it happens to
be equal to the speed of light.
It must be noted that a radio can only apply a time varying current to
a radiator which has a pre determined speed in metal so that the
period or cycle can be determined. This speed in metal becomes very
important when dealing with creation of fields and the impact of this

particle on materials where the penetration of such particles can attenuate the charge that it carries such that it can lose 3 db of charge for a penetration oif one skin depth and continues in parabolic form when it produces a vortex.
The two vectors or forces shown show why Einstein considered a standard model was possible in the same way humans follow a genetic code. Einstein eventually was able to determine the presense of particles by another method or physic science. For those familiar with the double slit experiment depth penetration or surface encapsulation of
orifices were never taken into consideration so the conclusions cannot be seen as complete. Hopefully this satifies the request where allsqlient particulars are supplied other than whether a, b.c.or d should be marked in the event of an exam.
Cheers and beers
Arrt Unwin .....KB9MZ.....xg

742. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 18:23:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4ecip5dhvu7ul8s1dlqabmspac5tq3ja18@4ax.com>
Source record: 10742

On Thu, 11 Mar 2010 10:48:18 -0600, "amdx" <amdx@knology.net> wrote:

>> Where are the technical details to support what you are syaing about this
>> antenna? Frequency of operation: unspecified. Performace relative to
>> known/understood reference antennas: unspecified. Feedpoint impedance:
>> unspecified. Test conditions/setup: unspecified.
> joe
> I'm with joe,
>Some of us may be interested enough to actually build and test some
>of the antennas you write about, but there is never enough detail for
>anyone to attempt a build. And why don't you post a link to your site?

Hi All,

This is not going to resolve issues. I have seen enough of Art's
details contributed in quotations (folks should be more selective in
both quotes and focus on one point) to see he claims ALL of HF at less
than 2:1 and specifically the 160M band - when he uses a tuner
continuously (an odd requirement adorning the claim in the advance
over conventional designs there). He also reports not hearing
anything on it. The two statements easily support each other in
revealing the inordinate loss due to the proximity of ground. This is
nothing that hasn't been reported for years by others as they
encounter the silent blessings of distributed loss.

The language of Faraday shields has been corrupted to suit a fantasy,
however. And Art has abandoned the arguments demanding length
efficiency; and no requirement for tilting the radiator (this one is
specifically described as being strictly parallel); and skewed
elements (aka guss's radiators)are gone; and contra wound coils have
disappeared; and what happened to paramagnetics?; and....

Well, Art's claims are like a long burning fuse that sparks for a
moment leaving a trail of ash behind. The mesh burns with a
sputtering flicker before it too is abandoned for the next fad when it
will be discovered that the sun's particels would go through the mesh
openings instead of hitting this peculiar antenna.

73's
Richard Clark, KB7QHC

743. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 18:45:00 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f9517059-e2ef-487f-b022-085c85b43b47@d27g2000yqf.googlegroups.com>
Source record: 10743

On Mar 11, 11:26 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 11, 10:28 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > A tank circuit represents an antenna closed circuit where in the
> > absence of friction shows the action of electric field changing to a
> > magnetic field as a sample of perpetual motion. However perpetual
> > motion does not exist so to account for all forces involved we have to
> > determine the amount of friction. We cannot use a series circuit as we
> > have no way of determining friction OR the point of the curve crossing
> > the the zero reactance level.
> > Thus we have to use a parallel circuit where we can use the cross over
> > point as being a period where it is seen as balanced and in
> > equilibrium.
> > The reason we cannot use a series circuit or anything pertaining to a
> > fractional wave in examining the performance of a radiator is because
> > the impedance curve does not represent a true sine wave. After a
> > period of time has occurred the source replaces any frictional losses
> > that have occurred. To do this the amplitude of the curve at the
> > beginning of a cycle moves higher than any othe point on the curve
> > where it replaces and exceeds the frictional losses that have
> > occurred. By doing this it uses time that is not in accordance to a
> > true sine wave and detracts from the accuracy of the following curve.
> > This useage of time during a period or cycle must be accounted for if
> > one is to determine all forces involved, which is why equilibrium or
> > balance must be followed when determining the characteristics of
> > radiation. There fore ,it should be seen that a full wave length or
> > multiples there of should be considered when dealing with radiators
> > since otherwise we are ignoring the overshoot effect required to
> > replace frictional losses.
> > Modern computer programs equiped with an optimiser are equiped to deal
> > with this as they will modify any inputs such that they are in
> > accordance with Maxwells laws where all forces are considered.
> > In the case of a yagi it must be seen that each element radiates
> > including the last one where the value is unknown and not included in
> > a fudged result. If one supplies an input that does not pre guide a
> > planar solution all optimiser programs will account for all forces
> > involved and will always supply an array that is not planar as a yagi
> > shows.
> >   Thus for accurracy with respect to Maxwells laws one must have an
> > array that is in equilibrium which reflects Newtons laws where vectors
> > outside the "boundary" such as gravity and the Earths rotatation is
> > reflected by opposing vectors within the boundary. The consequences of

> > this is that the rotation vector in combination of that of gravity
> > will always produce an array that opposes gravity alone as with a
> > vertical at 90 degrees to the Earths surface if one pursuit is
> > accuracy.
> > The requirement of equilibrium is shown by the law of Gauss which when
> > added by a time varying field equates to the laws of Maxwell which
> > demands the presence of equilibrium and shows that a static particle
> > must be present to provide mass to which, via accelleration or
> > decelleration, which serves as the carrier of charge or charge.
> > This in no way conflicts with ideas or theories that particles and
> > waves can provide similar properties under certain cercumstances but
> > instead provides proof that particles are the carriers of what is
> > known as communication.
> > Cheers and beers.
> > Art Unwin   KB9MZ...xg
>
> If Maxwell and Gauss building on the observations of Newton
> postulated that particles were the carriers of charge fpr
> communication it is essential that we determiune where the particle of
> mass came from together with its properties.
> For consistencies sake we will continue with what boundary laws leads
> us to.
> Obviously the particle was initially with in a boundary when the
> boundary was broken.
> Since the Sun shows that it has a connection with communication let us
> assume that It is the Sun inside the boundary or something else within
> that boundary. If the boundary is to be broken mass is to escape. This
> it can do by applying a vector on the boundary that removes
> equilibrium. At the same time as the mass proceeds thro the hinged
> breakage another vector is created on the escaping particle which
> imparts spin. It is these same two vectors that are at the end of a
> long chain of vectors which are those of gravity and the Earths
> rotation. It is known that each cubic metre of volume of air on Earth
> contains billions of particles that arrive from outer space where they
> look for a place to rest. Most of the Earth is covered by diamagnetic
> materials or surface and we can see the effect of these particles that
> provide a skin upon diamagnetic surface such as water, aluminum. These
> particles squeeze themselves together such that they can form water
> into droplets where the particles are strong enough to completely
> encapsulate the water or most liquides that
> do not retain the effects of magnetism.
> We make our antennas of diamagnetic materials where the surface is
> completely covered with the smallest particles known to man.
> Application of a time varying field applies vector forces upon the
> material surface where these vectors are three dimensional form such
> that they can elevate and eject these particles in a accellerated
> manner so they may carry a charge (see my page for current flow
> diag). The particles being the smallest known mass
> represents the highest acceleration possible and where it happens to
> be equal to the speed of light.

> It must be noted that a radio can only apply a time varying current to
> a radiator which has a pre determined speed in metal so that the
> period or cycle can be determined. This speed in metal becomes very
> important when dealing with creation of fields and the impact of this
> particle on materials where the penetration of such particles can
> attenuate the charge that it carries such that it can lose 3 db of
> charge for a penetration oif one skin depth and continues in parabolic
> form when it produces a vortex.
> The two vectors or forces shown show why Einstein considered a
> standard model was possible in the same way humans follow a genetic
> code. Einstein eventually was able to determine the presense of
> particles by another method or physic science. For those familiar with
> the double slit experiment depth penetration or surface encapsulation
> of
> orifices were never taken into consideration so the conclusions cannot
> be seen as complete. Hopefully this satifies the request where
> allsqlient particulars are supplied other than whether a, b.c.or d
> should be marked in the event of an exam.
> Cheers and beers
> Arrt Unwin .....KB9MZ.....xg

Computer programs for antenna design are really one of two forms.
The cheap versions are the most prolific as they are designed to show
the properties of planar arrays. These array are generally in the form
for dealing with wire and Yagi antennas
which is the vogue of the day and what customers want.
These reflect the principles evoked by Yagi and Uda which provides an
array of very high efficiency and uses standard electrical laws where
provided figures are those that are rounded off as all vector forces
are not taken into account. At the same time amateurs recognise that
even if the figures provided were absolute would not be discernable by
the human ear, so we have a "close enough for horse shoes" effect.
The other type of computor program is much mor expensive as it deals
with basic physics
where accuracy and truth is important so one can build upon it. These
programs are based solely on the laws of Maxwell which when modified
in line with later discoveries were built on the observations of
Newton. These programs will take any dimensional input and then place
it into a equilibrium state according to the laws of Maxwell because
it accounts for all forces is accurate. It is usual for programers to
apply additional lines in the program that deviate from Maxwells
equations for radiation so that it may accommodate planar designs such
as the planar designs which, while using standard electrical laws,
cannot handle all the forces involved in radiation.
The important difference between these two types of programs is that
the the optimizer form is so accurate it can supply figures that
account for radiators with zero resistance which effectively leaves
just the radiation resistance. This is where the radiator is doing
nothing to provide radiation and only supplies a space for particle to
settle upon. It is these particles that are the carriers of charge

that are elevated and accelerated by the time varying current so the results represent the maximum radiation possible when the element is a super conductor with zero resistance. Hams have to deal with the real world realise that when applying current one must have a semblance of match thus even tho we desire maximum efficiency it is the facts pertaining to matching the source with the radiator with minimum losses that guides us to something that we can effectively use.
Cheers and beers
Art Unwin.....KB9MZ...XG

744. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 19:12:13 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hnbfai$o43m$1@tr22n12.aset.psu.edu>
Source record: 10744

Richard Clark wrote:
> On Thu, 11 Mar 2010 10:48:18 -0600, "amdx" <amdx@knology.net> wrote:
>
>>> Where are the technical details to support what you are syaing about this
>>> antenna? Frequency of operation: unspecified. Performace relative to
>>> known/understood reference antennas: unspecified. Feedpoint impedance:
>>> unspecified. Test conditions/setup: unspecified.
>> joe
>> I'm with joe,
>> Some of us may be interested enough to actually build and test some
>> of the antennas you write about, but there is never enough detail for
>> anyone to attempt a build. And why don't you post a link to your site?
>
> Hi All,
>
> This is not going to resolve issues.

I can concur. I won't go so far as to say they won't "work" - whatever work is defined as, but I don't see any new ground being broken.

ANother of Art's antennas, the rotatable coil on a stick is a tuned circuit on a stick, and probably functions as a EH antenna. I'd guess that most of it's radiation would be from the coax. Looking at the instructions given, I figured that's what it was going to do, so didn't take it any further.

This mesh device is either a wide dipole or a somethingorother worked against ground. It will probably tune and put out a signal. I wonder how things will work as it corrodes? Might get complex.

If you need to use a tuner, you might as well just put up as much number 12 THHN wire, and tune it. My doublet with an MFJ tuner works great.

- 73 de Mike -

745. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 20:23:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <45917352-a7c3-422b-87e3-36060cc71baf@15g2000yqi.googlegroups.com>
Source record: 10745

On Mar 11, 1:12 pm, Michael Coslo <m...@psu.edu> wrote:
> Richard Clark wrote:
> > On Thu, 11 Mar 2010 10:48:18 -0600, "amdx" <a...@knology.net> wrote:
>
> >>> Where are the technical details to support what you are syaing about this
> >>> antenna? Frequency of operation: unspecified. Performace relative to
> >>> known/understood reference antennas: unspecified. Feedpoint impedance:
> >>> unspecified. Test conditions/setup: unspecified.
> >>   joe
> >> I'm with joe,
> >> Some of us may be interested enough to actually build and test some
> >> of the antennas you write about, but there is never enough detail for
> >> anyone to attempt a build. And why don't you post a link to your site?
>
> > Hi All,
>
> > This is not going to resolve issues.
>
> I can concur. I won't go so far as to say they won't "work" - whatever
> work is defined as, but I don't see any new ground being broken.
>
> ANother of Art's antennas, the rotatable coil on a stick is a tuned
> circuit on a stick, and probably functions as a EH antenna. I'd guess
> that most of it's radiation would be from the coax. Looking at the
> instructions given, I figured that's what it was going to do, so didn't
> take it any further.
>
> This mesh device is either a wide dipole or a somethingorother worked
> against ground. It will probably tune and put out a signal. I wonder how
> things will work as it corrodes? Might get complex.
>
> If you need to use a tuner, you might as well just put up as much number
> 12 THHN wire, and tune it. My doublet with an MFJ tuner works great.
>
>   - 73 de Mike -

Guys, I can't explain the antenna if you do not accept the basic
premise of adding a time varying field to the law of Gauss is the same
as Maxwells law for radiation. All of you state it is a false premise
which means nothing is acceptable! For my part I am dealing with known
laws of physics only which is what you are rejecting.Ask any body such
as a professor or anybody who teaches theoretic physics for an
opinion. At the same time find out what Gauss equation in cgs units
changes to when you add a time varying field!

To me it is obvious that as the old timers pass on they are being replaced by operators of a hand mike who have absolutely no interest in experimentation,how a radio works or the physics background of same. Having one of the new licenses to hold a microphone does not make one an expert of any sort let alone a major in physics. Nobody but nobody has ventured forth the resulting equation or proffered anything to justify allegations of radiation from the feed line or any other scientific fact in rebuttal to what I propose. So based on your postings I can only consider you to be microphone holders with absolutely no interest in physics and only interested in the straw men that you manufacture based on untruths to which you base your arguements upon. Frankly none of you can handle the truth or change from the past. I suppose this particular thread has now come to an end as your understanding of physics results in different result from mine and you now prefer to supply insults or spamming in line with your fellow poster KB9QRZ who now appears to be using different calls to attack to hide his identity based on the content of the posts.
Cheers and beers
Art Unwin......KB9MZ.....xg

746. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-11 23:15:37 UTC
From: joe <none@domain.invalid>
Message-ID: <hnbtdi$qe9$1@speranza.aioe.org>
Source record: 10746

>
> Guys, I can't explain the antenna if you do not accept the basic
> premise of adding a time varying field to the law of Gauss is the same
> as Maxwells law for radiation.

Gauss and Maxwell have nothing to do with describing the areas I mentioned.

All of you state it is a false premise
> which means nothing is acceptable! For my part I am dealing with known
> laws of physics only which is what you are rejecting.Ask any body such
> as a professor or anybody who teaches theoretic physics for an
> opinion. At the same time find out what Gauss equation in cgs units
> changes to when you add a time varying field!

The laws of physics were not questioned. I just wanted to know how you
made the antenna. You are evading the issue.

> To me it is obvious that as the old timers pass on they are being
> replaced by operators of a hand mike who have absolutely no interest
> in experimentation,how a radio works or the physics background of
> same. Having one of the new licenses to hold a microphone does not
> make one an expert of any sort let alone a major in physics. Nobody
> but nobody has ventured forth the resulting equation or proffered
> anything to justify allegations of radiation from the feed line or any
> other scientific fact in rebuttal to what I propose. So based on your
> postings I can only consider you to be microphone holders with
> absolutely no interest in physics and only interested in the straw men
> that you manufacture based on untruths to which you base your
> arguements upon. Frankly none of you can handle the truth or change
> from the past.

So, you choose to throw more insults.

> I suppose this particular thread has now come to an end

It comes to an end because you won't supply any details. It becomes
clear that you are NOT looking for any meaningful discussion.

> as your understanding of physics results in different result from mine
> and you now prefer to supply insults or spamming in line with your
> fellow poster KB9QRZ who now appears to be using different calls to
> attack to hide his identity based on the content of the posts.

... and more insulting remarks.

> Cheers and beers
> Art Unwin......KB9MZ.....xg

747. Cheap Wholesale San Francisco 49ers (www.jersey-2009.com paypal

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 02:28:06 UTC
From: "www.sneaker-shop08.com" <yijeans3@163.com>
Message-ID: <bcc87c9b-3b6f-4b8c-8418-05faa2470521@u5g2000prd.googlegroups.com>
Source record: 10747
Cross-posted to: rec.radio.amateur.antenna,rec.birds

Cheap Wholesale Indianapolis Colts
Cheap Wholesale Jacksonville Jaguars
Cheap Wholesale Kansas City Chiefs
Cheap Wholesale Miami Dolphins
Cheap Wholesale Minnesota Vikings (www.jersey-2009.com paypal
payment)
Cheap Wholesale New England Patriots
Cheap Wholesale New Orleans Saints
Cheap Wholesale New York Giants
Cheap Wholesale New York Jets
Cheap Wholesale Oakland Raiders (www.jersey-2009.com free shipping)
Cheap Wholesale Philadelphia Eagles
Cheap Wholesale Pittsburgh Steelers
Cheap Wholesale San Diego Chargers
Cheap Wholesale San Francisco 49ers (www.jersey-2009.com paypal
payment)
Cheap Wholesale Seattle Seahawks
Cheap Wholesale St. Louis Rams
Cheap Wholesale Tampa Bay Buccaneers
Cheap Wholesale Tennessee Titans (www.jersey-2009.com paypal payment)
Cheap Wholesale Washington Redskins
Cheap Wholesale Youth Clothes (www.jersey-2009.com free shipping)

748. Re: Mesh curtain antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 02:50:31 UTC
From: tom <news4792@taring.org>
Message-ID: <4b99abf4$0$50151$8046368a@newsreader.iphouse.net>
Source record: 10748

Art Unwin wrote:

< snip the normal nonsense, and on with the new...>

> I suppose this particular thread has now come to an end
> as your understanding of physics results in different result from mine
> and you now prefer to supply insults

<snip more hallucinations>

> Cheers and beers
> Art Unwin......KB9MZ.....xg

You nailed it. Your understanding of physics differs from mine. It also differs from any physics professor you would care to speak to, which is why none have shown up to support your nonsense. And differs from everyone here that has designed (that is an important word) an antenna that works as predicted. With real testable numbers and all that silly stuff.

tom
K0TAR

749. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 04:16:38 UTC
From: tom <news4792@taring.org>
Message-ID: <4b99c021$0$641$8046368a@newsreader.iphouse.net>
Source record: 10749

Art Unwin wrote:
> On Mar 11, 11:26 am, Art Unwin <arthurun...@gmail.com> wrote:
>> On Mar 11, 10:28 am, Art Unwin <arthurun...@gmail.com> wrote:
>>
>>
>>
>
> Computer programs for antenna design are really one of two forms.
> The cheap versions are the most prolific as they are designed to show
> the properties of planar arrays. These array are generally in the form
> for dealing with wire and Yagi antennas
> which is the vogue of the day and what customers want.

Interesting that Art hasn't the slightest idea how the programs work.

Of course most know that the programs don't know or care about orientation.

Most also know that the optimizers only look at what figures of merit
that you tell them to.

I'm sure his supporters are really cheering now.

tom
K0TAR

750. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 15:12:02 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <0c55cff2-bc03-428a-aebd-e8ce67577a51@a18g2000yqc.googlegroups.com>
Source record: 10750

On Mar 12, 4:16 am, tom <news4...@taring.org> wrote:
> Art Unwin wrote:
> > On Mar 11, 11:26 am, Art Unwin <arthurun...@gmail.com> wrote:
> >> On Mar 11, 10:28 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Computer programs for antenna design are really one of two forms.
> > The cheap versions are the most prolific as they are designed to show
> > the properties of planar arrays. These array are generally in the form
> > for dealing with wire and Yagi antennas
> > which is the vogue of the day and what customers want.
>
> Interesting that Art hasn't the slightest idea how the programs work.
>
> Of course most know that the programs don't know or care about orientation.
>
> Most also know that the optimizers only look at what figures of merit
> that you tell them to.
>
> I'm sure his supporters are really cheering now.
>
> tom
> K0TAR

yeah, and the rest of us are having a good laugh!

751. Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 17:24:01 UTC
From: JC <menardjc@orange.fr>
Message-ID: <4b9a78b0$0$17896$ba4acef3@reader.news.orange.fr>
Source record: 10551

In a lossy coax the lost energy is, I suppose, heating up the dielectric.
To try to visualize that I stripped off 30 cm of dielectric from an old RG58 cable and put it in a 900 W 2450 MHz standard microwave oven together with a 100cc cup of water as dummy load.
2 minutes after switching on the water was boiling but the polyethylene was only slightly warmer due to the proximity to the boiling water., Can I conclude that RG58 dielectric has no loss at 2350 MHz ?
Certainly not (it is well known that all the PE food containers used in such ovens are not heated), but what is wrong in this test ? how does it differ from the dielectric heated in an actual operating lossy cable ?
JC

752. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 17:38:07 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <3e9a2317-7065-4579-89cc-e02fdd428a80@v20g2000yqv.googlegroups.com>
Source record: 10552

On Mar 12, 5:24 pm, "JC" <menar...@orange.fr> wrote:
> In a lossy coax the lost energy is, I suppose, heating up the dielectric.
> To try to visualize that I stripped off 30 cm of dielectric from an old
> RG58 cable and put it in a 900 W 2450 MHz standard microwave oven together
> with a 100cc cup of water as dummy load.
> 2 minutes after switching on the water was boiling but the polyethylene was
> only slightly warmer due to the proximity to the boiling water., Can I
> conclude that RG58 dielectric has no loss at 2350 MHz ?
> Certainly not (it is well known that all the PE food containers used in
> such ovens are not heated), but what is wrong in this test ? how does it
> differ from the dielectric heated in an actual operating lossy cable ?
> JC

there is more than dielectric heating. there is also heating in the
resistance of the conductors and leakage from incomplete shielding.

753. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 17:48:07 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <7OmdnbVr5JqI4wfWnZ2dnUVZ_rqdnZ2d@earthlink.com>
Source record: 10553

"JC" <menardjc@orange.fr> wrote in message
news:4b9a78b0$0$17896$ba4acef3@reader.news.orange.fr...
> In a lossy coax the lost energy is, I suppose, heating up the dielectric.
> To try to visualize that I stripped off 30 cm of dielectric from an old
> RG58 cable and put it in a 900 W 2450 MHz standard microwave oven together
> with a 100cc cup of water as dummy load.
> 2 minutes after switching on the water was boiling but the polyethylene
> was only slightly warmer due to the proximity to the boiling water., Can
> I conclude that RG58 dielectric has no loss at 2350 MHz ?
> Certainly not (it is well known that all the PE food containers used in
> such ovens are not heated), but what is wrong in this test ? how does it
> differ from the dielectric heated in an actual operating lossy cable ?
> JC

Up to very high frequencies the major loss in coax is in wire. The skin effect makes the center conductor effective wire diameter much smaller than what it is at DC. The higher the frequency the more loss in the wire due to the skin effect. The reason for some types of coax of the same diameter have less loss is not because of the loss in the dielectric, but because it lets the center conductor be a larger diameter for the same shield diameter. Not much is lost in the dielectric. The other major loss is in the shield and it is lost the same as in the center conductor.

754. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 18:08:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e8vkp5d1mp5volje5hp9mfd7gstijg17uc@4ax.com>
Source record: 10554

On Fri, 12 Mar 2010 18:24:01 +0100, "JC" <menardjc@orange.fr> wrote:

>but what is wrong in this test ?

The loss of such cable is rated in dB per 100 feet. Your 30cm
(roughly a foot) is a substantial fraction. If we were to perform a
first order estimation from that alone; then by consulting the charts
for RG58 at 2450 MHz, Times-Microwave doesn't even go that high.
Instead, taking their 1GHz figure of 15.3dB and abstracting that to
20dB and then taking its fraction for your length, then we get
something on the order of 0.2dB.

This would be roughly a 5% load to your 900 W IF that power were
confined to the cross-section of polyethelyne in TEM mode. It is not.

If it were, that would have 45W spread across 30cm. Think of that
length as a series of 30 half-watt resistors. That would have each
resistor over-taxed, trying to dissipate 1.5W each. Now, take one of
those resistors between your forefinger and thumb. How hot is that?

73's
Richard Clark, KB7QHC

755. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 18:46:46 UTC
From: dplatt@radagast.org
Message-ID: <mpeq67-td5.ln1@radagast.org>
Source record: 10555

In article <4b9a78b0$0$17896$ba4acef3@reader.news.orange.fr>,
JC <menardjc@orange.fr> wrote:

>In a lossy coax the lost energy is, I suppose, heating up the dielectric.

Depends on the frequency.

At lower (HF and VHF) frequencies, the loss is coax is dominated by
resistive losses in the conductors. The RF current is flowing through
copper (which has a non-zero resistance per foot), and isn't even
flowing through *all* of the conductor (the "skin effect" constrains
the current to flow through a thin layer on the surface of each
conductor).

The current flow through the resistive copper creates a voltage drop,
and dissipates power... which then heats up the conductors. The
dielectric and outer insulation are also heated, but indirectly...
heat flows into the warmed-up conductors.

There are direct losses in the dielectric (in addition to the
resistive losses in the conductors) but as I recall these don't become
significant until you're well up into the microwave regions.

>Certainly not (it is well known that all the PE food containers used in
>such ovens are not heated), but what is wrong in this test ? how does it
>differ from the dielectric heated in an actual operating lossy cable ?

Your test omits the indirect heating of the dielectric, from
conductors which are themselves heated by resistive losses.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

756. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 19:16:27 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <a18053f4-2bb5-4d24-9a57-3214f578c1ec@q16g2000yqq.googlegroups.com>
Source record: 10556

On Mar 12, 10:12 am, Dave <k1...@arrl.net> wrote:
> On Mar 12, 4:16 am, tom <news4...@taring.org> wrote:
>
>
>
> > Art Unwin wrote:
> > > On Mar 11, 11:26 am, Art Unwin <arthurun...@gmail.com> wrote:
> > >> On Mar 11, 10:28 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > Computer programs for antenna design are really one of two forms.
> > > The cheap versions are the most prolific as they are designed to show
> > > the properties of planar arrays. These array are generally in the form
> > > for dealing with wire and Yagi antennas
> > > which is the vogue of the day and what customers want.
>
> > Interesting that Art hasn't the slightest idea how the programs work.
>
> > Of course most know that the programs don't know or care about orientation.
>
> > Most also know that the optimizers only look at what figures of merit
> > that you tell them to.
>
> > I'm sure his supporters are really cheering now.
>
> > tom
> > K0TAR
>
> yeah, and the rest of us are having a good laugh!

He's just bored and lonely. He needs to be involved with people
instead of his computer and imaginary antennas.

Jimmie

Jimmie

757. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-12 21:37:13 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <d7c0f441-5034-47cb-af55-608986ac5e09@e19g2000prn.googlegroups.com>
Source record: 10557

On Mar 12, 9:24 am, "JC" <menar...@orange.fr> wrote:
> In a lossy coax the lost energy is, I suppose, heating up the dielectric.
> To try to visualize that I stripped off 30 cm of dielectric from an old
> RG58 cable and put it in a 900 W 2450 MHz standard microwave oven together
> with a 100cc cup of water as dummy load.
> 2 minutes after switching on the water was boiling but the polyethylene was
> only slightly warmer due to the proximity to the boiling water., Can I
> conclude that RG58 dielectric has no loss at 2350 MHz ?
> Certainly not (it is well known that all the PE food containers used in
> such ovens are not heated), but what is wrong in this test ? how does it
> differ from the dielectric heated in an actual operating lossy cable ?
> JC

Others have set you straight about most of the loss being due to heating the conductors (I^2*R loss) rather than dielectric loss. Look in the thread "Two coax as substitute for open line" thread for my posting on 25 February; it contains a formula for line loss that lets you see how the two loss mechanisms stack up as a function of impedance, frequency, conductor size and dielectric loss tangent.

An interesting point to note: If you buy line of a certain impedance and diameter, you'll note that if the line uses solid polyethylene dielectric its loss is higher than line of otherwise the same construction using foam polyethylene dielectric. The reason for that is NOT that the foam dielectric is less lossy, but rather that the lower effective relative dielectric constant of the foam requires a larger diameter center conductor to get the same impedance, and the larger center conductor has lower loss.

If you assume copper conductors and dielectric with a dissipation factor of 0.0002 (which should be close to what either polyethylene or PTFE of high quality is, up to a few GHz), you'll find that RG-213 size coax with a 0.285" outer conductor ID and solid 0.081" inner conductor (appropriate for solid polyethylene 50 ohm line) yields the following _approximate_ losses, in dB/100ft:

	Total	Copper	Dielectric
1MHz	0.138	0.137	0.001
10MHz	0.437	0.433	0.004
100MHz	1.383	1.370	0.013
200MHz	1.957	1.938	0.018
500MHz	3.094	3.064	0.030
1GHz	4.376	4.334	0.042
2GHz	6.188	6.129	0.059
5GHz	9.784	9.690	0.094

You can see that even at 5GHz, the dielectric loss in this particular line is quite small compared with the copper loss. It would be appropriate to use a bit higher dielectric dissipation factor in the GHz region, but even if it's ten times as large as what I used here, the dielectric loss is less than 10% of the total, at 5GHz. The calculation I used here is idealized, but the non-idealities tend to be unrelated to dielectric loss: things like conductors that aren't smooth copper (braid; stranded center conductor) and small variations in impedance along the line that cause additional apparent and real losses. It does depend on the dielectric not becoming "contaminated," but modern cable construction seems to do a good job minimizing that, if you use the cable in reasonable environments.

Cheers,
Tom

758. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-13 01:31:21 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <94c92a3b-8597-4f48-b000-da622d82bf36@x19g2000pro.googlegroups.com>
Source record: 10558

On Mar 12, 1:37 pm, K7ITM <k7...@msn.com> wrote:
> On Mar 12, 9:24 am, "JC" <menar...@orange.fr> wrote:
>
> > In a lossy coax the lost energy is, I suppose, heating up the dielectric.
> > To try to visualize that I stripped off 30 cm of dielectric from an old
> > RG58 cable and put it in a 900 W 2450 MHz standard microwave oven together
> > with a 100cc cup of water as dummy load.
> > 2 minutes after switching on the water was boiling but the polyethylene was
> > only slightly warmer due to the proximity to the boiling water., Can I
> > conclude that RG58 dielectric has no loss at 2350 MHz ?
> > Certainly not (it is well known that all the PE food containers used in
> > such ovens are not heated), but what is wrong in this test ? how does it
> > differ from the dielectric heated in an actual operating lossy cable ?
> > JC
>
> Others have set you straight about most of the loss being due to
> heating the conductors (I^2*R loss) rather than dielectric loss. Look
> in the thread "Two coax as substitute for open line" thread for my
> posting on 25 February; it contains a formula for line loss that lets
> you see how the two loss mechanisms stack up as a function of
> impedance, frequency, conductor size and dielectric loss tangent.
>
> An interesting point to note: If you buy line of a certain impedance
> and diameter, you'll note that if the line uses solid polyethylene
> dielectric its loss is higher than line of otherwise the same
> construction using foam polyethylene dielectric. The reason for that
> is NOT that the foam dielectric is less lossy, but rather that the
> lower effective relative dielectric constant of the foam requires a
> larger diameter center conductor to get the same impedance, and the
> larger center conductor has lower loss.
>
> If you assume copper conductors and dielectric with a dissipation
> factor of 0.0002 (which should be close to what either polyethylene or
> PTFE of high quality is, up to a few GHz), you'll find that RG-213
> size coax with a 0.285" outer conductor ID and solid 0.081" inner
> conductor (appropriate for solid polyethylene 50 ohm line) yields the
> following _approximate_ losses, in dB/100ft:
>
>   Total   Copper   Dielectric
> 1MHz   0.138   0.137   0.001
> 10MHz   0.437   0.433   0.004
> 100MHz   1.383   1.370   0.013
> 200MHz   1.957   1.938   0.018
> 500MHz   3.094   3.064   0.030

> 1GHz 4.376 4.334 0.042
> 2GHz 6.188 6.129 0.059
> 5GHz 9.784 9.690 0.094
>
> You can see that even at 5GHz, the dielectric loss in this particular
> line is quite small compared with the copper loss. It would be
> appropriate to use a bit higher dielectric dissipation factor in the
> GHz region, but even if it's ten times as large as what I used here,
> the dielectric loss is less than 10% of the total, at 5GHz. The
> calculation I used here is idealized, but the non-idealities tend to
> be unrelated to dielectric loss: things like conductors that aren't
> smooth copper (braid; stranded center conductor) and small variations
> in impedance along the line that cause additional apparent and real
> losses. It does depend on the dielectric not becoming "contaminated,"
> but modern cable construction seems to do a good job minimizing that,
> if you use the cable in reasonable environments.
>
> Cheers,
> Tom

Oh, crap. Let's try that again. I looked at the table above and it did NOT look right. Wondered why the ratio of copper to dielectric loss didn't get worse with increasing frequency. Made a mistake in the spreadsheet that calculated it. Should have spotted it before I posted it. This is probably better:

Total Copper Dielectric
1MHz 0.138 0.137 0.001
10MHz 0.442 0.433 0.008
100MHz 1.454 1.370 0.084
200MHz 2.105 1.938 0.167
500MHz 3.482 3.064 0.418
1GHz 5.169 4.334 0.836
2GHz 7.800 6.129 1.671
5GHz 13.869 9.690 4.179

So the contribution of dielectric loss by the time you get to 5GHz is significant, but not dominant if the dielectric is high quality and uncontaminated.

759. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-13 01:37:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4b9aec5d$0$50150$8046368a@newsreader.iphouse.net>
Source record: 10559

K7ITM wrote:
>
> Oh, crap. Let's try that again. I looked at the table above and it
> did NOT look right. Wondered why the ratio of copper to dielectric
> loss didn't get worse with increasing frequency. Made a mistake in
> the spreadsheet that calculated it. Should have spotted it before I
> posted it. This is probably better:
>
> Total Copper Dielectric
> 1MHz 0.138 0.137 0.001
> 10MHz 0.442 0.433 0.008
> 100MHz 1.454 1.370 0.084
> 200MHz 2.105 1.938 0.167
> 500MHz 3.482 3.064 0.418
> 1GHz 5.169 4.334 0.836
> 2GHz 7.800 6.129 1.671
> 5GHz 13.869 9.690 4.179
>
> So the contribution of dielectric loss by the time you get to 5GHz is
> significant, but not dominant if the dielectric is high quality and
> uncontaminated.
>

Still, nicely done. Thanks for your efforts and explanations.

tom
K0TAR

760. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-13 02:08:14 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <031646f4-b3d8-4a1a-9e81-8e982206f979@b7g2000yqd.googlegroups.com>
Source record: 10560

On Mar 11, 11:26 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 11, 10:28 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > A tank circuit represents an antenna closed circuit where in the
> > absence of friction shows the action of electric field changing to a
> > magnetic field as a sample of perpetual motion. However perpetual
> > motion does not exist so to account for all forces involved we have to
> > determine the amount of friction. We cannot use a series circuit as we
> > have no way of determining friction OR the point of the curve crossing
> > the the zero reactance level.
> > Thus we have to use a parallel circuit where we can use the cross over
> > point as being a period where it is seen as balanced and in
> > equilibrium.
> > The reason we cannot use a series circuit or anything pertaining to a
> > fractional wave in examining the performance of a radiator is because
> > the impedance curve does not represent a true sine wave. After a
> > period of time has occurred the source replaces any frictional losses
> > that have occurred. To do this the amplitude of the curve at the
> > beginning of a cycle moves higher than any othe point on the curve
> > where it replaces and exceeds the frictional losses that have
> > occurred. By doing this it uses time that is not in accordance to a
> > true sine wave and detracts from the accuracy of the following curve.
> > This useage of time during a period or cycle must be accounted for if
> > one is to determine all forces involved, which is why equilibrium or
> > balance must be followed when determining the characteristics of
> > radiation. There fore ,it should be seen that a full wave length or
> > multiples there of should be considered when dealing with radiators
> > since otherwise we are ignoring the overshoot effect required to
> > replace frictional losses.
> > Modern computer programs equiped with an optimiser are equiped to deal
> > with this as they will modify any inputs such that they are in
> > accordance with Maxwells laws where all forces are considered.
> > In the case of a yagi it must be seen that each element radiates
> > including the last one where the value is unknown and not included in
> > a fudged result. If one supplies an input that does not pre guide a
> > planar solution all optimiser programs will account for all forces
> > involved and will always supply an array that is not planar as a yagi
> > shows.
> >   Thus for accurracy with respect to Maxwells laws one must have an
> > array that is in equilibrium which reflects Newtons laws where vectors
> > outside the "boundary" such as gravity and the Earths rotatation is
> > reflected by opposing vectors within the boundary. The consequences of

> > this is that the rotation vector in combination of that of gravity
> > will always produce an array that opposes gravity alone as with a
> > vertical at 90 degrees to the Earths surface if one pursuit is
> > accuracy.
> > The requirement of equilibrium is shown by the law of Gauss which when
> > added by a time varying field equates to the laws of Maxwell which
> > demands the presence of equilibrium and shows that a static particle
> > must be present to provide mass to which, via accelleration or
> > decelleration, which serves as the carrier of charge or charge.
> > This in no way conflicts with ideas or theories that particles and
> > waves can provide similar properties under certain cercumstances but
> > instead provides proof that particles are the carriers of what is
> > known as communication.
> > Cheers and beers.
> > Art Unwin   KB9MZ...xg
>
> If Maxwell and Gauss building on the observations of Newton
> postulated that particles were the carriers of charge fpr
> communication it is essential that we determiune where the particle of
> mass came from together with its properties.
> For consistencies sake we will continue with what boundary laws leads
> us to.
> Obviously the particle was initially with in a boundary when the
> boundary was broken.
> Since the Sun shows that it has a connection with communication let us
> assume that It is the Sun inside the boundary or something else within
> that boundary. If the boundary is to be broken mass is to escape. This
> it can do by applying a vector on the boundary that removes
> equilibrium. At the same time as the mass proceeds thro the hinged
> breakage another vector is created on the escaping particle which
> imparts spin. It is these same two vectors that are at the end of a
> long chain of vectors which are those of gravity and the Earths
> rotation. It is known that each cubic metre of volume of air on Earth
> contains billions of particles that arrive from outer space where they
> look for a place to rest. Most of the Earth is covered by diamagnetic
> materials or surface and we can see the effect of these particles that
> provide a skin upon diamagnetic surface such as water, aluminum. These
> particles squeeze themselves together such that they can form water
> into droplets where the particles are strong enough to completely
> encapsulate the water or most liquides that
> do not retain the effects of magnetism.
> We make our antennas of diamagnetic materials where the surface is
> completely covered with the smallest particles known to man.
> Application of a time varying field applies vector forces upon the
> material surface where these vectors are three dimensional form such
> that they can elevate and eject these particles in a accellerated
> manner so they may carry a charge (see my page for current flow
> diag). The particles being the smallest known mass
> represents the highest acceleration possible and where it happens to
> be equal to the speed of light.

> It must be noted that a radio can only apply a time varying current to
> a radiator which has a pre determined speed in metal so that the
> period or cycle can be determined. This speed in metal becomes very
> important when dealing with creation of fields and the impact of this
> particle on materials where the penetration of such particles can
> attenuate the charge that it carries such that it can lose 3 db of
> charge for a penetration oif one skin depth and continues in parabolic
> form when it produces a vortex.
> The two vectors or forces shown show why Einstein considered a
> standard model was possible in the same way humans follow a genetic
> code. Einstein eventually was able to determine the presense of
> particles by another method or physic science. For those familiar with
> the double slit experiment depth penetration or surface encapsulation
> of
> orifices were never taken into consideration so the conclusions cannot
> be seen as complete. Hopefully this satifies the request where
> allsqlient particulars are supplied other than whether a, b.c.or d
> should be marked in the event of an exam.
> Cheers and beers
> Arrt Unwin .....KB9MZ.....xg

Earlier we stated that the present planar designs such as a yagi were quite efficient so why should we bother with understanding designes provided by optimiser according to Maxwell? First of all it provides an understanding of radiation which has eluded us for more than one hundred years. It also shows when pursueing this line of logic of maintaining equilibrium it tells us that we can compress a radiator to a smaller volume. In addition we can add that Maxwell only uses distributed loads therefore one must cancel any lumped loads that are added in construction.(very relavent with respect to the Kraus helical design)

It also prevails upon us to determine efficiencies of one antenna design compared to the other!
When considering radiation we must be aware that dependent on the design of a antenna array controls what incoming signals it is sensitive to use for communication. Planar designs are usually designed upon a single polarity and not so much as supplying sensitivity to other polarities, where as designs based upon optimiser versions are made
sensitive to all types of polarity such that useable incoming signals for communication climbs up
several 100 percent. Since by definition maximum radiation efficiency occurs when the current does not penetrate the radiator surface(zero element resdstance it behooves us to look at plate forms of radiators which points to the function of a Faraday enclosure or shield or even a metal mesh where the perforations are controlled in size relative to skin depth. These same perforations provide a path for displacement current and eddies that provide for elevation and acceleration of charge carrying particles, in the case of transmission, where the vortex contains a field that is intersected by a field at right angles

from the radiator where the acceleration of the particle is supplied. It should not go with out notice that for a particle to attain the highest velocity possible it must be of the smallest mass known which as the present time is a neutrino which, by definition, is the same as the speed of light and where in its earlier form as Leptons came from within the boundaries of the Sun where it deposited its accumulated charge to the Earths boundary upon entry and its search for a diamagnetic surface to rest upon.,
So here we are with a new theory with respect to radiation which is in agreement with existing known laws of the masters, which is recognised and affirmed by present day computer programs that are dependent only on accepted laws and where they mesh with the above stated theory. In addition, it provides support for Einstein's leanings on the Standard Model and that Maxwell's laws on radiation would prove to be the final link. All was not lost for Einstein as he later focused on other strains of physics view points which then supported his position of particles being the carriers of charge in communication and NOT that of waves
Cheers and beers
Art Unwin.....KB9MZ.......XG

761. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-13 12:23:21 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <7ad05766-1ca6-4122-bebd-c7e739a70ee8@t23g2000yqt.googlegroups.com>
Source record: 10561

On Mar 12, 8:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
>... Planar designs are usually
> designed upon a single polarity and not so much as supplying
> sensitivity to other polarities, where as designs based upon optimiser
> versions are made sensitive to all types of polarity such that useable
> incoming signals for communication climbs up several 100 percent.

Art (N.B. please) ...

The POLARITY of an electromagnetic wave is determined by its electric field vector, which reverses direction (polarity) every 180 degrees of the waveform -- regardless of the polarization of the wave.

The POLARIZATION of an electromagnetic wave is defined by the physical orientation of its electric field vector, regardless of the polarity of that field. For linear radiators such as a dipole and monopole, the direction of polarization is that of the physical orientation of the radiator.

So although these terms rather sound the same, they aren't synonymous.

The applet linked below is useful to visualize this. To see vertical polarization, first set the Ey field to zero, and start the animation (top center of the page). Then set the Ex field to zero and the Ey field to one to see horizontal polarization. The blue lines tending to fill in the a-c waveform represent the field vectors of the radiated wave.

In this applet if the Ex and Ey fields are set to equal values (say at 1 each), and their phase relationship to -90 degrees using the slider below the Ex and Ey sliders in the Input Section of the applet, then the resulting e-m field is perfect, right-hand circular polarization. The animation shows a net field vector of constant magnitude rotating through all polarization angles once per wavelength.

Also note that the perfect, c-pol field shown in the applet is the net field of two, linearly-polarized radiators when configured as described above.

http://www.amanogawa.com/archive/Polarization2/Polarization2-2.html

RF

762. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-13 14:05:21 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <26a1dda2-1f80-43ef-8549-50d0a1d474b9@d2g2000yqa.googlegroups.com>
Source record: 10562

On Mar 13, 12:23 pm, Richard Fry <r...@adams.net> wrote:
> On Mar 12, 8:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> >... Planar designs are usually
> > designed upon a single polarity and not so much as supplying
> > sensitivity to other polarities, where as designs based upon optimiser
> > versions are made sensitive to all types of polarity such that useable
> > incoming signals for communication climbs up several 100 percent.
>
> Art (N.B. please) ...
>
> The POLARITY of an electromagnetic wave is determined by its electric
> field vector, which reverses direction (polarity) every 180 degrees of
> the waveform -- regardless of the polarization of the wave.
>
> The POLARIZATION of an electromagnetic wave is defined by the physical
> orientation of its electric field vector, regardless of the polarity
> of that field. For linear radiators such as a dipole and monopole, the
> direction of polarization is that of the physical orientation of the
> radiator.
>
> So although these terms rather sound the same, they aren't synonymous.
>
> The applet linked below is useful to visualize this. To see vertical
> polarization, first set the Ey field to zero, and start the animation
> (top center of the page). Then set the Ex field to zero and the Ey
> field to one to see horizontal polarization. The blue lines tending
> to fill in the a-c waveform represent the field vectors of the
> radiated wave.
>
> In this applet if the Ex and Ey fields are set to equal values (say at
> 1 each), and their phase relationship to -90 degrees using the slider
> below the Ex and Ey sliders in the Input Section of the applet, then
> the resulting e-m field is perfect, right-hand circular polarization.
> The animation shows a net field vector of constant magnitude rotating
> through all polarization angles once per wavelength.
>
> Also note that the perfect, c-pol field shown in the applet is the net
> field of two, linearly-polarized radiators when configured as
> described above.
>
> http://www.amanogawa.com/archive/Polarization2/Polarization2-2.html
>
> RF

don't confuse him with the facts! that just shortens the threads, keep trying to get him to explain his new theory so we all have something to laugh about. yucky freezing rain here today so need something funny to keep my mind off how my nice planar yagi's are turning into art's non-planer twisted designs all by themselves.

763. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-13 15:57:36 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a1c55f2f-b973-407e-9f98-4d4f0b302bfe@g19g2000yqe.googlegroups.com>
Source record: 10563

On Mar 13, 6:23 am, Richard Fry <r...@adams.net> wrote:
> On Mar 12, 8:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> >... Planar designs are usually
> > designed upon a single polarity and not so much as supplying
> > sensitivity to other polarities, where as designs based upon optimiser
> > versions are made sensitive to all types of polarity such that useable
> > incoming signals for communication climbs up several 100 percent.
>
> Art (N.B. please) ...
>
> The POLARITY of an electromagnetic wave is determined by its electric
> field vector, which reverses direction (polarity) every 180 degrees of
> the waveform -- regardless of the polarization of the wave.
>
> The POLARIZATION of an electromagnetic wave is defined by the physical
> orientation of its electric field vector, regardless of the polarity
> of that field. For linear radiators such as a dipole and monopole, the
> direction of polarization is that of the physical orientation of the
> radiator.
>
> So although these terms rather sound the same, they aren't synonymous.
>
> The applet linked below is useful to visualize this. To see vertical
> polarization, first set the Ey field to zero, and start the animation
> (top center of the page). Then set the Ex field to zero and the Ey
> field to one to see horizontal polarization. The blue lines tending
> to fill in the a-c waveform represent the field vectors of the
> radiated wave.
>
> In this applet if the Ex and Ey fields are set to equal values (say at
> 1 each), and their phase relationship to -90 degrees using the slider
> below the Ex and Ey sliders in the Input Section of the applet, then
> the resulting e-m field is perfect, right-hand circular polarization.
> The animation shows a net field vector of constant magnitude rotating
> through all polarization angles once per wavelength.
>
> Also note that the perfect, c-pol field shown in the applet is the net
> field of two, linearly-polarized radiators when configured as
> described above.
>
> http://www.amanogawa.com/archive/Polarization2/Polarization2-2.html
>
> RF

Thank you for the heads up

764. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-14 03:38:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4b9c5a2d$0$50153$8046368a@newsreader.iphouse.net>
Source record: 10564

Bill wrote:
> Has anybody ever had a QSL with Art?
>
> "Antenna here is a ..."

Based on his "designs", which don't seem to exist except as whimsical nonsense, I would wager large amounts of cash that you couldn't possibly have a QSO with him.

tom
K0TAR

765. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-14 03:42:48 UTC
From: tom <news4792@taring.org>
Message-ID: <4b9c5b33$0$50153$8046368a@newsreader.iphouse.net>
Source record: 10565

tom wrote:
> Bill wrote:
>> Has anybody ever had a QSL with Art?
>>
>> "Antenna here is a ..."
>
> Based on his "designs", which don't seem to exist except as whimsical
> nonsense, I would wager large amounts of cash that you couldn't possibly
> have a QSO with him.
>
> tom
> K0TAR
>

Hey Art!

How about a sched? You give the frequency and time. I'm good on 40m
through 6.

tom
K0TAR

766. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-14 09:51:35 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4b9cb1a6$0$821$4fafbaef@reader5.news.tin.it>
Source record: 10566

> Still, nicely done. Thanks for your efforts and explanations.
>
> tom
> K0TAR

Figure 22 of http://www.qsl.net/i0jx/ros.html separately shows loss caused by copper (in red) and loss caused by dielectric (in blue) for a 100-meter run (about 330 feet) of LMR-400 coax (similar to RG-213 with foam dielectric) versus frequency.

The formulas used for the plot are shown just above it.

Though it is in italian, it should be easily understandable.

73

Tony I0JX
Rome, Italy

767. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-14 14:34:50 UTC
From: JC <menardjc@orange.fr>
Message-ID: <4b9cf40a$0$15842$ba4acef3@reader.news.orange.fr>
Source record: 10567

Thanks to all for your explanations, I now have a much better understanding
of the energy dissipation in a coax.
73 - JC

"JC" <menardjc@orange.fr> a crit dans le message de news:
4b9a78b0$0$17896$ba4acef3@reader.news.orange.fr...
> In a lossy coax the lost energy is, I suppose, heating up the dielectric.
> To try to visualize that I stripped off 30 cm of dielectric from an old
> RG58 cable and put it in a 900 W 2450 MHz standard microwave oven together
> with a 100cc cup of water as dummy load.
> 2 minutes after switching on the water was boiling but the polyethylene
> was only slightly warmer due to the proximity to the boiling water., Can
> I conclude that RG58 dielectric has no loss at 2350 MHz ?
> Certainly not (it is well known that all the PE food containers used in
> such ovens are not heated), but what is wrong in this test ? how does it
> differ from the dielectric heated in an actual operating lossy cable ?
> JC

768. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-14 17:01:22 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <qLXPJyEiZRnLFwb2@g3ohx.demon.co.uk>
Source record: 10568

In message <4b9cb1a6$0$821$4fafbaef@reader5.news.tin.it>, Antonio
Vernucci <vernucci@tin.it> writes
>> Still, nicely done. Thanks for your efforts and explanations.
>>
>> tom
>> K0TAR
>
>Figure 22 of http://www.qsl.net/i0jx/ros.html separately shows loss
>caused by copper (in red) and loss caused by dielectric (in blue) for a
>100-meter run (about 330 feet) of LMR-400 coax (similar to RG-213 with
>foam dielectric) versus frequency.
>
>The formulas used for the plot are shown just above it.
>
>Though it is in italian, it should be easily understandable.
>
For the 'linguistically challenged', with Internet Explorer 8, there is
usually right-click, select "Translate with Live Search". It works very
well!
--
Ian

769. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-14 21:14:46 UTC
From: John <johnasiegel@optonline.net>
Message-ID: <4b9d51be$0$31286$607ed4bc@cv.net>
Source record: 10569

"Bill" <k4wge@arrl.net> wrote in message
news:a9a4ed5a-1b1e-4f94-895b-52ac98ecbfe1@t20g2000yqe.googlegroups.com...
On Mar 14, 3:38 am, tom <news4...@taring.org> wrote:

>
> Based on his "designs", which don't seem to exist except as whimsical
> nonsense, I would wager large amounts of cash that you couldn't possibly
> have a QSO with him.
>
> tom
> K0TAR

>>He should submit his articles for every April QST issue.
But the April articles are wrutten to appear plausible

770. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 00:52:27 UTC
From: tom <news4792@taring.org>
Message-ID: <4b9d84c3$0$635$8046368a@newsreader.iphouse.net>
Source record: 10570

tom wrote:
> tom wrote:
>> Bill wrote:
>>> Has anybody ever had a QSL with Art?
>>>
>>> "Antenna here is a ..."
>>
>> Based on his "designs", which don't seem to exist except as whimsical
>> nonsense, I would wager large amounts of cash that you couldn't
>> possibly have a QSO with him.
>>
>> tom
>> K0TAR
>>
>
> Hey Art!
>
> How about a sched? You give the frequency and time. I'm good on 40m
> through 6.
>
> tom
> K0TAR
>

Aaarrrttt!! Where are you?

Let's have a nice QSO with you using you wondertenna.

Of course we will never know how it really works since you'll have to
use a conventional antenna for the QSO because your wondertenna radiates
like a dummy load.

tom
K0TAR

771. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 01:05:00 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <f4625ca0-badf-4776-8b96-f6d56dc00152@k24g2000pro.googlegroups.com>
Source record: 10571

On Mar 15, 5:14 am, "John" <johnasie...@optonline.net> wrote:
> "Bill" <k4...@arrl.net> wrote in message
>
> news:a9a4ed5a-1b1e-4f94-895b-52ac98ecbfe1@t20g2000yqe.googlegroups.com...
> On Mar 14, 3:38 am, tom <news4...@taring.org> wrote:

All we need now are posts from "Dick" and "Harry" and we will
have the true measure of the posters on this thread.

Jaro

772. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 02:07:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4b9d9665$0$50147$8046368a@newsreader.iphouse.net>
Source record: 10572

Bill wrote:
> On Mar 15, 1:05 am, jaroslav lipka <jaroli...@gmail.com> wrote:
>> On Mar 15, 5:14 am, "John" <johnasie...@optonline.net> wrote:
>>
>>> "Bill" <k4...@arrl.net> wrote in message
>>> news:a9a4ed5a-1b1e-4f94-895b-52ac98ecbfe1@t20g2000yqe.googlegroups.com...
>>> On Mar 14, 3:38 am, tom <news4...@taring.org> wrote:
>> All we need now are posts from "Dick" and "Harry" and we will
>> have the true measure of the posters on this thread.
>>
>> Jaro
>
> Measure this.
>
> http://wiki.answers.com/Q/Special:Contributions&target=User:Arthur%20Unwin

Well he seems to have contributed something.

Something which is not identifiable as actually useful, but something
none the less.

I anxiously await his contributions.

tom
K0TAR

773. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 03:17:44 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <29d588aa-4cc6-492b-af55-ad4876004467@b30g2000yqd.googlegroups.com>
Source record: 10573

On Mar 13, 10:57 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 13, 6:23 am, Richard Fry <r...@adams.net> wrote:
>
>
>
> > On Mar 12, 8:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > >... Planar designs are usually
> > > designed upon a single polarity and not so much as supplying
> > > sensitivity to other polarities, where as designs based upon optimiser
> > > versions are made sensitive to all types of polarity such that useable
> > > incoming signals for communication climbs up several 100 percent.
>
> > Art (N.B. please) ...
>
> > The POLARITY of an electromagnetic wave is determined by its electric
> > field vector, which reverses direction (polarity) every 180 degrees of
> > the waveform -- regardless of the polarization of the wave.
>
> > The POLARIZATION of an electromagnetic wave is defined by the physical
> > orientation of its electric field vector, regardless of the polarity
> > of that field. For linear radiators such as a dipole and monopole, the
> > direction of polarization is that of the physical orientation of the
> > radiator.
>
> > So although these terms rather sound the same, they aren't synonymous.
>
> > The applet linked below is useful to visualize this. To see vertical
> > polarization, first set the Ey field to zero, and start the animation
> > (top center of the page). Then set the Ex field to zero and the Ey
> > field to one to see horizontal polarization. The blue lines tending
> > to fill in the a-c waveform represent the field vectors of the
> > radiated wave.
>
> > In this applet if the Ex and Ey fields are set to equal values (say at
> > 1 each), and their phase relationship to -90 degrees using the slider
> > below the Ex and Ey sliders in the Input Section of the applet, then
> > the resulting e-m field is perfect, right-hand circular polarization.
> > The animation shows a net field vector of constant magnitude rotating
> > through all polarization angles once per wavelength.
>
> > Also note that the perfect, c-pol field shown in the applet is the net
> > field of two, linearly-polarized radiators when configured as
> > described above.

>
> >http://www.amanogawa.com/archive/Polarization2/Polarization2-2.html
>
> > RF
>
> Thank you for the heads up

Front to REAR would appear to be equal
or better than a dish!
Makes for a very quiet receiving antenna as well as being very good
for transmitting
basing gain on aperture. Very easy to reverse direction using a spst
relay.

774. Alliance Tenna-Rotor for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 04:23:49 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <hnkcok$ac6$1@news.eternal-september.org>
Source record: 10574

I have an Alliance Tenna-Rotor model T-20 with control box for sale.
It has about 87 feet of 4 conductor cable that goes with it. It can
be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz

I'm asking $30 plus shipping CUS.

Thanks

Henry

775. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 04:30:42 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <rrdrp5h6fkc85217lpeia1p22qsj2k0u8i@4ax.com>
Source record: 10575

On Sun, 14 Mar 2010 21:07:43 -0500, tom <news4792@taring.org> wrote:

>I anxiously await his contributions.
>tom
>K0TAR

Art's patents:

Constant impedance matching system
<http://www.google.com/patents?id=hCMpAAAAEBAJ&dq=5,790,081>

Variable capacitance antenna for multiband reception and transmission
<http://www.google.com/patents?id=GEsbAAAAEBAJ&dq=5,625,367>

Push button arranged for mounting to a panel
<http://www.google.com/patents?id=qaY3AAAAEBAJ>

Push button assembly
<http://www.google.com/patents?id=YF0tAAAAEBAJ>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

776. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 13:35:36 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d4574fcd-5cfd-47ca-8a54-3620ffc5f83f@30g2000yqi.googlegroups.com>
Source record: 10576

On Mar 14, 10:17 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 13, 10:57 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Mar 13, 6:23 am, Richard Fry <r...@adams.net> wrote:
>
> > > On Mar 12, 8:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > >... Planar designs are usually
> > > > designed upon a single polarity and not so much as supplying
> > > > sensitivity to other polarities, where as designs based upon optimiser
> > > > versions are made sensitive to all types of polarity such that useable
> > > > incoming signals for communication climbs up several 100 percent.
>
> > > Art (N.B. please) ...
>
> > > The POLARITY of an electromagnetic wave is determined by its electric
> > > field vector, which reverses direction (polarity) every 180 degrees of
> > > the waveform -- regardless of the polarization of the wave.
>
> > > The POLARIZATION of an electromagnetic wave is defined by the physical
> > > orientation of its electric field vector, regardless of the polarity
> > > of that field. For linear radiators such as a dipole and monopole, the
> > > direction of polarization is that of the physical orientation of the
> > > radiator.
>
> > > So although these terms rather sound the same, they aren't synonymous.
>
> > > The applet linked below is useful to visualize this. To see vertical
> > > polarization, first set the Ey field to zero, and start the animation
> > > (top center of the page). Then set the Ex field to zero and the Ey
> > > field to one to see horizontal polarization. The blue lines tending
> > > to fill in the a-c waveform represent the field vectors of the
> > > radiated wave.
>
> > > In this applet if the Ex and Ey fields are set to equal values (say at
> > > 1 each), and their phase relationship to -90 degrees using the slider
> > > below the Ex and Ey sliders in the Input Section of the applet, then
> > > the resulting e-m field is perfect, right-hand circular polarization.
> > > The animation shows a net field vector of constant magnitude rotating
> > > through all polarization angles once per wavelength.
>
> > > Also note that the perfect, c-pol field shown in the applet is the net

> > > field of two, linearly-polarized radiators when configured as
> > > described above.
>
> > >http://www.amanogawa.com/archive/Polarization2/Polarization2-2.html
>
> > > RF
>
> > Thank you for the heads up
>
> Front to REAR would appear to be equal
> or better than a dish!
> Makes for a very quiet receiving antenna as well as being very good
> for transmitting
> basing gain on aperture. Very easy to reverse direction using a spst
> relay.

Had an E mail asking questions about the antenna not wanting to post on the group!
My meshg curtain moves away from the other antennas that I have made with window mesh which are designed for tower top with a rotor. The curtain I have made is much bigger than required but with commercial statiions using curtain style antennas I thought I would make one out of interest. I used all the mesh I had accumulated which amounted to a 100 yards by eight feet stapled together and hung it up just like the washing line of the old days so it wasn't touching the ground. Both sided are grounded and you must view the array as two separate sides where with the use of a spst relay you connect to both sides with the coax and switch out the side that you are using as a reflector or vica versa. The ground I used was just a stake in the ground. The swr span is dependent on the size of the curtain and I wouldn't be surprized if the amount of wire in the mesh has something to do with it. The Swr on my curtain is less than 2:1 up from the top band on all frequencies. I have a AM station in sight close by which normally is some 20 plus over nine. My reflector put it to some where below 5 S units a very rough observation.
Books usually refer to the use of chicken wire but my mesh is 20 by 18 per inch and aluminum! i am assuming that current views it as a surface or flat plate so the current disperses. The wire is coiated with a type of nickel or conductive coating so I dont remove the coating any more. The aluminum wire is woven so I roll it flat so that good contact is made.
You can connect the coax any where but make sure you are not penetrating to the other side. You can actually put the coax centre wire just an inch or so from the ground connection and no it will not short across. All ground connections must be to the same point. The wire mesh is a two sided antenna where the edges of the curtain being quite sharp provides a barrier to prevent cross over. The antenna is really just a Faraday shield where incomming signals hit on the side which is facing the signal. Now first the static is removed and channelled to the ground. The actual signal hits the side like a

sticky particle and separates into two fields electric and magnetic. One field stays stuck to the outside and the other side gathers the other field (I won't go into how the other sticky particle gets to the other side but it comes from the Laws of Newton).
The inside particle then wants to slide over so it is opposite the position of the other partical
or field. We know that radiation is created by an accelleration of charge so going backwards in thought the insiden moving particle or charge created provided a time varing current wbhich the radio can handle. Getting back to the two particles or field these are now equal and opposite and thus will cancel. Thinking a bit more about it, the current produced a electric field which turned into a magnetic field and then back into a electric field just like it would with a parallel tank circuit so when the fields cancelled you only have left the applied current!
Remember now that we have always looked at radiators as wires but in this case we are viewing our radiators as a solid plate though we do have very small holes in the surface where the impinginging particle cannot get through beyond what we call skin depth.
Remember also that the charge carrying particle (not a wave) also has a spin to it like a bullet so it can maintain a straight line together with a cancellation of gravity, so the particle must be viewed as the smallest mass possible BUT WITH A ROTATION OR SPIN that has a radius in excess of the holes size. So really the radiator doesn't totally block a signal like a mirror but it does absorb the signal depending on its thichnes ie one skin dept penetration equals three db attenuation etc.
Explanation is a bit long but for those who are not willing to get involved but are still interested I am hoping that this will help.
Bottom line is that if you add a time varying field to a Gaussian static boundary you then have the same formula as Maxwell. Thus waves are not there only static particles upon which you placed a charge.
I.e. communication or radiation is not created by a "wave" but by something more tangiable which is a "particle" of mass carrying a charge moving at the speed of light and with rotation like a bullet so that it maintaines a straight path. The path is created by the applied current which lifts the particle like a frog experiment you dis in high school and then propelled away by the intersecting field and displacement current just like an electric train.
Cheers and Beers
Art Unwin.....KB9MZ......XG

777. Re: Parallel tank circuit

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 14:18:46 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7546391f-e3e7-42b2-8a7e-eda48ca204cf@c16g2000yqd.googlegroups.com>
Source record: 10577

```
On Mar 15, 8:35 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 14, 10:17 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Mar 13, 10:57 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Mar 13, 6:23 am, Richard Fry <r...@adams.net> wrote:
>
> > > > On Mar 12, 8:08 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > >... Planar designs are usually
> > > > > designed upon a single polarity and not so much as supplying
> > > > > sensitivity to other polarities, where as designs based upon optimiser
> > > > > versions are made sensitive to all types of polarity such that useable
> > > > > incoming signals for communication climbs up several 100 percent.
>
> > > > Art (N.B. please) ...
>
> > > > The POLARITY of an electromagnetic wave is determined by its electric
> > > > field vector, which reverses direction (polarity) every 180 degrees of
> > > > the waveform -- regardless of the polarization of the wave.
>
> > > > The POLARIZATION of an electromagnetic wave is defined by the physical
> > > > orientation of its electric field vector, regardless of the polarity
> > > > of that field. For linear radiators such as a dipole and monopole, the
> > > > direction of polarization is that of the physical orientation of the
> > > > radiator.
>
> > > > So although these terms rather sound the same, they aren't synonymous.
>
> > > > The applet linked below is useful to visualize this. To see vertical
> > > > polarization, first set the Ey field to zero, and start the animation
> > > > (top center of the page). Then set the Ex field to zero and the Ey
> > > > field to one to see horizontal polarization.  The blue lines tending
> > > > to fill in the a-c waveform represent the field vectors of the
> > > > radiated wave.
>
> > > > In this applet if the Ex and Ey fields are set to equal values (say at
> > > > 1 each), and their phase relationship to -90 degrees using the slider
> > > > below the Ex and Ey sliders in the Input Section of the applet, then
> > > > the resulting e-m field is perfect, right-hand circular polarization.
> > > > The animation shows a net field vector of constant magnitude rotating
> > > > through all polarization angles once per wavelength.
```

>
> > > > Also note that the perfect, c-pol field shown in the applet is the net
> > > > field of two, linearly-polarized radiators when configured as
> > > > described above.
>
> > > >http://www.amanogawa.com/archive/Polarization2/Polarization2-2.html
>
> > > > RF
>
> > > Thank you for the heads up
>
> > Front to REAR would appear to be equal
> > or better than a dish!
> > Makes for a very quiet receiving antenna as well as being very good
> > for transmitting
> > basing gain on aperture. Very easy to reverse direction using a spst
> > relay.
>
> Had an E mail asking questions about the antenna not wanting to post
> on the group!
> My meshg curtain moves away from the other antennas that I have made
> with window mesh which are designed for tower top with a rotor. The
> curtain I have made is much bigger than required but with commercial
> statiions using curtain style antennas I thought I would make one out
> of interest. I used all the mesh I had accumulated which amounted to a
> 100 yards by eight feet stapled together and hung it up just like the
> washing line of the old days so it wasn't touching the ground. Both
> sided are grounded and you must view the array as two separate sides
> where with the use of a spst relay you connect to both sides with the
> coax and switch out the side that you are using as a reflector or vica
> versa. The ground I used was just a stake in the ground. The swr span
> is dependent on the size of the curtain and I wouldn't be surprized if
> the amount of wire in the mesh has something to do with it. The Swr on
> my curtain is less than 2:1 up from the top band on all frequencies.
> I have a AM station in sight close by which normally is some 20 plus
> over nine. My reflector put it to some where below 5 S units a very
> rough observation.
> Books usually refer to the use of chicken wire but my mesh is 20 by 18
> per inch and aluminum! i am assuming that current views it as a
> surface or flat plate so the current disperses. The wire is coiated
> with a type of nickel or conductive coating so I dont remove the
> coating any more. The aluminum wire is woven so I roll it flat so that
> good contact is made.
> You can connect the coax any where but make sure you are not
> penetrating to the other side. You can actually put the coax centre
> wire just an inch or so from the ground connection and no it will not
> short across. All ground connections must be to the same point. The
> wire mesh is a two sided antenna where the edges of the curtain being
> quite sharp provides a barrier to prevent cross over. The antenna is
> really just a Faraday shield where incomming signals hit on the side

> which is facing the signal. Now first the static is removed and
> channelled to the ground. The actual signal hits the side like a
> sticky particle and separates into two fields electric and magnetic.
> One field stays stuck to the outside and the other side gathers the
> other field (I won't go into how the other sticky particle gets to
> the other side but it comes from the Laws of Newton).
> The inside particle then wants to slide over so it is opposite the
> position of the other partical
> or field. We know that radiation is created by an accelleration of
> charge so going backwards in thought the insiden moving particle or
> charge created provided a time varing current wbhich the radio can
> handle. Getting back to the two particles or field these are now equal
> and opposite and thus will cancel. Thinking a bit more about it, the
> current produced a electric field which turned into a magnetic field
> and then back into a electric field just like it would with a parallel
> tank circuit so when the fields cancelled you only have left the
> applied current!
> Remember now that we have always looked at radiators as wires but in
> this case we are viewing our radiators as a solid plate though we do
> have very small holes in the surface where the impinginging particle
> cannot get through beyond what we call skin depth.
> Remember also that the charge carrying particle (not a wave) also has
> a spin to it like a bullet so it can maintain a straight line together
> with a cancellation of gravity, so the particle must be viewed as the
> smallest mass possible BUT WITH A ROTATION OR SPIN that has a radius
> in excess of the holes size. So really the radiator doesn't totally
> block a signal like a mirror but it does absorb the signal depending
> on its thichnes ie one skin dept penetration equals three db
> attenuation etc.
> Explanation is a bit long but for those who are not willing to get
> involved but are still interested I am hoping that this will help.
> Bottom line is that if you add a time varying field to a Gaussian
> static boundary you then have the same formula as Maxwell. Thus waves
> are not there only static particles upon which you placed a charge.
> I.e. communication or radiation is not created by a "wave" but by
> something more tangiable which is a "particle" of mass carrying a
> charge moving at the speed of light and with rotation like a bullet so
> that it maintaines a straight path. The path is created by the applied
> current which lifts the particle like a frog experiment you dis in
> high school and then propelled away by the intersecting field and
> displacement current just like an electric train.
> Cheers and Beers
> Art Unwin.....KB9MZ......XG

A few words on hole size (perforations) and mesh material. The
particle carrying charge
is of the smallest mass possible which is why it travels at the
fastest speed known so it stands to reason that it will penetrate the
smallest hole let alone chicken wire.
Well the particle is as small as the point of a cork screw but that

same point travels in a helix around the axis point, so for penetration one has to consider the radius of the helix and its speed when looking at what hole size it can get throu as well as not adhering to the side of the perforation. Loking at a corkscrew with a large helix on it one can see that one or two will gett thru chicken wire and the rest get tangled up so yes there will be some attenuation say 3db or so but who wants a font to rear of only 3 db?
At the same time the skin depth is related to wave length but not that in air but in tne metal used for conduction So if you read somewhere chicken wire and wavelength stated in the same breath you must first think of the length of a wavelength in metal (occilation of atoms) and the thickness of the material in skin depths to determine the amount of attenuation that you want which obviously would start at somewhere in the region of 30 db front to REAR and go up from there.
See page unwin antennas or some thing like that!
Cheers

778. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 16:15:19 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hnlmeo$l0e$1@news.jpl.nasa.gov>
Source record: 10578

JC wrote:
> In a lossy coax the lost energy is, I suppose, heating up the dielectric.

At HF, the loss mostly in heating up the conductors from IR losses. You need to get well up into UHF territory before dielectric losses start to become significant.

> To try to visualize that I stripped off 30 cm of dielectric from an old
> RG58 cable and put it in a 900 W 2450 MHz standard microwave oven together
> with a 100cc cup of water as dummy load.
> 2 minutes after switching on the water was boiling but the polyethylene was
> only slightly warmer due to the proximity to the boiling water., Can I
> conclude that RG58 dielectric has no loss at 2350 MHz ?
> Certainly not (it is well known that all the PE food containers used in
> such ovens are not heated), but what is wrong in this test ? how does it
> differ from the dielectric heated in an actual operating lossy cable ?
> JC
>
>

779. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 17:20:22 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <H5KkVIQWxmnLFwtf@g3ohx.demon.co.uk>
Source record: 10579

In message <hnlmeo$l0e$1@news.jpl.nasa.gov>, Jim Lux
<james.p.lux@jpl.nasa.gov> writes
>JC wrote:
>> In a lossy coax the lost energy is, I suppose, heating up the dielectric.
>
>At HF, the loss mostly in heating up the conductors from IR losses.
>You need to get well up into UHF territory before dielectric losses
>start to become significant.
>
>>
>>
Indeed. 'Low-loss' coax usually has less dielectric than 'high-loss'
coax (the less dielectric, the lower the loss).

However, it isn't the lack of dielectric which minimises the loss. It is
because, for a given outer diameter, in order to maintain the same
characteristic impedance, the diameter of the inner conductor has to be
made larger - so its resistance (and power loss) is less.
--
Ian

780. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-15 18:46:11 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <f6aed07d-4863-4d84-9945-3f9f58d2780f@z1g2000prc.googlegroups.com>
Source record: 10580

On Mar 14, 2:51 am, "Antonio Vernucci" <vernu...@tin.it> wrote:
> > Still, nicely done. Thanks for your efforts and explanations.
>
> > tom
> > K0TAR
>
> Figure 22 ofhttp://www.qsl.net/i0jx/ros.htmlseparately shows loss caused by
> copper (in red) and loss caused by dielectric (in blue) for a 100-meter run
> (about 330 feet) of LMR-400 coax (similar to RG-213 with foam dielectric) versus
> frequency.
>
> The formulas used for the plot are shown just above it.
>
> Though it is in italian, it should be easily understandable.
>
> 73
>
> Tony I0JX
> Rome, Italy

Hi Tony,

Thanks...

When I first looked at your graph, for some reason I read both the
copper and the dielectric loss off the left axis, and was having a lot
of trouble believing the dielectric attenuation was that high. ;-)
There's some advantage to showing both lines with the same scaling,
since that gives a better appreciation for the relative loss in copper
versus dielectric. As your graph shows (when properly read), the
dielectric loss is a little under 4% of the total loss at 210MHz.
From the formulas above the graph (and assuming no other loss
mechanisms crept in, which they will...), the dielectric loss and the
copper loss would be equal at 146GHz! (At such a high frequency--2mm
wavelength--the line would no longer work as TEM transmission line, so
the formulas are no longer valid up there.)

A few other interesting things to note about the relative
contributions of dielectric and copper losses:

-- Dielectric loss does not depend on the line impedance, nor does it
depend on the size of the line (i.e. diameter of coax).
-- Dielectric loss (in dB/unit length) goes up linearly with
frequency,
assuming a constant dielectric dissipation factor. Expect that the
dielectric dissipation factor will go up slightly with frequency

for
typical coax dielectric, at least in the GHz region and above.
-- Dielectric loss of dry air, dry nitrogen, or a vacuum is very
low...
much lower than dielectric loss of polyethylene or PTFE ("Teflon").
The result is that foamed or other dielectric construction that's
about 50% dry nitrogen (dry air) will have about half the loss of
solid dielectric. However, at frequencies where the copper loss
strongly dominates the total loss, a more important effect is that
foamed dielectric's lower effective relative dielectric constant
results in a larger coax center conductor, which lowers the copper
loss.
-- Copper loss (I^2*R loss) goes down as the impedance of the line
increases. Loss in dB/unit length is inversely proportional to
the impedance.
-- Copper skin depth is inversely proportional to the square root of
frequency, so the copper loss of coax is directly proportional to
the square root of frequency -- at least for smooth conductors.
-- The larger the surface area of the conductors, the lower the RF
resistance and the lower the copper loss.
-- The theory is all very well, but beware how conductor braiding and
stranding, and things like small variations impedance along the
length of the line affect both real and perceived line loss.

Cheers,
Tom

781. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 02:14:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <DP6dnW_XiI4bdAPWnZ2dnUVZ_j2dnZ2d@giganews.com>
Source record: 10581

K7ITM wrote:

(Excellent summary and explanations!)

> . . .

> -- Copper loss (I^2*R loss) goes down as the impedance of the line
> increases. Loss in dB/unit length is inversely proportional to
> the impedance.

What a lot of people miss is that this is the real reason open wire line is less lossy than coax -- it inherently has higher characteristic impedance than coax because of its geometry. (The I^2*R loss is lower for high impedance lines because I is lower for a given power level.)

But dielectric loss can be significant with twinlead. Water is lossy and has a very high dielectric constant, so wet ladder line or TV twinlead can actually have greater loss than moderate size coax.

> . . .

Roy Lewallen, W7EL

782. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 04:57:00 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <74d6c427-44d0-43ff-b8dd-869101d7481c@g4g2000yqa.googlegroups.com>
Source record: 10582

On Mar 15, 4:30 am, Jeff Liebermann <je...@cruzio.com> wrote:

>
> Constant impedance matching system
> <http://www.google.com/patents?id=hCMpAAAAEBAJ&dq=5,790,081>

http://www.contesting.com/forums/Tips/1240

783. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 06:30:02 UTC
From: nm5k@wt.net
Message-ID: <5947d281-a764-4032-aec1-5438cc4c1052@b7g2000yqd.googlegroups.com>
Source record: 10583

On Mar 16, 12:06 am, Bill <k4...@arrl.net> wrote:
> > Variable capacitance antenna for multiband reception and transmission
> > <http://www.google.com/patents?id=GEsbAAAAEBAJ&dq=5,625,367>
>
> There is an amazing difference between the writing here:
>
> http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=P...
>
> and the bafflegab we have been getting recently..

What is amazing is that you can use incorrect information
to describe a patent, and no one seems to notice or care.
Such as this vital tidbit of information...

Quote from United States Patent 5,625,367
"To increase the directivity of such an antenna, a parasitic
reflector element, usually tuned to a frequency slightly higher
than the driver resonant frequency, can be placed parallel to
the driver element along the boom. For further increased directivity,
one or more director elements, usually tuned to frequencies slightly
lower than the driver resonant frequency, can be placed at various
distances along the boom on the other side of the driver element
and parallel to the driver element."

Now I don't have the degree in mechanical engineering that Art has
and may have taken advantage of before he became senile and
decided to venture into antenna design, but danged if something
in this description just doesn't seem quite right to this semi-
literate
ignorant redneck. :/

I think it gives a fairly good indication of the level of attention
given
to the claims and descriptions offered during the patent process.

BTW, don't mind Jaroslav... That's just Art's latest trunk monkey
that pops out when the red button is pushed.

784. Re: Alliance Tenna-Rotor for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 16:55:19 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hnod5n$rk64$1@tr22n12.aset.psu.edu>
Source record: 10584

Henry wrote:
> I have an Alliance Tenna-Rotor model T-20 with control box for sale. It
> has about 87 feet of 4 conductor cable that goes with it. It can be
> viewed at:

And I have a lovely bunch of coconuts. 8^)

- 73 de Mike N3LI -

785. Stealth Hex Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 18:51:14 UTC
From: Eternal September Newsgroups <NotMe@ThisAddress.Org>
Message-ID: <hnojv4$rp6$1@news.eternal-september.org>
Source record: 10585

I'd like to make a steal hex beam antenna for 17 and 15 meters, maybe even 20 meters. My goal is to make it is invisible as possible. Is there any ideas of what type of support poles that would be the lightest? Maybe croppy fishing poles? I'm even thinking of putting this antenna up when I use and and then bring it down in between days when I do not operate.

Your suggestions are appreciated.

Thank you.

786. Re: Stealth Hex Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 19:44:15 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ea31b19a-f990-434d-acb7-db0667a37e98@o30g2000yqb.googlegroups.com>
Source record: 10586

On Mar 16, 1:51 pm, "Eternal September Newsgroups"
<No...@ThisAddress.Org> wrote:
> I'd like to make a steal hex beam antenna for 17 and 15 meters, maybe even
> 20 meters.

IMO, it is much easier to make a stealth vertically polarized phased
array than try to do it with horizontal elements. Two or three
flagpoles come to mind.
--
73, Cecil, w5dxp.com

787. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 20:59:33 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <58154f70-7fe4-4b0d-b113-68dc80f59131@u19g2000prh.googlegroups.com>
Source record: 10587

On Mar 16, 2:30 am, n...@wt.net wrote:
> On Mar 16, 12:06 am, Bill <k4...@arrl.net> wrote:
>
> > > Variable capacitance antenna for multiband reception and transmission
> > > <http://www.google.com/patents?id=GEsbAAAAEBAJ&dq=5,625,367>
>
> > There is an amazing difference between the writing here:
>
> >http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=P...
>
> > and the bafflegab we have been getting recently..
>
> What is amazing is that you can use incorrect information
> to describe a patent, and no one seems to notice or care.
> Such as this vital tidbit of information...
>
> Quote from United States Patent 5,625,367
> "To increase the directivity of such an antenna, a parasitic
> reflector element, usually tuned to a frequency slightly higher
> than the driver resonant frequency, can be placed parallel to
> the driver element along the boom. For further increased directivity,
> one or more director elements, usually tuned to frequencies slightly
> lower than the driver resonant frequency, can be placed at various
> distances along the boom on the other side of the driver element
> and parallel to the driver element."
>
> Now I don't have the degree in mechanical engineering that Art has
> and may have taken advantage of before he became senile and
> decided to venture into antenna design, but danged if something
> in this description just doesn't seem quite right to this semi-
> literate
> ignorant redneck. :/
>
> I think it gives a fairly good indication of the level of attention
> given
> to the claims and descriptions offered during the patent process.
>
> BTW, don't mind Jaroslav... That's just Art's latest trunk monkey
> that pops out when the red button is pushed.

There is too much consistency to Art's rantings for him to be the
senile old man he pretends to be. More and more I think he is a troll.
My guess is someone from the CB newsgroup that often x-posts here. If
I am wrong I sincerely apologize to Art for I know I could through a

blot clot and be the next person with nothing better to do all day
than post the warped fantasies of my damaged mind on a newsgroup.

Jimmie

Jimmie

788. J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 21:57:57 UTC
From: ai8o <ai8o@lexcominc.net>
Message-ID: <1bcefed7-a087-4fda-976d-727ab6297bda@l11g2000pro.googlegroups.com>
Source record: 10588

I am thinking of making a 2 meter J-Pole from 3/4 or 5/8 copper pipe.

Most plans that I can find on the web call for a 58 inch main leg and a 20 inch support below, making the antenna
78 inches or so in height.

I want to install it in my attic where I have 66 inches of clear space.

Can I cut the lower support leg down to 8 inches without a major impact on the performance of the antenna?

789. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 22:23:55 UTC
From: G8PSZ <g8psz@mailshackNOSPAM.com>
Message-ID: <hnp0dd$8a8$1@speranza.aioe.org>
Source record: 10589

"ai8o" <ai8o@lexcominc.net> wrote in message
news:1bcefed7-a087-4fda-976d-727ab6297bda@l11g2000pro.googlegroups.com...
>I am thinking of making a 2 meter J-Pole from 3/4 or 5/8 copper pipe.
>
> Most plans that I can find on the web call for a 58 inch main leg and
> a 20 inch support below, making the antenna
> 78 inches or so in height.
>
> I want to install it in my attic where I have 66 inches of clear
> space.
>
> Can I cut the lower support leg down to 8 inches without a major
> impact on the performance of the antenna?

course you can, make it from 300 ohm ribbon feeder & hang it via the top, I
did that with a slim jim which may be better than a j pole, just google slim
jim for 2 m if you don' recognise it

790. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-16 23:53:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D3E6ECF997E7nonenowhere@61.9.191.5>
Source record: 10590

ai8o <ai8o@lexcominc.net> wrote in news:1bcefed7-a087-4fda-976d-727ab6297bda@l11g2000pro.googlegroups.com:

> I am thinking of making a 2 meter J-Pole from 3/4 or 5/8 copper pipe.
>
> Most plans that I can find on the web call for a 58 inch main leg and
> a 20 inch support below, making the antenna
> 78 inches or so in height.
>
> I want to install it in my attic where I have 66 inches of clear
> space.
>
> Can I cut the lower support leg down to 8 inches without a major
> impact on the performance of the antenna?

End fed antennas are an implementation risk.

Have you considered a vertical dipole hung from the roof structure, and taking the feedline away horizontally for a couple of wavelengths, then down. You could make it a folded dipole (TV ribbon?) and use a half wave coax balun.

Owen

791. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 01:21:30 UTC
From: dplatt@radagast.org
Message-ID: <qdn577-k4c.ln1@radagast.org>
Source record: 10591

ai8o <ai8o@lexcominc.net> wrote in news:1bcefed7-a087-4fda-976d-727ab6297bda@l11g2000pro.googlegroups.com:

> I am thinking of making a 2 meter J-Pole from 3/4 or 5/8 copper pipe.
>
> Most plans that I can find on the web call for a 58 inch main leg and
> a 20 inch support below, making the antenna
> 78 inches or so in height.
>
> I want to install it in my attic where I have 66 inches of clear
> space.
>
> Can I cut the lower support leg down to 8 inches without a major
> impact on the performance of the antenna?

The support leg doesn't carry substantial RF currents, so by itself it doesn't play a big role in the antenna.

I believe that its length is intended to help keep the current-carrying portions of the antenna (the two-arm roughly-quarter-wavelength matching section, and the half-wavelength upper radiator) up clear of the support mast, so that the mast and roof structure and etc. don't de-tune the antenna. If you shorten the support section, and bring the current-carrying parts of the antenna down into closer proximity with the attic floor, you *may* see some change in resonant frequency and SWR. However, the same would be true (perhaps even more so) if the upper part of the radiating arm comes too close to the roof.

There are several things that you can try:

[1] Try it just as you propose.

[2] Try a "Z-folded J-pole", where the support arm is vertical, the half-meter matching section is bent horizontally, and the half-wavelength radiator turns back up into a vertical direction. This sort of 90-degree bend between matching section and radiator was used on classic wire "zepp" antennas, and I've seen it used with center-fed vertical dipoles.

[3] Try an "open sleeve" J-pole. These are a bit shorter than classic J-poles - a bit tricker to make, though, since the two arms in the matching section are *not* shorted together at the bottom, and one must have an insulated mounting of some sort. Arrow makes a nice dual-band open-sleeve J-pole, and (last time I looked) they had complete construction plans somewhere on their site so you could

fabricated one yourself if you wish.

In any of these variations, you may need to tune the antenna somewhat to adjust for the antenna's shape and for its proximity to the building structure. One way to do this is to cut the pipes a bit long, and trim to fit. Placing a copper end-cap over the pipe ends is a way to extend them a bit if necessary. If you drill a hole in the end cap, braze a brass nut or two onto the hole, and insert a brass bolt, you can adjust the effective length of the arm by screwing the bolt into or out of the nut-and-cap portion.

"Fat" J-poles (with larger-diameter pipe) are relatively broad-band, so you ought to be able to tune one down to an effectively-low SWR across the 2-meter band.

[4] Build a J-pole out of 450-ohm ladder line, rather than copper pipe - suspend it beneath the attic's upper support beam using 6" of nylon fishing line, and tension the bottom down vertically using more fishing line. No need for a lower support arm at all... just short the bottom two sides of the ladder line together with a couple of inches of copper wire.

J-poles can be built in very non-traditional ways, and made to work effectively, although the dimensions may be rather different than the traditional plans would indicate. I made one several years ago by taking a bicycle flag (about 5' of thin fiberglass rod with a flag on top) and fastening ordinary hookup wire to it with black electrical tape. It took me a while (and a lot of cutting-and-trying) to figure out the right lengths for the two arms, and the correct attachment point for the RG-58 coax feed near the bottom, but I eventually got it down to an SWR of around 1.2 across the repeater portion of the 2-meter band. Fastened to the back of my recumbent bicycle, it gives much better coverage than a rubber duck when I'm riding bicycle-mobile.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

792. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 01:51:19 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba03583$0$50150$8046368a@newsreader.iphouse.net>
Source record: 10592

tom wrote:
>> Hey Art!
>>
>> How about a sched? You give the frequency and time. I'm good on 40m
>> through 6.
>>
>> tom
>> K0TAR
>>
>
> Aaarrrttt!! Where are you?
>
> Let's have a nice QSO with you using you wondertenna.
>
> Of course we will never know how it really works since you'll have to
> use a conventional antenna for the QSO because your wondertenna radiates
> like a dummy load.
>
> tom
> K0TAR

Well, I guess "Mister Master Antenna Designer" knows exactly how well
his antennas work.

Just as I expected.

tom
K0TAR

793. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 03:06:28 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <853e6299-234a-458b-aaeb-32b8cdef72cc@y17g2000yqd.googlegroups.com>
Source record: 10593

On Mar 16, 5:57 pm, ai8o <a...@lexcominc.net> wrote:
> I am thinking of making a 2 meter J-Pole from 3/4 or 5/8 copper pipe.
>
> Most plans that I can find on the web call for a 58 inch main leg and
> a 20 inch support below, making the antenna
> 78 inches or so in height.
>
> I want to install it in my attic where I have 66 inches of clear
> space.
>
> Can I cut the lower support leg down to 8 inches without a major
> impact on the performance of the antenna?

Sure leave it off altogether and hang it with fishing line.

Jimmie

794. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 08:22:52 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <PyHWHWDcFJoLFwk$@g3ohx.demon.co.uk>
Source record: 10594

In message <Xns9D3E6ECF997E7nonenowhere@61.9.191.5>, Owen Duffy
<none@no.where> writes
>ai8o <ai8o@lexcominc.net> wrote in news:1bcefed7-a087-4fda-976d-
>727ab6297bda@l11g2000pro.googlegroups.com:
>
>> I am thinking of making a 2 meter J-Pole from 3/4 or 5/8 copper pipe.
>>
>> Most plans that I can find on the web call for a 58 inch main leg and
>> a 20 inch support below, making the antenna
>> 78 inches or so in height.
>>
>> I want to install it in my attic where I have 66 inches of clear
>> space.
>>
>> Can I cut the lower support leg down to 8 inches without a major
>> impact on the performance of the antenna?
>
>End fed antennas are an implementation risk.
>
What's an 'implementation risk'?

>Have you considered a vertical dipole hung from the roof structure, and
>taking the feedline away horizontally for a couple of wavelengths, then
>down. You could make it a folded dipole (TV ribbon?) and use a half wave
>coax balun.
>
Are you suggesting that a centre-fed dipole is better than a J-Pole?
There is absolutely no problem with the J-Pole / Slim Jim type of
antenna, or with feeding it.
--
Ian

795. ANTENNA for R20

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 11:50:56 UTC
From: DUBIR <DUBIR.5e6c2c6@radiobanter.com>
Message-ID: <DUBIR.5e6c2c6@radiobanter.com>
Source record: 10602

Hi
Please advise
I need outdoor antenna for my ICOM -R20 (receiver)
what model is recommended ?
please consider the overload issue

I consider Discone antenna .
can i use the AH8000?
or the MFJ-1868
or DA3200

Thanks !

--
DUBIR

796. Re: Stealth Hex Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 12:22:38 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <8bba2d87-3edb-4e29-b668-77d78dc39b75@t41g2000yqt.googlegroups.com>
Source record: 10595

On Mar 16, 6:51 pm, "Eternal September Newsgroups"
<No...@ThisAddress.Org> wrote:
> I'd like to make a steal hex beam antenna for 17 and 15 meters, maybe even
> 20 meters. My goal is to make it is invisible as possible. Is there any
> ideas of what type of support poles that would be the lightest? Maybe
> croppy fishing poles? I'm even thinking of putting this antenna up when I
> use and and then bring it down in between days when I do not operate.
>
> Your suggestions are appreciated.
>
> Thank you.

My 5-band (20m thru 10m) hexbeams typically weigh in at around13lbs;
this is the weight budget:

Fishing pole spreaders (6 needed): 0.89lbs
1/4" aluminium baseplate: 1.4lbs
Spreader support tubes and fixing bolts (6 needed): 0.38lbs
Baseplate-mast fixing bracket (2 needed): 0.54lbs
Fibreglass Centre Post: 1.4lbs
Wire (5 bands): 2.2lbs

Measured Total: 13.17lbs

73,
Steve G3TXQ

797. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 14:07:47 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <hnqnnl$kk5a$1@tr22n12.aset.psu.edu>
Source record: 10596

On 3/16/2010 5:57 PM, ai8o wrote:
> I am thinking of making a 2 meter J-Pole from 3/4 or 5/8 copper pipe.
>
> Most plans that I can find on the web call for a 58 inch main leg and
> a 20 inch support below, making the antenna
> 78 inches or so in height.
>
> I want to install it in my attic where I have 66 inches of clear
> space.
>
> Can I cut the lower support leg down to 8 inches without a major
> impact on the performance of the antenna?

The support leg is just that a leg. You can make it any length that
works for you.

John W3JXP

798. Re: Stealth Hex Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 15:53:25 UTC
From: K5EST <walter.k5est@gmail.com>
Message-ID: <05c9fce6-d1ff-47ee-86dc-e7f46f29a1e2@30g2000yqi.googlegroups.com>
Source record: 10597

On Mar 16, 1:51 pm, "Eternal September Newsgroups"
<No...@ThisAddress.Org> wrote:
> I'd like to make a steal hex beam antenna for 17 and 15 meters, maybe even
> 20 meters. My goal is to make it is invisible as possible. Is there any
> ideas of what type of support poles that would be the lightest? Maybe
> croppy fishing poles? I'm even thinking of putting this antenna up when I
> use and and then bring it down in between days when I do not operate.
>
> Your suggestions are appreciated.
>
> Thank you.

For easy setup and take down, maybe consider a
No Counterpoise Antenna
<http://www.outsideshack.com/no_counterpoise_phased_array.pdf>
73....Walter - K5EST

799. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 15:57:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <eru1q5d11oc7snt5leg59l9g8c47id4von@4ax.com>
Source record: 10598

On Wed, 17 Mar 2010 08:22:52 +0000, Ian Jackson
<ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:

>>End fed antennas are an implementation risk.
>>
>What's an 'implementation risk'?

Having it come out mismatched, a very much higher probability.

>>Have you considered a vertical dipole hung from the roof structure, and
>>taking the feedline away horizontally for a couple of wavelengths, then
>>down. You could make it a folded dipole (TV ribbon?) and use a half wave
>>coax balun.
>>
>Are you suggesting that a centre-fed dipole is better than a J-Pole?

A center fed dipole is simpler to tune and keep tuned.

>There is absolutely no problem with the J-Pole / Slim Jim type of
>antenna, or with feeding it.

The majority of users who come here for solutions to theirs would
suggest otherwise.

73's
Richard Clark, KB7QHC

800. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 16:06:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <2Pydndf8T8C8Yz3WnZ2dnUVZ_tSdnZ2d@giganews.com>
Source record: 10599

John Passaneau wrote:
>
> The support leg is just that a leg. You can make it any length that
> works for you.
>
> John W3JXP

A J pole, or ground plane for that matter, couples into the support structure and outside of the feedline, making those conductors part of the radiating system. This alters the radiation pattern and can result in further coupling to anything near the support structure or feedline. The amount of coupling can be anything from insignificantly small to very large -- with the support and/or feedline radiating more than the "antenna" --, depending on the length and orientation of the entire conductive path to Earth ground.

Roy Lewallen, W7EL

801. Re: Stealth Hex Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 16:26:33 UTC
From: Eternal September Newsgroups <NotMe@ThisAddress.Org>
Message-ID: <hnqvru$75n$1@news.eternal-september.org>
Source record: 10600

"steveeh131047" <google@karinya.net> wrote in message
news:8bba2d87-3edb-4e29-b668-77d78dc39b75@t41g2000yqt.googlegroups.com...
> My 5-band (20m thru 10m) hexbeams typically weigh in at around13lbs;
> this is the weight budget:
>
> Fishing pole spreaders (6 needed): 0.89lbs
> 1/4" aluminium baseplate: 1.4lbs
> Spreader support tubes and fixing bolts (6 needed): 0.38lbs
> Baseplate-mast fixing bracket (2 needed): 0.54lbs
> Fibreglass Centre Post: 1.4lbs
> Wire (5 bands): 2.2lbs
>
> Measured Total: 13.17lbs
>
> 73,
> Steve G3TXQ

Steve, What type of fishing pole's do you use for the spreaders? Are they crappie poles? Also, what length are they?

Thank you and thanks to all who have replied. Your help and suggestions are all appreciated!

802. Re: Stealth Hex Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 17:05:30 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <df32d9a4-d2b5-4098-8deb-c313adb22f6d@o30g2000yqb.googlegroups.com>
Source record: 10601

On Mar 17, 4:26 pm, "Eternal September Newsgroups"
<No...@ThisAddress.Org> wrote:
> Steve, What type of fishing pole's do you use for the spreaders? Are they
> crappie poles? Also, what length are they?
>

PM sent with details.

Steve G3TXQ

803. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 17:47:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D3F30AADE2CDnonenowhere@61.9.191.5>
Source record: 10603

Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
news:PyHWHWDcFJoLFwk$@g3ohx.demon.co.uk:

> In message <Xns9D3E6ECF997E7nonenowhere@61.9.191.5>, Owen Duffy
> <none@no.where> writes
...
>>End fed antennas are an implementation risk.
>>
> What's an 'implementation risk'?
>

We will see if the OP, like so many who implement J poles in the roof space, becomes aware of problems and comes back for advice on how to solve them.

The commonest problem is that VSWR doesn't meet expectations, but that it is the most mentioned problem speaks more of the visibility of VSWR that that it is the greatest problem with the J Pole.

Like many if not most end fed antennas, the J Pole does little to deal with the common mode current that must flow on the feed system / support structure. Explanations of how they work usually deny the issue.

But for all their faults, they spray RF around, and people would foolish to deny that they 'work' to some extent.

When you look at the strengths and weaknesses of a J Pole, they are not a good choice IMHO for in-roof-space deployment.

Owen

804. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 17:53:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D3F31CEB78Dnonenowhere@61.9.191.5>
Source record: 10604

John Passaneau <w3jxp@arrl.net> wrote in news:hnqnnl$kk5a$1
@tr22n12.aset.psu.edu:

>> Can I cut the lower support leg down to 8 inches without a major
>> impact on the performance of the antenna?
>
> The support leg is just that a leg. You can make it any length that
> works for you.

The 'support leg' as it is being discussed in not just a physical support for the half wave.

If the upper half wave section carries current, there must be a non zero current at the lower end of it. That current MUST exist as a common mode current on the upper part of the 'support leg' as the OP terms it and you concur.

That common mode current is a standing wave, and the distribution of it on the 'support leg', feedline, and any conducting supporting structure makes all of these elements part of the radiating system to some extent, depending on the actual geometry and their coupling to other conductors in close proximity.

So to represent that U shaped section as merely supporting structure is to deny how the thing really works... but then that is the stuff of J Poles.

Owen

805. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 18:15:22 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hnr67q$bs52$1@tr22n12.aset.psu.edu>
Source record: 10605

Owen Duffy wrote:

> So to represent that U shaped section as merely supporting structure is
> to deny how the thing really works... but then that is the stuff of J
> Poles.

Are you sure, Owen? I read it as the bottom part of the j-pole. I made a j-pole once, the top was copper, and the support was thick walled PVC. Obviously that wasn't an active part. The "u" shaped portion was all above the support leg.

The antenna matched up well with moving the clips back and forth. Still works okay. I don't look at them as any better or worse thatn a 1/4 wave gp, or vertical dipole, both of which I had before. Did not measure for feedline radiation, but I have people at home who let me know of such problems.

- 73 de Mike N3LI -

806. Re: ANTENNA for R20

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 20:53:27 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <w_KdnVEcGfLW3DzWnZ2dnUVZ7vednZ2d@bt.com>
Source record: 10606

A discone antenna works very well with this receiver, particularly the ones with a whip above the cone. It will give adequate performance from medium wave frequencies through to UHF. You may get some breakthrough on some VHF frequencies if you live near to a powerful pager transmitter. A directional antenna and rotator can be used to overcome this sort of interference but with much greater cost and complexity.

Try the discone and see how you get on. Get the discone up as high as possible on a mast attached to a chimney above the house perhaps, or on an aluminium pole out in the garden. Try to route the cable by as direct a route as possible to the receiver. Make sure the cables and connectors are of good quality and that all joints outside are completely covered with self amalgamating rubber tape with a layer of insulating tape over the top. Use loctite or similar thread locking compound on the discone elements to stop them coming unscrewed due to wind vibration. This setup should last you several years without giving any problems.

Mike g0uli
"DUBIR" <DUBIR.5e6c2c6@radiobanter.com> wrote in message
news:DUBIR.5e6c2c6@radiobanter.com...
>
> Hi
> Please advise
> I need outdoor antenna for my ICOM -R20 (receiver)
> what model is recommended ?
> please consider the overload issue
>
> I consider Discone antenna .
> can i use the AH8000?
> or the MFJ-1868
> or DA3200
>
> Thanks !
>
>
>
>
> --
> DUBIR

807. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 21:08:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D3F52C8A3A33nonenowhere@61.9.191.5>
Source record: 10607

Michael Coslo <mjc5@psu.edu> wrote in
news:hnr67q$bs52$1@tr22n12.aset.psu.edu:

...
> Are you sure, Owen? I read it as the bottom part of the j-pole. I made
> a j-pole once, the top was copper, and the support was thick walled
> PVC. Obviously that wasn't an active part. The "u" shaped portion was
> all above the support leg.
>
> The antenna matched up well with moving the clips back and forth.
> Still works okay. I don't look at them as any better or worse thatn a
> 1/4 wave gp, or vertical dipole, both of which I had before. Did not
> measure for feedline radiation, but I have people at home who let me
> know of such problems.

Mike,

Even if you put a J Pole on an insulating support, or build it with flexible wire inside a rigid PVC tube, you can't pretend the the common mode current path on the outside of the coax feedline does not exist.

If you take extreme care with symmetry of the J Pole, then common mode current is lower, and with some further decoupling might be very acceptable. I doubt that common constructions achieve that goal, enquirers here and elsewhere often complain of a sensitivity of VSWR of proximity of their body and other things to the feedline... a sign of feedline common mode current.

If by a vertical dipole, you mean a coaxial dipole (though I note people are now using 'coaxial dipole' to refer to the Double Bazooka), they are also notoriously bad for feedline decoupling and need further sleeves (Bazooka Balun) or radials to effectively decouple the feedline.

The J Pole (and many other end fed antennas such as the Ringo) have a matching arrangement that makes VSWR very sensitive to the antenna's local environment. One of the most common questions is "I tuned this up real good in the workshop, and when I put it in the attic, the VSWR is 3:1".

Sure, the attic is a challenging place to put an antenna, but a narrowband matching network exacerbates the problem.

Why is the attic so bad? You have to ask is the roof conductive or variabile permittivity (under any weather) (steel, shingles, concrete tiles etc), does it have sarking or other conductive insulation products (such as foil aircell blankets) under it, or on the ceiling, does the ceiling have foil backed insulation on it, what other conductors are in

the roof space (water, gas, flues, HVAC ducts, structural steel, framing braces, wiring...etc). What works for one installation might not work for another because the installer has no idea of the installation.

An experienced eye sees things that an inexperience eye doesn't.

A well executed ground plane antenna is an antenna that a person with little knowledge and experience can implement with a high level of confidence that it is reasonably efficient and effective.

I didn't really want to can the J Pole, but to say to the OP if he REALLY MUST put an antenna in the roof space, he ought consider a folded dipole with half wave coax balun and dresss the feedline away horizontally for a wavelength or two for minimal effects on pattern (though that is not well controlled in the roof space).

BTW, a question that reveals the understanding of a J Pole by its devotees is "should the braid go to one side or the other". All three answers (yes, three) are offered in similar proportion, but I have never seen anyone support them with measurement.

It seems to me that the preferred method from purely an electrical point of view is none of those three. If you establish the tapping point, drill a hole in either tube at that point, and another at the bottom of the U, then pass the coax up through the bottom hole inside the tube (bonding the shield to that point), exit through the other hole bonding the coax shield to the tube and connecting the inner conductor to the opposite side, you have built an integral balun which helps to reduce common mode current. A further ferrite balun below the tube somewhat using say #61 would give improved suppression at 144MHz.

Owen

808. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 21:34:06 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrnhq2ilm.qin.gsm@cable.mendelson.com>
Source record: 10608

Owen Duffy wrote:
> If by a vertical dipole, you mean a coaxial dipole (though I note people
> are now using 'coaxial dipole' to refer to the Double Bazooka), they are
> also notoriously bad for feedline decoupling and need further sleeves
> (Bazooka Balun) or radials to effectively decouple the feedline.

I assumed when he said a vertical dipole, he meant exactly that. Two 19 inch wires center fed. It's cheap, versatile, and does a lot better than your average rubber ducky.

You mount it verticaly for FM, horizontaly for ssb/cw and at an angle for satellite work.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

809. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 22:25:44 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D3F5FEAD955Cnonenowhere@61.9.191.5>
Source record: 10609

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in
news:slrnhq2ilm.qin.gsm@cable.mendelson.com:

...
> I assumed when he said a vertical dipole, he meant exactly that. Two
> 19 inch wires center fed. It's cheap, versatile, and does a lot better
> than your average rubber ducky.

I suspect you probably haven't read the thread. That was my original
suggestion with the addition of a balun and some detail on feedline
routing.

Owen

810. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 22:36:28 UTC
From: dplatt@radagast.org
Message-ID: <c42877-rb3.ln1@radagast.org>
Source record: 10610

In article <Xns9D3F52C8A3A33nonenowhere@61.9.191.5>,
Owen Duffy <none@no.where> wrote:

>A well executed ground plane antenna is an antenna that a person with
>little knowledge and experience can implement with a high level of
>confidence that it is reasonably efficient and effective.

That would certainly be another workable alternative for this
situation. An SO-239, a few feet of 10-gauge solid wire, and a bit of
soldering, and you end up with a ground-plane antenna with a hanging
loop at the top, two or four ground radials drooping at around a
45-degree angle, and a near-ideal match to 50-ohm coax. Cheap and
quick to make. Stick a ferrite or two on the feedline just below it,
and feedline radiation shouldn't be a problem. If I recall correctly,
this very design appeared in the "quick tips" freebie blurb I got from
the ARRL after I first got my ticket.

>It seems to me that the preferred method from purely an electrical point
>of view is none of those three. If you establish the tapping point,
>drill a hole in either tube at that point, and another at the bottom of
>the U, then pass the coax up through the bottom hole inside the tube
>(bonding the shield to that point), exit through the other hole bonding
>the coax shield to the tube and connecting the inner conductor to the
>opposite side, you have built an integral balun which helps to reduce
>common mode current. A further ferrite balun below the tube somewhat
>using say #61 would give improved suppression at 144MHz.

I used that very design to build a two-arm "Copper Cactus", with
separate stubs and feedlines for 2 meters and 440. It seemed to work
well (although I never actuually measured the feedline currents).

One gotcha to this approach - you have to be *very* careful to
waterproof the point where the coax exits from the upper hole and has
its shield bonded to the pipe! If you don't get a thoroughly
waterproof coating of silicone sealant (or something similar) here,
the exposed braid will wick up water during every rainstorm which
comes along, and your coax will turn into a hose.

The SWR on mine went sky-high after a winter up in the California
rains. When I disconnected the N connectors down at the base of the
antenna, I found them full of water and algae(!) and had a devil of a
time getting things dried out again.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior

I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

811. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 22:45:09 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <2dfc31f9-d6ea-4f2d-b005-cdbb6b8ea09c@d27g2000yqf.googlegroups.com>
Source record: 10611

On Mar 16, 5:34 am, Bill <k4...@arrl.net> wrote:
> On Mar 15, 4:30 am, Jeff Liebermann <je...@cruzio.com> wrote:
>
>
>
> > Variable capacitance antenna for multiband reception and transmission
> > <http://www.google.com/patents?id=GEsbAAAAEBAJ&dq=5,625,367>
>
> Ah, jeeze, this is going over old groung:
>
> http://groups.google.com/group/rec.radio.amateur.antenna/browse_threa...

oh wow, a twofer... art and fracky in the same thread!

812. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-17 22:59:03 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrnhq2nfd.sog.gsm@cable.mendelson.com>
Source record: 10612

Owen Duffy wrote:

> I suspect you probably haven't read the thread. That was my original
> suggestion with the addition of a balun and some detail on feedline
> routing.

Some people have more agressive killfiles than others. :-)

Geoff.
--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
understanding, as in he has a sub-wikipedia understanding of the situation.
i.e possessing less facts or information than can be found in the Wikipedia.

813. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 02:22:51 UTC
From: nm5k@wt.net
Message-ID: <d53463d5-8ac0-4149-9c45-433f0979cb5d@t20g2000yqe.googlegroups.com>
Source record: 10613

On Mar 17, 5:36 pm, dpl...@radagast.org (Dave Platt) wrote:
> In article <Xns9D3F52C8A3A33nonenowh...@61.9.191.5>,
> Owen Duffy <n...@no.where> wrote:
>
> >A well executed ground plane antenna is an antenna that a person with
> >little knowledge and experience can implement with a high level of
> >confidence that it is reasonably efficient and effective.
>
> That would certainly be another workable alternative for this
> situation. An SO-239, a few feet of 10-gauge solid wire, and a bit of
> soldering, and you end up with a ground-plane antenna with a hanging
> loop at the top, two or four ground radials drooping at around a
> 45-degree angle, and a near-ideal match to 50-ohm coax. Cheap and
> quick to make. Stick a ferrite or two on the feedline just below it,
> and feedline radiation shouldn't be a problem. If I recall correctly,
> this very design appeared in the "quick tips" freebie blurb I got from
> the ARRL after I first got my ticket.

That is my choice for a vertical antenna hung from rafters.
I've got one in my attic. Quarter wave ground plane with
8 radials. Hung from the rafters with fishing line. I'm lucky
that my roof is fairly non conductive. All the ducts etc are
well below the antenna. I've never really like J poles for all
the reasons already mentioned. The radiator is 19 inches,
and ditto for the radials, except being as they slope at about
a 45 degree angle, they require less height than if the lower
half of the antenna went straight down from the feed point.

BTW, if you model them, the usual difference between a
1/4 wave GP and a 1/2 wave vertical usually amounts to
about .3 db... Not enough to worry about, and not enough
to make using the taller antenna really worth the extra trouble.
Not to mention the GP is much easier to decouple from the
line. And decoupling from the line is much more critical than
any extra gain from a longer radiator when used for VHF/UHF
and the very low angles most local contacts will use.
In many cases, the GP will outperform the J pole due to it's
better decoupled feed line.

814. Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 08:38:56 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <oElon.14389$jo6.7518@newsfe14.ams2>
Source record: 10614

If you own or have used the Cushcraft MA5B in the past could you let me know what the noise floor reading is/was and the rough height of your antenna?

I know that the noise floor will be different location to location but it will give me some idea of what I should be looking at.

I have had mine up for a couple of years now and although the signals increase 3-5 S points better than my Cobwebb and Dipole on receive the noise floor has always been S7-8 on 14MHz. It is 0-1 S point on my other two antennas. So any signal received on the MA5B less than S9+10db has a lot of noise in there audio.
SWR is good on all 5 bands.

815. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 09:28:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D3FD04964746nonenowhere@61.9.191.5>
Source record: 10615

"David" <barett@blueyonder.co.uk> wrote in
news:oElon.14389$jo6.7518@newsfe14.ams2:

> If you own or have used the Cushcraft MA5B in the past could you let
> me know what the noise floor reading is/was and the rough height of
> your antenna?
>
> I know that the noise floor will be different location to location but
> it will give me some idea of what I should be looking at.
>
> I have had mine up for a couple of years now and although the signals
> increase 3-5 S points better than my Cobwebb and Dipole on receive the
> noise floor has always been S7-8 on 14MHz. It is 0-1 S point on my
> other two antennas. So any signal received on the MA5B less than
> S9+10db has a lot of noise in there audio.
> SWR is good on all 5 bands.

If the noise is received equally from all directions, then the amount of noise power received is proportional to the average gain of the antenna system, which is essentially, the inverse of the efficiency of the system.

Some noise sources are not very directional, eg galactic noise. Manmade noise could me non-directional, it just depends on the physical distribution of those noise sources at a particular instant of time at your location.

You can of course determine if noise is non-directional, rotate the antenna and observe the noise level. If you want to measure ambient noise, have a look at http://www.vk1od.net/calc/anc.htm .

I calculated the expected ambient noise due to the sources discussed in ITU P.372-8 and documented it at http://www.vk1od.net/measurement/noise/FSAmbientNoise.htm , you may find it interesting. Broady, if you have a receive noise level way below that expectation, it may be sign of an inefficient antenna system.

Owen

816. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 12:50:01 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hnt7hp$ok58$1@tr22n12.aset.psu.edu>
Source record: 10616

Owen Duffy wrote:
> Michael Coslo <mjc5@psu.edu> wrote in
> news:hnr67q$bs52$1@tr22n12.aset.psu.edu:
>
> ...
>> Are you sure, Owen? I read it as the bottom part of the j-pole. I made
>> a j-pole once, the top was copper, and the support was thick walled
>> PVC. Obviously that wasn't an active part. The "u" shaped portion was
>> all above the support leg.
>>
>> The antenna matched up well with moving the clips back and forth.
>> Still works okay. I don't look at them as any better or worse thatn a
>> 1/4 wave gp, or vertical dipole, both of which I had before. Did not
>> measure for feedline radiation, but I have people at home who let me
>> know of such problems.
>
> Mike,
>
> Even if you put a J Pole on an insulating support, or build it with
> flexible wire inside a rigid PVC tube, you can't pretend the the common
> mode current path on the outside of the coax feedline does not exist.

No argument there.

> If you take extreme care with symmetry of the J Pole, then common mode
> current is lower, and with some further decoupling might be very
> acceptable. I doubt that common constructions achieve that goal,
> enquirers here and elsewhere often complain of a sensitivity of VSWR of
> proximity of their body and other things to the feedline... a sign of
> feedline common mode current.

Yes, I'll note that my installation was not particularly sensitive to
proximity.

> If by a vertical dipole, you mean a coaxial dipole (though I note people
> are now using 'coaxial dipole' to refer to the Double Bazooka), they are
> also notoriously bad for feedline decoupling and need further sleeves
> (Bazooka Balun) or radials to effectively decouple the feedline.

No, this is just a dipole hung vertically, mainly because it will be
used for repeater work.

> Why is the attic so bad? You have to ask is the roof conductive or
> variabile permittivity (under any weather) (steel, shingles, concrete
> tiles etc), does it have sarking or other conductive insulation products
> (such as foil aircell blankets) under it, or on the ceiling, does the

> ceiling have foil backed insulation on it, what other conductors are in
> the roof space (water, gas, flues, HVAC ducts, structural steel, framing
> braces, wiring...etc). What works for one installation might not work
> for another because the installer has no idea of the installation.

Agreed, for me at least, putting an antenna in an attic is a last
resort. I came into this thread sideways, hence some of the confusion,
but if I needed stealth, I'd probably make a ground plane out of pipe
that fit nicely over one of the vent stacks above the bathrooms.
Inside, I would go for a dipole of some sort, not a J-pole.

we're pretty much on the same page here, any issues are there because of
the point at which I jumped into the conversation.

I may ask some questions about the stack antenna in a new thread.

- 73 de Mike N3LI -

817. antenna type question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 13:20:56 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hnt9bo$jc68$1@tr22n12.aset.psu.edu>
Source record: 10617

Hey all,

There was a type of antenna that I remember from when I was a young'un, but I cannot remember the type that it was.

It was a directional antenna, and had three vertical sections, I'm assuming they were dipoles, but am not even sure of that. These verticals were arranged in a Y pattern, and were apparently electronically or electrically switched to modify the directivity. The ones I knew about were all cut for 27 MHz, but the specific frequency isn't important at this point.

Anyone have an idea what this type of antenna was called?. A big bonus would be if anyone knew about the design of such a beast or a reference to the design.

- 73 de Mike N3LI -

818. Re: antenna type question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 13:26:01 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <ORpon.37150$mn6.22370@newsfe07.iad>
Source record: 10618

I think it was called a Super Scanner
Howard

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:hnt9bo$jc68$1@tr22n12.aset.psu.edu...
> Hey all,
>
> There was a type of antenna that I remember from when I was a young'un,
> but I cannot remember the type that it was.
>
> It was a directional antenna, and had three vertical sections, I'm
> assuming they were dipoles, but am not even sure of that. These verticals
> were arranged in a Y pattern, and were apparently electronically or
> electrically switched to modify the directivity. The ones I knew about
> were all cut for 27 MHz, but the specific frequency isn't important at
> this point.
>
> Anyone have an idea what this type of antenna was called?. A big bonus
> would be if anyone knew about the design of such a beast or a reference to
> the design.
>
> - 73 de Mike N3LI -

819. Re: antenna type question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 13:36:17 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hnta8h$jc6c$1@tr22n12.aset.psu.edu>
Source record: 10619

Howard Kowall wrote:
> I think it was called a Super Scanner
> Howard
>

That's it! Thanks howard.

- 73 de Mike N3LI -

820. Re: antenna type question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 13:38:26 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <t1qon.37151$mn6.19891@newsfe07.iad>
Source record: 10620

Your welcome
Howard

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:hnta8h$jc6c$1@tr22n12.aset.psu.edu...
> Howard Kowall wrote:
>> I think it was called a Super Scanner
>> Howard
>>
>
> That's it! Thanks howard.
>
> - 73 de Mike N3LI -

821. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 16:01:13 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <%6son.37808$0t.1356@newsfe17.ams2>
Source record: 10621

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D3FD04964746nonenowhere@61.9.191.5...
> "David" <barett@blueyonder.co.uk> wrote in
> news:oElon.14389$jo6.7518@newsfe14.ams2:
>
>> If you own or have used the Cushcraft MA5B in the past could you let
>> me know what the noise floor reading is/was and the rough height of
>> your antenna?
>>
>> I know that the noise floor will be different location to location but
>> it will give me some idea of what I should be looking at.
>>
>> I have had mine up for a couple of years now and although the signals
>> increase 3-5 S points better than my Cobwebb and Dipole on receive the
>> noise floor has always been S7-8 on 14MHz. It is 0-1 S point on my
>> other two antennas. So any signal received on the MA5B less than
>> S9+10db has a lot of noise in there audio.
>> SWR is good on all 5 bands.
>
> If the noise is received equally from all directions, then the amount of
> noise power received is proportional to the average gain of the antenna
> system, which is essentially, the inverse of the efficiency of the
> system.
>
> Some noise sources are not very directional, eg galactic noise. Manmade
> noise could me non-directional, it just depends on the physical
> distribution of those noise sources at a particular instant of time at
> your location.
>
> You can of course determine if noise is non-directional, rotate the
> antenna and observe the noise level. If you want to measure ambient
> noise, have a look at http://www.vk1od.net/calc/anc.htm .
>
> I calculated the expected ambient noise due to the sources discussed in
> ITU P.372-8 and documented it at
> http://www.vk1od.net/measurement/noise/FSAmbientNoise.htm , you may find
> it interesting. Broady, if you have a receive noise level way below that
> expectation, it may be sign of an inefficient antenna system.
>
> Owen

The noise level does not change when I turn the beam 360 deg.

I have used the Cobwebb and the Cushcraft R5 in the same location and I do
not get the same noise. The noise is also present in the audio on stronger

signals.
Its the same noise you get on a weak station, where its combined in with the audio except I get the same noise mixed with the stronger stations audio. I do not get this on any other antenna's apart from the Cushcraft MA5B.

Does any one have any ideas to what could be the cause of this?

73 Dave

822. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 16:29:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b7l4q5loal41q9247ov48scdl4j8q08fsl@4ax.com>
Source record: 10622

On Thu, 18 Mar 2010 16:01:13 -0000, "David" <barett@blueyonder.co.uk>
wrote:

>Does any one have any ideas to what could be the cause of this?

Hi David,

Possibly because your feed point is not choked enough.

73's
Richard Clark, KB7QHC

823. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 17:37:35 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hntod0$3jm$1@news.jpl.nasa.gov>
Source record: 10624

Roy Lewallen wrote:
> K7ITM wrote:
>
> (Excellent summary and explanations!)
>
> > . . .
>
>> -- Copper loss (I^2*R loss) goes down as the impedance of the line
>> increases. Loss in dB/unit length is inversely proportional to
>> the impedance.
>
> What a lot of people miss is that this is the real reason open wire line
> is less lossy than coax -- it inherently has higher characteristic
> impedance than coax because of its geometry. (The I^2*R loss is lower
> for high impedance lines because I is lower for a given power level.)
>
> But dielectric loss can be significant with twinlead. Water is lossy and
> has a very high dielectric constant, so wet ladder line or TV twinlead
> can actually have greater loss than moderate size coax.
>
> > . . .
>
> Roy Lewallen, W7EL
From
http://www.k6mhe.com/n7ws/

http://www.k6mhe.com/n7ws/Ladder_Line.pdf talks about measurements on
wet and dry ladderline
http://www.k6mhe.com/n7ws/LadderLineUpdate.PDF

824. Re: Stealth Hex Beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 17:38:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hntofe$3jm$2@news.jpl.nasa.gov>
Source record: 10623

Cecil Moore wrote:
> On Mar 16, 1:51 pm, "Eternal September Newsgroups"
> <No...@ThisAddress.Org> wrote:
>> I'd like to make a steal hex beam antenna for 17 and 15 meters, maybe even
>> 20 meters.
>
> IMO, it is much easier to make a stealth vertically polarized phased
> array than try to do it with horizontal elements. Two or three
> flagpoles come to mind.
> --
> 73, Cecil, w5dxp.com

the problem is that even a fairly low horizontally polarized antenna
will do better than a vertically polarized antenna because of the ground
reflection helping the H-pol.

At a simple level, you start with the array pattern multiplied by the
element pattern, and if the element pattern starts out a couple dB down,
it's hard to make up the difference.

825. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 20:01:07 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <VDvon.367481$tJ.142290@newsfe28.ams2>
Source record: 10625

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:b7l4q5loal41q9247ov48scdl4j8q08fsl@4ax.com...
> On Thu, 18 Mar 2010 16:01:13 -0000, "David" <barett@blueyonder.co.uk>
> wrote:
>
>>Does any one have any ideas to what could be the cause of this?
>
> Hi David,
>
> Possibly because your feed point is not choked enough.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard

I read on the internet, if I use 5x FT-140-43 rings stacked and then loop the coax through 6 times it would make a good 1:1 choke balun. What do you think about this type of choke balun for the job?

73 de David

826. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 20:43:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ss35q5ttb7j03m408mgmgl5hcaabis1abr@4ax.com>
Source record: 10626

On Thu, 18 Mar 2010 20:01:07 -0000, "David" <barett@blueyonder.co.uk>
wrote:

>Hi Richard
>
>I read on the internet, if I use 5x FT-140-43 rings stacked and then loop
>the coax through 6 times it would make a good 1:1 choke balun. What do you
>think about this type of choke balun for the job?
>
>73 de David

Hi David,

Sounds great if you are doing it.

Are you?

If you are not doing this, or some close approximation, then local
noise is backfilling your received signals (and you are degrading your
antenna's directivity by the same lack of isolation).

If you are doing this, then you may be suffering from a ground loop.
Of course, you can suffer from this by simply trying to fix a ground
loop (there is a lot of myth out there). More could be said, but I
will await to see what you have in place.

73's
Richard Clark, KB7QHC

827. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-18 20:45:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D404EF25FAB6nonenowhere@61.9.191.5>
Source record: 10627

"David" <barett@blueyonder.co.uk> wrote in
news:%6son.37808$0t.1356@newsfe17.ams2:

>
> The noise level does not change when I turn the beam 360 deg.

You did give S meter readings, but with respect, they are meaningless in the context you have given. Radios are not iniversally well calibrated, and most hams could not tell us what radio setting (eg PREAMP ON/OFF) put the radio in the calibrated mode.

Remember that a directive antenna does not reduce noise that is non-directional, for all that it reduces noise picked up off the main lobe, it increases noise picked up on the main lobe.

Ok, we hear that the noise is not strongly directional. You didn't care to share how you worked that out. If you had an extremely high noise level, it would quite likely be local, that is the way of things. It it appears to not be directional, it is probably very close (ie under the antenna). It could be in your own home, it could be some kind of fault with the installation.

If it is within your own home, resolution is somewhat simplified. To clear away your own home as a source, turn EVERYTHING off and run a receiver on battery. No prizes for missing something, turn things off at the main switchboard.

Does the noise vary by hour, day? Is it the same level when all the TVs and Inverter Air Conditioners should be off.

If the noise is excessive, and it is real local, you have the choice of dealing with the source, and/or reducing your pickup (eg minimising the effects of feedline common mode current... good coax, effective connectors, an effecive balun, system grounding).

Owen

828. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 02:50:31 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <3a231d94-b213-451c-9097-c16e3d745e13@k6g2000prg.googlegroups.com>
Source record: 10628

On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
> Bill wrote:
> > Has anybody ever had a QSL with Art?
>
> > "Antenna here is a ..."
>
> Based on his "designs", which don't seem to exist except as whimsical
> nonsense, I would wager large amounts of cash that you couldn't possibly
> have a QSO with him.
>
> tom
> K0TAR

Purely as a matter of interest how much is your large amount of cash?

Jaro

829. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 02:58:02 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba2e83a$0$645$8046368a@newsreader.iphouse.net>
Source record: 10629

jaroslav lipka wrote:
> On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
>> Bill wrote:
>>> Has anybody ever had a QSL with Art?
>>> "Antenna here is a ..."
>> Based on his "designs", which don't seem to exist except as whimsical
>> nonsense, I would wager large amounts of cash that you couldn't possibly
>> have a QSO with him.
>>
>> tom
>> K0TAR
>
> Purely as a matter of interest how much is your large amount of cash?
>
> Jaro

Larger by far than your contributions to this newsgroup. Which so far
have been zero, since all you do is snipe.

tom
K0TAR

830. Re: antenna type question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 03:56:10 UTC
From: Topaz305rk <navajomt@nemont.net>
Message-ID: <95Sdnf5eopl8aD_WnZ2dnUVZ_rOdnZ2d@vnet-inc.com>
Source record: 10630

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:hnt9bo$jc68$1@tr22n12.aset.psu.edu...
> Hey all,
>
> There was a type of antenna that I remember from when I was a young'un,
> but I cannot remember the type that it was.
>
> It was a directional antenna, and had three vertical sections, I'm
> assuming they were dipoles, but am not even sure of that. These verticals
> were arranged in a Y pattern, and were apparently electronically or
> electrically switched to modify the directivity. The ones I knew about
> were all cut for 27 MHz, but the specific frequency isn't important at
> this point.
>
> Anyone have an idea what this type of antenna was called?. A big bonus
> would be if anyone knew about the design of such a beast or a reference to
> the design.
>
> - 73 de Mike N3LI -

Also sounds like the old CB Moonraker.
Still have one in the basement.
It was electrically switched.
Also still have the controller.
Still want to cut if for 10 meters.
Now that the sun spots are on the way back may have to put it on the front
burner.

Sam - K7SAM

831. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 04:08:52 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <82901c36-2ae6-4d01-9ded-24e2dcb8aa9a@b30g2000yqd.googlegroups.com>
Source record: 10631

On Mar 18, 9:58 pm, tom <news4...@taring.org> wrote:
> jaroslav lipka wrote:
> > On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
> >> Bill wrote:
> >>> Has anybody ever had a QSL with Art?
> >>> "Antenna here is a ..."
> >> Based on his "designs", which don't seem to exist except as whimsical
> >> nonsense, I would wager large amounts of cash that you couldn't possibly
> >> have a QSO with him.
>
> >> tom
> >> K0TAR
>
> > Purely as a matter of interest how much is your large amount of cash?
>
> > Jaro
>
> Larger by far than your contributions to this newsgroup. Which so far
> have been zero, since all you do is snipe.
>
> tom
> K0TAR

Large amount of cash! How much and when? Who holds the cash?

832. Re: Lossy Coax: how is energy lost ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 06:23:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <IPKdnRhDuajrhT7WnZ2dnUVZ_qmdnZ2d@giganews.com>
Source record: 10632

Jim Lux wrote:
> From
> http://www.k6mhe.com/n7ws/
>
> http://www.k6mhe.com/n7ws/Ladder_Line.pdf talks about measurements on
> wet and dry ladderline
> http://www.k6mhe.com/n7ws/LadderLineUpdate.PDF

Also see http://eznec.com/Amateur/Articles/Portable_Feed_Lines.pdf.

Roy Lewallen, W7EL

833. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 09:58:37 UTC
From: amdx <amdx@knology.net>
Message-ID: <3e0f2$4ba439ea$18ec6dd7$17460@KNOLOGY.NET>
Source record: 10651
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:7308q59vojspca1bg92aalaffu7aoung8o@4ax.com...
> On Fri, 19 Mar 2010 17:42:15 -0500, "amdx" <amdx@knology.net> wrote:
>
>> Richard, after I read your letter I did a little better checking and
>> found
>>my signal is not weak it is to strong, I'm getting interference from other
>>frequencies.
>>Also I get stations on the wrong frequency.
>> I went out and collapsed the antenna to minimum about 1/3 of what it was
>>and
>>my problem station is perfect and the other station I listen to is still
>>good. The local
>>NPR station isn't good though. But I can download the podcast of Science
>>Friday :-)
>> Thanks, Mike
>
> Hi Mike,
>
> Normally, a too strong signal is not a problem with FM as FM literally
> locks onto the strongest signal and rejects the competitors. This is
> not a characteristic of the RF wave, but rather the modulation
> employed.
>
> Collapsing your antenna is the same thing as moving it.
>
> Now, as to your experience of receiving signals on the wrong
> frequency, that is a classic situation of image rejection being poor
> due to the lack of a tuned front-end (something that dissappeared with
> the dinosaurs). If I were to guess on the basis of 40 year old
> experience fixing these suckers, your off-frequency signals are
> probably shifted by twice the IF frequency of your receiver. The
> classical FM IF frequency of 10.7 MHz might apply, but time has
> marched on and designers may select their own. This old standard
> would argue that you shouldn't experience images except where they
> would be out-of-band (the 88-107 band with this IF would force that).
> A simple test is to tune into at least two of these off-frequency
> stations, note what frequency they should be and subtract the
> frequency where they appear. If you are having image issues (no, this
> is not a self-help hint), the two or more stations should come up with
> the same differences.
>
> If you come up with the same number, AND you have trouble with

> interference from adjacent stations (there are guard bands to prevent
> this), THEN you have one crappy receiver.
>
> 73's
> Richard Clark, KB7QHC

The receiver is an undercounter mounting Sony AM/FM, radio with CD.
Nothing great, but Sony ususally does a fair job.
Mike

834. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 13:21:09 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <27b5c046-222d-4f0a-be20-e8daca73bb5d@p3g2000pra.googlegroups.com>
Source record: 10633

On Mar 19, 10:58 am, tom <news4...@taring.org> wrote:
> jaroslav lipka wrote:
> > On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
> >> Bill wrote:
> >>> Has anybody ever had a QSL with Art?
> >>> "Antenna here is a ..."
> >> Based on his "designs", which don't seem to exist except as whimsical
> >> nonsense, I would wager large amounts of cash that you couldn't possibly
> >> have a QSO with him.
>
> >> tom
> >> K0TAR
>
> > > Purely as a matter of interest how much is your large amount of cash?
>
> > > Jaro
>
> Larger by far than your contributions to this newsgroup. Which so far
> have been zero, since all you do is snipe.
>
> tom
> K0TAR

Pot - Kettle - Black ?

I ask again, How much?

Jaro

835. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 16:17:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1s87q5le3b494oddbo3kgnkuesimenob6m@4ax.com>
Source record: 10634

On Fri, 19 Mar 2010 06:21:09 -0700 (PDT), jaroslav lipka
<jarolipka@gmail.com> wrote:

> I ask again, How much?

If you have a dog in this fight, how much are you willing to cover?

73's
Richard Clark, KB7QHC

836. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 19:43:48 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e64dc1ed-a4f7-4093-888e-70f60335c2fb@t23g2000yqt.googlegroups.com>
Source record: 10635

On Mar 18, 9:50 pm, jaroslav lipka <jaroli...@gmail.com> wrote:
> On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
>
> > Bill wrote:
> > > Has anybody ever had a QSL with Art?
>
> > > "Antenna here is a ..."
>
> > Based on his "designs", which don't seem to exist except as whimsical
> > nonsense, I would wager large amounts of cash that you couldn't possibly
> > have a QSO with him.
>
> > tom
> > K0TAR
>
> Purely as a matter of interest how much is your large amount of cash?
>
> Jaro

I would have a qso with anybody for a large amount of cash but the
fact is when they hear me they would not answer so they don't have to
pay out.!
They are not men or women of honour, they are losers.
Look at the last 40 posts made by K0TAR and make your own decision as
to what sort of idiot he is! He is not here to provide technical info
in any way, just gutter talk.
Was it not you that was willing to put up $1000 a year ago which I
also wanted a piece of
and they all ran away? As I said, they are not women of honour.

837. FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 20:22:42 UTC
From: amdx <amdx@knology.net>
Message-ID: <38ac2$4ba3dd17$18d66003$24141@KNOLOGY.NET>
Source record: 10636
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

I have an FM radio inside an aluminum boat. The radio worked ok with the
AC cord as the antenna but I got interference when I used my laptop.
I found the circuit that ran from the power transformer to the antenna input
on the
FM IC. I installed a connector that is used on car radios and wired the
center pin
to the foil that went to the FM IC (capacitor on pcb isolated) and the
shield side to
dc ground near the IC. I then plugged in a telescoping car antenna and it
worked
great on the bench .
So I installed the antenna on the outside of the boat and the radio inside,
now one station I listen to is weak, but if I unplug the antenna and let the
center pin touch ground of the connector on the radio it comes in great.
Just curious why it is working this way.
BTW, the mod did cure the computer hash.
Mike

838. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 21:26:50 UTC
From: nm5k@wt.net
Message-ID: <a7ccbd4b-7d5c-456a-8f45-0fd2e482b273@q15g2000yqj.googlegroups.com>
Source record: 10637

On Mar 19, 2:43 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 18, 9:50 pm, jaroslav lipka <jaroli...@gmail.com> wrote:
>
>
>
> > On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
>
> > > Bill wrote:
> > > > Has anybody ever had a QSL with Art?
>
> > > > "Antenna here is a ..."
>
> > > Based on his "designs", which don't seem to exist except as whimsical
> > > nonsense, I would wager large amounts of cash that you couldn't possibly
> > > have a QSO with him.
>
> > > tom
> > > K0TAR
>
> > Purely as a matter of interest how much is your large amount of cash?
>
> > Jaro
>
> I would have a qso with anybody for a large amount of cash but the
> fact is when they hear me they would not answer so they don't have to
> pay out.!

I don't see what it would prove. It's a known fact that people
have made contacts using dummy loads for years.
I myself once had a qso using a light bulb as my antenna.
I didn't apply for a patent. I knew it was prior art. :/

839. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 21:29:50 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <ho0qbtnjv1@news.eternal-september.org>
Source record: 10638
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

amdx Inscribed thus:

> I have an FM radio inside an aluminum boat. The radio worked ok with
> the AC cord as the antenna but I got interference when I used my
> laptop. I found the circuit that ran from the power transformer to the
> antenna input on the
> FM IC. I installed a connector that is used on car radios and wired
> the center pin
> to the foil that went to the FM IC (capacitor on pcb isolated) and the
> shield side to
> dc ground near the IC. I then plugged in a telescoping car antenna and
> it worked
> great on the bench .
> So I installed the antenna on the outside of the boat and the radio
> inside, now one station I listen to is weak, but if I unplug the
> antenna and let the center pin touch ground of the connector on the
> radio it comes in great. Just curious why it is working this way.
> BTW, the mod did cure the computer hash.
> Mike

Sounds as if the antenna is fed with co-ax and has too much capacitance
across the input. Put a trimmer capacitor in series with the centre
pin and see if that improves things. Try 2-20 or 5-50pf.

--
Best Regards:
Baron.

840. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 22:19:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com>
Source record: 10639
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:

>So I installed the antenna on the outside of the boat and the radio inside,
>now one station I listen to is weak, but if I unplug the antenna and let the
>center pin touch ground of the connector on the radio it comes in great.
>Just curious why it is working this way.

Hi Mike,

You moved the antenna.

Most loss of signal as you describe comes from not being a weak
signal, but the mixture of signals that combine negatively at some
spot due to multiple reflections. When you replaced the line cord as
antenna for this better implementation, you also found that "sour (not
sweet) spot." This can occur for any frequency with the equal
likelihood of reflections combining negatively. Move your antenna a
quarter wave and see what happens.

Your description of your having an aluminum boat almost guarantees a
multitude of RF-bright reflections. At short wavelengths, this also
guarantees many, many regions that will exhibit destructive (as well
as constructive) combinations of those reflections.

Put your antenna as far away from the superstructure or hull as
possible. This will reduce the reflection path differences.

> BTW, the mod did cure the computer hash.
> Mike

FM has what is called a "full quieting" effect. It would suggest that
your first signal levels were just barely above the level of full
quiet (and perhaps not even that good).

73's
Richard Clark, KB7QHC

841. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 22:42:15 UTC
From: amdx <amdx@knology.net>
Message-ID: <ded56$4ba3fde7$4501398d$32091@KNOLOGY.NET>
Source record: 10640
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
>
>>So I installed the antenna on the outside of the boat and the radio
>>inside,
>>now one station I listen to is weak, but if I unplug the antenna and let
>>the
>>center pin touch ground of the connector on the radio it comes in great.
>>Just curious why it is working this way.
>
> Hi Mike,
>
> You moved the antenna.
>
> Most loss of signal as you describe comes from not being a weak
> signal, but the mixture of signals that combine negatively at some
> spot due to multiple reflections. When you replaced the line cord as
> antenna for this better implementation, you also found that "sour (not
> sweet) spot." This can occur for any frequency with the equal
> likelihood of reflections combining negatively. Move your antenna a
> quarter wave and see what happens.
>
> Your description of your having an aluminum boat almost guarantees a
> multitude of RF-bright reflections. At short wavelengths, this also
> guarantees many, many regions that will exhibit destructive (as well
> as constructive) combinations of those reflections.
>
> Put your antenna as far away from the superstructure or hull as
> possible. This will reduce the reflection path differences.
>
>> BTW, the mod did cure the computer hash.
>> Mike
>
> FM has what is called a "full quieting" effect. It would suggest that
> your first signal levels were just barely above the level of full
> quiet (and perhaps not even that good).
>
> 73's
> Richard Clark, KB7QHC
Richard, after I read your letter I did a little better checking and found
my signal is not weak it is to strong, I'm getting interference from other
frequencies.

Also I get stations on the wrong frequency.
I went out and collapsed the antenna to minimum about 1/3 of what it was and
my problem station is perfect and the other station I listen to is still good. The local
NPR station isn't good though. But I can download the podcast of Science Friday :-)
Thanks, Mike

842. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 23:12:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7308q59vojspca1bg92aalaffu7aoung8o@4ax.com>
Source record: 10641
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Fri, 19 Mar 2010 17:42:15 -0500, "amdx" <amdx@knology.net> wrote:

> Richard, after I read your letter I did a little better checking and found
>my signal is not weak it is to strong, I'm getting interference from other
>frequencies.
>Also I get stations on the wrong frequency.
> I went out and collapsed the antenna to minimum about 1/3 of what it was
>and
>my problem station is perfect and the other station I listen to is still
>good. The local
>NPR station isn't good though. But I can download the podcast of Science
>Friday :-)
> Thanks, Mike

Hi Mike,

Normally, a too strong signal is not a problem with FM as FM literally locks onto the strongest signal and rejects the competitors. This is not a characteristic of the RF wave, but rather the modulation employed.

Collapsing your antenna is the same thing as moving it.

Now, as to your experience of receiving signals on the wrong frequency, that is a classic situation of image rejection being poor due to the lack of a tuned front-end (something that dissappeared with the dinosaurs). If I were to guess on the basis of 40 year old experience fixing these suckers, your off-frequency signals are probably shifted by twice the IF frequency of your receiver. The classical FM IF frequency of 10.7 MHz might apply, but time has marched on and designers may select their own. This old standard would argue that you shouldn't experience images except where they would be out-of-band (the 88-107 band with this IF would force that). A simple test is to tune into at least two of these off-frequency stations, note what frequency they should be and subtract the frequency where they appear. If you are having image issues (no, this is not a self-help hint), the two or more stations should come up with the same differences.

If you come up with the same number, AND you have trouble with interference from adjacent stations (there are guard bands to prevent this), THEN you have one crappy receiver.

73's
Richard Clark, KB7QHC

843. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 23:13:09 UTC
From: Joerg <invalid@invalid.invalid>
Message-ID: <80ieogFhe0U1@mid.individual.net>
Source record: 10642
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

amdx wrote:
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
>>
>>> So I installed the antenna on the outside of the boat and the radio
>>> inside,
>>> now one station I listen to is weak, but if I unplug the antenna and let
>>> the
>>> center pin touch ground of the connector on the radio it comes in great.
>>> Just curious why it is working this way.
>> Hi Mike,
>>
>> You moved the antenna.
>>
>> Most loss of signal as you describe comes from not being a weak
>> signal, but the mixture of signals that combine negatively at some
>> spot due to multiple reflections. When you replaced the line cord as
>> antenna for this better implementation, you also found that "sour (not
>> sweet) spot." This can occur for any frequency with the equal
>> likelihood of reflections combining negatively. Move your antenna a
>> quarter wave and see what happens.
>>
>> Your description of your having an aluminum boat almost guarantees a
>> multitude of RF-bright reflections. At short wavelengths, this also
>> guarantees many, many regions that will exhibit destructive (as well
>> as constructive) combinations of those reflections.
>>
>> Put your antenna as far away from the superstructure or hull as
>> possible. This will reduce the reflection path differences.
>>
>>> BTW, the mod did cure the computer hash.
>>> Mike
>> FM has what is called a "full quieting" effect. It would suggest that
>> your first signal levels were just barely above the level of full
>> quiet (and perhaps not even that good).
>>
>> 73's
>> Richard Clark, KB7QHC
> Richard, after I read your letter I did a little better checking and found
> my signal is not weak it is to strong, I'm getting interference from other
> frequencies.
> Also I get stations on the wrong frequency.

> I went out and collapsed the antenna to minimum about 1/3 of what it was
> and
> my problem station is perfect and the other station I listen to is still
> good. The local
> NPR station isn't good though. But I can download the podcast of Science
> Friday :-)
> Thanks, Mike
>

The usual, lousy FM tuner. They don't make'em like they used to. It's
the same with television sets, one large signal and they fall off the
rocker.

If you have a radio with a signal strength meter you could notch out a
strong station. But that only works it it's just one and far away from
the NPR frequency. The only other options are to get a better radio, a
directional antenna, or just live with it and use the podcast.

--
Regards, Joerg

http://www.analogconsultants.com/

"gmail" domain blocked because of excessive spam.
Use another domain or send PM.

844. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 23:16:37 UTC
From: Joerg <invalid@invalid.invalid>
Message-ID: <80ieuvFhe0U2@mid.individual.net>
Source record: 10643
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

Richard Clark wrote:
> On Fri, 19 Mar 2010 17:42:15 -0500, "amdx" <amdx@knology.net> wrote:
>
>> Richard, after I read your letter I did a little better checking and found
>> my signal is not weak it is to strong, I'm getting interference from other
>> frequencies.
>> Also I get stations on the wrong frequency.
>> I went out and collapsed the antenna to minimum about 1/3 of what it was
>> and
>> my problem station is perfect and the other station I listen to is still
>> good. The local
>> NPR station isn't good though. But I can download the podcast of Science
>> Friday :-)
>> Thanks, Mike
>
> Hi Mike,
>
> Normally, a too strong signal is not a problem with FM as FM literally
> locks onto the strongest signal and rejects the competitors. This is
> not a characteristic of the RF wave, but rather the modulation
> employed.
>
> Collapsing your antenna is the same thing as moving it.
>
> Now, as to your experience of receiving signals on the wrong
> frequency, that is a classic situation of image rejection being poor
> due to the lack of a tuned front-end (something that dissappeared with
> the dinosaurs). ...

One solution: Try to get an old Becker car radio. And I mean old, at
least 40 year, the first transistorized ones that could still be
switched to 6V. They used to be standard issue in Mercedes Benzes.

[...]

--
Regards, Joerg

http://www.analogconsultants.com/

"gmail" domain blocked because of excessive spam.
Use another domain or send PM.

845. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-19 23:43:38 UTC
From: amdx <amdx@knology.net>
Message-ID: <60008$4ba4fb45$18ec6dd7$28343@KNOLOGY.NET>
Source record: 10662
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

```
"Joerg" <invalid@invalid.invalid> wrote in message
news:80k99tFltnU1@mid.individual.net...
> amdx wrote:
>> "Joerg" <invalid@invalid.invalid> wrote in message
>> news:80ieogFhe0U1@mid.individual.net...
>>> amdx wrote:
>>>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
>>>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
>>>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
>>>>>
>>>>>> So I installed the antenna on the outside of the boat and the radio
>>>>>> inside,
>>>>>> now one station I listen to is weak, but if I unplug the antenna and
>>>>>> let the
>>>>>> center pin touch ground of the connector on the radio it comes in
>>>>>> great.
>>>>>> Just curious why it is working this way.
>>>>> Hi Mike,
>>>>>
>>>>> You moved the antenna.
>>>>>
>>>>> Most loss of signal as you describe comes from not being a weak
>>>>> signal, but the mixture of signals that combine negatively at some
>>>>> spot due to multiple reflections. When you replaced the line cord as
>>>>> antenna for this better implementation, you also found that "sour (not
>>>>> sweet) spot." This can occur for any frequency with the equal
>>>>> likelihood of reflections combining negatively. Move your antenna a
>>>>> quarter wave and see what happens.
>>>>>
>>>>> Your description of your having an aluminum boat almost guarantees a
>>>>> multitude of RF-bright reflections. At short wavelengths, this also
>>>>> guarantees many, many regions that will exhibit destructive (as well
>>>>> as constructive) combinations of those reflections.
>>>>>
>>>>> Put your antenna as far away from the superstructure or hull as
>>>>> possible. This will reduce the reflection path differences.
>>>>>
>>>>>> BTW, the mod did cure the computer hash.
>>>>>> Mike
>>>>> FM has what is called a "full quieting" effect. It would suggest that
>>>>> your first signal levels were just barely above the level of full
>>>>> quiet (and perhaps not even that good).
>>>>>
```

>>>>> 73's
>>>>> Richard Clark, KB7QHC
>>>> Richard, after I read your letter I did a little better checking and
>>>> found
>>>> my signal is not weak it is to strong, I'm getting interference from
>>>> other frequencies.
>>>> Also I get stations on the wrong frequency.
>>>> I went out and collapsed the antenna to minimum about 1/3 of what it
>>>> was and
>>>> my problem station is perfect and the other station I listen to is
>>>> still good. The local
>>>> NPR station isn't good though. But I can download the podcast of
>>>> Science Friday :-)
>>>> Thanks, Mike
>>> The usual, lousy FM tuner. They don't make'em like they used to. It's
>>> the same with television sets, one large signal and they fall off the
>>> rocker.
>>>
>>> If you have a radio with a signal strength meter you could notch out a
>>> strong station. But that only works it it's just one and far away from
>>> the NPR frequency. The only other options are to get a better radio, a
>>> directional antenna, or just live with it and use the podcast.
>>>
>>> --
>>> Regards, Joerg
>> This morning I got on the boat and the signal that was improved to good
>> by
>> shortening the antenna is now bad. 94.5 has interference from 101.1.
>> Oh well!
>
>
> You really need a better quality radio and with radios and a lot of other
> stuff older = better :-)
>
> I mean, considering what the boat must have cost ...
>
Well the boat is a pontoon boat (maybe $6,000) that I run my business
from, my wife or I are on the boat 70 hrs a week.
The radio was fine when I used the original AC cord antenna, except when I
was on my laptop, it caused hash
in the audio. That's why I isolated the antenna from the AC, that did
eliminate the computer hash.
I have put together a car radio and wall wart that I use with a pillow
speaker at night. Maybe later I'll put
together another one for the boat.
Mike

846. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 00:54:54 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba41cdf$0$637$8046368a@newsreader.iphouse.net>
Source record: 10644

Art Unwin wrote:
> On Mar 18, 9:50 pm, jaroslav lipka <jaroli...@gmail.com> wrote:
>> On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
>>
>>> Bill wrote:
>>>> Has anybody ever had a QSL with Art?
>>>> "Antenna here is a ..."
>>> Based on his "designs", which don't seem to exist except as whimsical
>>> nonsense, I would wager large amounts of cash that you couldn't possibly
>>> have a QSO with him.
>>> tom
>>> K0TAR
>> Purely as a matter of interest how much is your large amount of cash?
>>
>> Jaro
>
> I would have a qso with anybody for a large amount of cash but the
> fact is when they hear me they would not answer so they don't have to
> pay out.!
> They are not men or women of honour, they are losers.
> Look at the last 40 posts made by K0TAR and make your own decision as
> to what sort of idiot he is! He is not here to provide technical info
> in any way, just gutter talk.
> Was it not you that was willing to put up $1000 a year ago which I
> also wanted a piece of
> and they all ran away? As I said, they are not women of honour.

I did not offer to have a QSO for cash. Obviously you cannot read.

You accuse me of being dishonorable and then call me an idiot. Quite
the gentleman.

You also say I offered 1000 dollars for something a year ago. You are
hallucinating again.

And then you give a backhanded insult to me, and to women.

You should be quite proud of yourself.

So, as I offered several days ago, and you didn't respond to, how about
a QSO on your wonder antenna?

I will require an impartial observer to give evidence that you actually
use the "Faraday Shield Thingy Antenna" you think is so wonderful, since
I also believe you not to be a man of honor.

tom
K0TAR

847. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 01:25:48 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <bb8ed4ee-8bdc-4cad-80bd-63b98eca7522@a10g2000pri.googlegroups.com>
Source record: 10645

On Mar 20, 8:54 am, tom <news4...@taring.org> wrote:
> Art Unwin wrote:
> > On Mar 18, 9:50 pm, jaroslav lipka <jaroli...@gmail.com> wrote:
> >> On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
>
> >>> Bill wrote:
> >>>> Has anybody ever had a QSL with Art?
> >>>> "Antenna here is a ..."
> >>> Based on his "designs", which don't seem to exist except as whimsical
> >>> nonsense, I would wager large amounts of cash that you couldn't possibly
> >>> have a QSO with him.
> >>> tom
> >>> K0TAR
> >> Purely as a matter of interest how much is your large amount of cash?
>
> >> Jaro
>
> > I would have a qso with anybody for a large amount of cash but the
> > fact is when they hear me they would not answer so they don't have to
> > pay out.!
> > They are not men or women of honour, they are losers.
> > Look at the last 40 posts made by K0TAR and make your own decision as
> > to what sort of idiot he is! He is not here to provide technical info
> > in any way, just gutter talk.
> > Was it not you that was willing to put up $1000 a year ago which I
> > also wanted a piece of
> > and they all ran away? As I said, they are not women of honour.
>
> I did not offer to have a QSO for cash. Obviously you cannot read.
>
> You accuse me of being dishonorable and then call me an idiot. Quite
> the gentleman.
>
> You also say I offered 1000 dollars for something a year ago. You are
> hallucinating again.
>
> And then you give a backhanded insult to me, and to women.
>
> You should be quite proud of yourself.
>
> So, as I offered several days ago, and you didn't respond to, how about
> a QSO on your wonder antenna?
>
> I will require an impartial observer to give evidence that you actually

> use the "Faraday Shield Thingy Antenna" you think is so wonderful, since
> I also believe you not to be a man of honor.
>
> tom
> K0TAR

wriggle---wriggle

Re-read your first post on this thread,
quote "I would wager large amounts of cash"

Jaro

848. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 01:37:33 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba426d8$0$637$8046368a@newsreader.iphouse.net>
Source record: 10646

```
jaroslav lipka wrote:
> On Mar 20, 8:54 am, tom <news4...@taring.org> wrote:
>> Art Unwin wrote:
>>> On Mar 18, 9:50 pm, jaroslav lipka <jaroli...@gmail.com> wrote:
>>>> On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
>>>>> Bill wrote:
>>>>>> Has anybody ever had a QSL with Art?
>>>>>> "Antenna here is a ..."
>>>>> Based on his "designs", which don't seem to exist except as whimsical
>>>>> nonsense, I would wager large amounts of cash that you couldn't possibly
>>>>> have a QSO with him.
>>>>> tom
>>>>> K0TAR
>>>> Purely as a matter of interest how much is your large amount of cash?
>>>> Jaro
>>> I would have a qso with anybody for a large amount of cash but the
>>> fact is when they hear me they would not answer so they don't have to
>>> pay out.!
>>> They are not men or women of honour, they are losers.
>>> Look at the last 40 posts made by K0TAR and make your own decision as
>>> to what sort of idiot he is! He is not here to provide technical info
>>> in any way, just gutter talk.
>>> Was it not you that was willing to put up $1000 a year ago which I
>>> also wanted a piece of
>>> and they all ran away? As I said, they are not women of honour.
>> I did not offer to have a QSO for cash. Obviously you cannot read.
>>
>> You accuse me of being dishonorable and then call me an idiot. Quite
>> the gentleman.
>>
>> You also say I offered 1000 dollars for something a year ago. You are
>> hallucinating again.
>>
>> And then you give a backhanded insult to me, and to women.
>>
>> You should be quite proud of yourself.
>>
>> So, as I offered several days ago, and you didn't respond to, how about
>> a QSO on your wonder antenna?
>>
>> I will require an impartial observer to give evidence that you actually
>> use the "Faraday Shield Thingy Antenna" you think is so wonderful, since
>> I also believe you not to be a man of honor.
>>
```

>> tom
>> K0TAR
>
> wriggle---wriggle
>
> Re-read your first post on this thread,
> quote "I would wager large amounts of cash"
>
> Jaro
>

Jaro.

Please reread all of what was in the posted sequence you are
referencing. Exactly what I wrote is near the top end of what is in
this very message.

I never offered anything to Art, I wagered that others would not be able
to have a QSO with him. Implying that they wouldn't be able to hear him
if that helps you understand.

tom
K0TAR

849. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 01:52:47 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <4c79edf0-945a-4db6-95d6-f89277feca5e@u19g2000prh.googlegroups.com>
Source record: 10647

On Mar 20, 9:37 am, tom <news4...@taring.org> wrote:
> jaroslav lipka wrote:
> > On Mar 20, 8:54 am, tom <news4...@taring.org> wrote:
> >> Art Unwin wrote:
> >>> On Mar 18, 9:50 pm, jaroslav lipka <jaroli...@gmail.com> wrote:
> >>>> On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
> >>>>> Bill wrote:
> >>>>>> Has anybody ever had a QSL with Art?
> >>>>>> "Antenna here is a ..."
> >>>>> Based on his "designs", which don't seem to exist except as whimsical
> >>>>> nonsense, I would wager large amounts of cash that you couldn't possibly
> >>>>> have a QSO with him.
> >>>>> tom
> >>>>> K0TAR
> >>>> Purely as a matter of interest how much is your large amount of cash?
> >>>> Jaro
> >>> I would have a qso with anybody for a large amount of cash but the
> >>> fact is when they hear me they would not answer so they don't have to
> >>> pay out.!
> >>> They are not men or women of honour, they are losers.
> >>> Look at the last 40 posts made by K0TAR and make your own decision as
> >>> to what sort of idiot he is! He is not here to provide technical info
> >>> in any way, just gutter talk.
> >>> Was it not you that was willing to put up $1000 a year ago which I
> >>> also wanted a piece of
> >>> and they all ran away? As I said, they are not women of honour.
> >> I did not offer to have a QSO for cash. Obviously you cannot read.
>
> >> You accuse me of being dishonorable and then call me an idiot. Quite
> >> the gentleman.
>
> >> You also say I offered 1000 dollars for something a year ago. You are
> >> hallucinating again.
>
> >> And then you give a backhanded insult to me, and to women.
>
> >> You should be quite proud of yourself.
>
> >> So, as I offered several days ago, and you didn't respond to, how about
> >> a QSO on your wonder antenna?
>
> >> I will require an impartial observer to give evidence that you actually
> >> use the "Faraday Shield Thingy Antenna" you think is so wonderful, since
> >> I also believe you not to be a man of honor.

>
> >> tom
> >> K0TAR
>
> >   wriggle---wriggle
>
> >   Re-read your first post on this thread,
> > quote "I would wager large amounts of cash"
>
> > Jaro
>
> Jaro.
>
> Please reread all of what was in the posted sequence you are
> referencing. Exactly what I wrote is near the top end of what is in
> this very message.
>
> I never offered anything to Art, I wagered that others would not be able
> to have a QSO with him. Implying that they wouldn't be able to hear him
> if that helps you understand.
>
> tom
> K0TAR

quote "I would wager large amounts of cash you couldn't
possibly
have a QSO with him"

I ask again how much is your large amount of cash?

Jaro

850. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 02:06:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba42d98$0$633$8046368a@newsreader.iphouse.net>
Source record: 10648

```
jaroslav lipka wrote:
> On Mar 20, 9:37 am, tom <news4...@taring.org> wrote:
>> jaroslav lipka wrote:
>>> On Mar 20, 8:54 am, tom <news4...@taring.org> wrote:
>>>> Art Unwin wrote:
>>>>> On Mar 18, 9:50 pm, jaroslav lipka <jaroli...@gmail.com> wrote:
>>>>>> On Mar 14, 11:38 am, tom <news4...@taring.org> wrote:
>>>>>>> Bill wrote:
>>>>>>>> Has anybody ever had a QSL with Art?
>>>>>>>> "Antenna here is a ..."
>>>>>>> Based on his "designs", which don't seem to exist except as whimsical
>>>>>>> nonsense, I would wager large amounts of cash that you couldn't possibly
>>>>>>> have a QSO with him.
>>>>>>> tom
>>>>>>> K0TAR
>>>>>> Purely as a matter of interest how much is your large amount of cash?
>>>>>> Jaro
>>>>> I would have a qso with anybody for a large amount of cash but the
>>>>> fact is when they hear me they would not answer so they don't have to
>>>>> pay out.!
>>>>> They are not men or women of honour, they are losers.
>>>>> Look at the last 40 posts made by K0TAR and make your own decision as
>>>>> to what sort of idiot he is! He is not here to provide technical info
>>>>> in any way, just gutter talk.
>>>>> Was it not you that was willing to put up $1000 a year ago which I
>>>>> also wanted a piece of
>>>>> and they all ran away? As I said, they are not women of honour.
>>>> I did not offer to have a QSO for cash. Obviously you cannot read.
>>>> You accuse me of being dishonorable and then call me an idiot. Quite
>>>> the gentleman.
>>>> You also say I offered 1000 dollars for something a year ago. You are
>>>> hallucinating again.
>>>> And then you give a backhanded insult to me, and to women.
>>>> You should be quite proud of yourself.
>>>> So, as I offered several days ago, and you didn't respond to, how about
>>>> a QSO on your wonder antenna?
>>>> I will require an impartial observer to give evidence that you actually
>>>> use the "Faraday Shield Thingy Antenna" you think is so wonderful, since
>>>> I also believe you not to be a man of honor.
>>>> tom
>>>> K0TAR
>>> wriggle---wriggle
>>> Re-read your first post on this thread,
>>> quote "I would wager large amounts of cash"
```

>>> Jaro
>> Jaro.
>>
>> Please reread all of what was in the posted sequence you are
>> referencing. Exactly what I wrote is near the top end of what is in
>> this very message.
>>
>> I never offered anything to Art, I wagered that others would not be able
>> to have a QSO with him. Implying that they wouldn't be able to hear him
>> if that helps you understand.
>>
>> tom
>> K0TAR
>
> quote "I would wager large amounts of cash you couldn't
> possibly
> have a QSO with him"
>
> I ask again how much is your large amount of cash?
>
> Jaro

GOAT

If you don't know what that means I would suggest using google.

tom
K0TAR

851. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 02:10:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba42e8d$0$633$8046368a@newsreader.iphouse.net>
Source record: 10649

```
jaroslav lipka wrote:
>
> quote "I would wager large amounts of cash you couldn't
> possibly
> have a QSO with him"
>
> I ask again how much is your large amount of cash?
>
> Jaro

Sorry, forgot to say goodbye.

PLONK!

tom
K0TAR
```

852. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 02:16:03 UTC
From: jaroslav lipka <jarolipka@gmail.com>
Message-ID: <e1b85c99-42c1-4497-b2cb-90c4ac7afad4@h35g2000pri.googlegroups.com>
Source record: 10650

```
On Mar 20, 10:10 am, tom <news4...@taring.org> wrote:
> jaroslav lipka wrote:
>
> >        quote  "I would wager large amounts of cash you couldn't
> > possibly
> > have a QSO with him"
>
> >         I ask again how much is your large amount of cash?
>
> >      Jaro
>
> Sorry, forgot to say goodbye.
>
> PLONK!
>
> tom
> K0TAR

You speak with forked tongue.

Jaro
```

853. Re: Art's quiet mesh antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 03:12:01 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <38b9aa3b-279b-43b9-8f11-cf7fc9acdd2a@z11g2000yqz.googlegroups.com>
Source record: 10652

On Mar 16, 12:06 am, Bill <k4...@arrl.net> wrote:
> > Variable capacitance antenna for multiband reception and transmission
> > <http://www.google.com/patents?id=GEsbAAAAEBAJ&dq=5,625,367>
>
> There is an amazing difference between the writing here:
>
> http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO1&Sect2=HITOFF&d=P...
>
> and the bafflegab we have been getting recently..

You would be surprised as to what a heart attack can do to you.I have seen people reduced to just a shell of their former self. My heart attack required open heart with five bypasses, then the addition of a pace maker then a removal of same when the line to my heart went septic.A bit later my gall bladder was to thin to take out via micro surgery! I think if you look around a bit more you will find people a lot worse off than me that would keep you in the business of making a laughing stock of for a long time,..... until it happens to you. When things like that happen it behooves one to try and overcome the drawbacks so that life is still worth while living. Ofcourse there are always people that are rude and sneer but you learn to get over that and keep on slogging. At the moment I am really enjoying my life and hobby and believe I am doing pretty good regardless of the rude jabbing that I am getting. So you do your thing while I continue with mine.

854. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 05:42:29 UTC
From: Phil Allison <phil_a@tpg.com.au>
Message-ID: <80j5j2FnaaU1@mid.individual.net>
Source record: 10653
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Richard Clark"
>
> Now, as to your experience of receiving signals on the wrong
> frequency, that is a classic situation of image rejection being poor
> due to the lack of a tuned front-end (something that dissappeared with
> the dinosaurs). If I were to guess on the basis of 40 year old
> experience fixing these suckers, your off-frequency signals are
> probably shifted by twice the IF frequency of your receiver. The
> classical FM IF frequency of 10.7 MHz might apply, but time has
> marched on and designers may select their own. This old standard
> would argue that you shouldn't experience images except where they
> would be out-of-band (the 88-107 band with this IF would force that).

** Hearing the same FM station at more than one spot is still possible even with a 10.7 MHz IF frequency - if the signal is very strong. The reason is harmonics of the incoming carrier generated in the RF stage interacting with harmonics of the local oscillator in the mixer.

Eg:

A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.

When the local oscillator is adjusted to 94.65 MHz, its second harmonic is 189.3 MHz.

The difference frequency is then 10.7 MHz - so goes through to the FM detector.

In this situation, the FM deviation is doubled so the recovered audio will be distorted on loud passages.

.... Phil

855. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 06:44:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8er8q511i4gl9mbgfghlaco46eqpqc1038@4ax.com>
Source record: 10654
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Sat, 20 Mar 2010 16:42:29 +1100, "Phil Allison" <phil_a@tpg.com.au>
wrote:

>** Hearing the same FM station at more than one spot is still possible even

in a very crappy receiver. It has already been said.

Not the usual quality one expects from Sony, but Mike's testimony
suggests otherwise hence we cannot discount a comb generator having
been dropped into the LO chip's place. Pity that, it must have been a
bad year.

73's
Richard Clark, KB7QHC

856. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 08:26:04 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <ho21gkkkq1@nemesis.news.neostrada.pl>
Source record: 10655
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Phil Allison" <phil_a@tpg.com.au> wrote
news:80j5j2FnaaU1@mid.individual.net...
>
> "Richard Clark"
>>
>> Now, as to your experience of receiving signals on the wrong
>> frequency, that is a classic situation of image rejection being poor
>> due to the lack of a tuned front-end (something that dissappeared with
>> the dinosaurs). If I were to guess on the basis of 40 year old
>> experience fixing these suckers, your off-frequency signals are
>> probably shifted by twice the IF frequency of your receiver. The
>> classical FM IF frequency of 10.7 MHz might apply, but time has
>> marched on and designers may select their own. This old standard
>> would argue that you shouldn't experience images except where they
>> would be out-of-band (the 88-107 band with this IF would force that).
>
>
> ** Hearing the same FM station at more than one spot is still possible
> even with a 10.7 MHz IF frequency - if the signal is very strong. The
> reason is harmonics of the incoming carrier generated in the RF stage
> interacting with harmonics of the local oscillator in the mixer.

It sound like the "Luxemburg Effect". The signal was from the dipole
antenna.
Are now the FM stations which use the dipoles?
>
> Eg:
>
> A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>
> When the local oscillator is adjusted to 94.65 MHz, its second harmonic is
> 189.3 MHz.
>
> The difference frequency is then 10.7 MHz - so goes through to the FM
> detector.
>
> In this situation, the FM deviation is doubled so the recovered audio will
> be distorted on loud passages.
S*

857. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 08:33:14 UTC
From: TerryKing <terry@terryking.us>
Message-ID: <fcfd3ac9-100f-40ef-a33d-8b90a834a789@l25g2000yqd.googlegroups.com>
Source record: 10656
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

The usual solution on boats: Use a decent car radio.. Well shielded, expects outdoor antenna. Runs on 12Volts... Can be had with CD player, separate input for your Ipod etc.., good audio power to speakers etc.... And designed to work inside a metal vehicle....

858. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 13:10:14 UTC
From: Phil Allison <phil_a@tpg.com.au>
Message-ID: <ho2hfs$7bn$1@news-01.bur.connect.com.au>
Source record: 10657
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Richard Clark"
"Phil Allison"

>
>>** Hearing the same FM station at more than one spot is still possible
>>even
>
> in a very crappy receiver.

** Not by any method you alluded to - fuckwit.

It has already been said.

** But not in any detail - fuckwit.

No surprise a radio ham cunthead like YOU deleted all the facts.

Pure embarrassment to a know nothing turds like radio hams.

.... Phil

859. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 14:39:23 UTC
From: amdx <amdx@knology.net>
Message-ID: <c6a68$4ba4de27$4501398d$20415@KNOLOGY.NET>
Source record: 10658
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

```
"Joerg" <invalid@invalid.invalid> wrote in message
news:80ieogFhe0U1@mid.individual.net...
> amdx wrote:
>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
>>>
>>>> So I installed the antenna on the outside of the boat and the radio
>>>> inside,
>>>> now one station I listen to is weak, but if I unplug the antenna and
>>>> let the
>>>> center pin touch ground of the connector on the radio it comes in
>>>> great.
>>>> Just curious why it is working this way.
>>> Hi Mike,
>>>
>>> You moved the antenna.
>>>
>>> Most loss of signal as you describe comes from not being a weak
>>> signal, but the mixture of signals that combine negatively at some
>>> spot due to multiple reflections. When you replaced the line cord as
>>> antenna for this better implementation, you also found that "sour (not
>>> sweet) spot." This can occur for any frequency with the equal
>>> likelihood of reflections combining negatively. Move your antenna a
>>> quarter wave and see what happens.
>>>
>>> Your description of your having an aluminum boat almost guarantees a
>>> multitude of RF-bright reflections. At short wavelengths, this also
>>> guarantees many, many regions that will exhibit destructive (as well
>>> as constructive) combinations of those reflections.
>>>
>>> Put your antenna as far away from the superstructure or hull as
>>> possible. This will reduce the reflection path differences.
>>>
>>>> BTW, the mod did cure the computer hash.
>>>> Mike
>>> FM has what is called a "full quieting" effect. It would suggest that
>>> your first signal levels were just barely above the level of full
>>> quiet (and perhaps not even that good).
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>> Richard, after I read your letter I did a little better checking and
```

>> found
>> my signal is not weak it is to strong, I'm getting interference from
>> other frequencies.
>> Also I get stations on the wrong frequency.
>> I went out and collapsed the antenna to minimum about 1/3 of what it
>> was and
>> my problem station is perfect and the other station I listen to is still
>> good. The local
>> NPR station isn't good though. But I can download the podcast of Science
>> Friday :-)
>> Thanks, Mike
>
> The usual, lousy FM tuner. They don't make'em like they used to. It's the
> same with television sets, one large signal and they fall off the rocker.
>
> If you have a radio with a signal strength meter you could notch out a
> strong station. But that only works it it's just one and far away from the
> NPR frequency. The only other options are to get a better radio, a
> directional antenna, or just live with it and use the podcast.
>
> --
> Regards, Joerg
This morning I got on the boat and the signal that was improved to good by
shortening the antenna is now bad. 94.5 has interference from 101.1.
Oh well!
Mike

860. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 15:52:19 UTC
From: Joerg <invalid@invalid.invalid>
Message-ID: <80k99tFltnU1@mid.individual.net>
Source record: 10659
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

amdx wrote:
> "Joerg" <invalid@invalid.invalid> wrote in message
> news:80ieogFhe0U1@mid.individual.net...
>> amdx wrote:
>>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
>>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
>>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
>>>>
>>>>> So I installed the antenna on the outside of the boat and the radio
>>>>> inside,
>>>>> now one station I listen to is weak, but if I unplug the antenna and
>>>>> let the
>>>>> center pin touch ground of the connector on the radio it comes in
>>>>> great.
>>>>> Just curious why it is working this way.
>>>> Hi Mike,
>>>>
>>>> You moved the antenna.
>>>>
>>>> Most loss of signal as you describe comes from not being a weak
>>>> signal, but the mixture of signals that combine negatively at some
>>>> spot due to multiple reflections. When you replaced the line cord as
>>>> antenna for this better implementation, you also found that "sour (not
>>>> sweet) spot." This can occur for any frequency with the equal
>>>> likelihood of reflections combining negatively. Move your antenna a
>>>> quarter wave and see what happens.
>>>>
>>>> Your description of your having an aluminum boat almost guarantees a
>>>> multitude of RF-bright reflections. At short wavelengths, this also
>>>> guarantees many, many regions that will exhibit destructive (as well
>>>> as constructive) combinations of those reflections.
>>>>
>>>> Put your antenna as far away from the superstructure or hull as
>>>> possible. This will reduce the reflection path differences.
>>>>
>>>>> BTW, the mod did cure the computer hash.
>>>>> Mike
>>>> FM has what is called a "full quieting" effect. It would suggest that
>>>> your first signal levels were just barely above the level of full
>>>> quiet (and perhaps not even that good).
>>>>
>>>> 73's
>>>> Richard Clark, KB7QHC

>>> Richard, after I read your letter I did a little better checking and
>>> found
>>> my signal is not weak it is to strong, I'm getting interference from
>>> other frequencies.
>>> Also I get stations on the wrong frequency.
>>> I went out and collapsed the antenna to minimum about 1/3 of what it
>>> was and
>>> my problem station is perfect and the other station I listen to is still
>>> good. The local
>>> NPR station isn't good though. But I can download the podcast of Science
>>> Friday :-)
>>> Thanks, Mike
>> The usual, lousy FM tuner. They don't make'em like they used to. It's the
>> same with television sets, one large signal and they fall off the rocker.
>>
>> If you have a radio with a signal strength meter you could notch out a
>> strong station. But that only works it it's just one and far away from the
>> NPR frequency. The only other options are to get a better radio, a
>> directional antenna, or just live with it and use the podcast.
>>
>> --
>> Regards, Joerg
> This morning I got on the boat and the signal that was improved to good by
> shortening the antenna is now bad. 94.5 has interference from 101.1.
> Oh well!

You really need a better quality radio and with radios and a lot of
other stuff older = better :-)

I mean, considering what the boat must have cost ...

--
Regards, Joerg

http://www.analogconsultants.com/

"gmail" domain blocked because of excessive spam.
Use another domain or send PM.

861. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 16:25:48 UTC
From: Joerg <invalid@invalid.invalid>
Message-ID: <80kb8mFud7U3@mid.individual.net>
Source record: 10660
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

amdx wrote:
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:7308q59vojspca1bg92aalaffu7aoung8o@4ax.com...
>> On Fri, 19 Mar 2010 17:42:15 -0500, "amdx" <amdx@knology.net> wrote:
>>
>>> Richard, after I read your letter I did a little better checking and
>>> found
>>> my signal is not weak it is to strong, I'm getting interference from other
>>> frequencies.
>>> Also I get stations on the wrong frequency.
>>> I went out and collapsed the antenna to minimum about 1/3 of what it was
>>> and
>>> my problem station is perfect and the other station I listen to is still
>>> good. The local
>>> NPR station isn't good though. But I can download the podcast of Science
>>> Friday :-)
>>> Thanks, Mike
>> Hi Mike,
>>
>> Normally, a too strong signal is not a problem with FM as FM literally
>> locks onto the strongest signal and rejects the competitors. This is
>> not a characteristic of the RF wave, but rather the modulation
>> employed.
>>
>> Collapsing your antenna is the same thing as moving it.
>>
>> Now, as to your experience of receiving signals on the wrong
>> frequency, that is a classic situation of image rejection being poor
>> due to the lack of a tuned front-end (something that dissappeared with
>> the dinosaurs). If I were to guess on the basis of 40 year old
>> experience fixing these suckers, your off-frequency signals are
>> probably shifted by twice the IF frequency of your receiver. The
>> classical FM IF frequency of 10.7 MHz might apply, but time has
>> marched on and designers may select their own. This old standard
>> would argue that you shouldn't experience images except where they
>> would be out-of-band (the 88-107 band with this IF would force that).
>> A simple test is to tune into at least two of these off-frequency
>> stations, note what frequency they should be and subtract the
>> frequency where they appear. If you are having image issues (no, this
>> is not a self-help hint), the two or more stations should come up with
>> the same differences.
>>
>> If you come up with the same number, AND you have trouble with

>> interference from adjacent stations (there are guard bands to prevent
>> this), THEN you have one crappy receiver.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> The receiver is an undercounter mounting Sony AM/FM, radio with CD.
> Nothing great, but Sony ususally does a fair job.
> Mike
>

I have learned not to trust any radio that's newer than 30 years,
whether name-brand or not. And that's from experience. Unless it is from
companies like Icom.

--
Regards, Joerg

http://www.analogconsultants.com/

"gmail" domain blocked because of excessive spam.
Use another domain or send PM.

862. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-20 16:30:03 UTC
From: Joerg <invalid@invalid.invalid>
Message-ID: <80kbglFud7U4@mid.individual.net>
Source record: 10661
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

TerryKing wrote:
> The usual solution on boats: Use a decent car radio.. Well shielded,
> expects outdoor antenna. Runs on 12Volts... Can be had with CD player,
> separate input for your Ipod etc.., good audio power to speakers
> etc.... And designed to work inside a metal vehicle....
>

Best of all, it can be bolted down. That's really important on a boat.
However, many newer car radios (newer as in "last 20-30 years") don't
have very good tuners. Best to get one from the era of Ge-transistors,
those radios were usually good.

Better yet, get an Icom, Yeasu or whatever comms receiver. Most have a
WFM setting. Ok, no stereo sound but one can easily listen to NOAA
radio, ship-to-shore channels and so on.

--
Regards, Joerg

http://www.analogconsultants.com/

"gmail" domain blocked because of excessive spam.
Use another domain or send PM.

863. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 01:40:56 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <4BA57928.D0CDC0D1@earthlink.net>
Source record: 10663
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

Joerg wrote:
>
> amdx wrote:
> > "Joerg" <invalid@invalid.invalid> wrote in message
> > news:80ieogFhe0U1@mid.individual.net...
> >> amdx wrote:
> >>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> >>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
> >>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
> >>>>
> >>>>> So I installed the antenna on the outside of the boat and the radio
> >>>>> inside,
> >>>>> now one station I listen to is weak, but if I unplug the antenna and
> >>>>> let the
> >>>>> center pin touch ground of the connector on the radio it comes in
> >>>>> great.
> >>>>> Just curious why it is working this way.
> >>>> Hi Mike,
> >>>>
> >>>> You moved the antenna.
> >>>>
> >>>> Most loss of signal as you describe comes from not being a weak
> >>>> signal, but the mixture of signals that combine negatively at some
> >>>> spot due to multiple reflections. When you replaced the line cord as
> >>>> antenna for this better implementation, you also found that "sour (not
> >>>> sweet) spot." This can occur for any frequency with the equal
> >>>> likelihood of reflections combining negatively. Move your antenna a
> >>>> quarter wave and see what happens.
> >>>>
> >>>> Your description of your having an aluminum boat almost guarantees a
> >>>> multitude of RF-bright reflections. At short wavelengths, this also
> >>>> guarantees many, many regions that will exhibit destructive (as well
> >>>> as constructive) combinations of those reflections.
> >>>>
> >>>> Put your antenna as far away from the superstructure or hull as
> >>>> possible. This will reduce the reflection path differences.
> >>>>
> >>>>> BTW, the mod did cure the computer hash.
> >>>>> Mike
> >>>> FM has what is called a "full quieting" effect. It would suggest that
> >>>> your first signal levels were just barely above the level of full
> >>>> quiet (and perhaps not even that good).
> >>>>

> >>>> 73's
> >>>> Richard Clark, KB7QHC
> >>> Richard, after I read your letter I did a little better checking and
> >>> found
> >>> my signal is not weak it is to strong, I'm getting interference from
> >>> other frequencies.
> >>> Also I get stations on the wrong frequency.
> >>> I went out and collapsed the antenna to minimum about 1/3 of what it
> >>> was and
> >>> my problem station is perfect and the other station I listen to is still
> >>> good. The local
> >>> NPR station isn't good though. But I can download the podcast of Science
> >>> Friday :-)
> >>> Thanks, Mike
> >> The usual, lousy FM tuner. They don't make'em like they used to. It's the
> >> same with television sets, one large signal and they fall off the rocker.
> >>
> >> If you have a radio with a signal strength meter you could notch out a
> >> strong station. But that only works it it's just one and far away from the
> >> NPR frequency. The only other options are to get a better radio, a
> >> directional antenna, or just live with it and use the podcast.
> >>
> >> --
> >> Regards, Joerg
> > This morning I got on the boat and the signal that was improved to good by
> > shortening the antenna is now bad. 94.5 has interference from 101.1.
> > Oh well!
>
> You really need a better quality radio and with radios and a lot of
> other stuff older = better :-)
>
> I mean, considering what the boat must have cost ...

Or a tuned trap to reduce the signal from that one station.

--
Lead free solder is Belgium's version of 'Hold my beer and watch this!'

864. Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 04:49:42 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d8484c08-9c23-478b-b58b-acc49ddccc83@e1g2000yqh.googlegroups.com>
Source record: 10664

If on places a am/fm radio inside a box made of thin aluminum foil the
radio will be able to hear am broadcast band but not the fm band.
(Experiment by Harvard in Boston)
Intuition tells me that when using a perforated plate the lower the
frequency then the smaller the perforations in the shield to create a
blocking effect. This would, I believe, opposes the progression of
skin depth with respect to frequency.
The books state for a mesh shield the perforations should be less
than 1/10 of a WL which on the surface opposes the results obtained by
the box experiment! Is the difference involved with calculations
changes for sheets that are thinner than skin depth such as circuit
board traces or something else?
Where has my intuition gone wrong in opposing the books?

865. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 10:42:22 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <ho4t6e$2oa$1@speranza.aioe.org>
Source record: 10665

Art Unwin wrote:
> If on places a am/fm radio inside a box made of thin aluminum foil the
> radio will be able to hear am broadcast band but not the fm band.
> (Experiment by Harvard in Boston)

Yes, because the attenuation from an enclosure is made up of a
reflection loss and an absorption loss. The absorption loss is
proportional to both the thickness of the material and the frequency (
amongst other things). So a thin shield will have less attenuation at
low frequencies.

> Intuition tells me that when using a perforated plate the lower the
> frequency then the smaller the perforations in the shield to create a
> blocking effect. This would, I believe, opposes the progression of
> skin depth with respect to frequency.

Why does intuition tell you that? My intuition tells me that you need
smaller holes as you increase the frequency?

Also when you refer to the size of holes are you referring to their
diameter, spacing or both?

> The books state for a mesh shield the perforations should be less
> than 1/10 of a WL which on the surface opposes the results obtained by
> the box experiment!

Why? The box had no holes! Adding holes will just degrade the screening
from the starting point of a continuous screen. The larger the
diameter of the holes the worse the screening will be degraded at a
particular frequency, and the degradation will also be proportional to
wavelength, large holes wrt wavelength, the more signal will leak through.

Jeff

866. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 11:05:07 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <3658a501-c0ef-45cf-a498-c1366603943c@b7g2000yqd.googlegroups.com>
Source record: 10666
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Mar 20, 8:26 am, Szczepan Białek <sz.bia...@wp.pl> wrote:
> "Phil Allison" <phi...@tpg.com.au> wrotenews:80j5j2FnaaU1@mid.individual.net...
>
>
>
>
>
> > "Richard Clark"
>
> >> Now, as to your experience of receiving signals on the wrong
> >> frequency, that is a classic situation of image rejection being poor
> >> due to the lack of a tuned front-end (something that dissappeared with
> >> the dinosaurs). If I were to guess on the basis of 40 year old
> >> experience fixing these suckers, your off-frequency signals are
> >> probably shifted by twice the IF frequency of your receiver. The
> >> classical FM IF frequency of 10.7 MHz might apply, but time has
> >> marched on and designers may select their own. This old standard
> >> would argue that you shouldn't experience images except where they
> >> would be out-of-band (the 88-107 band with this IF would force that).
>
> > ** Hearing the same FM station at more than one spot is still possible
> > even with a 10.7 MHz IF frequency - if the signal is very strong. The
> > reason is harmonics of the incoming carrier generated in the RF stage
> > interacting with harmonics of the local oscillator in the mixer.
>
> It sound like the "Luxemburg Effect". The signal was from the dipole
> antenna.
> Are now the FM stations which use the dipoles?
>
> > Eg:
>
> > A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>
> > When the local oscillator is adjusted to 94.65 MHz, its second harmonic is
> > 189.3 MHz.
>
> > The difference frequency is then 10.7 MHz - so goes through to the FM
> > detector.
>
> > In this situation, the FM deviation is doubled so the recovered audio will
> > be distorted on loud passages.
>
> S*

all antennas are dipoles, you just can't always see the other half.
and Luxembourg has nothing to do with it, your silly frequency
doubling notions should be packaged up in art's box and never see the
light of day.

867. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 11:07:40 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <9a75dab7-b9da-4887-9988-d04b1a8330a5@e7g2000yqf.googlegroups.com>
Source record: 10667

On Mar 21, 4:49 am, Art Unwin <arthurun...@gmail.com> wrote:
> If on places a am/fm radio inside a box made of thin aluminum foil the
> radio will be able to hear am broadcast band but not the fm band.
> (Experiment by Harvard in Boston)
> Intuition tells me that when using a perforated plate the lower the
> frequency then the smaller the perforations in the shield to create a
> blocking effect. This would, I believe, opposes the progression of
> skin depth with respect to frequency.

wrongo buzzard breath.

> The books state for a mesh shield the perforations should be less
> than 1/10 of a WL which on the surface opposes the results obtained by
> the box experiment! Is the difference involved with calculations
> changes for sheets that are thinner than skin depth such as circuit
> board traces or something else?
> Where has my intuition gone wrong in opposing the books?

everywhere, right from the beginning.

868. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 11:34:53 UTC
From: Phil Allison <phil_a@tpg.com.au>
Message-ID: <80mejrFrj0U1@mid.individual.net>
Source record: 10668
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Dave" <k1ttt@arrl.net>

all antennas are dipoles, you just can't always see the other half.
and Luxembourg has nothing to do with it, your silly frequency
doubling notions should be packaged up in art's box and never see the
light of day.

** ROTFL !!

Dave should be writing scripts for Mickey Mouse cartoons.

Cos he has the IQ of Daffy Duck.

... Phil

869. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 11:40:47 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <00a0ffe8-0434-415a-ad4d-b0cd68c81204@z3g2000yqz.googlegroups.com>
Source record: 10669
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Mar 21, 11:34 am, "Phil Allison" <phi...@tpg.com.au> wrote:
> "Dave" <k1...@arrl.net>
>
> all antennas are dipoles, you just can't always see the other half.
> and Luxembourg has nothing to do with it, your silly frequency
> doubling notions should be packaged up in art's box and never see the
> light of day.
>
> ** ROTFL !!
>
> Dave should be writing scripts for Mickey Mouse cartoons.
>
> Cos he has the IQ of Daffy Duck.
>
> ...   Phil

just trying to put it on S.B.'s level of understanding.

870. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 11:42:59 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <ho50t0jd1@atlantis.news.neostrada.pl>
Source record: 10670
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Dave" <k1ttt@arrl.net> wrote
news:3658a501-c0ef-45cf-a498-c1366603943c@b7g2000yqd.googlegroups.com...
On Mar 20, 8:26 am, Szczepan Biaďž˝ek <sz.bia...@wp.pl> wrote:
> "Phil Allison" <phi...@tpg.com.au>
> wrotenews:80j5j2FnaaU1@mid.individual.net...
>
>> > "Richard Clark"
>
>> >> Now, as to your experience of receiving signals on the wrong
> >> frequency, that is a classic situation of image rejection being poor
> >> due to the lack of a tuned front-end (something that dissappeared with
> >> the dinosaurs). If I were to guess on the basis of 40 year old
> >> experience fixing these suckers, your off-frequency signals are
> >> probably shifted by twice the IF frequency of your receiver. The
> >> classical FM IF frequency of 10.7 MHz might apply, but time has
> >> marched on and designers may select their own. This old standard
> >> would argue that you shouldn't experience images except where they
> >> would be out-of-band (the 88-107 band with this IF would force that).
>
>> > ** Hearing the same FM station at more than one spot is still possible
> > even with a 10.7 MHz IF frequency - if the signal is very strong. The
> > reason is harmonics of the incoming carrier generated in the RF stage
> > interacting with harmonics of the local oscillator in the mixer.
>
>> It sound like the "Luxembourg Effect". The signal was from the dipole
> antenna.
> Are now the FM stations which use the dipoles?
>
> > Eg:
>
>> > A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>
>> > When the local oscillator is adjusted to 94.65 MHz, its second harmonic
>> > is
> > 189.3 MHz.
>
>> > The difference frequency is then 10.7 MHz - so goes through to the FM
> > detector.
>
>> > In this situation, the FM deviation is doubled so the recovered audio
>> > will
> > be distorted on loud passages.

>all antennas are dipoles, you just can't always see the other half.

If I can't see the other half it is the monopole.
So I repeat my question: Are now the FM stations which use the dipoles?

>and Luxembourg has nothing to do with it, your silly frequency
doubling notions should be packaged up in art's box and never see the
light of day.

The dipoles have the directional pattern like this:
http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html

It looks like the interference of the many sources (dipoles have the two).

The two sources not in phase double the frequencies.
S*

871. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 12:00:02 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <406ac7eb-fa68-4c8a-9a71-0d37425f088c@z11g2000yqz.googlegroups.com>
Source record: 10671
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Mar 21, 11:42 am, Szczepan Białek <sz.bia...@wp.pl> wrote:
> "Dave" <k1...@arrl.net>
wrotenews:3658a501-c0ef-45cf-a498-c1366603943c@b7g2000yqd.googlegroups.com...
> On Mar 20, 8:26 am, Szczepan Bia ek <sz.bia...@wp.pl> wrote:
>
>
>
> > "Phil Allison" <phi...@tpg.com.au>
> > wrotenews:80j5j2FnaaU1@mid.individual.net...
>
> >> > "Richard Clark"
>
> >> >> Now, as to your experience of receiving signals on the wrong
> > >> frequency, that is a classic situation of image rejection being poor
> > >> due to the lack of a tuned front-end (something that dissappeared with
> > >> the dinosaurs). If I were to guess on the basis of 40 year old
> > >> experience fixing these suckers, your off-frequency signals are
> > >> probably shifted by twice the IF frequency of your receiver. The
> > >> classical FM IF frequency of 10.7 MHz might apply, but time has
> > >> marched on and designers may select their own. This old standard
> > >> would argue that you shouldn't experience images except where they
> > >> would be out-of-band (the 88-107 band with this IF would force that).
>
> >> > ** Hearing the same FM station at more than one spot is still possible
> > > even with a 10.7 MHz IF frequency - if the signal is very strong. The
> > > reason is harmonics of the incoming carrier generated in the RF stage
> > > interacting with harmonics of the local oscillator in the mixer.
>
> >> It sound like the "Luxembourg Effect". The signal was from the dipole
> > antenna.
> > Are now the FM stations which use the dipoles?
>
> > > Eg:
>
> >> > A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>
> >> > When the local oscillator is adjusted to 94.65 MHz, its second harmonic
> >> > is
> > > 189.3 MHz.
>
> >> > The difference frequency is then 10.7 MHz - so goes through to the FM
> > > detector.
>

> >> > In this situation, the FM deviation is doubled so the recovered audio
> >> > will
> > > be distorted on loud passages.
> >all antennas are dipoles, you just can't always see the other half.
>
> If I can't see the other half it is the monopole.
> So I repeat my question: Are now the FM stations which use the dipoles?
>
> >and Luxembourg has nothing to do with it, your silly frequency
>
> doubling notions should be packaged up in art's box and never see the
> light of day.
>
> The dipoles have the directional pattern like
this:http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html
>
> It looks like the interference of the many sources (dipoles have the two).
>
> The two sources not in phase double the frequencies.
> S*

so why when i switch my transmitter from a 'monopole' where YOU can't
see the other half to a dipole does the frequency stay the same?

872. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 12:11:24 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <ho5335$a3r$1@nemesis.news.neostrada.pl>
Source record: 10672
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Dave" <k1ttt@arrl.net> wrote
news:406ac7eb-fa68-4c8a-9a71-0d37425f088c@z11g2000yqz.googlegroups.com...
On Mar 21, 11:42 am, Szczepan Biaďż˝ek <sz.bia...@wp.pl> wrote:
> "Dave" <k1...@arrl.net>
> wrotenews:3658a501-c0ef-45cf-a498-c1366603943c@b7g2000yqd.googlegroups.com...
> On Mar 20, 8:26 am, Szczepan Bia ek <sz.bia...@wp.pl> wrote:
>
>
>
> > "Phil Allison" <phi...@tpg.com.au>
> > wrotenews:80j5j2FnaaU1@mid.individual.net...
>
> >> > "Richard Clark"
>
> >> >> Now, as to your experience of receiving signals on the wrong
> > >> frequency, that is a classic situation of image rejection being poor
> > >> due to the lack of a tuned front-end (something that dissappeared
> > >> with
> > >> the dinosaurs). If I were to guess on the basis of 40 year old
> > >> experience fixing these suckers, your off-frequency signals are
> > >> probably shifted by twice the IF frequency of your receiver. The
> > >> classical FM IF frequency of 10.7 MHz might apply, but time has
> > >> marched on and designers may select their own. This old standard
> > >> would argue that you shouldn't experience images except where they
> > >> would be out-of-band (the 88-107 band with this IF would force that).
>
> >> > ** Hearing the same FM station at more than one spot is still
> >> > possible
> > > even with a 10.7 MHz IF frequency - if the signal is very strong. The
> > > reason is harmonics of the incoming carrier generated in the RF stage
> > > interacting with harmonics of the local oscillator in the mixer.
>
> >> It sound like the "Luxembourg Effect". The signal was from the dipole
> > antenna.
> > Are now the FM stations which use the dipoles?
>
> > > Eg:
>
> >> > A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>
> >> > When the local oscillator is adjusted to 94.65 MHz, its second
> >> > harmonic
> >> > is

> > > 189.3 MHz.
>
> >> > The difference frequency is then 10.7 MHz - so goes through to the FM
> > > detector.
>
> >> > In this situation, the FM deviation is doubled so the recovered audio
> >> > will
> > > be distorted on loud passages.
> >all antennas are dipoles, you just can't always see the other half.
>
> If I can't see the other half it is the monopole.
> So I repeat my question: Are now the FM stations which use the dipoles?
>
> >and Luxembourg has nothing to do with it, your silly frequency
>
> doubling notions should be packaged up in art's box and never see the
> light of day.
>
> The dipoles have the directional pattern like
> this:http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html
>
> It looks like the interference of the many sources (dipoles have the two).
>
> The two sources not in phase double the frequencies.
> S*

>so why when i switch my transmitter from a 'monopole' where YOU can't
see the other half to a dipole does the frequency stay the same?

Your transmitter has the same but in the receiver antenna is possibility
that appear the doubled frequency.
Luxembourg effect was observed in 1930. Now radio people manage with
eliminating it.
S*

873. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 13:03:01 UTC
From: Paul Keinanen <keinanen@sci.fi>
Message-ID: <0s5cq5tmqc996k7mcbpeu8l0rthsupqrk8@4ax.com>
Source record: 10673
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Sat, 20 Mar 2010 09:26:04 +0100, Szczepan Bia?ek <sz.bialek@wp.pl>
wrote:

>It sound like the "Luxemburg Effect". The signal was from the dipole
>antenna.

The Luxemburg effect is usually contributed to the suspected Radio
Luxemburg intermodulation products caused by the _ionosphere_
nonlinearities.

Similar intermodulation effects can be obtained by the nonlinearities
caused by rusty bolts in a transmitter tower.

874. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 13:44:50 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <3a539d84-9cbf-4d6f-ad98-25583ca8a956@k4g2000prh.googlegroups.com>
Source record: 10674
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

On Mar 21, 12:11 pm, Szczepan Białek <sz.bia...@wp.pl> wrote:
> "Dave" <k1...@arrl.net>
wrotenews:406ac7eb-fa68-4c8a-9a71-0d37425f088c@z11g2000yqz.googlegroups.com...
> On Mar 21, 11:42 am, Szczepan Bia ek <sz.bia...@wp.pl> wrote:
>
>
>
> > "Dave" <k1...@arrl.net>
> > wrotenews:3658a501-c0ef-45cf-a498-c1366603943c@b7g2000yqd.googlegroups.com...
> > On Mar 20, 8:26 am, Szczepan Bia ek <sz.bia...@wp.pl> wrote:
>
> > > "Phil Allison" <phi...@tpg.com.au>
> > > wrotenews:80j5j2FnaaU1@mid.individual.net...
>
> > >> > "Richard Clark"
>
> > >> >> Now, as to your experience of receiving signals on the wrong
> > > >> frequency, that is a classic situation of image rejection being poor
> > > >> due to the lack of a tuned front-end (something that dissappeared
> > > >> with
> > > >> the dinosaurs). If I were to guess on the basis of 40 year old
> > > >> experience fixing these suckers, your off-frequency signals are
> > > >> probably shifted by twice the IF frequency of your receiver. The
> > > >> classical FM IF frequency of 10.7 MHz might apply, but time has
> > > >> marched on and designers may select their own. This old standard
> > > >> would argue that you shouldn't experience images except where they
> > > >> would be out-of-band (the 88-107 band with this IF would force that).
>
> > >> > ** Hearing the same FM station at more than one spot is still
> > >> > possible
> > > > even with a 10.7 MHz IF frequency - if the signal is very strong. The
> > > > reason is harmonics of the incoming carrier generated in the RF stage
> > > > interacting with harmonics of the local oscillator in the mixer.
>
> > >> It sound like the "Luxembourg Effect". The signal was from the dipole
> > > > antenna.
> > > > Are now the FM stations which use the dipoles?
>
> > > > > Eg:
>
> > >> > A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>
> > >> > When the local oscillator is adjusted to 94.65 MHz, its second

> > >> > harmonic
> > >> > is
> > > > 189.3 MHz.
>
> > >> > The difference frequency is then 10.7 MHz - so goes through to the FM
> > > > detector.
>
> > >> > In this situation, the FM deviation is doubled so the recovered audio
> > >> > will
> > > > be distorted on loud passages.
> > >all antennas are dipoles, you just can't always see the other half.
>
> > If I can't see the other half it is the monopole.
> > So I repeat my question: Are now the FM stations which use the dipoles?
>
> > >and Luxembourg has nothing to do with it, your silly frequency
>
> > doubling notions should be packaged up in art's box and never see the
> > light of day.
>
> > The dipoles have the directional pattern like
> > this:http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html
>
> > It looks like the interference of the many sources (dipoles have the two).
>
> > The two sources not in phase double the frequencies.
> > S*
> >so why when i switch my transmitter from a 'monopole' where YOU can't
>
> see the other half to a dipole does the frequency stay the same?
>
> Your transmitter has the same but in the receiver antenna is possibility
> that appear the doubled frequency.
> Luxembourg effect was observed in 1930. Now radio people manage with
> eliminating it.
> S*

nope, the receiver still hears the proper transmitted frequency.

875. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 14:02:27 UTC
From: joe <none@domain.invalid>
Message-ID: <ho58o5$o6p$1@speranza.aioe.org>
Source record: 10675

Szczepan Biaďż˝ek wrote:
>
> "Dave" <k1ttt@arrl.net> wrote
> news:3658a501-c0ef-45cf-a498-c1366603943c@b7g2000yqd.googlegroups.com...
> On Mar 20, 8:26 am, Szczepan Biaďż˝ek <sz.bia...@wp.pl> wrote:
>> "Phil Allison" <phi...@tpg.com.au>
>> wrotenews:80j5j2FnaaU1@mid.individual.net...
>>
>>> > "Richard Clark"
>>
>>> >> Now, as to your experience of receiving signals on the wrong
>> >> frequency, that is a classic situation of image rejection being poor
>> >> due to the lack of a tuned front-end (something that dissappeared with
>> >> the dinosaurs). If I were to guess on the basis of 40 year old
>> >> experience fixing these suckers, your off-frequency signals are
>> >> probably shifted by twice the IF frequency of your receiver. The
>> >> classical FM IF frequency of 10.7 MHz might apply, but time has
>> >> marched on and designers may select their own. This old standard
>> >> would argue that you shouldn't experience images except where they
>> >> would be out-of-band (the 88-107 band with this IF would force that).
>>
>>> > ** Hearing the same FM station at more than one spot is still possible
>> > even with a 10.7 MHz IF frequency - if the signal is very strong. The
>> > reason is harmonics of the incoming carrier generated in the RF stage
>> > interacting with harmonics of the local oscillator in the mixer.
>>
>>> It sound like the "Luxembourg Effect". The signal was from the dipole
>> antenna.
>> Are now the FM stations which use the dipoles?
>>
>> > Eg:
>>
>>> > A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>>
>>> > When the local oscillator is adjusted to 94.65 MHz, its second
>>> harmonic > is
>> > 189.3 MHz.
>>
>>> > The difference frequency is then 10.7 MHz - so goes through to the FM
>> > detector.
>>
>>> > In this situation, the FM deviation is doubled so the recovered
>>> audio > will
>> > be distorted on loud passages.

>
>> all antennas are dipoles, you just can't always see the other half.
>
> If I can't see the other half it is the monopole.
> So I repeat my question: Are now the FM stations which use the dipoles?

You significant lack of understanding of dipoles is causing you to ask
silly questions that are meaningless.

>
>
>> and Luxembourg has nothing to do with it, your silly frequency
> doubling notions should be packaged up in art's box and never see the
> light of day.
>
> The dipoles have the directional pattern like this:
> http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html
>
This shows effects over a 48:1 frequency range. The FM band represents a
1.23:1 range. The image has no bearing on the topic at hand.

> It looks like the interference of the many sources (dipoles have the two).
>
> The two sources not in phase double the frequencies.

This is completely wrong. In a _linear_ systems adding two signals
cannot create new frequencies, including doubling. In the frequency
domain this is clear. If you look in the time domain and look at zero
crossings you may be confused. Do the math for the addition of two sine
waves of different phase. Stop relying on internet images you don't
understand and may not have any relevance to the discussion.

You can do the math in the time domain, or frequency domain. Either
should tell you there is no doubling of frequencies.

In order to generate new frequencies you need to have a non-linear
effect. Addition is NOT a non-linear operation.

> S*

876. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 14:15:20 UTC
From: joe <none@domain.invalid>
Message-ID: <ho59g8plp1@speranza.aioe.org>
Source record: 10676

Art Unwin wrote:
> If on places a am/fm radio inside a box made of thin aluminum foil the
> radio will be able to hear am broadcast band but not the fm band.
> (Experiment by Harvard in Boston)

What did the Harvard experiment in Boston describe as the cause for this? Some vague reference to an experiment somewhere does not show anything. Provide a proper link if you want anyone to take the reference seriously.

> Intuition tells me that when using a perforated plate the lower the
> frequency then the smaller the perforations in the shield to create a
> blocking effect.

I believe this conflicts with your particle concepts. Why should hole size have any effect on spinning particles of different frequencies?

You position also is in conflict with general understanding. If you are correct, what hole size blocks very high frequencies. You concept would result in a simple wire frame enclosure.

> This would, I believe, opposes the progression of
> skin depth with respect to frequency.
> The books state for a mesh shield the perforations should be less
> than 1/10 of a WL which on the surface opposes the results obtained by
> the box experiment!

You may be ignoring the differences in the antennas. AM may have used a ferrite loop, while FM may have been a whip. (We don't know because you provide no details.)

Could one antenna be responding the magnetic component of the signal more than the other? (We don't know because you provide no details.)

> Is the difference involved with calculations
> changes for sheets that are thinner than skin depth such as circuit
> board traces or something else?

Type of materials, type of antenna, relative dimension may all play a factor. You need to determine all of the effects that enter into the situation and not focus on one or two.

> Where has my intuition gone wrong in opposing the books?

Probably because you don't pay attention to the details and are relying upon an understanding of the topic that is not correct.

877. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 14:17:39 UTC
From: joe <none@domain.invalid>
Message-ID: <ho59khplp2@speranza.aioe.org>
Source record: 10677

Szczepan Biaďż˝ek wrote:
>
> "Dave" <k1ttt@arrl.net> wrote
> news:406ac7eb-fa68-4c8a-9a71-0d37425f088c@z11g2000yqz.googlegroups.com...
> On Mar 21, 11:42 am, Szczepan Biaďż˝ek <sz.bia...@wp.pl> wrote:
>> "Dave" <k1...@arrl.net>
>> wrotenews:3658a501-c0ef-45cf-a498-c1366603943c@b7g2000yqd.googlegroups.com...
>>
>> On Mar 20, 8:26 am, Szczepan Bia ek <sz.bia...@wp.pl> wrote:
>>
>>
>>
>> > "Phil Allison" <phi...@tpg.com.au>
>> > wrotenews:80j5j2FnaaU1@mid.individual.net...
>>
>> >> > "Richard Clark"
>>
>> >> >> Now, as to your experience of receiving signals on the wrong
>> > >> frequency, that is a classic situation of image rejection being poor
>> > >> due to the lack of a tuned front-end (something that dissappeared
>> > >> with
>> > >> the dinosaurs). If I were to guess on the basis of 40 year old
>> > >> experience fixing these suckers, your off-frequency signals are
>> > >> probably shifted by twice the IF frequency of your receiver. The
>> > >> classical FM IF frequency of 10.7 MHz might apply, but time has
>> > >> marched on and designers may select their own. This old standard
>> > >> would argue that you shouldn't experience images except where they
>> > >> would be out-of-band (the 88-107 band with this IF would force
>> that).
>>
>> >> > ** Hearing the same FM station at more than one spot is still >>
>> > possible
>> > > even with a 10.7 MHz IF frequency - if the signal is very strong. The
>> > > reason is harmonics of the incoming carrier generated in the RF stage
>> > > interacting with harmonics of the local oscillator in the mixer.
>>
>> >> It sound like the "Luxembourg Effect". The signal was from the dipole
>> > antenna.
>> > Are now the FM stations which use the dipoles?
>>
>> > > Eg:
>>
>> >> > A 100MHz FM carrier generates a harmonic at 200MHz in the receiver.
>>

>> >> > When the local oscillator is adjusted to 94.65 MHz, its second >>
>> > harmonic
>> >> > is
>> > > 189.3 MHz.
>>
>> >> > The difference frequency is then 10.7 MHz - so goes through to
>> the FM
>> > > detector.
>>
>> >> > In this situation, the FM deviation is doubled so the recovered
>> audio
>> >> > will
>> > > be distorted on loud passages.
>> >all antennas are dipoles, you just can't always see the other half.
>>
>> If I can't see the other half it is the monopole.
>> So I repeat my question: Are now the FM stations which use the dipoles?
>>
>> >and Luxembourg has nothing to do with it, your silly frequency
>>
>> doubling notions should be packaged up in art's box and never see the
>> light of day.
>>
>> The dipoles have the directional pattern like
>> this:http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html
>>
>>
>> It looks like the interference of the many sources (dipoles have the
>> two).
>>
>> The two sources not in phase double the frequencies.
>> S*
>
>> so why when i switch my transmitter from a 'monopole' where YOU can't
> see the other half to a dipole does the frequency stay the same?
>
> Your transmitter has the same but in the receiver antenna is possibility
> that appear the doubled frequency.

> Luxembourg effect was observed in 1930. Now radio people manage with
> eliminating it.

I doubt that ionization in the atmosphere has anything to do with what
is being observed.

However, overloading or cross modulation in the receiver is much more
likely.

> S*

878. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 15:22:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d2a70e11-5bfc-42ab-9755-87768573b8da@e7g2000yqf.googlegroups.com>
Source record: 10678

On Mar 21, 5:42 am, Jeff <J...@fred.fredsystem.com> wrote:
> Art Unwin wrote:
> > If on places a am/fm radio inside a box made of thin aluminum foil the
> > radio will be able to hear am broadcast band but not the fm band.
> > (Experiment by Harvard in Boston)
>
> Yes, because the attenuation from an enclosure is made up of a
> reflection loss and an absorption loss. The absorption loss is
> proportional to both the thickness of the material and the frequency (
> amongst other things). So a thin shield will have less attenuation at
> low frequencies.

Thanks first for your thoughtful response. The article mentions only
skin depth and frequency applied so in effect frequency is the only
variable
Agreed
The above states that as you go down in frequency (a longer
wavelength) that it becomes
easier for propagation to be available at the other side. Stated
another way the deeper the
the skin depth the more penetration occurs
>
> >   Intuition tells me that when using a perforated plate the lower the
> > frequency then the smaller the perforations in the shield to create a
> > blocking effect. This would, I believe, opposes the progression of
> > skin depth with respect to frequency.
>

> Why does intuition tell you that? My intuition tells me that you need
> smaller holes as you increase the frequency?

The experiment shows that it is easier for the lower frequency to
penetrate to the other side than the higher frequency. Or another way
as you move higher in frequency a better blocking effect occurs. If I
add perforations the same progression arises with respect to hole
diameter. (Note in the experiment we only have two variables, skin
depth and frequency, everything else is seen as a constant by the
experimenter. Not knowing the thickness of the screen could possibly
bring us into the situation of circuit boards where the skin depth is
deeper than the trace thickness but that may be a red herring)
From my perspective adding holes will provide the FM wavelengths more
leverage
to penetrate to the other side!

>
> Also when you refer to the size of holes are you referring to their
> diameter, spacing or bot

I was comparing voids to bulk.

>
> >   The books state for a mesh shield the perforations should be less
> > than 1/10 of a WL which on the surface opposes the results obtained by
> > the box experiment!
>
> Why? The box had no holes! Adding holes will just degrade the screening
>   from the starting point of a continuous screen. The larger the
> diameter of the holes the worse the screening will be degraded at a
> particular frequency, and the degradation will also be proportional to
> wavelength, large holes wrt wavelength, the more signal will leak through.

agreed

> Jeff

I used the perforations as a method of reducing the screening in both
cases to make a point

Jeff, I am stating that my path of thought took me into a different
direction from the books.
Thus I have to assume that my logic or aproach is in error. The
question thus is where is my error , That is where I need direction?

879. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 15:34:07 UTC
From: Joerg <invalid@invalid.invalid>
Message-ID: <80msjiFd5mU1@mid.individual.net>
Source record: 10679
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

Michael A. Terrell wrote:
> Joerg wrote:
>> amdx wrote:
>>> "Joerg" <invalid@invalid.invalid> wrote in message
>>> news:80ieogFhe0U1@mid.individual.net...
>>>> amdx wrote:
>>>>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
>>>>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
>>>>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
>>>>>>
>>>>>>> So I installed the antenna on the outside of the boat and the radio
>>>>>>> inside,
>>>>>>> now one station I listen to is weak, but if I unplug the antenna and
>>>>>>> let the
>>>>>>> center pin touch ground of the connector on the radio it comes in
>>>>>>> great.
>>>>>>> Just curious why it is working this way.
>>>>>> Hi Mike,
>>>>>>
>>>>>> You moved the antenna.
>>>>>>
>>>>>> Most loss of signal as you describe comes from not being a weak
>>>>>> signal, but the mixture of signals that combine negatively at some
>>>>>> spot due to multiple reflections. When you replaced the line cord as
>>>>>> antenna for this better implementation, you also found that "sour (not
>>>>>> sweet) spot." This can occur for any frequency with the equal
>>>>>> likelihood of reflections combining negatively. Move your antenna a
>>>>>> quarter wave and see what happens.
>>>>>>
>>>>>> Your description of your having an aluminum boat almost guarantees a
>>>>>> multitude of RF-bright reflections. At short wavelengths, this also
>>>>>> guarantees many, many regions that will exhibit destructive (as well
>>>>>> as constructive) combinations of those reflections.
>>>>>>
>>>>>> Put your antenna as far away from the superstructure or hull as
>>>>>> possible. This will reduce the reflection path differences.
>>>>>>
>>>>>>> BTW, the mod did cure the computer hash.
>>>>>>> Mike
>>>>>> FM has what is called a "full quieting" effect. It would suggest that
>>>>>> your first signal levels were just barely above the level of full
>>>>>> quiet (and perhaps not even that good).
>>>>>>

>>>>>> 73's
>>>>>> Richard Clark, KB7QHC
>>>>> Richard, after I read your letter I did a little better checking and
>>>>> found
>>>>> my signal is not weak it is to strong, I'm getting interference from
>>>>> other frequencies.
>>>>> Also I get stations on the wrong frequency.
>>>>> I went out and collapsed the antenna to minimum about 1/3 of what it
>>>>> was and
>>>>> my problem station is perfect and the other station I listen to is still
>>>>> good. The local
>>>>> NPR station isn't good though. But I can download the podcast of Science
>>>>> Friday :-)
>>>>> Thanks, Mike
>>>> The usual, lousy FM tuner. They don't make'em like they used to. It's the
>>>> same with television sets, one large signal and they fall off the rocker.
>>>>
>>>> If you have a radio with a signal strength meter you could notch out a
>>>> strong station. But that only works it it's just one and far away from the
>>>> NPR frequency. The only other options are to get a better radio, a
>>>> directional antenna, or just live with it and use the podcast.
>>>>
>>>> --
>>>> Regards, Joerg
>>> This morning I got on the boat and the signal that was improved to good by
>>> shortening the antenna is now bad. 94.5 has interference from 101.1.
>>> Oh well!
>> You really need a better quality radio and with radios and a lot of
>> other stuff older = better :-)
>>
>> I mean, considering what the boat must have cost ...
>
>
> Or a tuned trap to reduce the signal from that one station.
>

Well, that's what I suggested above, notch = trap :-)

But it's tough and can be impossible if there are useful weaker stations
near the one you want to muffle. In Europe they had a pager service
right at the lower end of the FM band. Whichever committee signed off on
that one should be dunked into a moat for gross incompetence, until they
either learn or quit their career. Anyhow, the inevitable happened, and
despite being a school kid I predicted that: A barrage of complaints by
FM listeners. In Germany they pay a radio tax so that makes them sort of
constituents with rights. Long story short the governement had to
furnish rather expensive notch filters to anyone who complained.

--
Regards, Joerg

http://www.analogconsultants.com/

"gmail" domain blocked because of excessive spam.
Use another domain or send PM.

880. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 15:37:37 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <070fb2c5-db04-4d6f-803a-653a86088580@m37g2000yqf.googlegroups.com>
Source record: 10680

On Mar 21, 9:15 am, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
> > If on places a am/fm radio inside a box made of thin aluminum foil the
> > radio will be able to hear am broadcast band but not the fm band.
> > (Experiment by Harvard in Boston)
>
> What did the Harvard experiment in Boston describe as the cause for
> this? Some vague reference to an experiment somewhere does not show
> anything. Provide a proper link if you want anyone to take the reference
> seriously.
>
> > Intuition tells me that when using a perforated plate the lower the
> > frequency then the smaller the perforations in the shield to create a
> > blocking effect.
>
> I believe this conflicts with your particle concepts. Why should hole
> size have any effect on spinning particles of different frequencies?
>
> You position also is in conflict with general understanding. If you are
> correct, what hole size blocks very high frequencies. You concept would
> result in a simple wire frame enclosure.
>
> > This would, I believe, opposes the progression of
> > skin depth with respect to frequency.
> > The books state for a mesh shield the perforations should be less
> > than 1/10 of a WL which on the surface opposes the results obtained by
> > the box experiment!
>
> You may be ignoring the differences in the antennas. AM may have used a
> ferrite loop, while FM may have been a whip. (We don't know because you
> provide no details.)
>
> Could one antenna be responding the magnetic component of the signal
> more than the other? (We don't know because you provide no details.)
>
> > Is the difference involved with calculations
> > changes for sheets that are thinner than skin depth such as circuit
> > board traces or something else?
>
> Type of materials, type of antenna, relative dimension may all play a
> factor. You need to determine all of the effects that enter into the
> situation and not focus on one or two.
>
> > Where has my intuition gone wrong in opposing the books?

>
> Probably because you don't pay attention to the details and are relying
> upon an understanding of the topic that is not correct.

Thanks for your response.
The article only gave me the given facts for the experiment and
nothing more.Yes my concepts on radiation are in opposition to the
norm so I am using the facts presented as a way of destructing or
confirming my perceptions.
When I read up on Faraday shields the concept of "particles"
predominates as opposed to "waves" without exception and I am trying
to make some sense of these differences when considering propagation.
With respect to receive of the radio. Since the foil is flat and
without perforation it should be sensitive to everything thrown at it.

881. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 15:42:26 UTC
From: "Helmut Wabnig"
Message-ID: <4gfcq552gqm31bhpg1m74h0s6ha503f3ec@4ax.com>
Source record: 10681

On Sat, 20 Mar 2010 21:49:42 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:

>If on places a am/fm radio inside a box made of thin aluminum foil the
>radio will be able to hear am broadcast band but not the fm band.
>(Experiment by Harvard in Boston)
> Intuition tells me that when using a perforated plate the lower the
>frequency then the smaller the perforations in the shield to create a
>blocking effect. This would, I believe, opposes the progression of
>skin depth with respect to frequency.
> The books state for a mesh shield the perforations should be less
>than 1/10 of a WL which on the surface opposes the results obtained by
>the box experiment! Is the difference involved with calculations
>changes for sheets that are thinner than skin depth such as circuit
>board traces or something else?
>Where has my intuition gone wrong in opposing the books?

Shielding and grounding is a secret science, so secret and of military
importance that Don White Consultants would not teach foreigners
(damned furriners) how to shield a building from EMP.

w.

882. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 16:32:39 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <CSrpn.496462$DL1.71964@newsfe25.ams2>
Source record: 10682

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D404EF25FAB6nonenowhere@61.9.191.5...
> "David" <barett@blueyonder.co.uk> wrote in
> news:%6son.37808$0t.1356@newsfe17.ams2:
>
>>
>> The noise level does not change when I turn the beam 360 deg.
>
> You did give S meter readings, but with respect, they are meaningless in
> the context you have given. Radios are not iniversally well calibrated,
> and most hams could not tell us what radio setting (eg PREAMP ON/OFF) put
> the radio in the calibrated mode.
>
> Remember that a directive antenna does not reduce noise that is non-
> directional, for all that it reduces noise picked up off the main lobe,
> it increases noise picked up on the main lobe.
>
> Ok, we hear that the noise is not strongly directional. You didn't care
> to share how you worked that out. If you had an extremely high noise
> level, it would quite likely be local, that is the way of things. It it
> appears to not be directional, it is probably very close (ie under the
> antenna). It could be in your own home, it could be some kind of fault
> with the installation.
>
> If it is within your own home, resolution is somewhat simplified. To
> clear away your own home as a source, turn EVERYTHING off and run a
> receiver on battery. No prizes for missing something, turn things off at
> the main switchboard.
>
> Does the noise vary by hour, day? Is it the same level when all the TVs
> and Inverter Air Conditioners should be off.
>
> If the noise is excessive, and it is real local, you have the choice of
> dealing with the source, and/or reducing your pickup (eg minimising the
> effects of feedline common mode current... good coax, effective
> connectors, an effecive balun, system grounding).
>
> Owen

If I can here a weak station on any of my other antennas that is fully
readable but weak and I then switch over to the beam the station gets lost
in the noise.
On stations that are a bit stronger but under a S9 after switching to the
beam then there is a noticeable amount of noise in with there audio. Of

course the beam brings the whole signal in a lot stronger as it should do with but with this large increase of hiss/background noise that is some how mixed in with there audio that wasn't there before.

I do not get the same noise on any of my other antennas even when they are positioned in the same spot as the beam and connected to the same coax line. I have tried the Cushcraft R4 and the R5 the Cobwebb and several mobile whips and I do not pick the same noise up..

I have had the MA5B down and I cannot see any thing wrong with the installation.

I have ordered some Ferrite and I will make a coke balun up and see if it improves.

I will let you know what happens.

883. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 16:59:32 UTC
From: joe <none@domain.invalid>
Message-ID: <ho5j44bmt1@speranza.aioe.org>
Source record: 10683

Art Unwin wrote:
> On Mar 21, 9:15 am, joe <n...@domain.invalid> wrote:
>> Art Unwin wrote:
>>> If on places a am/fm radio inside a box made of thin aluminum foil the
>>> radio will be able to hear am broadcast band but not the fm band.
>>> (Experiment by Harvard in Boston)
>> What did the Harvard experiment in Boston describe as the cause for
>> this? Some vague reference to an experiment somewhere does not show
>> anything. Provide a proper link if you want anyone to take the reference
>> seriously.
>>
>>> Intuition tells me that when using a perforated plate the lower the
>>> frequency then the smaller the perforations in the shield to create a
>>> blocking effect.
>> I believe this conflicts with your particle concepts. Why should hole
>> size have any effect on spinning particles of different frequencies?
>>
>> You position also is in conflict with general understanding. If you are
>> correct, what hole size blocks very high frequencies. You concept would
>> result in a simple wire frame enclosure.
>>
>>> This would, I believe, opposes the progression of
>>> skin depth with respect to frequency.
>>> The books state for a mesh shield the perforations should be less
>>> than 1/10 of a WL which on the surface opposes the results obtained by
>>> the box experiment!
>> You may be ignoring the differences in the antennas. AM may have used a
>> ferrite loop, while FM may have been a whip. (We don't know because you
>> provide no details.)
>>
>> Could one antenna be responding the magnetic component of the signal
>> more than the other? (We don't know because you provide no details.)
>>
>>> Is the difference involved with calculations
>>> changes for sheets that are thinner than skin depth such as circuit
>>> board traces or something else?
>> Type of materials, type of antenna, relative dimension may all play a
>> factor. You need to determine all of the effects that enter into the
>> situation and not focus on one or two.
>>
>>> Where has my intuition gone wrong in opposing the books?
>> Probably because you don't pay attention to the details and are relying
>> upon an understanding of the topic that is not correct.
>

> Thanks for your response.
> The article only gave me the given facts for the experiment and
> nothing more.

If it is this article,
http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/SkinDepth.html
Then more was given.

It was an experiment in skin depth.
AM was significantly attenuated, too.
It specified the frequencies used and the associated skin depth.
The radio is also specified.

Using an extremely cheap radio as a measurement tool is not sound
technically.

> Yes my concepts on radiation are in opposition to the
> norm so I am using the facts presented as a way of destructing or
> confirming my perceptions.

> When I read up on Faraday shields the concept of "particles"
> predominates as opposed to "waves" without exception and I am trying
> to make some sense of these differences when considering propagation.

Perhaps it is a problem with how you do searches. On this page
http://en.wikipedia.org/wiki/Faraday_cage
There is no mention of particles as the means of transport to the
shield. Electrons are mentioned as they are part of the cage and respond
to applied fields.

> With respect to receive of the radio. Since the foil is flat and
> without perforation it should be sensitive to everything thrown at it.

But the experiment in question is about skin depth which does vary with
frequency.

Unless, of course, you are talking about some other Harvard article, but
we only have to guess, because you still don't identify it.

How do you expect us to know what you are really talking about?

884. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 17:31:50 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <ho5ls0mlf1@nemesis.news.neostrada.pl>
Source record: 10684

"joe" <none@domain.invalid> wrote news:ho58o5$o6p$1@speranza.aioe.org...
> Szczepan Biaďż˝ek wrote:
>>
>> So I repeat my question: Are now the FM stations which use the dipoles?
>
> You significant lack of understanding of dipoles is causing you to ask
> silly questions that are meaningless.
>
>>
>>> and Luxembourg has nothing to do with it, your silly frequency
>> doubling notions should be packaged up in art's box and never see the
>> light of day.
>>
>> The dipoles have the directional pattern like this:
>> http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html
>>
> This shows effects over a 48:1 frequency range. The FM band represents a
> 1.23:1 range. The image has no bearing on the topic at hand.
>
>
>> It looks like the interference of the many sources (dipoles have the
>> two).
>>
>> The two sources not in phase double the frequencies.
>
> This is completely wrong. In a _linear_ systems adding two signals cannot
> create new frequencies, including doubling. In the frequency domain this
> is clear. If you look in the time domain and look at zero crossings you
> may be confused. Do the math for the addition of two sine waves of
> different phase.

In reality no sine waves. In the ends of a dipole the voltage is doubled
(VSWR) and the strong picks are radiated.

>Stop relying on internet images you don't understand and may not have any
>relevance to the discussion.

Discussion is on the harmonics. The dipoles can produce the frequency
doubling.
>
> You can do the math in the time domain, or frequency domain. Either should
> tell you there is no doubling of frequencies.

In the school math the water waves are transversal. Look as they are
like: http://en.wikipedia.org/wiki/Stokes_drift

> In order to generate new frequencies you need to have a non-linear effect.
> Addition is NOT a non-linear operation.

The two picks from the ends of the dipole are not linear.
S*
>
>
>> S*

885. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 17:40:20 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <ho5mbtmup1@nemesis.news.neostrada.pl>
Source record: 10685
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Paul Keinanen" <keinanen@sci.fi> wrote
news:0s5cq5tmqc996k7mcbpeu8l0rthsupqrk8@4ax.com...
> On Sat, 20 Mar 2010 09:26:04 +0100, Szczepan Bia?ek <sz.bialek@wp.pl>
> wrote:
>
>>It sound like the "Luxemburg Effect". The signal was from the dipole
>>antenna.
>
> The Luxemburg effect is usually contributed to the suspected Radio
> Luxemburg intermodulation products caused by the _ionosphere_
> nonlinearities.

Are such products the hours independent? Is ionosphere all time the same.
The dipole on the tip top of the mountain (the both end of the dipole were
:seen") produced the doubled frequency.
>
> Similar intermodulation effects can be obtained by the nonlinearities
> caused by rusty bolts in a transmitter tower.

The same was obtained in Warsaw tower (collapsed years ago).
Now Warsaw use monopole.
S*

886. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 17:43:38 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <4BA65ACA.693317B9@earthlink.net>
Source record: 10686
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

```
Joerg wrote:
>
> Michael A. Terrell wrote:
> > Joerg wrote:
> >> amdx wrote:
> >>> "Joerg" <invalid@invalid.invalid> wrote in message
> >>> news:80ieogFhe0U1@mid.individual.net...
> >>>> amdx wrote:
> >>>>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> >>>>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
> >>>>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
> >>>>>>
> >>>>>>> So I installed the antenna on the outside of the boat and the radio
> >>>>>>> inside,
> >>>>>>> now one station I listen to is weak, but if I unplug the antenna and
> >>>>>>> let the
> >>>>>>> center pin touch ground of the connector on the radio it comes in
> >>>>>>> great.
> >>>>>>> Just curious why it is working this way.
> >>>>>> Hi Mike,
> >>>>>>
> >>>>>> You moved the antenna.
> >>>>>>
> >>>>>> Most loss of signal as you describe comes from not being a weak
> >>>>>> signal, but the mixture of signals that combine negatively at some
> >>>>>> spot due to multiple reflections. When you replaced the line cord as
> >>>>>> antenna for this better implementation, you also found that "sour (not
> >>>>>> sweet) spot." This can occur for any frequency with the equal
> >>>>>> likelihood of reflections combining negatively. Move your antenna a
> >>>>>> quarter wave and see what happens.
> >>>>>>
> >>>>>> Your description of your having an aluminum boat almost guarantees a
> >>>>>> multitude of RF-bright reflections. At short wavelengths, this also
> >>>>>> guarantees many, many regions that will exhibit destructive (as well
> >>>>>> as constructive) combinations of those reflections.
> >>>>>>
> >>>>>> Put your antenna as far away from the superstructure or hull as
> >>>>>> possible. This will reduce the reflection path differences.
> >>>>>>
> >>>>>>> BTW, the mod did cure the computer hash.
> >>>>>>> Mike
> >>>>>> FM has what is called a "full quieting" effect. It would suggest that
> >>>>>> your first signal levels were just barely above the level of full
```

> >>>>>> quiet (and perhaps not even that good).
> >>>>>>
> >>>>>> 73's
> >>>>>> Richard Clark, KB7QHC
> >>>>> Richard, after I read your letter I did a little better checking and
> >>>>> found
> >>>>> my signal is not weak it is to strong, I'm getting interference from
> >>>>> other frequencies.
> >>>>> Also I get stations on the wrong frequency.
> >>>>> I went out and collapsed the antenna to minimum about 1/3 of what it
> >>>>> was and
> >>>>> my problem station is perfect and the other station I listen to is still
> >>>>> good. The local
> >>>>> NPR station isn't good though. But I can download the podcast of Science
> >>>>> Friday :-)
> >>>>> Thanks, Mike
> >>>> The usual, lousy FM tuner. They don't make'em like they used to. It's the
> >>>> same with television sets, one large signal and they fall off the rocker.
> >>>>
> >>>> If you have a radio with a signal strength meter you could notch out a
> >>>> strong station. But that only works it it's just one and far away from the
> >>>> NPR frequency. The only other options are to get a better radio, a
> >>>> directional antenna, or just live with it and use the podcast.
> >>>>
> >>>> --
> >>>> Regards, Joerg
> >>> This morning I got on the boat and the signal that was improved to good by
> >>> shortening the antenna is now bad. 94.5 has interference from 101.1.
> >>> Oh well!
> >> You really need a better quality radio and with radios and a lot of
> >> other stuff older = better :-)
> >>
> >> I mean, considering what the boat must have cost ...
> >
> >
> > Or a tuned trap to reduce the signal from that one station.
> >
>
> Well, that's what I suggested above, notch = trap :-)
>
> But it's tough and can be impossible if there are useful weaker stations
> near the one you want to muffle. In Europe they had a pager service
> right at the lower end of the FM band. Whichever committee signed off on
> that one should be dunked into a moat for gross incompetence, until they
> either learn or quit their career. Anyhow, the inevitable happened, and
> despite being a school kid I predicted that: A barrage of complaints by
> FM listeners. In Germany they pay a radio tax so that makes them sort of
> constituents with rights. Long story short the governement had to
> furnish rather expensive notch filters to anyone who complained.

So you move the trap slightly to one side. A good trap can be narrow enough to only affect one or two channels if it is built with the right components, but it isn't cheap. Glass piston capacitors and glass inductors are temperature stable and have a very high 'Q'.

--
Lead free solder is Belgium's version of 'Hold my beer and watch this!'

887. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 17:52:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <ho5n2rnea1@nemesis.news.neostrada.pl>
Source record: 10687

"Helmut Wabnig" <hwabnig@ .- --- -. dotat> wrote
news:4gfcq552gqm31bhpg1m74h0s6ha503f3ec@4ax.com...
> On Sat, 20 Mar 2010 21:49:42 -0700 (PDT), Art Unwin
> <arthurunwin@gmail.com> wrote:
>
>>If on places a am/fm radio inside a box made of thin aluminum foil the
>>radio will be able to hear am broadcast band but not the fm band.
>>(Experiment by Harvard in Boston)
>> Intuition tells me that when using a perforated plate the lower the
>>frequency then the smaller the perforations in the shield to create a
>>blocking effect. This would, I believe, opposes the progression of
>>skin depth with respect to frequency.
>> The books state for a mesh shield the perforations should be less
>>than 1/10 of a WL which on the surface opposes the results obtained by
>>the box experiment! Is the difference involved with calculations
>>changes for sheets that are thinner than skin depth such as circuit
>>board traces or something else?
>>Where has my intuition gone wrong in opposing the books?
>
>
> Shielding and grounding is a secret science, so secret and of military
> importance that Don White Consultants would not teach foreigners
> (damned furriners) how to shield a building from EMP.

The aether waves were, are and will be a secret. But we all want to guess
like the things are.
Fortunatly the papers by Stokes, Kelvin and many others are available on
line.
Maxwell, Lorentz and Einstein are for teaching.
S*

888. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 18:42:02 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <42a2f5ab-8da4-4a7e-8681-8417e920945b@g11g2000yqe.googlegroups.com>
Source record: 10688

On Mar 21, 11:59 am, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
> > On Mar 21, 9:15 am, joe <n...@domain.invalid> wrote:
> >> Art Unwin wrote:
> >>> If on places a am/fm radio inside a box made of thin aluminum foil the
> >>> radio will be able to hear am broadcast band but not the fm band.
> >>> (Experiment by Harvard in Boston)
> >> What did the Harvard experiment in Boston describe as the cause for
> >> this? Some vague reference to an experiment somewhere does not show
> >> anything. Provide a proper link if you want anyone to take the reference
> >> seriously.
>
> >>> Intuition tells me that when using a perforated plate the lower the
> >>> frequency then the smaller the perforations in the shield to create a
> >>> blocking effect.
> >> I believe this conflicts with your particle concepts. Why should hole
> >> size have any effect on spinning particles of different frequencies?
>
> >> You position also is in conflict with general understanding. If you are
> >> correct, what hole size blocks very high frequencies. You concept would
> >> result in a simple wire frame enclosure.
>
> >>> This would, I believe, opposes the progression of
> >>> skin depth with respect to frequency.
> >>> The books state for a mesh shield the perforations should be less
> >>> than 1/10 of a WL which on the surface opposes the results obtained by
> >>> the box experiment!
> >> You may be ignoring the differences in the antennas. AM may have used a
> >> ferrite loop, while FM may have been a whip. (We don't know because you
> >> provide no details.)
>
> >> Could one antenna be responding the magnetic component of the signal
> >> more than the other? (We don't know because you provide no details.)
>
> >>> Is the difference involved with calculations
> >>> changes for sheets that are thinner than skin depth such as circuit
> >>> board traces or something else?
> >> Type of materials, type of antenna, relative dimension may all play a
> >> factor. You need to determine all of the effects that enter into the
> >> situation and not focus on one or two.
>
> >>> Where has my intuition gone wrong in opposing the books?
> >> Probably because you don't pay attention to the details and are relying
> >> upon an understanding of the topic that is not correct.

>
> > Thanks for your response.
> > The article only gave me the given facts for the experiment and
> > nothing more.
>
> If it is this
article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> Then more was given.
>
> It was an experiment in skin depth.
> AM was significantly attenuated, too.
> It specified the frequencies used and the associated skin depth.
> The radio is also specified.

Your statement is correct
>
> Using an extremely cheap radio as a measurement tool is not sound
> technically.
Could be but that is what they used.

>
> > Yes my concepts on radiation are in opposition to the
> > norm so I am using the facts presented as a way of destructing or
> > confirming my perceptions.
> > When I read up on Faraday shields the concept of "particles"
> > predominates as opposed to "waves" without exception and I am trying
> > to make some sense of these differences when considering propagation.
>
> Perhaps it is a problem with how you do searches. On this
pagehttp://en.wikipedia.org/wiki/Faraday_cage
> There is no mention of particles as the means of transport to the
> shield. Electrons are mentioned as they are part of the cage and respond
> to applied fields.
Yes they clearly state electrons which is a particle. It is extremely
small and of minimul mass which is why Einstein states that the speed
of light is a maximum.
The article you point to shows charges or fields which must be carried
by something like particles as proven in other theories such as
Quantum theory.
Fields and waves book by Ramo etc constantly lean on boundary laws
thru out there book and boundary laws clearly state the relationship
of static particles to equations relative to radiation.
If we are to refer to waves then accelleration demands mass so we need
a connection between waves and mass.
Assuming it is a wave that impinges on a Faraday cage we then have to
determine what half a charge comes about so that the charge cancels
and thus reverts to a time varying current. Again another puzzle!
Anyway the article that you point to shows a point charge which is
certainly not a wave which would be represented by a line of the
length used in top band.
As far as penetration goes the mass involved is always of the same

mass and ikt is only the charge that varies in frequency as shown by
the radius of spin in helical form of the charge.Thus again we have to
find a connection between wavelength and charge.Another obstical....
If you can point out why one cannot use boundary rules so that
particles are recognised as the carriers of charge the same as with
Quantum theory I would be very gratified. None of the group excepting
newcomers such as your self has provided proof of the inelligability
of my approach so I am forced to explore other facets
of radiation to determine why my aproach is in error.
I apologise for not being clear in the subject that creats problems
for newcomers such as yourself but to re iterate the discussion which
has been going on for years would be quite a hardship. However if as
a newcomer you can supply why static particles cannot be associated
with propergation you would be doing something different to the group
that are relying on zero facts and replacing it with insult and spam.
Thanks for responding in a sensible way .I would like to point out in
addition that existing antenna programs with optimizer based on
Maxwells equations rely very heavily on the maintenance of equilibrium
which is the foundation of my aproach which includes particles and
certainly not waves.
If we are going to throw out such programs we surely must know why
before we take such a step when the presence of particles appear to be
in the majority of aproaches.
Best regards
Art Unwin.......KB9MZ.....xg

>
> > With respect to receive of the radio. Since the foil is flat and
> > without perforation it should be sensitive to everything thrown at it.
>
> But the experiment in question is about skin depth which does vary with
> frequency.
>
> Unless, of course, you are talking about some other Harvard article, but
> we only have to guess, because you still don't identify it.
>
> How do you expect us to know what you are really talking about?
I am fully aware that I am not clear with my questions but I have to
live with that.
The point is that I am still trying to find out why the group does not
accept the extension of a static field in equilibrium cannot be
connected to Maxwells equations when adding a time varying field a
train of thought covered by boundary rules that are used in many
places.
If we accept the above then we have agreement with

889. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 18:46:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D433AC93C99Dnonenowhere@61.9.191.5>
Source record: 10689

"David" <barett@blueyonder.co.uk> wrote in
news:CSrpn.496462$DL1.71964@newsfe25.ams2:

David,

If your tests are not exposed to temporal effects (eg comparing the R4 last year with the MA5B now), then the reduction in S/N with the MA5B on boresight is telling. Something is wrong somewhere. (A prophetic statement I know!)

Some of the earlier suggestions remain relevant. Does the noise in a battery powered receiver reduce significantly when you turn the power off to everything in your own premises?

Owen

890. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 20:08:25 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <U0vpn.57227$jo6.725@newsfe14.ams2>
Source record: 10690

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D433AC93C99Dnonenowhere@61.9.191.5...
> "David" <barett@blueyonder.co.uk> wrote in
> news:CSrpn.496462$DL1.71964@newsfe25.ams2:
>
> David,
>
> If your tests are not exposed to temporal effects (eg comparing the R4
> last
> year with the MA5B now), then the reduction in S/N with the MA5B on
> boresight is telling. Something is wrong somewhere. (A prophetic statement
> I know!)
>
> Some of the earlier suggestions remain relevant. Does the noise in a
> battery powered receiver reduce significantly when you turn the power off
> to everything in your own premises?
>
> Owen
>

Sorry Owen. I forgot to put this in.
I have turned all power off to the house and ran it from a battery. There wasn't a lot of difference.

Maybe its coming from a neighbours house close by or the overhead power lines on poles that feed all the homes along this road. I noticed today there are also some that feed power to the homes over the back as well. But that doesn't explain the fact that I do not get the same noise from any other antenna. All antenna tests were all done in the last couple of days.

If the choke doesn't work then I will bring the antenna back down and take it apart and start a fresh rebuild.
The only thing I can think of that is different is that I used some special grease from Vine Antennas on all the joints that was advertised for antenna joints.

David

891. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 20:25:14 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <8385cd9d-c8bb-4740-81fd-3bfb9a95d833@g4g2000yqa.googlegroups.com>
Source record: 10691

On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:

>
> If it is this
article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> Then more was given.
>
> It was an experiment in skin depth.

Strictly speaking the page describes a demonstration from page 321 of
this book:

G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
Radiation, (MIT Press, 1977)

http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bekefi/dp/0262520478

http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2

A reviewer comments, "MITonline offers the course based on this book
for free. The course is great! This book is a less engaging, but a
more comprehensive version of A.P. French's original text for the
course. There are many gems in the book, such as insights into
microwave oven fundamentals, that are not present in basic texts.
Beware the softcover binding, it needs a gentle hand. "

http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bekefi/product-reviews/0
262520478/ref=dp_top_cm_cr_acr_txt?ie=UTF8&showViewpoints=1

892. Noise Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 20:49:03 UTC
From: Oliver Mattos <omattos@gmail.com>
Message-ID: <a7302e8c-254d-47d4-87cb-1947522d6938@x12g2000yqx.googlegroups.com>
Source record: 10692

Hi,

All the communication equations and formulae today I know of (eg. the Shannon-Hartley Theorem), give limits on data transmission given certain signal and noise power levels.

Most models assume that the data received is the sum of the original signal and Gaussian noise. More advanced models assume a transfer function is applied to the signal to simulate multipath, and other radio phenomena.

My question is that since in many cases at least part of the noise is not entirely unpredictable, it seems like if it could be predicted, then it could be subtracted from the received signal, therefore not counting as noise as far as the Shannon-Hartley Theorem goes, therefore allowing a higher channel throughput when all other conditions are the same.

Examples of "predictable" interference would be EMI from other man-made devices, such as oscillators in power supplies.

My idea for doing this would be to receive a given signal (assumed digital), demodulate it and apply error correction to obtain the original data. Next, re-encode and modulate the data just like the transmitter did. At this point, the receiver has a precise copy of the data transmitted. Next apply a transfer function which simulates the channel (this part would have to be self-tuning to minimise error). Now the receiver has a copy of the data as it would have been
received if there were no external noise sources (but including the effects of signal reflection and fading, which would be included in the transfer function).

Next, the receiver could subtract the "ideal" received data from the actual received data, obtaining the noise received. Of this noise, some is predictable, and some is truly random (assume true Gaussian). This data could then be Fourier transformed, time-shifted, and inverse
Fourier transformed to obtain a prediction of noise, which could then be subtracted from the incoming signal for the next piece of received data.

Similar ideas could be used for removing unwanted signals. For example, imagine two people are transmitting on the same channel. If you know what type of modulation and error correction they are both using, it seems feasible that one signal could be decoded, subtracted

from the incoming signal, leaving enough information about a weaker signal to decode that as well. If neither signal can be decoded "first" (ie. when treating the other signal as random noise), then I guess using linear equations to represent the data streams, it is still possible to decode them as long as the sum of signal data bandwidths is less than the channel capacity.

Would any of the above sound vaguely plausible? Has it been done before? How much of real-world noise is "predictable"? How complex would my noise prediction models need to be to get any real benefit? Is this the kind of thing I could investigate with a software defined radio and lots of MATLAB?

Thanks
Oliver Mattos
Imperial College London Undergraduate

(Cross posted from sci.physics.electromag, I can't seem to find directly relevant groups)

893. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 20:49:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bf09ea0f-25d2-4c6e-b0f4-f662abb3778c@c16g2000yqd.googlegroups.com>
Source record: 10693

On Mar 21, 3:25 pm, Bill <k4...@arrl.net> wrote:
> On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:
>
>
>
> > If it is this
article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> > Then more was given.
>
> > It was an experiment in skin depth.
>
> Strictly speaking the page describes a demonstration from page 321 of
> this book:
>
> G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
> Radiation, (MIT Press, 1977)
>
> http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2
>
> A reviewer comments, "MITonline offers the course based on this book
> for free. The course is great! This book is a less engaging, but a
> more comprehensive version of A.P. French's original text for the
> course. There are many gems in the book, such as insights into
> microwave oven fundamentals, that are not present in basic texts.
> Beware the softcover binding, it needs a gentle hand. "
>
> http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...

What does the book point to, waves or particles? We all have plenty of
books and all cannot agree on the subject on radiation! In other words
they have placed their own interpretations of the observations seen
with the double slit experiment as over ruling of all and cast in
stone. This is what the physics forum sponsered by Scientific American
said to me as they banned me because of my temerety in challenging
their position.In addition they stated that it is not possible outside
the physcics spectrum to challenge anything which thus puts all in the
spectrum of crackpots. Dr Davis of MIT provided the mathematics
that confirmed the presense of particles, but mathematics was not
considered a reputable answer compared to the majority argument that
the mathematical aproach was illegal.
So waves hold the majority in the books but by its very presence all
understanding of radiation has been stymied for the last hundred

years by the resistance to change without any accumpanying facts and where physicists refuse to review to re examine what they state is now "cast in stone." New books are written every year via plagarisation for personal profit where the professor orders purchase of such books for his pay off. Not one has come out with a review of radiation and why progress has been stymied. And that goes for Radcom and QST who have no real interest in advancing the hobby of its members.
Regards
Art

894. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 21:10:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D43532CDA23Enonenowhere@61.9.191.5>
Source record: 10694

"David" <barett@blueyonder.co.uk> wrote in
news:U0vpn.57227$jo6.725@newsfe14.ams2:

>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns9D433AC93C99Dnonenowhere@61.9.191.5...
>> "David" <barett@blueyonder.co.uk> wrote in
>> news:CSrpn.496462$DL1.71964@newsfe25.ams2:
>>
>> David,
>>
>> If your tests are not exposed to temporal effects (eg comparing the
>> R4 last
>> year with the MA5B now), then the reduction in S/N with the MA5B on
>> boresight is telling. Something is wrong somewhere. (A prophetic
>> statement I know!)
>>
>> Some of the earlier suggestions remain relevant. Does the noise in a
>> battery powered receiver reduce significantly when you turn the power
>> off to everything in your own premises?
>>
>> Owen
>>
>
...
> The only thing I can think of that is different is that I used some
> special grease from Vine Antennas on all the joints that was
> advertised for antenna joints.

These compounds are often a waterproof grease of some kind with granular
metal particles, often zinc. The concept is that the grease excludes
oxygen and water from the joint and so reduces corrosion, and the
irregular zinc particles improve conductivity by 'punching through' the
oxide layer on the aluminium.

It is conceivable that the stuff you have used may create some kind of
galvanic action which could produce some noise. The goop that I have used
has always worked without apparent problems, but it will depend on the
recipe, and different recipes exist for compatibility with different
metals.

BTW, it is my experience that marine grease does just as good a job on
clean aluminium without being nearly as messy. I use a small stainless
wire brush in a dremel tool to clean the inside of mating tubes, a
regular stainless scratch brush to do the outside, and a little marine

grease on the mating surfaces. Don't be overzealous with the wire brushing as you embed steel in the aluminium. People often propose non-metallic scourers, but they also embend non conductive material in the aluminium surface.

Have you looked for other current loops that could generate noise, AC and DC. DC loops can be 'powered' by galvanic action from things such as mixed earth electrodes (eg copper or copper clad electrodes bonded to galvanised iron water pipes or masts).

Owen

895. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 21:33:44 UTC
From: joe <none@domain.invalid>
Message-ID: <ho6366ajr1@speranza.aioe.org>
Source record: 10695

Art Unwin wrote:

>
>>> Yes my concepts on radiation are in opposition to the
>>> norm so I am using the facts presented as a way of destructing or
>>> confirming my perceptions.
>>> When I read up on Faraday shields the concept of "particles"
>>> predominates as opposed to "waves" without exception and I am trying
>>> to make some sense of these differences when considering propagation.
>> Perhaps it is a problem with how you do searches. On this
pagehttp://en.wikipedia.org/wiki/Faraday_cage
>> There is no mention of particles as the means of transport to the
>> shield. Electrons are mentioned as they are part of the cage and respond
>> to applied fields.
> Yes they clearly state electrons which is a particle.

But the electron is NOT how the signal gets to the shield. You need to
read more carefully.

It is extremely
> small and of minimul mass which is why Einstein states that the speed
> of light is a maximum.
> The article you point to shows charges or fields which must be carried
> by something like particles as proven in other theories such as
> Quantum theory.
> Fields and waves book by Ramo etc constantly lean on boundary laws
> thru out there book and boundary laws clearly state the relationship
> of static particles to equations relative to radiation.
> If we are to refer to waves then accelleration demands mass so we need
> a connection between waves and mass.

Try thinking in terms of fields and charges.

> Assuming it is a wave that impinges on a Faraday cage we then have to
> determine what half a charge comes about so that the charge cancels
> and thus reverts to a time varying current. Again another puzzle!

A puzzle because you apply your misconceptions BEFORE first
understanding what is there.

> Anyway the article that you point to shows a point charge which is
> certainly not a wave which would be represented by a line of the
> length used in top band.

Only because you interpret it that way. The article does not mention
point charge as causing the behavior, externally applied fields are
mentioned.

> As far as penetration goes the mass involved is always of the same
> mass and ikt is only the charge that varies in frequency as shown by
> the radius of spin in helical form of the charge.Thus again we have to
> find a connection between wavelength and charge.Another obstical....

> If you can point out why one cannot use boundary rules so that
> particles are recognised as the carriers of charge the same as with
> Quantum theory I would be very gratified.

Gauss' laws refer to flux and do not require carriers of charge to exist.

None of the group excepting
> newcomers such as your self has provided proof of the inelligability
> of my approach so I am forced to explore other facets
> of radiation to determine why my aproach is in error.

A lot of that has to do with your inability to communicate adequately.

> I apologise for not being clear in the subject that creats problems
> for newcomers such as yourself but to re iterate the discussion which
> has been going on for years would be quite a hardship. However if as
> a newcomer you can supply why static particles cannot be associated
> with propergation you would be doing something different to the group
> that are relying on zero facts and replacing it with insult and spam.

If you are trying to present a new concept, then it is up to you to show
why, and that, it is right. Do that in a clear convincing way, with the
appropriate math, and you might foster a worthwhile discussion.

The wrong way to do this is throw a half-baked idea out and expect
others to accept it. You'll never prove a point that way.

> Thanks for responding in a sensible way .

> I would like to point out in
> addition that existing antenna programs with optimizer based on
> Maxwells equations rely very heavily on the maintenance of equilibrium
> which is the foundation of my aproach which includes particles and
> certainly not waves.

Which of these antenna programs have you analyzed to the level to make
this statement? Have you looked at the source code of the programs?

> If we are going to throw out such programs we surely must know why
> before we take such a step when the presence of particles appear to be
> in the majority of aproaches.

Why throw out the programs? Using waves is perfectly correct and
adequate for them.

Waves provide an adequate model for propagation. Particles may be
adequate at the quantum level. Both are ways to describe something.
Neither may adequately describe thing in all cases. They are models for
what happens. As long as the models are applied appropriately, there is
no problem. Applying a model inappropriately is bound to cause problems.

> Best regards
> Art Unwin.......KB9MZ.....xg
>
>
>
>
>
<snip>

>>
>> How do you expect us to know what you are really talking about?
> I am fully aware that I am not clear with my questions but I have to
> live with that.
> The point is that I am still trying to find out why the group does not
> accept the extension of a static field in equilibrium cannot be
> connected to Maxwells equations when adding a time varying field a
> train of thought covered by boundary rules that are used in many
> places.

That is solely because YOU can't describe your concepts adequately.
Putting "+t" on both sides of an equation does not necessarily lead to
anything meaningful. IF you were to describe your thoughts adequately,
perhaps someone would show you where you make errors.

> If we accept the above then we have agreement with
>

896. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 21:38:46 UTC
From: joe <none@domain.invalid>
Message-ID: <ho63fm$b5n$1@speranza.aioe.org>
Source record: 10696

Szczepan Białż˝ek wrote:
>
> "joe" <none@domain.invalid> wrote news:ho58o5$o6p$1@speranza.aioe.org...

>> This is completely wrong. In a _linear_ systems adding two signals
>> cannot create new frequencies, including doubling. In the frequency
>> domain this is clear. If you look in the time domain and look at zero
>> crossings you may be confused. Do the math for the addition of two
>> sine waves of different phase.
>
> In reality no sine waves.

The you had better learn what Fourier analysis is all about.

In the ends of a dipole the voltage is doubled
> (VSWR) and the strong picks are radiated.
>
>> Stop relying on internet images you don't understand and may not have
>> any relevance to the discussion.
>
> Discussion is on the harmonics. The dipoles can produce the frequency
> doubling.

If that were true radio communications would be much more of a mess than
it currently is. You don't understand antennas and need to start learning.

>>
>> You can do the math in the time domain, or frequency domain. Either
>> should tell you there is no doubling of frequencies.
>
> In the school math the water waves are transversal. Look as they are
> like: http://en.wikipedia.org/wiki/Stokes_drift
>
>> In order to generate new frequencies you need to have a non-linear
>> effect. Addition is NOT a non-linear operation.
>
> The two picks from the ends of the dipole are not linear.

How would you go about proving that?

> S*
>>
>>
>>> S*
>

897. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 21:56:28 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba69609$0$642$8046368a@newsreader.iphouse.net>
Source record: 10697

joe wrote:
> Szczepan Biaďż˝ek wrote:
>>

Joe, he's either a troll or an idiot. It matters little which.
Reasoning with him is fruitless, and he lives in a world where he makes
up his own facts, similar to Art, so facts won't work either.

He's been trolling here off and on for a few months. Most of his posts
run on about the same couple themes.

tom
K0TAR

898. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 23:10:29 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f7d91971-f072-4436-987d-26ff39c2cf62@m37g2000yqf.googlegroups.com>
Source record: 10698

On Mar 21, 4:33 pm, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
>
> >>> Yes my concepts on radiation are in opposition to the
> >>> norm so I am using the facts presented as a way of destructing or
> >>> confirming my perceptions.
> >>> When I read up on Faraday shields the concept of "particles"
> >>> predominates as opposed to "waves" without exception and I am trying
> >>> to make some sense of these differences when considering propagation.
> >> Perhaps it is a problem with how you do searches. On this
pagehttp://en.wikipedia.org/wiki/Faraday_cage
> >> There is no mention of particles as the means of transport to the
> >> shield. Electrons are mentioned as they are part of the cage and respond
> >> to applied fields.
> > Yes they clearly state electrons which is a particle.
>
> But the electron is NOT how the signal gets to the shield. You need to
> read more carefully.
>
> It is extremely
>
> > small and of minimul mass which is why Einstein states that the speed
> > of light is a maximum.
> > The article you point to shows charges or fields which must be carried
> > by something like particles as proven in other theories such as
> > Quantum theory.
> > Fields and waves book by Ramo etc constantly   lean on boundary laws
> > thru out there book and boundary laws clearly state the relationship
> > of static particles to equations relative to radiation.
> > If we are to refer to waves then accelleration demands mass so we need
> > a connection between waves and mass.
>
> Try thinking in terms of fields and charges.
>
> > Assuming it is a wave that impinges on a Faraday cage we then have to
> > determine what half a charge comes about so that the charge cancels
> > and thus reverts to a time varying current. Again another puzzle!
>
> A puzzle because you apply your misconceptions BEFORE first
> understanding what is there.
>
> > Anyway the article that you point to shows a point charge which is
> > certainly not a wave which would be represented by a line of the
> > length used in top band.

>
> Only because you interpret it that way. The article does not mention
> point charge as causing the behavior, externally applied fields are
> mentioned.
>
> > As far as penetration goes the mass involved is always of the same
> > mass and ikt is only the charge that varies in frequency as shown by
> > the radius of spin in helical form of the charge.Thus again we have to
> > find a connection between wavelength and charge.Another obstical....
> > If you can point out why one cannot use boundary rules so that
> > particles are recognised as the carriers of charge the same as with
> > Quantum theory I would be very gratified.
>
> Gauss' laws refer to flux and do not require carriers of charge to exist.
>
> None of the group excepting
>
> > newcomers such as your self has provided proof of the inelligability
> > of my approach so I am forced to explore other facets
> > of radiation to determine why my aproach is in error.
>
> A lot of that has to do with your inability to communicate adequately.
>
> > I apologise for not being clear in the subject that creats problems
> > for newcomers such as yourself but to re iterate the discussion which
> > has been going on for years would be quite a hardship. However if as
> > a newcomer you can supply why static particles cannot be associated
> > with propergation you would be doing something different to the group
> > that are relying on zero facts and replacing it with insult and spam.
>
> If you are trying to present a new concept, then it is up to you to show
> why, and that, it is right. Do that in a clear convincing way, with the
> appropriate math, and you might foster a worthwhile discussion.
>
> The wrong way to do this is throw a half-baked idea out and expect
> others to accept it. You'll never prove a point that way.
>
> > Thanks for responding in a sensible way .
> > I would like to point out in
> > addition that existing antenna programs with optimizer based on
> > Maxwells equations rely very heavily on the maintenance of equilibrium
> > which is the foundation of my aproach which includes particles and
> > certainly not waves.
>
> Which of these antenna programs have you analyzed to the level to make
> this statement? Have you looked at the source code of the programs?
>
> > If we are going to throw out such programs we surely must know why
> > before we take such a step when the presence of particles appear to be
> > in the majority of aproaches.

>
> Why throw out the programs? Using waves is perfectly correct and
> adequate for them.
>
> Waves provide an adequate model for propagation. Particles may be
> adequate at the quantum level. Both are ways to describe something.
> Neither may adequately describe thing in all cases. They are models for
> what happens. As long as the models are applied appropriately, there is
> no problem. Applying a model inappropriately is bound to cause problems.
>
> > Best regards
> > Art Unwin.......KB9MZ.....xg
>
> <snip>
>
>
>
> >> How do you expect us to know what you are really talking about?
> > I am fully aware that I am not clear with my questions but I have to
> > live with that.
> > The point is that I am still trying to find out why the group does not
> > accept the extension of a static field in equilibrium cannot be
> > connected to Maxwells equations when adding a time varying field a
> > train of thought covered by boundary rules that are used in many
> > places.
>
> That is solely because YOU can't describe your concepts adequately.
> Putting "+t" on both sides of an equation does not necessarily lead to
> anything meaningful. IF you were to describe your thoughts adequately,
> perhaps someone would show you where you make errors.
>
> > If we accept the above then we have agreement with

Ok so you are not interested in a debate. I thought that as a newby
you might just be a little uncomfortable with the idea of using
Quantum theory if you desire particles or to use classical physics if
you desire waves. Obviously it is very difficult to accept change.
Any way thanks for your response and the technical data you supplied
for all to digest.
Regards
Art

899. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-21 23:42:21 UTC
From: joe <none@domain.invalid>
Message-ID: <ho6anh$nk6$1@speranza.aioe.org>
Source record: 10699

Art Unwin wrote:

> Ok so you are not interested in a debate. I thought that as a newby
> you might just be a little uncomfortable with the idea of using
> Quantum theory if you desire particles or to use classical physics if
> you desire waves. Obviously it is very difficult to accept change.
> Any way thanks for your response and the technical data you supplied
> for all to digest.
> Regards
> Art

Art,
You seem to be the one avoiding a discussion. When the conversation does
not go your way, you call it quits.

I do my part in responding to your points and pose some questions of my own.

900. Re: Noise Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 00:23:29 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <7_mdnSNEX-EYJTvWnZ2dnUVZ8nGdnZ2d@bt.com>
Source record: 10501

Hi Oliver,

There are essentially two types of noise or interference to signals. Random or white noise is the product of the cosmic microwave background picked up by an antenna, atmospheric interference and also thermal effects on circuit components. This noise cannot be predicted by any currently known method because it is truely random.

Interference from man made or some natural sources can be regular and it is possible to partially or almost totally negate the effects in some cases.

The signal to noise ratio of a signal can be improved by increasing the power of a transmission, reducing the bandwidth of a transmission (effectively increasing the power because the signal is confined in a narrower bandwidth), slowing the data rate of the transmission, repeating certain elements of the transmission or implementing error correcting routines to correct for errors in a received signal. Any or all of the above methods can be combined to give a robust receiving system with the proviso that the signals to be received are not completely swamped by random noise.

Good examples of these methods in use can be seen in reception methods used around 136kHz where very narrow bandwidths, slow transmission speeds and strong error correction allows reception of signals that are not audible to the human ear. That said, the human brain does have a remarkable capacity to pick signals from random noise due to our inate ability to try and pick patterns out of everything we see or hear. A skilled operator can decode a single weak morse code signal in the presence of heavy atmospheric noise and interfering signals from several other stations near the same frequency.

I think a lot of what you are asking about has already been done to a pretty high level and you may well be able to build upon the current methods and come up with some improvements. What you will not be able to do is reconstruct a signal that is not there because it has been totally drowned out in random cosmic, atmospheric or thermal noise.

There is no antidote to true randomness. It's like adding infinity to infinity, you just get infinity (and that could be more or less than you started with depending on the maths you are using).

Have a look at some of the freeware SDR decoders that are around for digital receivers and perhaps purchase one of the cheap Softrock receivers that Waters and Stanton sell for around ï¿½20 to carry out some experiments. With the right software and a decent audio card, these receivers can rival the performance of the top end commercial offerings although only on a single band. With some real world experience, you will soon find out what you are up against. Not an easy project, but a very rewarding field of study.

Mike g0uli

"Oliver Mattos" <omattos@gmail.com> wrote in message
news:a7302e8c-254d-47d4-87cb-1947522d6938@x12g2000yqx.googlegroups.com...
> Hi,
>
> All the communication equations and formulae today I know of (eg. the
> Shannon-Hartley Theorem), give limits on data transmission given
> certain signal and noise power levels.
>
> Most models assume that the data received is the sum of the original
> signal and Gaussian noise. More advanced models assume a transfer
> function is applied to the signal to simulate multipath, and other
> radio phenomena.
>
> My question is that since in many cases at least part of the noise is
> not entirely unpredictable, it seems like if it could be predicted,
> then it could be subtracted from the received signal, therefore not
> counting as noise as far as the Shannon-Hartley Theorem goes,
> therefore allowing a higher channel throughput when all other
> conditions are the same.
>
> Examples of "predictable" interference would be EMI from other man-
> made devices, such as oscillators in power supplies.
>
> My idea for doing this would be to receive a given signal (assumed
> digital), demodulate it and apply error correction to obtain the
> original data. Next, re-encode and modulate the data just like the
> transmitter did. At this point, the receiver has a precise copy of
> the data transmitted. Next apply a transfer function which simulates
> the channel (this part would have to be self-tuning to minimise
> error). Now the receiver has a copy of the data as it would have
> been
> received if there were no external noise sources (but including the
> effects of signal reflection and fading, which would be included in
> the transfer function).
>
> Next, the receiver could subtract the "ideal" received data from the
> actual received data, obtaining the noise received. Of this noise,
> some is predictable, and some is truly random (assume true Gaussian).
> This data could then be Fourier transformed, time-shifted, and
> inverse
> Fourier transformed to obtain a prediction of noise, which could then
> be subtracted from the incoming signal for the next piece of received
> data.
>
> Similar ideas could be used for removing unwanted signals. For
> example, imagine two people are transmitting on the same channel. If
> you know what type of modulation and error correction they are both
> using, it seems feasible that one signal could be decoded, subtracted
> from the incoming signal, leaving enough information about a weaker

> signal to decode that as well. If neither signal can be decoded
> "first" (ie. when treating the other signal as random noise), then I
> guess using linear equations to represent the data streams, it is
> still possible to decode them as long as the sum of signal data
> bandwidths is less than the channel capacity.
>
> Would any of the above sound vaguely plausible? Has it been done
> before? How much of real-world noise is "predictable"? How complex
> would my noise prediction models need to be to get any real benefit?
> Is this the kind of thing I could investigate with a software defined
> radio and lots of MATLAB?
>
> Thanks
> Oliver Mattos
> Imperial College London Undergraduate
>
> (Cross posted from sci.physics.electromag, I can't seem to find
> directly relevant groups)

901. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 00:25:30 UTC
From: joe <none@domain.invalid>
Message-ID: <ho6d8irga1@speranza.aioe.org>
Source record: 10700

Art Unwin wrote:

> Ok so you are not interested in a debate. I thought that as a newby
> you might just be a little uncomfortable with the idea of using
> Quantum theory if you desire particles or to use classical physics if
> you desire waves. Obviously it is very difficult to accept change.
> Any way thanks for your response and the technical data you supplied
> for all to digest.
> Regards
> Art

Art,
You seem to be the one avoiding a discussion. When the conversation does
not go your way, you call it quits.

I do my part in responding to your points and pose some questions of my own.

902. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 00:32:17 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <797f101e-4f54-43cc-9c24-fcd3792e3ad9@v20g2000yqv.googlegroups.com>
Source record: 10502

On Mar 21, 6:42 pm, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
> > Ok so you are not interested in a debate. I thought that as a newby
> > you might just be a little uncomfortable with the idea of using
> > Quantum theory if you desire particles or to use classical physics if
> > you desire waves. Obviously it is very difficult to accept change.
> > Any way thanks for your response and the technical data you supplied
> > for all to digest.
> > Regards
> > Art
>
> Art,
> You seem to be the one avoiding a discussion. When the conversation does
> not go your way, you call it quits.
>
> I do my part in responding to your points and pose some questions of my own.

Joe, I wanted a debate as to why adding a time varying field to a
boundary enclosed static particles in equilibrium is illegal. This is
in opposition to what the books say.
My whole theory lives or dies on how this is resolved. Nobody will
provide technical details as to why this is illegal. I supplied what I
believe supports the idea but nothing can be considered "proof" to
those who oppose change. If computer programs support retaining
equilibrium at all times then that is an independent result. If
Quantum physics chooses
particles over waves again that is an independent result which
questions conventional judgement. To accelerate a charge in the form
of a wave is un explainable in present science.Nor is the division of
same explainable with respect to the Faraday cage,
To provide an accelleration mass is a must but how a wave provides
such is stated no where. All of these in my mind questions the
validity of using boundary laws for which one
must also reflect equilibrium i.e. is it illegal? Why is it illegal?
It does follow the laws of Newton therefore Newtons laws are at
risk.Yes we are talking about the movement of flux
but movement requires the addition of time. So again the salient point
in this debate is the
addition of a time varying field to an arbitrary boundary containing
static particles deviate from the requirement of equilibrium in all
laws. Namely all statistics are placed on one side
of an equation that equals zero is a specific requirement. "Equal"
really means "equal" and not close enough for horse shoes.
For any sort of debate this central question must be resolved at the

beginning or there is no debate. Resolving this allows for progress into other areas all of which depends on the above question. If nobody can demonstrate why it is illegal then proof or truth is not attainable. If we cannot debate technicalities of radiation then the group is left to exchanging insults and spam or poll counting

Regards
Art

903. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 00:38:13 UTC
From: Kevin McMurtrie <mcmurtrie@pixelmemory.us>
Message-ID: <4ba6bbf5$0$22099$742ec2ed@news.sonic.net>
Source record: 10503
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

In article <38ac2$4ba3dd17$18d66003$24141@KNOLOGY.NET>,
"amdx" <amdx@knology.net> wrote:

> I have an FM radio inside an aluminum boat. The radio worked ok with the
> AC cord as the antenna but I got interference when I used my laptop.
> I found the circuit that ran from the power transformer to the antenna input
> on the
> FM IC. I installed a connector that is used on car radios and wired the
> center pin
> to the foil that went to the FM IC (capacitor on pcb isolated) and the
> shield side to
> dc ground near the IC. I then plugged in a telescoping car antenna and it
> worked
> great on the bench .
> So I installed the antenna on the outside of the boat and the radio inside,
> now one station I listen to is weak, but if I unplug the antenna and let the
> center pin touch ground of the connector on the radio it comes in great.
> Just curious why it is working this way.
> BTW, the mod did cure the computer hash.
> Mike

It's probably a severe impedance mismatch between your new antenna and
the old pickup coil. You might need to create a little step-up
transformer between the board and jack. I looked at a few FM chip specs
and they leave it up to the designer to figure out the right input
transformer. You'll probably need trial and error to figure it out.
--
I won't see Google Groups replies because I must filter them as spam

904. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 00:38:57 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <xMqdne60wcW7ITvWnZ2dnUVZ8sCdnZ2d@bt.com>
Source record: 10504

"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:bf09ea0f-25d2-4c6e-b0f4-f662abb3778c@c16g2000yqd.googlegroups.com...
On Mar 21, 3:25 pm, Bill <k4...@arrl.net> wrote:
> On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:
>
>
>
> > If it is this
> > article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> > Then more was given.
>
> > It was an experiment in skin depth.
>
> Strictly speaking the page describes a demonstration from page 321 of
> this book:
>
> G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
> Radiation, (MIT Press, 1977)
>
> http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2
>
> A reviewer comments, "MITonline offers the course based on this book
> for free. The course is great! This book is a less engaging, but a
> more comprehensive version of A.P. French's original text for the
> course. There are many gems in the book, such as insights into
> microwave oven fundamentals, that are not present in basic texts.
> Beware the softcover binding, it needs a gentle hand. "
>
> http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...

What does the book point to, waves or particles? We all have plenty of
books and all cannot agree on the subject on radiation! In other words
they have placed their own interpretations of the observations seen
with the double slit experiment as over ruling of all and cast in
stone. This is what the physics forum sponsered by Scientific American
said to me as they banned me because of my temerety in challenging
their position.In addition they stated that it is not possible outside
the physcics spectrum to challenge anything which thus puts all in the
spectrum of crackpots. Dr Davis of MIT provided the mathematics
that confirmed the presense of particles, but mathematics was not
considered a reputable answer compared to the majority argument that
the mathematical aproach was illegal.

So waves hold the majority in the books but by its very presence all understanding of radiation has been stymied for the last hundred years by the resistance to change without any accumpanying facts and where physicists refuse to review to re examine what they state is now "cast in stone." New books are written every year via plagarisation for personal profit where the professor orders purchase of such books for his pay off. Not one has come out with a review of radiation and why progress has been stymied. And that goes for Radcom and QST who have no real interest in advancing the hobby of its members.
Regards
Art

Art,

The double slit experiment clearly points to particles or photons. The slits are very narrow (otherwise the experiments don't work) and the wave like properties are caused by the interaction of the particles with the atoms in the walls of the slit as they pass through. The slit is modulating the particles if you like.

We know that individual particles are involved because they can be counted one by one through a detector.
We know that wave like properties are involved because of the effects observed on a screen placed behind a diffraction grid.

The observed properties are due to influence exerted on the particles as they pass through the diffraction grid by the atomic structure of the grid itself. Unless the experiment were carried out at absolute zero, the atoms in the walls of the slit are vibrating and must influence the photon as it passes through.

At absolute zero, nothing would be moving, including the photon, so the experiment collapses at this point.

Photons are particles that display wave like behaviour under particular conditions.

Mike g0uli

905. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 01:52:30 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <49d510e5-347c-421f-aed2-bd7d1850d68b@g4g2000yqa.googlegroups.com>
Source record: 10505

On Mar 21, 7:38 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:bf09ea0f-25d2-4c6e-b0f4-f662abb3778c@c16g2000yqd.googlegroups.com...
> On Mar 21, 3:25 pm, Bill <k4...@arrl.net> wrote:
>
>
>
> > On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:
>
> > > If it is this
> > > article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> > > Then more was given.
>
> > > It was an experiment in skin depth.
>
> > Strictly speaking the page describes a demonstration from page 321 of
> > this book:
>
> > G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
> > Radiation, (MIT Press, 1977)
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> >http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2
>
> > A reviewer comments, "MITonline offers the course based on this book
> > for free. The course is great! This book is a less engaging, but a
> > more comprehensive version of A.P. French's original text for the
> > course. There are many gems in the book, such as insights into
> > microwave oven fundamentals, that are not present in basic texts.
> > Beware the softcover binding, it needs a gentle hand. "
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> What does the book point to, waves or particles? We all have plenty of
> books and all cannot agree on the subject on radiation! In other words
> they have placed their own interpretations of the observations seen
> with the double slit experiment as over ruling of all and cast in
> stone. This is what the physics forum sponsered by Scientific American
> said to me as they banned me because of my temerety in challenging
> their position.In addition they stated that it is not possible outside
> the physcics spectrum to challenge anything which thus puts all in the
> spectrum of crackpots. Dr Davis of MIT provided the mathematics

> that confirmed the presense of particles, but mathematics was not
> considered a reputable answer compared to the majority argument that
> the mathematical aproach was illegal.
> So waves hold the majority in the books but by its very presence all
> understanding of radiation has been stymied for the last hundred
> years by the resistance to change without any accumpanying facts and
> where physicists refuse to review to re examine what they state is now
> "cast in stone." New books are written every year via plagarisation
> for personal profit where the professor orders purchase of such books
> for his pay off. Not one has come out with a review of radiation and
> why progress has been stymied. And that goes for Radcom and QST who
> have no real interest in advancing the hobby of its members.
> Regards
> Art
>
> Art,
>
> The double slit experiment clearly points to particles or photons. The slits
> are very narrow (otherwise the experiments don't work) and the wave like
> properties are caused by the interaction of the particles with the atoms in
> the walls of the slit as they pass through. The slit is modulating the
> particles if you like.
>
> We know that individual particles are involved because they can be counted
> one by one through a detector.
> We know that wave like properties are involved because of the effects
> observed on a screen placed behind a diffraction grid.
>
> The observed properties are due to influence exerted on the particles as
> they pass through the diffraction grid by the atomic structure of the grid
> itself. Unless the experiment were carried out at absolute zero, the atoms
> in the walls of the slit are vibrating and must influence the photon as it
> passes through.
>
> At absolute zero, nothing would be moving, including the photon, so the
> experiment collapses at this point.
>
> Photons are particles that display wave like behaviour under particular
> conditions.
>
> Mike g0uli

I totally agree. Many things have attributes that other things have
but humans say that if it has a tail like a dog then it is a dog!
History shows that the interpretations ascertained from this
experiment was expanded to provide data to conclusavly say that
radiation" is" a accellerated wave and that is carved in stone i.e.
conclusive by physicists who made that descision without over sight
from another discipline.Cast in stone is a finality for physicists
who time after time dtate that their manipulation of mathematics prove

the existence of another particle that is predictable but we have just not found it!
Now the shoe is on another foot, I have to provide an alternative PLUS prove it where others don't have to.
To respond I used EXISTING LAWS and the mathematics that represent them. Gauss stated his law as a measure of "an instant" in time recognising that flux is mobile where at any "instant" of time the boundary was in equilibrium. So I added a length of time where a time varying field was added. All this being in cgs units. When the units were changed to be the same as Maxwells equations (MKS) they showed that they were one and the same which cemented the position of particles as being present in the makings of radiation.
I am using common mathematics with established accepted laws and nothing more but I am being asked to prove its legality which is beyond reason.This establishes some consistency in the use of both classical and other strains of physics that when applied to the same problem also provides the same answer. What more can be said? Articles now declare that interpretations made years ago are not as we thought, but it is to late now for change as decisions in physics are the result of polls and not reality.

906. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 02:25:11 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <98839fe7-594b-481e-b32b-e728c8929ed1@z3g2000yqz.googlegroups.com>
Source record: 10506

On Mar 21, 8:52 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 21, 7:38 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
>
>
>
> > "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> >news:bf09ea0f-25d2-4c6e-b0f4-f662abb3778c@c16g2000yqd.googlegroups.com...
> > On Mar 21, 3:25 pm, Bill <k4...@arrl.net> wrote:
>
> > > On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:
>
> > > > If it is this
> > > > article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> > > > Then more was given.
>
> > > > It was an experiment in skin depth.
>
> > > > Strictly speaking the page describes a demonstration from page 321 of
> > > > this book:
>
> > > > G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
> > > > Radiation, (MIT Press, 1977)
>
> > > >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> > > >http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2
>
> > > > A reviewer comments, "MITonline offers the course based on this book
> > > > for free. The course is great! This book is a less engaging, but a
> > > > more comprehensive version of A.P. French's original text for the
> > > > course. There are many gems in the book, such as insights into
> > > > microwave oven fundamentals, that are not present in basic texts.
> > > > Beware the softcover binding, it needs a gentle hand. "
>
> > > >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> > What does the book point to, waves or particles? We all have plenty of
> > books and all cannot agree on the subject on radiation! In other words
> > they have placed their own interpretations of the observations seen
> > with the double slit experiment as over ruling of all and cast in
> > stone. This is what the physics forum sponsered by Scientific American
> > said to me as they banned me because of my temerety in challenging
> > their position.In addition they stated that it is not possible outside

> > the physcics spectrum to challenge anything which thus puts all in the
> > spectrum of crackpots. Dr Davis of MIT provided the mathematics
> > that confirmed the presense of particles, but mathematics was not
> > considered a reputable answer compared to the majority argument that
> > the mathematical aproach was illegal.
> > So waves hold the majority in the books but by its very presence all
> > understanding of radiation has been stymied for the last hundred
> > years by the resistance to change without any accumpanying facts and
> > where physicists refuse to review to re examine what they state is now
> > "cast in stone." New books are written every year via plagarisation
> > for personal profit where the professor orders purchase of such books
> > for his pay off. Not one has come out with a review of radiation and
> > why progress has been stymied. And that goes for Radcom and QST who
> > have no real interest in advancing the hobby of its members.
> > Regards
> > Art
>
> > Art,
>
> > The double slit experiment clearly points to particles or photons. The slits
> > are very narrow (otherwise the experiments don't work) and the wave like
> > properties are caused by the interaction of the particles with the atoms in
> > the walls of the slit as they pass through. The slit is modulating the
> > particles if you like.
>
> > We know that individual particles are involved because they can be counted
> > one by one through a detector.
> > We know that wave like properties are involved because of the effects
> > observed on a screen placed behind a diffraction grid.
>
> > The observed properties are due to influence exerted on the particles as
> > they pass through the diffraction grid by the atomic structure of the grid
> > itself. Unless the experiment were carried out at absolute zero, the atoms
> > in the walls of the slit are vibrating and must influence the photon as it
> > passes through.
>
> > At absolute zero, nothing would be moving, including the photon, so the
> > experiment collapses at this point.
>
> > Photons are particles that display wave like behaviour under particular
> > conditions.
>
> > Mike g0uli
>
> I totally agree. Many things have attributes that other things have
> but humans say that if it has a tail like a dog then it is a dog!
> History shows that the interpretations ascertained from this
> experiment was expanded to provide data to conclusavly say that
> radiation" is" a accellerated wave and that is carved in stone i.e.
> conclusive by physicists who made that descision without over sight

> from another discipline.Cast in stone is a finality for physicists
> who time after time dtate that their manipulation of mathematics prove
> the existence of another particle that is predictable but we have just
> not found it!
> Now the shoe is on another foot, I have to provide an alternative PLUS
> prove it where others don't have to.
> To respond I used EXISTING LAWS and the mathematics that represent
> them. Gauss stated his law as a measure of "an instant" in time
> recognising that flux is mobile where at any "instant" of time the
> boundary was in equilibrium. So I added a length of time where a time
> varying field was added. All this being in cgs units. When the units
> were changed to be the same as Maxwells equations (MKS) they showed
> that they were one and the same which cemented the position of
> particles as being present in the makings of radiation.
> I am using common mathematics with established accepted laws and
> nothing more but I am being asked to prove its legality which is
> beyond reason.This establishes some consistency in the use of both
> classical and other strains of physics that when applied to the same
> problem also provides the same answer. What more can be said? Articles
> now declare that interpretations made years ago are not as we thought,
> but it is to late now for change as decisions in physics are the
> result of polls and not reality.

As I run through some other physics books I see situations that abound
where a static field is made dynamic! It just doesn't make sense that
hams who consider themselves as experts with respect to antennas can
now suddenly declare that it is now deemed illegal
I suppose with respect to free speech one can say anything if they do
not care about their credability of being an expert.This is not just a
single ham but the majority of the hams
commenting on this group. If a poll is taken then hams have proved
them selves to be in the right and truly expert.

907. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 03:19:16 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <1e328848-ddbd-43ce-9f86-5d8d1f1593ea@d27g2000yqf.googlegroups.com>
Source record: 10507

On Mar 22, 2:25 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> As I run through some other physics books I see situations that abound
> where a static field is made dynamic! It just doesn't make sense that
> hams who consider themselves as experts with respect to antennas can
> now suddenly declare that it is now deemed illegal
> I suppose with respect to free speech one can say anything if they do
> not care about their credability of being an expert.This is not just a
> single ham but the majority of the hams
> commenting on this group. If a poll is taken then hams have proved
> them selves to be in the right and truly expert.

What fraction of the ham population is on r.r.a.a. do you think?

908. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 03:51:10 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6ab2e081-54d0-4bac-a975-bb6446b8f542@g4g2000yqa.googlegroups.com>
Source record: 10508

On Mar 21, 10:19 pm, Bill <k4...@arrl.net> wrote:
> On Mar 22, 2:25 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > As I run through some other physics books I see situations that abound
> > where a static field is made dynamic! It just doesn't make sense that
> > hams who consider themselves as experts with respect to antennas can
> > now suddenly declare that it is now deemed illegal
> > I suppose with respect to free speech one can say anything if they do
> > not care about their credability of being an expert.This is not just a
> > single ham but the majority of the hams
> > commenting on this group. If a poll is taken then hams have proved
> > them selves to be in the right and truly expert.
>
> What fraction of the ham population is on r.r.a.a. do you think?

Odd question but I will respond to prevent bad thoughts.
For this group this discusion has lasted several years and only two
agree that the theory is worth reviewing. On qrz there have been two
threads which has in the order of 8000 + views including a posting by
Tom W8 TI which pleased me as he always follows up with a full
analysis that destroys various claimes put forward. This time he has
failed to place his resonings in writing so basically he is agreeing
with other hams that it is a fraud. Nobody on QRZ expressed any
confidence in my theory and again nobody provided anything to back up
the opinion of fraud. If one went by poll within the amateur group
there would be rousing agreement that it all is a fraud both in
thought and action. If one was judged in terms of debate then it is
two to zero as they were the only ones to express "why" it was worth
consideration. So If hams are the experts they think they are they do
not have to prove their competance and just go by the polls.
As an aside Jeffries who is the antenna adviser for a U.S.magazine
stated that static had no part in ac or dc circuits. I believe he is a
professor or teacher at a university in Sussex U.K. having held
similar positions in the U.S.
I believe that the above answers are the truth as I see it and what
you asked for.
Kotar has been the most critical and I leave it for you to review the
archives for his postings explaining his position which appears to be
par for the course on this newsgroup.
Regards
Art
Regards

Art

909. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 04:18:10 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <fa2c4a3c-aa6f-4cac-9780-285811b73dc9@g28g2000yqh.googlegroups.com>
Source record: 10509

On Mar 21, 10:35 pm, Bill <k4...@arrl.net> wrote:
> On Mar 21, 8:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> > What does the book point to, waves or particles?
>
> Look for yourself.
>
> > they have placed their own interpretations of the observations seen
> > with the double slit experiment as over ruling of all and cast in
> > stone. This is what the physics forum sponsored by Scientific American
> > said to me as they banned me because of my temerity in challenging
> > their position
>
> You are such a martyr. My guess is that you were banned from a
> moderated forum because you made a nuisance of yourself. But your will
> always be able to come to r.r.a.a. and be as absurd as you care to be.

No I was banned for not conforming with known physics which was
considered arguementive. I was given the option of showing an
understanding and aproval of known physics for reinstatement. I
supplied such information to you as a sample of the truth regardless
whether it was in my favour or not knowing full well one might seize
upon it
to my detriment.

910. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 08:24:56 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <ho79lmuv1@atlantis.news.neostrada.pl>
Source record: 10510
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

"Dave" <k1ttt@arrl.net> wrote
news:3a539d84-9cbf-4d6f-ad98-25583ca8a956@k4g2000prh.googlegroups.com...
On Mar 21, 12:11 pm, Szczepan Biaďž˝ek <sz.bia...@wp.pl> wrote:
> >
>> > The dipoles have the directional pattern like
> > this:http://www-antenna.ee.titech.ac.jp/~hira/hobby/edu/em/dipole/index.html
>
>> > It looks like the interference of the many sources (dipoles have the
>> > two).
>
>> > The two sources not in phase double the frequencies.
> > S*
>> >so why when i switch my transmitter from a 'monopole' where YOU can't
>
>> see the other half to a dipole does the frequency stay the same?
>
>> Your transmitter has the same but in the receiver antenna is possibility
> that appear the doubled frequency.
> Luxembourg effect was observed in 1930. Now radio people manage with
> eliminating it.
> S*

>nope, the receiver still hears the proper transmitted frequency.

Yes. THY receiver is tuned to the transmitted frequency.
Luxembourg effect means that another receiver tuned to the doubled your
frequency hears you.
S*

911. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 08:49:03 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <ho7b2s$44j$1@atlantis.news.neostrada.pl>
Source record: 10511

"joe" <none@domain.invalid>wrote news:ho63fm$b5n$1@speranza.aioe.org...
> Szczepan Biaďż˝ek wrote:
>>
>> "joe" <none@domain.invalid> wrote news:ho58o5$o6p$1@speranza.aioe.org...
>
>>> This is completely wrong. In a _linear_ systems adding two signals
>>> cannot create new frequencies, including doubling. In the frequency
>>> domain this is clear. If you look in the time domain and look at zero
>>> crossings you may be confused. Do the math for the addition of two sine
>>> waves of different phase.
>>
>> In reality no sine waves.
>
> The you had better learn what Fourier analysis is all about.

Real waves are not symetrical. They are like the solitons:
http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> In the ends of a dipole the voltage is doubled
>> (VSWR) and the strong picks are radiated.
>>
>>> Stop relying on internet images you don't understand and may not have
>>> any relevance to the discussion.
>>
>> Discussion is on the harmonics. The dipoles can produce the frequency
>> doubling.
>
> If that were true radio communications would be much more of a mess than
> it currently is.

The mess was in 1930. Remedy was applied.

>You don't understand antennas and need to start learning.

I started year ago.

>>>
>>> You can do the math in the time domain, or frequency domain. Either
>>> should tell you there is no doubling of frequencies.
>>
>> In the school math the water waves are transversal. Look as they are
>> like: http://en.wikipedia.org/wiki/Stokes_drift
>>
>>> In order to generate new frequencies you need to have a non-linear
>>> effect. Addition is NOT a non-linear operation.
>>

>> The two picks from the ends of the dipole are not linear.
>
> How would you go about proving that?

I am not able to measure the shape of the picks.
You all can.
You can also check the "addition of two" picks (solitons).
S*

912. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 11:20:56 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <3a0e4779-4dc8-487e-aca4-a9ce7ac93b1a@o30g2000yqb.googlegroups.com>
Source record: 10512

On Mar 20, 11:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Intuition tells me that when using a perforated plate the lower the
> frequency then the smaller the perforations in the shield to create a
> blocking effect. ... The books state for a mesh shield the perforations
> should be less than 1/10 of a WL which on the surface opposes
> the results obtained by the box experiment! ... Where has my intuition
> gone wrong in opposing the books?

If reality will help shape your intuition, then you may be interested
in this paste-up from an IEEE paper linked below.

Note that the spacing of the conductors in the mesh forming these
cavities is much greater than your intuition says is required "to
create a blocking effect."

http://i62.photobucket.com/albums/h85/rfry-100/Gridded_Cavity_Radiator.gif

RF

913. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 12:55:46 UTC
From: Jeff <Jeff@fred.fredsystem.com>
Message-ID: <ho7pcg$r4e$1@speranza.aioe.org>
Source record: 10513
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

>> Luxembourg effect was observed in 1930. Now radio people manage with
>> eliminating it.
>> S*
>
>> nope, the receiver still hears the proper transmitted frequency.
>
> Yes. THY receiver is tuned to the transmitted frequency.
> Luxembourg effect means that another receiver tuned to the doubled your
> frequency hears you.
>

Perhaps you should read up on what the Luxembourg Effect actually was!!

It had nothing to do with antennas!!

It was Cross Modulation in the ionosphere between Radio Luxenbourg and
other radio stations, where by the modulation of Radio Luxenbourg was
heard superimposed onto the second station.

Jeff

914. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 13:23:13 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <169899d7-fe36-4e5b-b41b-6581d4de4eae@g28g2000yqh.googlegroups.com>
Source record: 10514

On Mar 22, 6:20 am, Richard Fry <r...@adams.net> wrote:
> On Mar 20, 11:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Intuition tells me that when using a perforated plate the lower the
> > frequency then the smaller the perforations in the shield to create a
> > blocking effect. ... The books state for a mesh shield the perforations
> > should be less than 1/10 of a WL which on the surface opposes
> > the results obtained by the box experiment! ... Where has my intuition
> > gone wrong in opposing the books?
>
> If reality will help shape your intuition, then you may be interested
> in this paste-up from an IEEE paper linked below.
>
> Note that the spacing of the conductors in the mesh forming these
> cavities is much greater than your intuition says is required "to
> create a blocking effect."
>
> http://i62.photobucket.com/albums/h85/rfry-100/Gridded_Cavity_Radiato...
>
> RF

Interesting. thank you.It would appear that they are using approx .1
lamda sections but the beam pattern appears to be what is expected
other than the differential between E and H
as shown on my page.
Ofcourse it doesnt show how it is fed which can make a lot of
difference.The size of the squares really determine whether the
currents slides across the surface or follow a paths per a normal
radiator. I certainly would not feel comfortable using such openings
as protection against lightning.

915. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 15:23:06 UTC
From: Joerg <invalid@invalid.invalid>
Message-ID: <80pgatFiesU2@mid.individual.net>
Source record: 10515
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

```
Michael A. Terrell wrote:
> Joerg wrote:
>> Michael A. Terrell wrote:
>>> Joerg wrote:
>>>> amdx wrote:
>>>>> "Joerg" <invalid@invalid.invalid> wrote in message
>>>>> news:80ieogFhe0U1@mid.individual.net...
>>>>>> amdx wrote:
>>>>>>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
>>>>>>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
>>>>>>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
>>>>>>>>
>>>>>>>>> So I installed the antenna on the outside of the boat and the radio
>>>>>>>>> inside,
>>>>>>>>> now one station I listen to is weak, but if I unplug the antenna and
>>>>>>>>> let the
>>>>>>>>> center pin touch ground of the connector on the radio it comes in
>>>>>>>>> great.
>>>>>>>>> Just curious why it is working this way.
>>>>>>>> Hi Mike,
>>>>>>>>
>>>>>>>> You moved the antenna.
>>>>>>>>
>>>>>>>> Most loss of signal as you describe comes from not being a weak
>>>>>>>> signal, but the mixture of signals that combine negatively at some
>>>>>>>> spot due to multiple reflections. When you replaced the line cord as
>>>>>>>> antenna for this better implementation, you also found that "sour (not
>>>>>>>> sweet) spot." This can occur for any frequency with the equal
>>>>>>>> likelihood of reflections combining negatively. Move your antenna a
>>>>>>>> quarter wave and see what happens.
>>>>>>>>
>>>>>>>> Your description of your having an aluminum boat almost guarantees a
>>>>>>>> multitude of RF-bright reflections. At short wavelengths, this also
>>>>>>>> guarantees many, many regions that will exhibit destructive (as well
>>>>>>>> as constructive) combinations of those reflections.
>>>>>>>>
>>>>>>>> Put your antenna as far away from the superstructure or hull as
>>>>>>>> possible. This will reduce the reflection path differences.
>>>>>>>>
>>>>>>>>> BTW, the mod did cure the computer hash.
>>>>>>>>> Mike
>>>>>>>> FM has what is called a "full quieting" effect. It would suggest that
>>>>>>>> your first signal levels were just barely above the level of full
```

>>>>>>>> quiet (and perhaps not even that good).
>>>>>>>>
>>>>>>>> 73's
>>>>>>>> Richard Clark, KB7QHC
>>>>>>> Richard, after I read your letter I did a little better checking and
>>>>>>> found
>>>>>>> my signal is not weak it is to strong, I'm getting interference from
>>>>>>> other frequencies.
>>>>>>> Also I get stations on the wrong frequency.
>>>>>>> I went out and collapsed the antenna to minimum about 1/3 of what it
>>>>>>> was and
>>>>>>> my problem station is perfect and the other station I listen to is still
>>>>>>> good. The local
>>>>>>> NPR station isn't good though. But I can download the podcast of Science
>>>>>>> Friday :-)
>>>>>>> Thanks, Mike
>>>>>> The usual, lousy FM tuner. They don't make'em like they used to. It's the
>>>>>> same with television sets, one large signal and they fall off the rocker.
>>>>>>
>>>>>> If you have a radio with a signal strength meter you could notch out a
>>>>>> strong station. But that only works it it's just one and far away from the
>>>>>> NPR frequency. The only other options are to get a better radio, a
>>>>>> directional antenna, or just live with it and use the podcast.
>>>>>>
>>>>>> --
>>>>>> Regards, Joerg
>>>>> This morning I got on the boat and the signal that was improved to good by
>>>>> shortening the antenna is now bad. 94.5 has interference from 101.1.
>>>>> Oh well!
>>>> You really need a better quality radio and with radios and a lot of
>>>> other stuff older = better :-)
>>>>
>>>> I mean, considering what the boat must have cost ...
>>>
>>> Or a tuned trap to reduce the signal from that one station.
>>>
>> Well, that's what I suggested above, notch = trap :-)
>>
>> But it's tough and can be impossible if there are useful weaker stations
>> near the one you want to muffle. In Europe they had a pager service
>> right at the lower end of the FM band. Whichever committee signed off on
>> that one should be dunked into a moat for gross incompetence, until they
>> either learn or quit their career. Anyhow, the inevitable happened, and
>> despite being a school kid I predicted that: A barrage of complaints by
>> FM listeners. In Germany they pay a radio tax so that makes them sort of
>> constituents with rights. Long story short the governement had to
>> furnish rather expensive notch filters to anyone who complained.
>
>
> So you move the trap slightly to one side. A good trap can be narrow

> enough to only affect one or two channels if it is built with the right
> components, but it isn't cheap. ...
^^^^^^^^^^^^^^^^^^

Bingo!

> ... Glass piston capacitors and glass
> inductors are temperature stable and have a very high 'Q'.
>

I just hope someone was read the riot act for making that frequency
allocation. I mean, that allocation was really borderline daft ;-)

--
Regards, Joerg

http://www.analogconsultants.com/

"gmail" domain blocked because of excessive spam.
Use another domain or send PM.

916. Re: FM antenna curiosity

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-22 15:49:30 UTC
From: "Michael A. Terrell" <mike.terrell@earthlink.net>
Message-ID: <4BA7918A.935543A4@earthlink.net>
Source record: 10516
Cross-posted to: sci.electronics.design,rec.radio.amateur.antenna

```
Joerg wrote:
>
> Michael A. Terrell wrote:
> > Joerg wrote:
> >> Michael A. Terrell wrote:
> >>> Joerg wrote:
> >>>> amdx wrote:
> >>>>> "Joerg" <invalid@invalid.invalid> wrote in message
> >>>>> news:80ieogFhe0U1@mid.individual.net...
> >>>>>> amdx wrote:
> >>>>>>> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> >>>>>>> news:mct7q5pgnekqbrrvl8okg69smfut3jclun@4ax.com...
> >>>>>>>> On Fri, 19 Mar 2010 15:22:42 -0500, "amdx" <amdx@knology.net> wrote:
> >>>>>>>>
> >>>>>>>>> So I installed the antenna on the outside of the boat and the radio
> >>>>>>>>> inside,
> >>>>>>>>> now one station I listen to is weak, but if I unplug the antenna and
> >>>>>>>>> let the
> >>>>>>>>> center pin touch ground of the connector on the radio it comes in
> >>>>>>>>> great.
> >>>>>>>>> Just curious why it is working this way.
> >>>>>>>> Hi Mike,
> >>>>>>>>
> >>>>>>>> You moved the antenna.
> >>>>>>>>
> >>>>>>>> Most loss of signal as you describe comes from not being a weak
> >>>>>>>> signal, but the mixture of signals that combine negatively at some
> >>>>>>>> spot due to multiple reflections. When you replaced the line cord as
> >>>>>>>> antenna for this better implementation, you also found that "sour (not
> >>>>>>>> sweet) spot." This can occur for any frequency with the equal
> >>>>>>>> likelihood of reflections combining negatively. Move your antenna a
> >>>>>>>> quarter wave and see what happens.
> >>>>>>>>
> >>>>>>>> Your description of your having an aluminum boat almost guarantees a
> >>>>>>>> multitude of RF-bright reflections. At short wavelengths, this also
> >>>>>>>> guarantees many, many regions that will exhibit destructive (as well
> >>>>>>>> as constructive) combinations of those reflections.
> >>>>>>>>
> >>>>>>>> Put your antenna as far away from the superstructure or hull as
> >>>>>>>> possible. This will reduce the reflection path differences.
> >>>>>>>>
> >>>>>>>>> BTW, the mod did cure the computer hash.
> >>>>>>>>> Mike
```

> >>>>>>>> FM has what is called a "full quieting" effect. It would suggest that
> >>>>>>>> your first signal levels were just barely above the level of full
> >>>>>>>> quiet (and perhaps not even that good).
> >>>>>>>>
> >>>>>>>> 73's
> >>>>>>>> Richard Clark, KB7QHC
> >>>>>>> Richard, after I read your letter I did a little better checking and
> >>>>>>> found
> >>>>>>> my signal is not weak it is to strong, I'm getting interference from
> >>>>>>> other frequencies.
> >>>>>>> Also I get stations on the wrong frequency.
> >>>>>>> I went out and collapsed the antenna to minimum about 1/3 of what it
> >>>>>>> was and
> >>>>>>> my problem station is perfect and the other station I listen to is still
> >>>>>>> good. The local
> >>>>>>> NPR station isn't good though. But I can download the podcast of Science
> >>>>>>> Friday :-)
> >>>>>>> Thanks, Mike
> >>>>>> The usual, lousy FM tuner. They don't make'em like they used to. It's the
> >>>>>> same with television sets, one large signal and they fall off the rocker.
> >>>>>>
> >>>>>> If you have a radio with a signal strength meter you could notch out a
> >>>>>> strong station. But that only works it it's just one and far away from the
> >>>>>> NPR frequency. The only other options are to get a better radio, a
> >>>>>> directional antenna, or just live with it and use the podcast.
> >>>>>>
> >>>>>> --
> >>>>>> Regards, Joerg
> >>>>> This morning I got on the boat and the signal that was improved to good by
> >>>>> shortening the antenna is now bad. 94.5 has interference from 101.1.
> >>>>> Oh well!
> >>>> You really need a better quality radio and with radios and a lot of
> >>>> other stuff older = better :-)
> >>>>
> >>>> I mean, considering what the boat must have cost ...
> >>>
> >>> Or a tuned trap to reduce the signal from that one station.
> >>>
> >> Well, that's what I suggested above, notch = trap :-)
> >>
> >> But it's tough and can be impossible if there are useful weaker stations
> >> near the one you want to muffle. In Europe they had a pager service
> >> right at the lower end of the FM band. Whichever committee signed off on
> >> that one should be dunked into a moat for gross incompetence, until they
> >> either learn or quit their career. Anyhow, the inevitable happened, and
> >> despite being a school kid I predicted that: A barrage of complaints by
> >> FM listeners. In Germany they pay a radio tax so that makes them sort of
> >> constituents with rights. Long story short the governement had to
> >> furnish rather expensive notch filters to anyone who complained.
> >

> >
> > So you move the trap slightly to one side. A good trap can be narrow
> > enough to only affect one or two channels if it is built with the right
> > components, but it isn't cheap. ...
> ^^^^^^^^^^^^^^^^^^
>
> Bingo!
>
> > ... Glass piston capacitors and glass
> > inductors are temperature stable and have a very high 'Q'.
> >
>
> I just hope someone was read the riot act for making that frequency
> allocation. I mean, that allocation was really borderline daft ;-)

You think that's bad? Some idiot sold two way radios to a school system, and put them on a frequency reserved for ambulance service. Every time the base tried to contact one of their ambulances, the damn school bus drivers would start yelling at them to 'Get off OUR channel". The so called frequency coordinator for the area refused to do anything about his screw up for allowing them to be licensed on that frequency.

--
Lead free solder is Belgium's version of 'Hold my beer and watch this!'

917. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 00:09:10 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <d7426f1a-3420-4ca8-ac75-c28dc014df07@k17g2000yqb.googlegroups.com>
Source record: 10517

On Mar 22, 8:23 am, Art Unwin <arthurun...@gmail.com> wrote:
> I certainly would not feel comfortable using such openings
> as protection against lightning.

Real comfort is produced by real (proven) knowledge, not intuition.

The purposes of the gridded cavity are (1) to isolate its radiating elements from coupling into the nearby supporting tower, (2) to minimize coupling into adjacent cavities on the same level and those installed above and below, (3) to minimize the windload of the installed antenna compared to using solid cavities, and (4) to create predictable, unit radiation patterns that can be used together to generate specific, directional radiation patterns for the array that meet given specifications in the azimuth and elevation planes.

The cavity, and all of its components operate nearly at earth ground potential in the low r-f spectrum, where induced energy from nearby lightning strikes is greatest.

Arrays of these cavity antennas have been in operation at the top of the Sears Tower in Chicago and many other "tall-tower" sites for more than 25 years now, with zero lightning damage.

RF

918. Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 01:24:06 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <%KUpn.80284$Bs1.64991@en-nntp-01.dc1.easynews.com>
Source record: 10518

I know that many people think G3LHZ is a little bit off his rocker, but out of curiosity... what he suggests on slide 15 here:
http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-antennas-better-by-heuristics.pdf -
- is that a valid approach to measuring antenna efficiency? -- Use a thermal camera to note how much an antenna heats up with a given input power, find out how much DC power it required to heat it to the same temperature (the antenna's loss), and -- poof! -- antenna efficiency = (input power-loss)/input power?

What are the significant loss mechanisms that he's not accounting for? (He claims his matching network isn't getting at all hot.)

Thanks,
---Joel

919. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 01:31:50 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3acaea90-b3ec-4f67-9512-0d9948045ea6@f8g2000yqn.googlegroups.com>
Source record: 10519

On Mar 21, 7:38 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:bf09ea0f-25d2-4c6e-b0f4-f662abb3778c@c16g2000yqd.googlegroups.com...
> On Mar 21, 3:25 pm, Bill <k4...@arrl.net> wrote:
>
>
>
> > On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:
>
> > > If it is this
> > > article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> > > Then more was given.
>
> > > It was an experiment in skin depth.
>
> > Strictly speaking the page describes a demonstration from page 321 of
> > this book:
>
> > G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
> > Radiation, (MIT Press, 1977)
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> >http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2
>
> > A reviewer comments, "MITonline offers the course based on this book
> > for free. The course is great! This book is a less engaging, but a
> > more comprehensive version of A.P. French's original text for the
> > course. There are many gems in the book, such as insights into
> > microwave oven fundamentals, that are not present in basic texts.
> > Beware the softcover binding, it needs a gentle hand. "
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> What does the book point to, waves or particles? We all have plenty of
> books and all cannot agree on the subject on radiation! In other words
> they have placed their own interpretations of the observations seen
> with the double slit experiment as over ruling of all and cast in
> stone. This is what the physics forum sponsered by Scientific American
> said to me as they banned me because of my temerety in challenging
> their position.In addition they stated that it is not possible outside
> the physcics spectrum to challenge anything which thus puts all in the
> spectrum of crackpots. Dr Davis of MIT provided the mathematics

> that confirmed the presense of particles, but mathematics was not
> considered a reputable answer compared to the majority argument that
> the mathematical aproach was illegal.
> So waves hold the majority in the books but by its very presence all
> understanding of radiation has been stymied for the last hundred
> years by the resistance to change without any accumpanying facts and
> where physicists refuse to review to re examine what they state is now
> "cast in stone." New books are written every year via plagarisation
> for personal profit where the professor orders purchase of such books
> for his pay off. Not one has come out with a review of radiation and
> why progress has been stymied. And that goes for Radcom and QST who
> have no real interest in advancing the hobby of its members.
> Regards
> Art
>
> Art,
>
> The double slit experiment clearly points to particles or photons. The slits
> are very narrow (otherwise the experiments don't work) and the wave like
> properties are caused by the interaction of the particles with the atoms in
> the walls of the slit as they pass through. The slit is modulating the
> particles if you like.
>
> We know that individual particles are involved because they can be counted
> one by one through a detector.
> We know that wave like properties are involved because of the effects
> observed on a screen placed behind a diffraction grid.
>
> The observed properties are due to influence exerted on the particles as
> they pass through the diffraction grid by the atomic structure of the grid
> itself. Unless the experiment were carried out at absolute zero, the atoms
> in the walls of the slit are vibrating and must influence the photon as it
> passes through.
>
> At absolute zero, nothing would be moving, including the photon, so the
> experiment collapses at this point.
>
> Photons are particles that display wave like behaviour under particular
> conditions.
>
> Mike g0uli

Interesting video on the double slit experiment which reverses "waves"
back to "particles".
I wonder how long before the books are changed back to the thoughts of
Newton and possibly my proof with respect to particles? Its a shame
that the professors on the physics
forum are still in a pattern against change or just not up to date in
the absence of a new up to date book. Of course it will take much
longer for the ham community to reconcile themselves and it may take a

new generation to adjust.
And a bit longer for QST and Radcom as they have a back log of
articles with respect to soldering connections on coax, morse code key
design and push pull tubes used in radios!
I am extremely happy regarding the helical spin shown which I
determined as a scalar reaction to the rotation of the Earth as it
gives more credability to my position that it is one of the two forces
that make up the Standard Model.(see unwin antenna page) as well as
the notion of tipped verticles to reflect same
http://vimeo.com/3747866
Best Regards
Art Unwin KB9MZ.....xg

920. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 01:56:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba81fe4$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10520

Richard Fry wrote:
> On Mar 22, 8:23 am, Art Unwin <arthurun...@gmail.com> wrote:
>> I certainly would not feel comfortable using such openings
>> as protection against lightning.
>
> Real comfort is produced by real (proven) knowledge, not intuition.
>
> The purposes of the gridded cavity are (1) to isolate its radiating
> elements from coupling into the nearby supporting tower, (2) to
> minimize coupling into adjacent cavities on the same level and those
> installed above and below, (3) to minimize the windload of the
> installed antenna compared to using solid cavities, and (4) to create
> predictable, unit radiation patterns that can be used together to
> generate specific, directional radiation patterns for the array that
> meet given specifications in the azimuth and elevation planes.
>
> The cavity, and all of its components operate nearly at earth ground
> potential in the low r-f spectrum, where induced energy from nearby
> lightning strikes is greatest.
>
> Arrays of these cavity antennas have been in operation at the top of
> the Sears Tower in Chicago and many other "tall-tower" sites for more
> than 25 years now, with zero lightning damage.
>
> RF

Do you have any web references to gridded cavity antennas?

My intuition says your statements are correct. It is likely not wrong.

Thanks.

tom
K0TAR

921. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 09:29:31 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <hoa1qqlmk1@atlantis.news.neostrada.pl>
Source record: 10521

"Bill" <k4wge@arrl.net> wrote
news:b766efad-fc0d-484b-ad4d-1470d726f1b9@q23g2000yqd.googlegroups.com...
On Mar 23, 1:24 am, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
wrote:

>> I know that many people think G3LHZ is a little bit off his rocker, but
>> out of
> curiosity... what he suggests on slide 15
> here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...-

>If Art Unwin could read and comprehend slides 2, 3 and 4 it would
benefit everyone on this newsgroup.

You should read and understand the slide 10:

". "All truth passes through three stages:
- First it is ridiculed,

- Second it is violently opposed,

- Third it is accepted as being self-evident"."

S*

922. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 11:31:04 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <545d61af-520b-40c2-b7e4-db4cc966d0bf@k17g2000yqb.googlegroups.com>
Source record: 10522

On Mar 22, 8:56 pm, tom <news4...@taring.org> wrote:
>
> Do you have any web references to gridded cavity antennas?

A good source is the paper from which I posted a few "fair use" clips, and was published in the Sept 1979 edition of the IEEE Transactions on Broadcasting. I'm not aware of any web link to it, and it is a copyrighted work. But probably your local public library would be able to access it through inter-library services, and provide you with a copy.

This design was developed by Harris Corporation, and has evolved/ improved over the years especially in the crossed-dipole element used to excite the cavity.

The design is now available through several manufacturers. The first link below shows a description of it from the 2004 catalog of Dielectric Communications, who bought the design from Harris. The picture shows an array of 12 layers of 3-around cavities that was built by Harris as a master FM antenna (9 stations) for the Senior Road Tower Group in Houston.

The second link below shows the measured axial ratio for an omnidirectional version of the antenna.

http://i62.photobucket.com/albums/h85/rfry-100/Gridded_Cavity_Array.gif

http://i62.photobucket.com/albums/h85/rfry-100/CBR_Axial_Ratio.gif

RF

923. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 11:36:43 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <ccc7e2c6-f77d-4e06-8b12-f53b61c099d7@f8g2000yqn.googlegroups.com>
Source record: 10523

On Mar 23, 6:31 am, Richard Fry <r...@adams.net> wrote:
> On Mar 22, 8:56 pm, tom <news4...@taring.org> wrote:

> A good source is the paper from which I posted a few "fair use" clips,
> and was published in the Sept 1979 edition of the IEEE Transactions on
> Broadcasting.

CORRECTION, that was the Sept 1976 edition.

924. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 12:27:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba8b3aa$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10524

Richard Fry wrote:
> On Mar 22, 8:56 pm, tom <news4...@taring.org> wrote:
>> Do you have any web references to gridded cavity antennas?
>
> A good source is the paper from which I posted a few "fair use" clips,
> and was published in the Sept 1979 edition of the IEEE Transactions on
> Broadcasting. I'm not aware of any web link to it, and it is a
> copyrighted work. But probably your local public library would be
> able to access it through inter-library services, and provide you with
> a copy.
>
> This design was developed by Harris Corporation, and has evolved/
> improved over the years especially in the crossed-dipole element used
> to excite the cavity.
>
> The design is now available through several manufacturers. The first
> link below shows a description of it from the 2004 catalog of
> Dielectric Communications, who bought the design from Harris. The
> picture shows an array of 12 layers of 3-around cavities that was
> built by Harris as a master FM antenna (9 stations) for the Senior
> Road Tower Group in Houston.
>
> The second link below shows the measured axial ratio for an
> omnidirectional version of the antenna.
>
> http://i62.photobucket.com/albums/h85/rfry-100/Gridded_Cavity_Array.gif
>
> http://i62.photobucket.com/albums/h85/rfry-100/CBR_Axial_Ratio.gif
>
> RF

Thanks. Gives me plenty to start from.

tom
K0TAR

925. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 15:26:59 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ebf82eec-ae02-461d-bfc6-0d3527182f48@r1g2000yqj.googlegroups.com>
Source record: 10525

On Mar 23, 4:29 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Bill" <k4...@arrl.net>
wrotenews:b766efad-fc0d-484b-ad4d-1470d726f1b9@q23g2000yqd.googlegroups.com...
> On Mar 23, 1:24 am, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> wrote:
>
> >> I know that many people think G3LHZ is a little bit off his rocker, but
> >> out of
> > > curiosity... what he suggests on slide 15
> > > here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...
> > >If Art Unwin could read and comprehend slides 2, 3 and 4 it would
>
> benefit everyone on this newsgroup.
>
> You should read and understand the slide 10:
>
> ". "All truth passes through three stages:
> - First it is ridiculed,
>
> - Second it is violently opposed,
>
> - Third it is accepted as being self-evident"."
>
> S*

Very interesting article. Ofcourse I have only scanned it to get the
gist and will have to get a print out to study in depth.
It would appear that the subject is thermo dynamics and the transfer
of energty.
Popular thinkinking is that heat is created by the rapid occilations
of the constituent atoms
and thus one would expect that the constituent atoms would creat heat
which would be retained. My posture is that particles come and go and
where the energy or heat is carried of by the charge that the particle
carries Thus the more efficient the less energy required
to provide the eddy current grooves which occur only when there is
element resistance.
When the resistance is only the radiation resistance essentially less
heat is retained by the
element thus it stands to reason that the element becomes stable with
respect to temperature. As I have stated before the maximum efficiency
is when the input energy is applied to the particles alone where the
element resistance is zero a point that appears unattainable. So the
problem that hams have is to have a very low impeadance for maximum

efficiency which then is a matching problem divorced from the antenna mechanics. The article thus has incorperated a very efficient tuning method OR he has cut off the energy supply where as the energy applied at the radiator is not the same as the
applied system energy.The big change in the perception of particles is that they are not part of the element where it would be part of the boundary equation.The element has external particles with minimul energy at all times and where with a time varying field added
is a continual energy flow that carries away the applied energy via the displacement current
as shown on my page. This article will provide some interesting reading during the next few weeks after I get a print out.
Regards
Art Unwin KB9MZ....xg

926. preteens top | russian underage | dick young

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 15:44:01 UTC
From: leisha jerrica <leishajerri@gmail.com>
Message-ID: <13e23ecb-4d10-4f44-a543-3e620b065563@g10g2000yqh.googlegroups.com>
Source record: 10526

http://dizzyporn.com/2010-Mar/Preteen_Cameltoe.mpeg
http://dizzyporn.com/2010-Mar/Underage_Lesbian_Porn_07.avi
http://dizzyporn.com/2010-Mar/3d_Underage_Hentai.avi
http://dizzyporn.com/2010-Mar/Young_Girls_Squirting_Trailer.wmv
http://dizzyporn.com/2010-Mar/Hot_Lolita_Stripping.mpeg
http://dizzyporn.com/2010-Mar/Underage_Asian_Teens_Fucking.mpeg
http://dizzyporn.com/2010-Mar/Preteen_Pantyhose_03.avi
http://dizzyporn.com/2010-Mar/Christine_Young_Hardcore_HDRip.XviD.DVDRip.avi
http://dizzyporn.com/2010-Mar/Young_Brazil_Teen_Model.avi
http://dizzyporn.com/2010-Mar/Bizzare_Underage_Sex_HDRip.XviD.DVDRip.avi
http://dizzyporn.com/2010-Mar/Young_Lolita_Bondage_EDTV_640x480.avi
http://dizzyporn.com/2010-Mar/Underage_Hardcore_Fucking_720x480.avi
http://dizzyporn.com/2010-Mar/Naked_Underage_Lolita.avi

young erotic pantyhose
non nude young models
white lolita tgp
young innocent girls
lolita spank
preteens getting raped
preteen prelolita schoolgirls
free young asian
nude lolita links
preteen desire
young teens stripping
japanese preteen porn
underage nudist family pics
dirty lolitas
illegal underage preteens
incest sex links young
old guy creampie young girls
young amature lesbians
horny underage nn models
young yaoi
young fucks
hardcore preteen fuckings
masturbation young
naturism preteen
young filipina
fat preteen models
preteens stripping
amateur preteens
preteen young lolita orgies
lolita little boys

very young naked boy
scat porn lolitas
preteen double penetration
free nude underage girl
true lolita galleries
preteens in pantys
looking at thier young cocks
hey hey my my neil young
underage non nude message boards
cute little underage girls
nude nymph photos underage
youngest russian boys
free underage preteen sex video
free underage girl list
ukrainian lolitas preteen bbs
statistics for underage drinking
preteen puffy breasts
young teen naked cheerleaders
young latin nude woman
indian young men
young bodybuilders gallery
bbs little lolita
young black ebony girld
preteen girl legs
free preteen porn movies

927. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 16:18:29 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <11565546-d065-4268-ac4b-dc56c0a903b9@33g2000yqj.googlegroups.com>
Source record: 10527

On 23 mar, 02:24, "Joel Koltner" <zapwireDASHgro...@yahoo.com> wrote:
> I know that many people think G3LHZ is a little bit off his rocker, but out of
> curiosity... what he suggests on slide 15
here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...-
> - is that a valid approach to measuring antenna efficiency? -- Use a thermal
> camera to note how much an antenna heats up with a given input power, find out
> how much DC power it required to heat it to the same temperature (the
> antenna's loss), and -- poof! -- antenna efficiency = (input power-loss)/input
> power?
>
> What are the significant loss mechanisms that he's not accounting for? (He
> claims his matching network isn't getting at all hot.)
>
> Thanks,
> ---Joel

Hello Joel,

As with many questions, the answer to the temperature rise method can
be "yes" or "no".

For this discussion I assume an antenna as a device or system to emit
radio waves to certain directions. Mostly designers try to maximize
radiation intensity over electrical input ratio, or total radiated
power over electrical input power.

For situations where obstacles are wavelengths away from the antenna,
temperature rise can be a means of evaluating antenna efficiency. I
once used temperature rise to accurately measure efficiency of a high
efficiency RF amplifier.

In cases where obstacles are very close to the antenna, just
determining temperature rise of the metallic structure being the
antenna does not satisfy me. You will know the dissipated power inside
the antenna, but not inside the obstacle in the reactive field. When
this obstacle dissipates 90% of the electrical input power, overall
efficiency will not be high.

By using the temperature rise of the antenna only, you will notice
higher efficiency when the (loop) antenna is closer to an obstacle
(for example a thick wall). In case of a loop, the Q-factor drops,
resulting in less reactive currents, hence less dissipated power in
the loop and tuning capacitor. Of course more power is dissipated in
the wall.

When the antenna is close to metallic structures with certain geometry, the real efficiency (so Prad/Pelec) may increase. The large structure may extract energy from the loop and reradiate it (instead of converting into heat). The extraction of energy from the loop results in lower Q-factor, hence less heat loss in the loop and tuning capacitor. Theoretically spoken, the temperature rise method is a good one.

How will you relate temperature rise of arbitrary structures to dissipation? If this question remains unanswered temperature rise method will also not solve the antenna efficiency question.

Regarding temperature rise methods in general, it is good way to find where losses are and whether it is worth to do some redesign to lower losses.

Best regards,

Wim
PA3DJS
www.tetech.nl
PM will reach me, but don't forget to remove abc.

928. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 16:22:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <0a347ce1-3fc7-411d-be19-6a8eb266fa92@33g2000yqj.googlegroups.com>
Source record: 10528

On Mar 23, 10:26 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 23, 4:29 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "Bill" <k4...@arrl.net>
wrotenews:b766efad-fc0d-484b-ad4d-1470d726f1b9@q23g2000yqd.googlegroups.com...
> > On Mar 23, 1:24 am, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > wrote:
>
> > >> I know that many people think G3LHZ is a little bit off his rocker, but
> > >> out of
> > > curiosity... what he suggests on slide 15
> > > here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...
> > >If Art Unwin could read and comprehend slides 2, 3 and 4 it would
>
> > benefit everyone on this newsgroup.
>
> > You should read and understand the slide 10:
>
> > ". "All truth passes through three stages:
> > - First it is ridiculed,
>
> > - Second it is violently opposed,
>
> > - Third it is accepted as being self-evident"."
>
> > S*
>
> Very interesting article. Ofcourse I have only scanned it to get the
> gist and will have to get a print out to study in depth.
> It would appear that the subject is thermo dynamics and the transfer
> of energty.
> Popular thinkinking is that heat is created by the rapid occilations
> of the constituent atoms
> and thus one would expect that the constituent atoms would creat heat
> which would be retained. My posture is that particles come and go and
> where the energy or heat is carried of by the charge that the particle
> carries Thus the more efficient the less energy required
> to provide the eddy current grooves which occur only when there is
> element resistance.
> When the resistance is only the radiation resistance essentially less
> heat is retained by the
> element thus it stands to reason that the element becomes stable with

> respect to temperature. As I have stated before the maximum efficiency
> is when the input energy is applied to the particles alone where the
> element resistance is zero a point that appears unattainable. So the
> problem that hams have is to have a very low impeadance for maximum
> efficiency which then is a matching problem divorced from the antenna
> mechanics. The article thus has incorperated a very efficient tuning
> method OR he has cut off the energy supply where as the energy applied
> at the radiator is not the same as the
> applied system energy.The big change in the perception of particles is
> that they are not part of the element where it would be part of the
> boundary equation.The element has external particles with minimul
> energy at all times and where with a time varying field added
> is a continual energy flow that carries away the applied energy via
> the displacement current
> as shown on my page. This article will provide some interesting
> reading during the next few weeks after I get a print out.
> Regards
> Art Unwin KB9MZ....xg

Word to the wise
When looking at the boundarylaws with respect to statics we are
looking at an "instant"
of time where all is in a state of equilibrium and in a state of
balance. Because we are looking at a two dimensional form we can
ignore the mass of the particles as they are so small we can't measure
them so we view them as passive. The same would be true if we took
the step of adding elements along with the particles ie they would be
passive.
But there is an important point here in that it is a two dimensional
boundary and by adding a elemnt we are transforming it into a three
dimensional, thus the addition of elements or radiators will have an
effect on equilibrium or balance. Thus if elements are added they must
be in equilibrium and balanced which requires that the additions must
not upset
equilibrium of the whole package PLUS the between the constituent
parts. When we add a time varying field to the package then the
elements must be the length of one period or one wavelength since with
the addition of the two vectors(gravity and rotation) supplies a
equal and opposite force to the radiator in response to the lifting
and accelleration to the multiple particles which creates vibrational
movement on the radiator. In other words the elements and the static
particle change from passive to active thus requireing non fractional
wave length. If we are to look at energy in equals energy out
equations mechanical reaction forces must be counted as with applied
and displacement current.
Art Unwin KB9MZ....XG

929. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 16:47:55 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4BA8F0BB.7060009@jpl.nasa.gov>
Source record: 10529

Joel Koltner wrote:
> I know that many people think G3LHZ is a little bit off his rocker, but
> out of curiosity... what he suggests on slide 15 here:
> http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-antennas-better-by-heuristics.pdf
> - - is that a valid approach to measuring antenna efficiency? -- Use a
> thermal camera to note how much an antenna heats up with a given input
> power, find out how much DC power it required to heat it to the same
> temperature (the antenna's loss), and -- poof! -- antenna efficiency =
> (input power-loss)/input power?
>
> What are the significant loss mechanisms that he's not accounting for?
> (He claims his matching network isn't getting at all hot.)
>
> Thanks,
> ---Joel

A thermal camera is NOT a good way to do calorimetry. It's a fine way to look for hot spots. Here are some of the potential problems: 1) the thermal camera converts long wave IR brightness to temperature using some assumptions about the emissivity of the surface; 2) convective and radiative losses to the surroundings will change the surface temperature; 3) surface temperature may or may not correlate well to dissipated heat.

It's an RF device, so the physical distribution of the power dissipation will be different than with DC. In a classic substitution RF power measurement, a lot of effort is made to try and make sure that the thermal properties are identical for the DC and RF dissipation cases (well defined broadband load that is physically small, etc.).

In the subject case here, think of this: say you had a 2cm diameter copper bar and you run 100 Amps of DC through it. The current is distributed evenly, as is the power dissipation. Now run 1 MHz RF through that same bar. The skin depth is about .065 mm, so virtually ALL the RF current is contained within a layer less than 1/3 mm thick. That's a very different heat and thermal distribution (sort of like the difference between putting that thick steak in the 200F oven and throwing it on the blazing hot grill).

One can calibrate for all this, but, still, it's tough.

A better way to do this measurement is to put the antenna in a suitable far field test site, accurately measure the power flowing into it, accurately measure the power flowing out of it (e.g. E & H field strengths in the far field)

Now, finding a suitable site is difficult, particularly at lower frequencies: you want to be "many" wavelengths away from the ground, for instance.

How about hanging it from a balloon with a battery powered transmitter (or receiver: I assume nobody is claiming that reciprocity doesn't work) and have the field strength detector also hanging from a balloon.

930. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 17:13:26 UTC
From: Tim Shoppa <shoppa@trailing-edge.com>
Message-ID: <4f97dfd4-1b3e-40fa-ad60-13030a10eea5@z4g2000yqa.googlegroups.com>
Source record: 10530

On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
wrote:
> I know that many people think G3LHZ is a little bit off his rocker, but out of
> curiosity... what he suggests on slide 15
here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...-
> - is that a valid approach to measuring antenna efficiency? -- Use a thermal
> camera to note how much an antenna heats up with a given input power, find out
> how much DC power it required to heat it to the same temperature (the
> antenna's loss), and -- poof! -- antenna efficiency = (input power-loss)/input
> power?
>
> What are the significant loss mechanisms that he's not accounting for? (He
> claims his matching network isn't getting at all hot.)

With some feedlines and frequencies, feedline radiation can become an
issue. For example, using 4" ladder line at UHF.

I think his method, especially for physically compact antennas and
feed systems which tend to have very low radiation resistance at HF
frequencies, is a great check on theoretical calculations. There has
to be a meeting point between mathematical models/NEC and reality and
he is working at one such point. There are of course other points too
(e.g. near field and far field measurements).

Tim.

931. Re: Noise Prediction

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 17:24:47 UTC
From: Tim Shoppa <shoppa@trailing-edge.com>
Message-ID: <5cc43df5-e221-4e57-8d17-04d497811e8d@l25g2000yqd.googlegroups.com>
Source record: 10531

On Mar 21, 4:49 pm, Oliver Mattos <omat...@gmail.com> wrote:
> Hi,
>
> All the communication equations and formulae today I know of (eg. the
> Shannon-Hartley Theorem), give limits on data transmission given
> certain signal and noise power levels.
>
> Most models assume that the data received is the sum of the original
> signal and Gaussian noise. More advanced models assume a transfer
> function is applied to the signal to simulate multipath, and other
> radio phenomena.
>
> My question is that since in many cases at least part of the noise is
> not entirely unpredictable, it seems like if it could be predicted,
> then it could be subtracted from the received signal, therefore not
> counting as noise as far as the Shannon-Hartley Theorem goes,
> therefore allowing a higher channel throughput when all other
> conditions are the same.
>
> Examples of "predictable" interference would be EMI from other man-
> made devices, such as oscillators in power supplies.
>
> My idea for doing this would be to receive a given signal (assumed
> digital), demodulate it and apply error correction to obtain the
> original data. Next, re-encode and modulate the data just like the
> transmitter did. At this point, the receiver has a precise copy of
> the data transmitted. Next apply a transfer function which simulates
> the channel (this part would have to be self-tuning to minimise
> error). Now the receiver has a copy of the data as it would have
> been
> received if there were no external noise sources (but including the
> effects of signal reflection and fading, which would be included in
> the transfer function).
>
> Next, the receiver could subtract the "ideal" received data from the
> actual received data, obtaining the noise received. Of this noise,
> some is predictable, and some is truly random (assume true Gaussian).
> This data could then be Fourier transformed, time-shifted, and
> inverse
> Fourier transformed to obtain a prediction of noise, which could then
> be subtracted from the incoming signal for the next piece of received
> data.
>
> Similar ideas could be used for removing unwanted signals. For

> example, imagine two people are transmitting on the same channel. If
> you know what type of modulation and error correction they are both
> using, it seems feasible that one signal could be decoded, subtracted
> from the incoming signal, leaving enough information about a weaker
> signal to decode that as well. If neither signal can be decoded
> "first" (ie. when treating the other signal as random noise), then I
> guess using linear equations to represent the data streams, it is
> still possible to decode them as long as the sum of signal data
> bandwidths is less than the channel capacity.
>
> Would any of the above sound vaguely plausible? Has it been done
> before? How much of real-world noise is "predictable"? How complex
> would my noise prediction models need to be to get any real benefit?
> Is this the kind of thing I could investigate with a software defined
> radio and lots of MATLAB?
>
> Thanks
> Oliver Mattos
> Imperial College London Undergraduate
>
> (Cross posted from sci.physics.electromag, I can't seem to find
> directly relevant groups)

Many types of noise certainly are predictable and real-world noise blankers do take this into account. They are not usually designed academically but to deal with specific issues.

e.g. Ham radios made in the 70's and 80's often had truly excellent noise blankers to prevent the Russian Woodpecker from blowing our ears off. I know you are talking about "subtracting" but for the common HF modes, blanking can be incredibly effective too.

I think that the emphasis on good blanking has died off since the 80's as the Woodpecker became less troubleseome then disappeared.

There are modern noise-rejecting "smart speakers" that auto-notch heterodyne whistles and some regular emission noise patterns etc.

The VLF experts often use a separate "noise antenna" which is phased, scaled, and then subtracted off the received signal.

Tim N3QE

932. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 17:50:02 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <fb7qn.94467$Jq1.53380@en-nntp-05.dc1.easynews.com>
Source record: 10532

Hi Tim,

"Tim Shoppa" <shoppa@trailing-edge.com> wrote in message
news:4f97dfd4-1b3e-40fa-ad60-13030a10eea5@z4g2000yqa.googlegroups.com...
On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
wrote:
> I think his method, especially for physically compact antennas and
> feed systems which tend to have very low radiation resistance at HF
> frequencies, is a great check on theoretical calculations. There has
> to be a meeting point between mathematical models/NEC and reality and
> he is working at one such point.

Agreed -- the controversy comes into play in that he ends up computing
electrically-small loop antennas as being upwards of 70-90% efficient, when
everyone "knows" that such antennas are typically <<10% efficient. He even
goes after Chu/Wheeler/McLean/etc. in suggesting that the fundamental limits
for the Q of an ESA are orders of magnitude off (slide 47), and that's pretty
sacrosanct terriority (see, e.g., www.slyusar.kiev.ua/Slyusar_077.pdf -- even
the Ruskies buy into the traditional results :-)).

Hence, while I don't really have the background to know precisely how much of
what Underhill promotes is true or not, it's definitely intriguing to me, and
I'm looking around for various rebuttals by those more skilled in the art than
I am.

One link I found: http://qcwa70.org/truth%20and%20untruth.pdf (but this was
written before the PowerPoint presentation I originally linked to).

---Joel

933. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 17:53:26 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <se7qn.94595$rq1.23130@en-nntp-02.dc1.easynews.com>
Source record: 10533

Hi Jim,

Thanks for the thoughts; I hadn't thought of many of the additional loss mechanisms you mention.

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message news:4BA8F0BB.7060009@jpl.nasa.gov...
> In the subject case here, think of this: say you had a 2cm diameter copper
> bar and you run 100 Amps of DC through it. The current is distributed
> evenly, as is the power dissipation. Now run 1 MHz RF through that same bar.
> The skin depth is about .065 mm, so virtually ALL the RF current is
> contained within a layer less than 1/3 mm thick. That's a very different
> heat and thermal distribution (sort of like the difference between putting
> that thick steak in the 200F oven and throwing it on the blazing hot grill).

If you're just looking at surface temperature (i.e., with a thermal camera), will it take more or power at 1MHz to obtain a given surface temperature increase than at DC?

At DC, since you're heating up the entire bar, and the only way for the heat to go is up "out" to the surface... I'm thinking... less power is needed for a given rise?

That would certainly then overestimate antenna efficiency.

---Joel

934. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 17:56:34 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7a489b28-0c8b-42ed-b9fc-dbee45251ee3@z3g2000yqz.googlegroups.com>
Source record: 10534

On Mar 23, 12:13 pm, Tim Shoppa <sho...@trailing-edge.com> wrote:
> On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> wrote:
>
> > I know that many people think G3LHZ is a little bit off his rocker, but out of
> > curiosity... what he suggests on slide 15
here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...
> > - is that a valid approach to measuring antenna efficiency? -- Use a thermal
> > camera to note how much an antenna heats up with a given input power, find out
> > how much DC power it required to heat it to the same temperature (the
> > antenna's loss), and -- poof! -- antenna efficiency = (input power-loss)/input
> > power?
>
> > What are the significant loss mechanisms that he's not accounting for? (He
> > claims his matching network isn't getting at all hot.)
>
> With some feedlines and frequencies, feedline radiation can become an
> issue. For example, using 4" ladder line at UHF.
>
> I think his method, especially for physically compact antennas and
> feed systems which tend to have very low radiation resistance at HF
> frequencies, is a great check on theoretical calculations. There has
> to be a meeting point between mathematical models/NEC and reality and
> he is working at one such point. There are of course other points too
> (e.g. near field and far field measurements).
>
> Tim.

I can't see how the external fields come into it! That would
automatically be within the two vectors that supply acceleration, this
would be measure by the skin depth created by the displacement
current. The accelleration of charge is a constant dependent on the
conductor used. Where the particle goes when acceleration stops i.e.
after leaving the boundary is of no consequence.This would be seen in
the oscillation losses of the radiator
in the same way as with a pendulum

935. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 18:10:54 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <dd555678-efc5-4d00-b767-5eb83fafd7ab@r27g2000yqn.googlegroups.com>
Source record: 10535

On Mar 23, 1:56 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 23, 12:13 pm, Tim Shoppa <sho...@trailing-edge.com> wrote:
>
>
>
> > On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > wrote:
>
> > > I know that many people think G3LHZ is a little bit off his rocker, but out of
> > > curiosity... what he suggests on slide 15
here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...
> > > - is that a valid approach to measuring antenna efficiency? -- Use a thermal
> > > camera to note how much an antenna heats up with a given input power, find out
> > > how much DC power it required to heat it to the same temperature (the
> > > antenna's loss), and -- poof! -- antenna efficiency = (input power-loss)/input
> > > power?
>
> > > What are the significant loss mechanisms that he's not accounting for? (He
> > > claims his matching network isn't getting at all hot.)
>
> > With some feedlines and frequencies, feedline radiation can become an
> > issue. For example, using 4" ladder line at UHF.
>
> > I think his method, especially for physically compact antennas and
> > feed systems which tend to have very low radiation resistance at HF
> > frequencies, is a great check on theoretical calculations. There has
> > to be a meeting point between mathematical models/NEC and reality and
> > he is working at one such point. There are of course other points too
> > (e.g. near field and far field measurements).
>
> > Tim.
>
> I can't see how the external fields come into it!   That would
> automatically be within the two vectors that supply acceleration, this
> would be measure by the skin depth created by the displacement
> current. The accelleration of charge is a constant dependent on the
> conductor used. Where the particle goes when acceleration stops i.e.
> after leaving the boundary is of no consequence.This would be seen in
> the oscillation losses of the radiator
> in the same way as with a pendulum

If you dont understand external fields then you dont understand
Maxwell's equations at all. Maxwell is all about fields. This pretty
much means you havent had a clue about anything you have ever said

about antennas.

Jimmie

936. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 18:44:54 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2a36251b-aef4-4127-9f5f-29e30e8cb058@k13g2000yqe.googlegroups.com>
Source record: 10536

On Mar 23, 1:10 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Mar 23, 1:56 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Mar 23, 12:13 pm, Tim Shoppa <sho...@trailing-edge.com> wrote:
>
> > > On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > > wrote:
>
> > > > I know that many people think G3LHZ is a little bit off his rocker, but out of
> > > > curiosity... what he suggests on slide 15
here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...
> > > > - is that a valid approach to measuring antenna efficiency? -- Use a thermal
> > > > camera to note how much an antenna heats up with a given input power, find out
> > > > how much DC power it required to heat it to the same temperature (the
> > > > antenna's loss), and -- poof! -- antenna efficiency = (input power-loss)/input
> > > > power?
>
> > > > What are the significant loss mechanisms that he's not accounting for? (He
> > > > claims his matching network isn't getting at all hot.)
>
> > > With some feedlines and frequencies, feedline radiation can become an
> > > issue. For example, using 4" ladder line at UHF.
>
> > > I think his method, especially for physically compact antennas and
> > > feed systems which tend to have very low radiation resistance at HF
> > > frequencies, is a great check on theoretical calculations. There has
> > > to be a meeting point between mathematical models/NEC and reality and
> > > he is working at one such point. There are of course other points too
> > > (e.g. near field and far field measurements).
>
> > > Tim.
>
> > I can't see how the external fields come into it! That would
> > automatically be within the two vectors that supply acceleration, this
> > would be measure by the skin depth created by the displacement
> > current. The accelleration of charge is a constant dependent on the
> > conductor used. Where the particle goes when acceleration stops i.e.
> > after leaving the boundary is of no consequence.This would be seen in
> > the oscillation losses of the radiator
> > in the same way as with a pendulum
>
> If you dont understand external fields then you dont understand

> Maxwell's equations at all. Maxwell is all about fields. This pretty
> much means you havent had a clue about anything you have ever said
> about antennas.
>
> Jimmie

Jimmy
I am referring to the boundary laws which is energy in versus energy out.
Maxwells laws finish with the completion of acceleration of charge.
The boundary laws are covered by this action and reaction per Newton.
The particle that is accellerated is the smallest known with respect to mass and we know that it is accellerated to the speed of light which is known for any particular medium.
Thus knowing the energy supplied we must equate it to the ejection vector applied to the particles and the reaction force applied to the radiating member.
NEC computer programs do just this and for such equations produce arrays where each
element is resonant and tipped to oppose the two vectors of gravity and the rotation of the Earth by supplying the array only where it is in a state of equilibrium and all elements are resonant as a result of the initial two vectors. The NEC computer programs do just this when applying Newton's laws which are not mismanaged to reflect planar forms.
Again I state that Newtons equations account for all vectors involved in radiation and does not in any way reflect the fields that are generated beyond acceleration and how the particles are dispersed beyond this point. This way it represents all types of radiation that the radiator is capable of and likewise makes it sensitive to all that is thrown at the receiving end ie H,V, cw, ccw signals e.t.c. and all the rest that is thrown at it which it converts to a useable current signal for the radio.Now if you are still in a state of flux as to the use of equilibrium in all the laws of the Universe then you are still spitting into the wind.
Art Unwin KB9MZ....xg

937. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 19:47:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <s32iq5t8j1v2k9r3djvmkliko6ebu88fq4@4ax.com>
Source record: 10537

On Mon, 22 Mar 2010 18:24:06 -0700, "Joel Koltner"
<zapwireDASHgroups@yahoo.com> wrote:

>What are the significant loss mechanisms that he's not accounting for? (He
>claims his matching network isn't getting at all hot.)

Hi Joel,

Your source is thrashing against a number of conventions that he has
disproved by relying on Schopenhauer - what a wheeze! This is the
same argument that "revolutionary" thinkers appeal to forgetting that
their theories can be dismissed by the same mechanism.

Let's examine this heuristically (irony there). Two observations
provided by your source raise the temperature of
1. a can by 100 deg C with 100W;
2. a tube by 100 deg C with 150W.
Heat is always concerned with mass and surface area, and heat transfer
is expressed in Watts per square Meter. Temperature rise is expressed
in joules for specific heat capacity and mass.

The two examples provided by the source differ by -50/+100% in heat
transfer. How does this impact the development of a "new theory?"
Let's revisit the two examples normalized to transfer:
1. the can exhibits 127W/mï¿½
2. the tube exhibits 57.7W/mï¿½
Such discrepancies are meaningless? I assume so, because the source
doesn't respond to answering them.

There is, of course, a very simple explanation that heuristics reveals
in specific heat capacity (a term completely absent from the
discussion of heat in a radiator).

Let's consider the nearly 1m loop with a heating wire inside -
curiously unspecified for such a "scientific" and unbiased report. It
is, in fact, an 18ga wire of 80% nickel and 20% chromium (yes
nichrome) which by the current supplied heats up to 550 deg. C. These
details must be immaterial to the original source that ignores them.

Could one imagine a heater wire at 550deg. C heating the outer tube by
100 deg C only? Well, let's consider that light bulb in the can that
exhibits double the heat transfer. It's filament is running at
somewhere between 2200 and 3000 deg C for the same temperature rise.
Nature must have some curious law of heat plateau in this "new
theory."

If we were to rely on heat reportings alone to carry the logic, then this vast wobbly range of -50/+100% reported values is not very compelling. Intuition is often appealed to in these pages (some call it heuristics); and it would seem that the heated wire, with 150W and supporting 550 deg C would eventually melt the antenna components. Where else is the heat at that temperature going? It is entirely contained by the copper tube. Yet our source does not reveal this - and ironically points out that would be the fate if RF could raise temperatures.

However, temperature is NOT power. How much power would it take to raise that specific 83 cm diameter looped 10 mm copper tube 100 deg C? The answer is 2.16 W-Hours. The 550 deg C hot wire is running at 150 W continuous and only pumping up the temperature a paltry 100 deg C. That is pretty pathetic.

The answer is ALSO 7800 W-Seconds. Clearly 150W for several seconds wouldn't make a noticeable heat boost. That is pretty pathetic too.

Obviously heat rise is a product of time (the term "rise" demands this) and yet throughout this source's "scientific" and unbiased report time measurement for these heat readings are wholly absent. How many in this forum recognize the duty cycle of a typical QSO in this? How many antenna failures follow from heat, how many QSOs still suffer from poor efficiency?

For those who care, the formula is simple:
Q = m ï¿½ C ï¿½ (Tf - Ti)
where
Q is joules
m is mass in grams
Tf is final temperature (K or C)
Ti is initial temperature (K or C)
C is specific heat capacity in
J/(K ï¿½ g)
or
J/(C ï¿½ g)
and for copper is 0.39

For comparison, water's specific heat capacity is 4.18, more than ten times higher and thus more power is required to raise water that same 100 deg. and this is why water is used in radiators. Mineral oil runs about half that (and folks struggle to obtain transformer oil for their dummy loads when water is superior).

An aluminum tube at 0.90 is thus going to run cooler than copper when we put a heater wire inside (for the same, unstated, time interval).

Given the inordinate number of facts missing, undisclosed time intervals, no discussion of heat capacity (in a heat report) and the

obvious cynicism cloaked in "heuristics, science, and unbias" -
further reading on other topics has every chance of being equally
blighted.

To put icing on the cake, I am astonished that the original source can
only eke out low 90s percent efficiency in the 20M band! To employ
the original source's arguments: Put 450W to that sucker and tell us
where the 20 to 30W were lost. As it takes only 2W-Hr to raise that
antenna 100 deg C, that air cooled dummy load must be boiling rain and
burning fog.

--- and then again, maybe I did the math wrong.....

73's
Richard Clark, KB7QHC

938. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 20:05:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <Y4GdnfH8TupqgzTWnZ2dnUVZ_tGdnZ2d@giganews.com>
Source record: 10538

On the surface, the method seems reasonable. However, remember that heat (which is energy) is removed by three mechanisms: conduction, convection, and radiation. And the temperature rise depends on the rate heat is lost through these three. The effectiveness of each mechanism will be different for each part of the antenna structure. So to realistically judge the temperature rise due to RF compared to DC, the two have to be distributing heat to the same parts of the antenna in the same amounts. This isn't a trivial task, and no care was taken to do so.

An additional problem with the method is that no attempt was apparently made to actually measure the amount of RF power being applied to the antenna. So knowing the amount of power required for equal heating would be insufficient for determining efficiency even if it could be accurately measured.

That the method fails is demonstrated by the results. The author concludes that the sample antennas have much higher efficiency than known and proven physical laws predict and countless measurements have confirmed. He's proposed "correcting" NEC, which applies known and proven physical laws, to agree with his "heuristic" measurements based on poor methodology and no direct measurement of efficiency such as field strength. This is a common theme of junk science, and firmly identifies this work as being in that category. A search for flaws in his measurement methods is much more likely to be fruitful than searching for fundamental flaws in NEC and current physical laws.

But I'm sure that some of the same folks who swallow homeopathic remedies and arrange their lives around astrological predictions will replace their 160 meter towers with tiny wire loops. P.T. Barnum's famous observation is still true.

Roy Lewallen, W7EL

939. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 20:07:17 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <79ea39c3-520a-4e06-a5e5-1788eb403cc0@15g2000yqi.googlegroups.com>
Source record: 10539

On Mar 21, 7:38 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:bf09ea0f-25d2-4c6e-b0f4-f662abb3778c@c16g2000yqd.googlegroups.com...
> On Mar 21, 3:25 pm, Bill <k4...@arrl.net> wrote:
>
>
>
> > On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:
>
> > > If it is this
> > > article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> > > Then more was given.
>
> > > It was an experiment in skin depth.
>
> > Strictly speaking the page describes a demonstration from page 321 of
> > this book:
>
> > G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
> > Radiation, (MIT Press, 1977)
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> >http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2
>
> > A reviewer comments, "MITonline offers the course based on this book
> > for free. The course is great! This book is a less engaging, but a
> > more comprehensive version of A.P. French's original text for the
> > course. There are many gems in the book, such as insights into
> > microwave oven fundamentals, that are not present in basic texts.
> > Beware the softcover binding, it needs a gentle hand. "
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> What does the book point to, waves or particles? We all have plenty of
> books and all cannot agree on the subject on radiation! In other words
> they have placed their own interpretations of the observations seen
> with the double slit experiment as over ruling of all and cast in
> stone. This is what the physics forum sponsered by Scientific American
> said to me as they banned me because of my temerety in challenging
> their position.In addition they stated that it is not possible outside
> the physcics spectrum to challenge anything which thus puts all in the
> spectrum of crackpots. Dr Davis of MIT provided the mathematics

> that confirmed the presense of particles, but mathematics was not
> considered a reputable answer compared to the majority argument that
> the mathematical aproach was illegal.
> So waves hold the majority in the books but by its very presence all
> understanding of radiation has been stymied for the last hundred
> years by the resistance to change without any accumpanying facts and
> where physicists refuse to review to re examine what they state is now
> "cast in stone." New books are written every year via plagarisation
> for personal profit where the professor orders purchase of such books
> for his pay off. Not one has come out with a review of radiation and
> why progress has been stymied. And that goes for Radcom and QST who
> have no real interest in advancing the hobby of its members.
> Regards
> Art
>
> Art,
>
> The double slit experiment clearly points to particles or photons. The slits
> are very narrow (otherwise the experiments don't work) and the wave like
> properties are caused by the interaction of the particles with the atoms in
> the walls of the slit as they pass through. The slit is modulating the
> particles if you like.
>
> We know that individual particles are involved because they can be counted
> one by one through a detector.
> We know that wave like properties are involved because of the effects
> observed on a screen placed behind a diffraction grid.
>
> The observed properties are due to influence exerted on the particles as
> they pass through the diffraction grid by the atomic structure of the grid
> itself. Unless the experiment were carried out at absolute zero, the atoms
> in the walls of the slit are vibrating and must influence the photon as it
> passes through.
>
> At absolute zero, nothing would be moving, including the photon, so the
> experiment collapses at this point.
>
> Photons are particles that display wave like behaviour under particular
> conditions.
>
> Mike g0uli

Mike you know and I know that the double split experiment was
interpreted as evidence
that radiation is created by a wave and not a particle as in quantum
mechanics. This being in opposition to the thinking of the masters of
the day . The descision made went far beyond the duallity stage when
they made this interporetation. Now it is called the infamaos
experiment as they have now identified the initial observations as a
result of particles. To my knoweledge there is no books available for

University students to get up to date as physicist are reluctant to change or to admit errors. Until this is done students will continue to remember what the books state to pass their examinations. A long time has passed since the time of Maxwell and the books still force Universities to stick with fields and waves where nobody can procede in the search for truth as we do not know the mass of the waves or the energy mechanism of the revolving door of such. This group who have been taught to memorize what a professor states and not to question by first principles of what is stated then they all know what to encircle at exam time from a to c which is what the professor said and has nothing to do with reality. It is not surprising that Einstein failed in his quest to describe the Standard Model as he was building on the shoulders of those that preceded him on the assumption that they were free from error. Now with computers we have a tremedous amount of formulas that are built on errors which leaves huge gaps in understanding and the number of constants and predicted particles to make sense of all these manufactured formulae based on error. It is not surprizing that physicists are getting away with all this tripe by stating that all those outside the discipline are all crackpots as they have had no instruction on their version of the discipline of mathematics. Now we are all paying for the multi million CERN project that is intended to break the smallest particle known to obtain a lesser mass so the speed of light can be exceeded.As for the Higgs field
predicted by their wierd forms of mathematics it will be found as a constant squared divided by the mas of numourous unfound but predicted particles!

940. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 20:38:04 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <OE9qn.80380$Bs1.27554@en-nntp-01.dc1.easynews.com>
Source record: 10540

Thanks Roy, your observations and Richard's detailed discussion are just what
I was looking for.

I hope you sell a bunch of copies of EZNEC at Dayton this year!

---Joel

941. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 20:40:29 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hob8vtbjv1@news.jpl.nasa.gov>
Source record: 10542

Joel Koltner wrote:
> Hi Tim,
>
> "Tim Shoppa" <shoppa@trailing-edge.com> wrote in message
> news:4f97dfd4-1b3e-40fa-ad60-13030a10eea5@z4g2000yqa.googlegroups.com...
> On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> wrote:
>> I think his method, especially for physically compact antennas and
>> feed systems which tend to have very low radiation resistance at HF
>> frequencies, is a great check on theoretical calculations. There has
>> to be a meeting point between mathematical models/NEC and reality and
>> he is working at one such point.
>
> Agreed -- the controversy comes into play in that he ends up computing
> electrically-small loop antennas as being upwards of 70-90% efficient,
> when everyone "knows" that such antennas are typically <<10% efficient.
> He even goes after Chu/Wheeler/McLean/etc. in suggesting that the
> fundamental limits for the Q of an ESA are orders of magnitude off
> (slide 47), and that's pretty sacrosanct terriority (see, e.g.,
> www.slyusar.kiev.ua/Slyusar_077.pdf -- even the Ruskies buy into the
> traditional results :-)).

One wants to be careful about "Q" and Chu, etc. If you haven't
actually read the paper, you might think that Chu is talking about Q as
in filter bandwidth (e.g. center frequency/3dB bandwidth), but it's not.
It's the ratio of energy stored in the system to that radiated/lost.
For some systems, the two are the same, but not for all.

942. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 20:41:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hob91lbjv2@news.jpl.nasa.gov>
Source record: 10541

Joel Koltner wrote:
> Hi Jim,
>
> Thanks for the thoughts; I hadn't thought of many of the additional loss
> mechanisms you mention.
>
> "Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
> news:4BA8F0BB.7060009@jpl.nasa.gov...
>> In the subject case here, think of this: say you had a 2cm diameter
>> copper bar and you run 100 Amps of DC through it. The current is
>> distributed evenly, as is the power dissipation. Now run 1 MHz RF
>> through that same bar. The skin depth is about .065 mm, so virtually
>> ALL the RF current is contained within a layer less than 1/3 mm thick.
>> That's a very different heat and thermal distribution (sort of like
>> the difference between putting that thick steak in the 200F oven and
>> throwing it on the blazing hot grill).
>
> If you're just looking at surface temperature (i.e., with a thermal
> camera), will it take more or power at 1MHz to obtain a given surface
> temperature increase than at DC?
>
> At DC, since you're heating up the entire bar, and the only way for the
> heat to go is up "out" to the surface... I'm thinking... less power is
> needed for a given rise?
>
> That would certainly then overestimate antenna efficiency.
>

And one would need to be careful about when you've reached thermal
equilibrium (if ever)

943. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 22:30:56 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <Bibqn.247195$vr1.16214@en-nntp-07.dc1.easynews.com>
Source record: 10543

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:hob8vtbjv1@news.jpl.nasa.gov...
> One wants to be careful about "Q" and Chu, etc. If you haven't actually
> read the paper, you might think that Chu is talking about Q as in filter
> bandwidth (e.g. center frequency/3dB bandwidth), but it's not.

I read it well over a decade ago. I like to think I've learned a fair amount since then, so I should probably go back and do it again some time...

I had McLean as a professor as an undergraduate -- he was already ruminating about Chu not having the full story back in the early '90s, several years prior to his (apparently pretty regularly referenced) paper on the topic on '96
(http://www.physics.princeton.edu/~mcdonald/examples/EM/mclean_ieeetap_44_672_96.pdf).
(He was also a fan of Goubau antennas and wanted me to help him figure out just how they worked... I never managed to contribute anything of use towards that end and graduated and moved, but I did visit him a few years later at which point he told me it'd really been rather more difficult to figure out then he'd first thought. Harumph! I do think it's cool that it eventually ended up on a cover of a book:
http://www.amazon.com/Electrically-Small-Superdirective-Superconducting-Antennas/dp/0471782556)

> It's the ratio of energy stored in the system to that radiated/lost. For
> some systems, the two are the same, but not for all.

Something like... it's exactly true of a simple RLC network (2*pi*total stored energy/energy lost per cycle)... but one can concoct fancy, higher-order networks where it isn't exactly correct?

---Joel

944. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-23 23:34:14 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <273cf61f-2097-4d1c-a8d9-848f0954fa10@g4g2000yqa.googlegroups.com>
Source record: 10544

> Joe, I wanted a debate as to why adding a time varying field to a
> boundary enclosed static particles in equilibrium is illegal.

your whole concept is malformed. if the 'static particles' are in
'equilibrium' (i.e. not moving) and then you add a time varying field
the particles are going to start moving and won't be in equilibrium
any more... assuming of course the particles are charged or have a
magnetic moment.

> This is in opposition to what the books say.

which books. quote titles and paragraphs and what you think you
oppose in them. i have given you my quotes as to why it is not
necessary to add a time parameter to gauss's law and you ignore it.

> My whole theory lives or dies on how this is resolved. Nobody will
> provide technical details as to why this is illegal.

then you better start hunting for a new theory. i have provided you
formulas in the past and you have ignored them... personally i don't
think you even understand the concepts and have probably ignored me on
purpose just so you can continue to blather on to get more attention.

945. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 00:20:53 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9b12a7ca-4e10-4b6b-99ee-0eb55491168a@g10g2000yqh.googlegroups.com>
Source record: 10545

On Mar 23, 6:34 pm, Dave <k1...@arrl.net> wrote:
> > Joe, I wanted a debate as to why adding a time varying field to a
> > boundary enclosed static particles in equilibrium is illegal.
>
> your whole concept is malformed. if the 'static particles' are in
> 'equilibrium' (i.e. not moving) and then you add a time varying field
> the particles are going to start moving and won't be in equilibrium
> any more... assuming of course the particles are charged or have a
> magnetic moment.
>
> > This is in opposition to what the books say.
>
> which books. quote titles and paragraphs and what you think you
> oppose in them. i have given you my quotes as to why it is not
> necessary to add a time parameter to gauss's law and you ignore it.
>
> > My whole theory lives or dies on how this is resolved. Nobody will
> > provide technical details as to why this is illegal.
>
> then you better start hunting for a new theory. i have provided you
> formulas in the past and you have ignored them... personally i don't
> think you even understand the concepts and have probably ignored me on
> purpose just so you can continue to blather on to get more attention.

As i said before, if you do not accept the laws of physics then we
cannot debate physics
Probably the best thing to happen for both of us! You can take a horse
to the water trough
but you can't make it drink. Especially when it puts his arse to the
front and lets loose with hot air.Your last statement shows all who
you are and what you are. Free speech can have its price.

946. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 00:46:11 UTC
From: joe <none@domain.invalid>
Message-ID: <hobn73hmg1@speranza.aioe.org>
Source record: 10546

Art Unwin wrote:
> On Mar 23, 6:34 pm, Dave <k1...@arrl.net> wrote:
>>> Joe, I wanted a debate as to why adding a time varying field to a
>>> boundary enclosed static particles in equilibrium is illegal.
>> your whole concept is malformed. if the 'static particles' are in
>> 'equilibrium' (i.e. not moving) and then you add a time varying field
>> the particles are going to start moving and won't be in equilibrium
>> any more... assuming of course the particles are charged or have a
>> magnetic moment.
>>
>>> This is in opposition to what the books say.
>> which books. quote titles and paragraphs and what you think you
>> oppose in them. i have given you my quotes as to why it is not
>> necessary to add a time parameter to gauss's law and you ignore it.
>>
>>> My whole theory lives or dies on how this is resolved. Nobody will
>>> provide technical details as to why this is illegal.
>> then you better start hunting for a new theory. i have provided you
>> formulas in the past and you have ignored them... personally i don't
>> think you even understand the concepts and have probably ignored me on
>> purpose just so you can continue to blather on to get more attention.
>
> As i said before, if you do not accept the laws of physics then we
> cannot debate physics
> Probably the best thing to happen for both of us! You can take a horse
> to the water trough
> but you can't make it drink. Especially when it puts his arse to the
> front and lets loose with hot air.Your last statement shows all who
> you are and what you are. Free speech can have its price.

Once again, you throw insults when the discussion does not go your way.
I'm not sure you even know who you replied to.

As far as folks not debating you, first present your position in a clear
way with the appropriate math and equations. Allow others to try to
understand your way of thinking. To date, you have not provided the kind
of detail necessary for the kind of debate you would like.

As I said before, just adding "+t" to an equation does not make it
right. If I've interpreted your position wrong, then it is because you
have not clearly expressed it.

The ball, as it has always been, is in your court.

It is not a matter of accepting the laws of physics. It is what you do
with/to them that may be the problem.

If you want to discuss physics, present your case the way those knowledgeable in the field would do.

947. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 01:10:15 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <fa39403e-3773-4afa-aae1-ee52809c20ad@q15g2000yqj.googlegroups.com>
Source record: 10547

On Mar 23, 7:46 pm, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
> > On Mar 23, 6:34 pm, Dave <k1...@arrl.net> wrote:
> >>> Joe, I wanted a debate as to why adding a time varying field to a
> >>> boundary enclosed static particles in equilibrium is illegal.
> >> your whole concept is malformed. if the 'static particles' are in
> >> 'equilibrium' (i.e. not moving) and then you add a time varying field
> >> the particles are going to start moving and won't be in equilibrium
> >> any more... assuming of course the particles are charged or have a
> >> magnetic moment.
>
> >>> This is in opposition to what the books say.
> >> which books. quote titles and paragraphs and what you think you
> >> oppose in them. i have given you my quotes as to why it is not
> >> necessary to add a time parameter to gauss's law and you ignore it.
>
> >>> My whole theory lives or dies on how this is resolved. Nobody will
> >>> provide technical details as to why this is illegal.
> >> then you better start hunting for a new theory. i have provided you
> >> formulas in the past and you have ignored them... personally i don't
> >> think you even understand the concepts and have probably ignored me on
> >> purpose just so you can continue to blather on to get more attention.
>
> > As i said before, if you do not accept the laws of physics then we
> > cannot debate physics
> > Probably the best thing to happen for both of us! You can take a horse
> > to the water trough
> > but you can't make it drink. Especially when it puts his arse to the
> > front and lets loose with hot air.Your last statement shows all who
> > you are and what you are. Free speech can have its price.
>
> Once again, you throw insults when the discussion does not go your way.
> I'm not sure you even know who you replied to.
>
> As far as folks not debating you, first present your position in a clear
> way with the appropriate math and equations. Allow others to try to
> understand your way of thinking. To date, you have not provided the kind
> of detail necessary for the kind of debate you would like.
>
> As I said before, just adding "+t" to an equation does not make it
> right. If I've interpreted your position wrong, then it is because you
> have not clearly expressed it.
>
> The ball, as it has always been, is in your court.

>
> It is not a matter of accepting the laws of physics. It is what you do
> with/to them that may be the problem.
>
> If you want to discuss physics, present your case the way those
> knowledgeable in the field would do.
xxxxxxxxxxxxx
Well you can discuss your ideas on physics with David. There are also
some on the group
who obviously understand classical physics. So you have a choice of a
sensible discussion
on physics as well as a discussion of your idea of physics. I await on
the side lines with interest to see what choice you make!

948. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 01:15:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hobp33aoh1@news.jpl.nasa.gov>
Source record: 10548

Joel Koltner wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
> news:hob8vtbjv1@news.jpl.nasa.gov...
>> One wants to be careful about "Q" and Chu, etc. If you haven't
>> actually read the paper, you might think that Chu is talking about Q
>> as in filter bandwidth (e.g. center frequency/3dB bandwidth), but it's
>> not.
>
> I read it well over a decade ago. I like to think I've learned a fair
> amount since then, so I should probably go back and do it again some
> time...
>
> I had McLean as a professor as an undergraduate -- he was already
> ruminating about Chu not having the full story back in the early '90s,
> several years prior to his (apparently pretty regularly referenced)
> paper on the topic on '96
> (http://www.physics.princeton.edu/~mcdonald/examples/EM/mclean_ieeetap_44_672_96.pdf).
> (He was also a fan of Goubau antennas and wanted me to help him figure
> out just how they worked... I never managed to contribute anything of
> use towards that end and graduated and moved, but I did visit him a few
> years later at which point he told me it'd really been rather more
> difficult to figure out then he'd first thought. Harumph! I do think
> it's cool that it eventually ended up on a cover of a book:
> http://www.amazon.com/Electrically-Small-Superdirective-Superconducting-Antennas/dp/0471
782556
>)
>
>> It's the ratio of energy stored in the system to that radiated/lost.
>> For some systems, the two are the same, but not for all.
>
> Something like... it's exactly true of a simple RLC network (2*pi*total
> stored energy/energy lost per cycle)... but one can concoct fancy,
> higher-order networks where it isn't exactly correct?
>

or, an antenna, for which the approximation of an RLC is only true in a
limited frequency range.

There's a fairly good literature out there about the limitations of Chu
(after all, he was only the first shot, and modeled it as a single
spherical mode). Harrington was the next bite at the apple, and then
there's a whole raft, particularly when you get into superdirective
arrays or antennas/systems which have non-reciprocal devices in them.
R.C. Hansen and McLean (as you note) are others. When you start talking
about antennas directly coupled to active devices, that's another thing..

Consider that the low impedance of a small loop is a good "match" to the low output impedance of semiconductor devices in RF applications.. Now you've got a reactive load hooked to a reactive source.

949. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 02:07:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba973df$0$633$8046368a@newsreader.iphouse.net>
Source record: 10549

On 3/23/2010 11:22 AM, Art Unwin wrote:
> Word to the wise
> When looking at the boundarylaws with respect to statics we are
> looking at an "instant"

Sorry Art. That would be "word to the uneducated" as you have described
things.

But keep it up. It is very amusing when you are off your meds.

tom
K0TAR

950. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 02:15:07 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba975a6$0$633$8046368a@newsreader.iphouse.net>
Source record: 10550

```
On 3/23/2010 1:44 PM, Art Unwin wrote:
> On Mar 23, 1:10 pm, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>> On Mar 23, 1:56 pm, Art Unwin<arthurun...@gmail.com> wrote:
>>
>>
>>
>>> On Mar 23, 12:13 pm, Tim Shoppa<sho...@trailing-edge.com> wrote:
>>
>>>> On Mar 22, 9:24 pm, "Joel Koltner"<zapwireDASHgro...@yahoo.com>
>>>> wrote:
>>
>>>>> I know that many people think G3LHZ is a little bit off his rocker, but out of
>>>>> curiosity... what he suggests on slide 15
here:http://frrl.files.wordpress.com/2009/03/isoloop_all-sorts-of-small-an...
>>>>> - is that a valid approach to measuring antenna efficiency? -- Use a thermal
>>>>> camera to note how much an antenna heats up with a given input power, find out
>>>>> how much DC power it required to heat it to the same temperature (the
>>>>> antenna's loss), and -- poof! -- antenna efficiency = (input power-loss)/input
>>>>> power?
>>
>>>>> What are the significant loss mechanisms that he's not accounting for? (He
>>>>> claims his matching network isn't getting at all hot.)
>>
>>>> With some feedlines and frequencies, feedline radiation can become an
>>>> issue. For example, using 4" ladder line at UHF.
>>
>>>> I think his method, especially for physically compact antennas and
>>>> feed systems which tend to have very low radiation resistance at HF
>>>> frequencies, is a great check on theoretical calculations. There has
>>>> to be a meeting point between mathematical models/NEC and reality and
>>>> he is working at one such point. There are of course other points too
>>>> (e.g. near field and far field measurements).
>>
>>>> Tim.
>>
>>> I can't see how the external fields come into it! That would
>>> automatically be within the two vectors that supply acceleration, this
>>> would be measure by the skin depth created by the displacement
>>> current. The accelleration of charge is a constant dependent on the
>>> conductor used. Where the particle goes when acceleration stops i.e.
>>> after leaving the boundary is of no consequence.This would be seen in
>>> the oscillation losses of the radiator
>>> in the same way as with a pendulum
>>
```

>> If you dont understand external fields then you dont understand
>> Maxwell's equations at all. Maxwell is all about fields. This pretty
>> much means you havent had a clue about anything you have ever said
>> about antennas.
>>
>> Jimmie
>
> Jimmy
> I am referring to the boundary laws which is energy in versus energy
> out.
> Maxwells laws finish with the completion of acceleration of charge.

Hmmmmmm.

I thought that you claimed Maxwell is STATIC.

How can anything static accelerate something?

Sorry, I should have spelled it "accellerated", which is probably
another new thing you have made up. So if that's what's going on here,
I apollojive.

tom
K0TAR

> The boundary laws are covered by this action and reaction per Newton.
> The particle that is accellerated is the smallest known with respect
> to mass and we know that it is accellerated to the speed of light
> which is known for any particular medium.
<snip nonsense>
</snip nonsense>
> Art Unwin KB9MZ....xg

951. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 02:22:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba97758$0$639$8046368a@newsreader.iphouse.net>
Source record: 10451

On 3/23/2010 7:20 PM, Art Unwin wrote:
>> your whole concept is malformed. if the 'static particles' are in
>> 'equilibrium' (i.e. not moving) and then you add a time varying field

Equilibrium does not mean not moving.

I won't go any deeper since you have problems with things complex and go
into babble mode when confronted with them.

tom
K0TAR

952. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 02:26:07 UTC
From: tom <news4792@taring.org>
Message-ID: <4ba9783a$0$639$8046368a@newsreader.iphouse.net>
Source record: 10452

On 3/23/2010 8:10 PM, Art Unwin wrote:
> On Mar 23, 7:46 pm, joe<n...@domain.invalid> wrote:
>> If you want to discuss physics, present your case the way those
>> knowledgeable in the field would do.
> xxxxxxxxxxxxx
> Well you can discuss your ideas on physics with David. There are also
> some on the group
> who obviously understand classical physics. So you have a choice of a
> sensible discussion
> on physics as well as a discussion of your idea of physics. I await on
> the side lines with interest to see what choice you make!

And Art, as usual, waits on the side defined by fantasy.

tom
K0TAR

953. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 02:35:39 UTC
From: Tim Shoppa <shoppa@trailing-edge.com>
Message-ID: <d7811911-e362-4cd3-b487-441ae444a651@t20g2000yqe.googlegroups.com>
Source record: 10453

On Mar 23, 1:50 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
wrote:
> Hi Tim,
>
> "TimShoppa" <sho...@trailing-edge.com> wrote in message
>
> news:4f97dfd4-1b3e-40fa-ad60-13030a10eea5@z4g2000yqa.googlegroups.com...
> On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> wrote:
>
> > I think his method, especially for physically compact antennas and
> > feed systems which tend to have very low radiation resistance at HF
> > frequencies, is a great check on theoretical calculations. There has
> > to be a meeting point between mathematical models/NEC and reality and
> > he is working at one such point.
>
> Agreed -- the controversy comes into play in that he ends up computing
> electrically-small loop antennas as being upwards of 70-90% efficient, when
> everyone "knows" that such antennas are typically <<10% efficient. He even
> goes after Chu/Wheeler/McLean/etc. in suggesting that the fundamental limits
> for the Q of an ESA are orders of magnitude off (slide 47), and that's pretty
> sacrosanct terriority (see, e.g.,www.slyusar.kiev.ua/Slyusar_077.pdf -- even
> the Ruskies buy into the traditional results :-)).
>
> Hence, while I don't really have the background to know precisely how much of
> what Underhill promotes is true or not, it's definitely intriguing to me, and
> I'm looking around for various rebuttals by those more skilled in the art than
> I am.
>
> One link I found:http://qcwa70.org/truth%20and%20untruth.pdf(but this was
> written before the PowerPoint presentation I originally linked to).

I'm pretty sure that it is not so easy to just measure power in, heat
lost, and assume that everything else is being usefully radiated.

I think that after you've modeled and then built an antenna, that heat
loss and temperature measurements are valuable to determine if the
assumptions you put into the NEC model regarding loss etc. are correct
or not, and where you need to improve your model, especially of
materials like dielectrics.

Even the heat loss measurements require some fairly heavy modeling
just to convert the IR camera images to actual watts per square cm.
Think it's purely radiative? Sometimes yeah, but make the wrong
assumption when really it's convective and you can be off by a factor

of ten to thirty.

Tim.

954. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 03:09:58 UTC
From: Mike Kaliski <michael.kaliski@tesco.net>
Message-ID: <DvCdncyFs4YWHzTWnZ2dnUVZ8l2dnZ2d@bt.com>
Source record: 10454

"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:79ea39c3-520a-4e06-a5e5-1788eb403cc0@15g2000yqi.googlegroups.com...
On Mar 21, 7:38 pm, "Mike Kaliski" <michael.kali...@tesco.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:bf09ea0f-25d2-4c6e-b0f4-f662abb3778c@c16g2000yqd.googlegroups.com...
> On Mar 21, 3:25 pm, Bill <k4...@arrl.net> wrote:
>
>
>
> > On Mar 21, 4:59 pm, joe <n...@domain.invalid> wrote:
>
> > > If it is this
> > > article,http://www.fas.harvard.edu/~scidemos/ElectricityMagnetism/SkinDepth/S...
> > > Then more was given.
>
> > > It was an experiment in skin depth.
>
> > Strictly speaking the page describes a demonstration from page 321 of
> > this book:
>
> > G. Bekefi and A. H. Barrett, Electromagnetic Vibrations, Waves and
> > Radiation, (MIT Press, 1977)
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> >http://mitpress.mit.edu/catalog/item/default.asp?tid=7576&ttype=2
>
> > A reviewer comments, "MITonline offers the course based on this book
> > for free. The course is great! This book is a less engaging, but a
> > more comprehensive version of A.P. French's original text for the
> > course. There are many gems in the book, such as insights into
> > microwave oven fundamentals, that are not present in basic texts.
> > Beware the softcover binding, it needs a gentle hand. "
>
> >http://www.amazon.com/Electromagnetic-Vibrations-Radiation-George-Bek...
>
> What does the book point to, waves or particles? We all have plenty of
> books and all cannot agree on the subject on radiation! In other words
> they have placed their own interpretations of the observations seen
> with the double slit experiment as over ruling of all and cast in
> stone. This is what the physics forum sponsered by Scientific American
> said to me as they banned me because of my temerety in challenging
> their position.In addition they stated that it is not possible outside

> the physcics spectrum to challenge anything which thus puts all in the
> spectrum of crackpots. Dr Davis of MIT provided the mathematics
> that confirmed the presense of particles, but mathematics was not
> considered a reputable answer compared to the majority argument that
> the mathematical aproach was illegal.
> So waves hold the majority in the books but by its very presence all
> understanding of radiation has been stymied for the last hundred
> years by the resistance to change without any accumpanying facts and
> where physicists refuse to review to re examine what they state is now
> "cast in stone." New books are written every year via plagarisation
> for personal profit where the professor orders purchase of such books
> for his pay off. Not one has come out with a review of radiation and
> why progress has been stymied. And that goes for Radcom and QST who
> have no real interest in advancing the hobby of its members.
> Regards
> Art
>
> Art,
>
> The double slit experiment clearly points to particles or photons. The
> slits
> are very narrow (otherwise the experiments don't work) and the wave like
> properties are caused by the interaction of the particles with the atoms
> in
> the walls of the slit as they pass through. The slit is modulating the
> particles if you like.
>
> We know that individual particles are involved because they can be counted
> one by one through a detector.
> We know that wave like properties are involved because of the effects
> observed on a screen placed behind a diffraction grid.
>
> The observed properties are due to influence exerted on the particles as
> they pass through the diffraction grid by the atomic structure of the grid
> itself. Unless the experiment were carried out at absolute zero, the atoms
> in the walls of the slit are vibrating and must influence the photon as it
> passes through.
>
> At absolute zero, nothing would be moving, including the photon, so the
> experiment collapses at this point.
>
> Photons are particles that display wave like behaviour under particular
> conditions.
>
> Mike g0uli

Mike you know and I know that the double split experiment was
interpreted as evidence
that radiation is created by a wave and not a particle as in quantum
mechanics. This being in opposition to the thinking of the masters of

the day . The descision made went far beyond the duallity stage when they made this interporetation. Now it is called the infamaos experiment as they have now identified the initial observations as a result of particles. To my knoweledge there is no books available for University students to get up to date as physicist are reluctant to change or to admit errors. Until this is done students will continue to remember what the books state to pass their examinations. A long time has passed since the time of Maxwell and the books still force Universities to stick with fields and waves where nobody can procede in the search for truth as we do not know the mass of the waves or the energy mechanism of the revolving door of such. This group who have been taught to memorize what a professor states and not to question by first principles of what is stated then they all know what to encircle at exam time from a to c which is what the professor said and has nothing to do with reality. It is not surprising that Einstein failed in his quest to describe the Standard Model as he was building on the shoulders of those that preceded him on the assumption that they were free from error. Now with computers we have a tremedous amount of formulas that are built on errors which leaves huge gaps in understanding and the number of constants and predicted particles to make sense of all these manufactured formulae based on error. It is not surprizing that physicists are getting away with all this tripe by stating that all those outside the discipline are all crackpots as they have had no instruction on their version of the discipline of mathematics. Now we are all paying for the multi million CERN project that is intended to break the smallest particle known to obtain a lesser mass so the speed of light can be exceeded.As for the Higgs field
predicted by their wierd forms of mathematics it will be found as a constant squared divided by the mas of numourous unfound but predicted particles!

Hi Art,

The problem with many of these discussions is that there is a mathematical, perfect model and then the real world. The real world is imperfect and full of minute flaws and discrepances that tend to be smoothed over and cancelled out at large scales, but have very real effects at molecular and smaller dimensions. The mathematical models will work just fine at making predictions in the every day world we are used to, but tend to fail when scaled up to the truely immense or down to molecular levels. This is not necessarily a fault of the maths or the theory, it just means that not all the factors that affect the calculation are known or accounted for.

People have indulged themselves in calculating PI to umpteen decimal places. What is the point? By the time you get to 100 decimal places you could probably plot a single atom anywhere in the known universe to within a fraction of its diameter. A third displayed as a decimal fraction comes out as 0.333... but we also know that the 0.00...1 does not actually exist. So there is a flaw in the way that a fraction can be displayed at a very basic level in mathematics and this does cause errors in calculations. These can

be accounted for by using different methods to arrive at the correct answer, but the calculation is a lot more complicated using decimal arithmetic than just adding 1/3+1/3+1/3 and arriving at the correct answer of 1.

So the answers you get seem to depend on the methods you use. The skill is in deciding what is the most appropriate method that gives a best match to the observed results and also gives the most accurate predictions for the results that might be observed in future experiments.

Science creeps along step by step improving accuracy and developing models that more nearly match the real world with each generation building on the foundations of those that have gone before.

Maxwell's equations have served pretty well and I'm personally not convinced that adding a time term to the equations is necessary to improve everyday predictions of antenna performance. You, of course, disagree because your antenna designs are supposed to generate RF in a different manner to conventional designs. I don't have a problem with that at all, you have to use the most appropriate tools you have to support your ideas. But novel ideas are always a hard sell and it is always an up hill struggle to overturn an established orthodoxy, no matter if you are right. Unfortunately it takes time for new ideas to become accepted. Most of the Nobel prize winners seem to have waited many years before their achievements are acknowledged. It seems a shame that they win a prize at the end of their careers when one wonders what they could have achieved with the additional funds if they had been available at the peak of their abilities. Such is life.

Incidently, I'm a great fan of CERN and the fusion projects. I know they are currently seen as huge white elephants and an unnecessary drain on the economy, but I believe that they are necessary for future science and securing a viable means of sustainable power generation. Finding a Higgs particle may not have a direct effect on your everyday life, but it does have enormous implications for the future of physics and pedictions about what may or may not be possible in the future.

Regards

Mike g0uli

955. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 03:32:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <1dc1e156-0b60-4e82-a0da-45d999cf4a79@q21g2000yqm.googlegroups.com>
Source record: 10455

On Mar 23, 9:35 pm, Tim Shoppa <sho...@trailing-edge.com> wrote:
> On Mar 23, 1:50 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> wrote:
>
>
>
> > Hi Tim,
>
> > "TimShoppa" <sho...@trailing-edge.com> wrote in message
>
> >news:4f97dfd4-1b3e-40fa-ad60-13030a10eea5@z4g2000yqa.googlegroups.com...
> > On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > wrote:
>
> > > I think his method, especially for physically compact antennas and
> > > feed systems which tend to have very low radiation resistance at HF
> > > frequencies, is a great check on theoretical calculations. There has
> > > to be a meeting point between mathematical models/NEC and reality and
> > > he is working at one such point.
>
> > Agreed -- the controversy comes into play in that he ends up computing
> > electrically-small loop antennas as being upwards of 70-90% efficient, when
> > everyone "knows" that such antennas are typically <<10% efficient. He even
> > goes after Chu/Wheeler/McLean/etc. in suggesting that the fundamental limits
> > for the Q of an ESA are orders of magnitude off (slide 47), and that's pretty
> > sacrosanct terriority (see, e.g.,www.slyusar.kiev.ua/Slyusar_077.pdf -- even
> > the Ruskies buy into the traditional results :-)).
>
> > Hence, while I don't really have the background to know precisely how much of
> > what Underhill promotes is true or not, it's definitely intriguing to me, and
> > I'm looking around for various rebuttals by those more skilled in the art than
> > I am.
>
> > One link I found:http://qcwa70.org/truth%20and%20untruth.pdf(butthis was
> > written before the PowerPoint presentation I originally linked to).
>
> I'm pretty sure that it is not so easy to just measure power in, heat
> lost, and assume that everything else is being usefully radiated.
>
> I think that after you've modeled and then built an antenna, that heat
> loss and temperature measurements are valuable to determine if the
> assumptions you put into the NEC model regarding loss etc. are correct
> or not, and where you need to improve your model, especially of
> materials like dielectrics.

>
> Even the heat loss measurements require some fairly heavy modeling
> just to convert the IR camera images to actual watts per square cm.
> Think it's purely radiative? Sometimes yeah, but make the wrong
> assumption when really it's convective and you can be off by a factor
> of ten to thirty.
>
> Tim.

But Tim Maxwells equations are accepted every where and appear to be
valid.
Because of this antenna computer programs are based on these
equations.
Thus when a optimiser is added the program can change the input to one
that satisfies
Maxwells equations. Assuming programers did a good job in focusing on
the Maxwell equations then we are provided with an array that meets
Maxwells equations.
What more can we possibly need other than a program that accounts for
all forces involved for the generation of ALL radiation available for
communication use that can be propagated
If we have a distrust in the programers or in Maxwells laws then one
should ditch the arrays
supplied by an optimiser and find what some refer to as a "new
technology." Until one comes along we first have to delegitemise
Maxwell and we have been unable to do that!
Maxwells equations can be justified via all known laws in physics
including making static laws dynamic. and adhering to the absolute
requirement of equilibrium with respect to physics laws. The main
problem we have is misinterpretations we add by using lumped loads etc
which Maxwell never included same. This also is the case with the yagi
where
Maxwell never supplied anything with respect to planar or even a
stipulation that elements must be straight, parallel, resonant,
etc ,only EQUILIBRIUM. where all data can be placed on one side of an
equal sign and where on the other side MUST equal zero..
So we dance with the one that 'brung' us
Regards
Art

956. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 08:35:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <hocjhq$d14$1@nemesis.news.neostrada.pl>
Source record: 10456

"joe" <none@domain.invalid> wrote news:hobn73hmg1@speranza.aioe.org...
>
> Art Unwin wrote:
>> On Mar 23, 6:34 pm, Dave <k1...@arrl.net> wrote:
>>>> Joe, I wanted a debate as to why adding a time varying field to a
>>>> boundary enclosed static particles in equilibrium is illegal.
>
> As I said before, just adding "+t" to an equation does not make it right.
> If I've interpreted your position wrong, then it is because you have not
> clearly expressed it.

Art's antennas radiate from the ends. There are charges but they are not
static. Gauss flux is for staic charge. If you add "+t" the flux will be the
oscillating flux.

G3LHZ went to conclusion that antennas are source/sink. The same did Art. Am
I right, Art?

In such case particles (electrons?) oscillate also. But the waves consist of
oscillating "particles".
Maxwell's waves consist of rotating oscillations, Art's are longitudinal.
>
> The ball, as it has always been, is in your court.
>
> It is not a matter of accepting the laws of physics. It is what you do
> with/to them that may be the problem.
>
> If you want to discuss physics, present your case the way those
> knowledgeable in the field would do.

Art write too long posts.
S*

957. WEN FOR EVER

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 12:53:09 UTC
From: WINRAJA <winrajatnj14@gmail.com>
Message-ID: <45c2e0de-f4d2-4d0b-a27a-c0379276fca6@n39g2000prj.googlegroups.com>
Source record: 10457

http://cancerresearch-vijay.blogspot.com/
http://nutritionhealthnoni.blogspot.com/
http://vijay-forestenjoy.blogspot.com/
http://information-041.blogspot.com/
http://onlineworktamilnadu.blogspot.com/
http://vijay-onlinejob.blogspot.com/
http://online-trading111.blogspot.com/
http://hot-problem.blogspot.com/
http://vijay681.blogspot.com/
http://nutuernoni.blogspot.com/
http://nonisearch2008.blogspot.com

958. young sex acts - preteen nude pix - 3d young sex

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 13:06:24 UTC
From: leisha jerrica <leishajerri@gmail.com>
Message-ID: <a1f0821e-a4e1-4f57-b6b2-5361b7143ef7@y17g2000yqd.googlegroups.com>
Source record: 10458

http://dizzyporn.com/2010-Mar/Brutal_Lolita_Fucking_EDTV_720x576.avi
http://dizzyporn.com/2010-Mar/Preteen_Forced_Fucking.mp4
http://dizzyporn.com/2010-Mar/Young_Pissing_Scene.mpeg
http://dizzyporn.com/2010-Mar/Lolitas_Fingering_Pussy_800x600.wmv
http://dizzyporn.com/2010-Mar/Young_Lolita_Bondage_EDTV_640x480.avi
http://dizzyporn.com/2010-Mar/Hot_Lolita_Stripping.mpeg
http://dizzyporn.com/2010-Mar/Underage_Asian_Teens_Fucking.mpeg
http://dizzyporn.com/2010-Mar/Bizzare_Underage_Sex_HDRip.XviD.DVDRip.avi
http://dizzyporn.com/2010-Mar/Young_Sisters__Mobile.Spycam.3gp
http://dizzyporn.com/2010-Mar/Christine_Young_Hardcore_HDRip.XviD.DVDRip.avi
http://dizzyporn.com/2010-Mar/Yong_Lolita_Sex.avi
http://dizzyporn.com/2010-Mar/Lolita_Pussy_Licking_EDTV_720x576.avi
http://dizzyporn.com/2010-Mar/Christine_Young_Masturbation_BDRip.XviD.AC.avi

preteen nude pix
young man mouth
tiny young blonde nudes
japanese young schoolgirl
young leg thumbs
young and chubby
young whores stories
3d young sex
naked asian lolita pussy
free underage sex, preteen lolitas
young teens hardcore fucking
preteen ls
preteen top dreams
underage teen xxx
porn teen lolita swallows
tiny underage penis
dad fucks his very young dau
preteen panties
underage in thong
lolita preteen girl
12 preteen
lolita sex german
sweet youngest incest
lesbian underage rape
young jeezy: soul survivor
asian shemale young
young brunette bath
preteen male underwear models
long lolita movie galleries
young tiny lolita model top sites

young mature women
free preteen bestialitysex stories
rape gang young
mature young girl
underage preteen nude models
young in panties
free preteens nude
young old skinny fat sex
young women having sex
naughty young teens
old photos of young girls
young nude redheads
young white girl anals
young petite brunette
underage outside
very young lolita
lolitas cp pthc
young drunk girls
underage 3d sex pics
long island lolita
free underage girls nude galleries
free underage fetish sex stories
young couples having sex
freedom lolita
virgin-lolita porn photos
underage orgy
young latin boy
youngest girl pregnant
lolita x
young little girls pics
nympho lolita
lolita double deep throat
shaved asians preteens
lolita innocent
two young boys
preteen models tiny
preteen pregnant
naked preteen russian lolita
preteen taboo
sven's lolitas bbs
preteen girl pic
russian youngest boys
lolita masturbation
preteen pantyhose photos
cute underage preteens
cute young asians
too young for sex
underage lolitas tgp top
young girl fetish
gangbang underagelove

young boys cocks together
free underage pussy pictures
young baby girl
beauty young lolita
ebony preteen miniskirt
dark collections underage sex
dee & des underage
lolita sucking

959. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 20:03:09 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hodr5t$ek3k$1@tr22n12.aset.psu.edu>
Source record: 10459

Szczepan Bialek wrote:

> You should read and understand the slide 10:
>
> ". "All truth passes through three stages:
> - First it is ridiculed,
>
> - Second it is violently opposed,
>
> - Third it is accepted as being self-evident"."

This is great! My theory has always been that RF is like tiny little turds that fly off your antenna. And if you spend too much time transmitting and too little receiving, (after all, you antenna has to pick up little turds too) your antenna will get smaller.

I've already been ridiculed

I got beat up after the last Ham club meeting becasue they think I'm making fun of them and they hate my turd theory.

So any day now, I'll be the new antenna master. Stage three, here we come!

PS, the way a beam works is that the little turds hit the other elements and bounce back, making the signal more directional.

It's all accounted for in Mike's crappy antenna theory.

- 73 de Mike N3LI -

960. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 20:48:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <73ukq55vpal8629hr8l6a010mc515ik37m@4ax.com>
Source record: 10460

On Wed, 24 Mar 2010 16:03:09 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>I've already been ridiculed

Sorry Mike, but Schopenhauer himself has to spit on you from the grave
to make you truly the vicar of antennas.

Other posters would convince us they'd been through a shower of saliva
- thus achieving the status of Pope of Gaussian Enlightenment or at
least cardinal-elect wielding Maxwell's vector of the silver hammer.

73's
Richard Clark, KB7QHC

961. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 23:14:54 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <96d79c63-4ed6-41ee-99dc-42592540a5a3@x12g2000yqx.googlegroups.com>
Source record: 10461

On Mar 24, 12:20 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 23, 6:34 pm, Dave <k1...@arrl.net> wrote:
>
>
>
> > > Joe, I wanted a debate as to why adding a time varying field to a
> > > boundary enclosed static particles in equilibrium is illegal.
>
> > your whole concept is malformed. if the 'static particles' are in
> > 'equilibrium' (i.e. not moving) and then you add a time varying field
> > the particles are going to start moving and won't be in equilibrium
> > any more... assuming of course the particles are charged or have a
> > magnetic moment.
>
> > > This is in opposition to what the books say.
>
> > which books. quote titles and paragraphs and what you think you
> > oppose in them. i have given you my quotes as to why it is not
> > necessary to add a time parameter to gauss's law and you ignore it.
>
> > > My whole theory lives or dies on how this is resolved. Nobody will
> > > provide technical details as to why this is illegal.
>
> > then you better start hunting for a new theory. i have provided you
> > formulas in the past and you have ignored them... personally i don't
> > think you even understand the concepts and have probably ignored me on
> > purpose just so you can continue to blather on to get more attention.
>
> As i said before, if you do not accept the laws of physics then we
> cannot debate physics

it is you who does not accept the laws that you so much like to quote.

> You can take a horse to the water trough
> but you can't make it drink. Especially when it puts his arse to the
> front and lets loose with hot air.

and you are definitely good at letting loose with the hot air.

962. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 23:17:38 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <133c7f0d-5629-495d-8292-8abd5bc797d5@r1g2000yqj.googlegroups.com>
Source record: 10462

On Mar 24, 12:46 am, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
> > On Mar 23, 6:34 pm, Dave <k1...@arrl.net> wrote:
> >>> Joe, I wanted a debate as to why adding a time varying field to a
> >>> boundary enclosed static particles in equilibrium is illegal.
> >> your whole concept is malformed. if the 'static particles' are in
> >> 'equilibrium' (i.e. not moving) and then you add a time varying field
> >> the particles are going to start moving and won't be in equilibrium
> >> any more... assuming of course the particles are charged or have a
> >> magnetic moment.
>
> >>> This is in opposition to what the books say.
> >> which books. quote titles and paragraphs and what you think you
> >> oppose in them. i have given you my quotes as to why it is not
> >> necessary to add a time parameter to gauss's law and you ignore it.
>
> >>> My whole theory lives or dies on how this is resolved. Nobody will
> >>> provide technical details as to why this is illegal.
> >> then you better start hunting for a new theory. i have provided you
> >> formulas in the past and you have ignored them... personally i don't
> >> think you even understand the concepts and have probably ignored me on
> >> purpose just so you can continue to blather on to get more attention.
>
> > As i said before, if you do not accept the laws of physics then we
> > cannot debate physics
> > Probably the best thing to happen for both of us! You can take a horse
> > to the water trough
> > but you can't make it drink. Especially when it puts his arse to the
> > front and lets loose with hot air.Your last statement shows all who
> > you are and what you are. Free speech can have its price.
>
> Once again, you throw insults when the discussion does not go your way.
> I'm not sure you even know who you replied to.
>
> As far as folks not debating you, first present your position in a clear
> way with the appropriate math and equations. Allow others to try to
> understand your way of thinking. To date, you have not provided the kind
> of detail necessary for the kind of debate you would like.
>
> As I said before, just adding "+t" to an equation does not make it
> right. If I've interpreted your position wrong, then it is because you
> have not clearly expressed it.
>
> The ball, as it has always been, is in your court.

>
> It is not a matter of accepting the laws of physics. It is what you do
> with/to them that may be the problem.
>
> If you want to discuss physics, present your case the way those
> knowledgeable in the field would do.

he wants to take gauss's law for the flux through a surface containing
charges and add a time dependency to it. the argument against that is
that the equation is already good at any time, it doesn't need to have
a time dependency since it is true at any instant anyway.

963. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 23:20:15 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <dffcf70a-2bb9-4d90-be03-78b82480c0f9@30g2000yqi.googlegroups.com>
Source record: 10463

On Mar 24, 2:22 am, tom <news4...@taring.org> wrote:
> On 3/23/2010 7:20 PM, Art Unwin wrote:
>
> >> your whole concept is malformed. if the 'static particles' are in
> >> 'equilibrium' (i.e. not moving) and then you add a time varying field
>
> Equilibrium does not mean not moving.
>
> I won't go any deeper since you have problems with things complex and go
> into babble mode when confronted with them.
>
> tom
> K0TAR

oh, so you understand art's concept of 'static' and 'equilibrium'
enough to argue that side of it?? how do you 'equilibrium' and
'static particles' unless they aren't moving? equations please, show
your work, extra points for deriving how his magical levitating
diamagnetic neutrino fits into the equations. please, we need someone
who can fill in the gaps that art can't seem to do.

964. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-24 23:30:20 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <40161fc1-2466-48f9-bf63-8d1e56548caa@z4g2000yqa.googlegroups.com>
Source record: 10464

On Mar 24, 3:32 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 23, 9:35 pm, Tim Shoppa <sho...@trailing-edge.com> wrote:
>
>
>
> > On Mar 23, 1:50 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > wrote:
>
> > > Hi Tim,
>
> > > "TimShoppa" <sho...@trailing-edge.com> wrote in message
>
> > >news:4f97dfd4-1b3e-40fa-ad60-13030a10eea5@z4g2000yqa.googlegroups.com...
> > > On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > > wrote:
>
> > > > I think his method, especially for physically compact antennas and
> > > > feed systems which tend to have very low radiation resistance at HF
> > > > frequencies, is a great check on theoretical calculations. There has
> > > > to be a meeting point between mathematical models/NEC and reality and
> > > > he is working at one such point.
>
> > > Agreed -- the controversy comes into play in that he ends up computing
> > > electrically-small loop antennas as being upwards of 70-90% efficient, when
> > > everyone "knows" that such antennas are typically <<10% efficient. He even
> > > goes after Chu/Wheeler/McLean/etc. in suggesting that the fundamental limits
> > > for the Q of an ESA are orders of magnitude off (slide 47), and that's pretty
> > > sacrosanct terriority (see, e.g.,www.slyusar.kiev.ua/Slyusar_077.pdf -- even
> > > the Ruskies buy into the traditional results :-)).
>
> > > Hence, while I don't really have the background to know precisely how much of
> > > what Underhill promotes is true or not, it's definitely intriguing to me, and
> > > I'm looking around for various rebuttals by those more skilled in the art than
> > > I am.
>
> > > One link I found:http://qcwa70.org/truth%20and%20untruth.pdf(butthiswas
> > > written before the PowerPoint presentation I originally linked to).
>
> > I'm pretty sure that it is not so easy to just measure power in, heat
> > lost, and assume that everything else is being usefully radiated.
>
> > I think that after you've modeled and then built an antenna, that heat
> > loss and temperature measurements are valuable to determine if the
> > assumptions you put into the NEC model regarding loss etc. are correct

> > or not, and where you need to improve your model, especially of
> > materials like dielectrics.
>
> > Even the heat loss measurements require some fairly heavy modeling
> > just to convert the IR camera images to actual watts per square cm.
> > Think it's purely radiative? Sometimes yeah, but make the wrong
> > assumption when really it's convective and you can be off by a factor
> > of ten to thirty.
>
> > Tim.
>
> But Tim Maxwells equations are accepted every where and appear to be
> valid.
> Because of this antenna computer programs are based on these
> equations.
> Thus when a optimiser is added the program can change the input to one
> that satisfies
> Maxwells equations. Assuming programers did a good job in focusing on
> the Maxwell equations then we are provided with an array that meets
> Maxwells equations.
> What more can we possibly need other than a program that accounts for
> all forces involved for the generation of ALL radiation available for
> communication use that can be propagated
> If we have a distrust in the programers or in Maxwells laws then one
> should ditch the arrays
> supplied by an optimiser and find what some refer to as a "new
> technology." Until one comes along we first have to delegitemise
> Maxwell and we have been unable to do that!

up to here this is the most lucid thing i think i have seen art
write... and then he starts going down hill.

> Maxwells equations can be justified via all known laws in physics
> including making static laws dynamic. and adhering to the absolute
> requirement of equilibrium with respect to physics laws. The main
> problem we have is misinterpretations we add by using lumped loads etc
> which Maxwell never included same. This also is the case with the yagi
> where
> Maxwell never supplied anything with respect to planar or even a
> stipulation that elements must be straight, parallel, resonant,
> etc ,only EQUILIBRIUM. where all data can be placed on one side of an
> equal sign and where on the other side MUST equal zero..
> So we dance with the one that 'brung' us
> Regards
> Art

the planar designs are a _result_ of maxwell's equations plus some
basic mechanical engineering considerations. coupling between
parallel wires or tubes is predictable and easily controlled by
adjusting length and spacing, all in accordance with maxwell's
equations, to make a family of easily designed and constructed

antennas. are they the ultimate, no, i quoted you a book probably a couple years ago where an optimizer was used and came up with planar elements that were more like a wavelength long but shaped like a cross section of a bowl. a 3d optimizer can do other things, but then you loose some of the important characteristics of the Yagi-Uda arrays, like the control of polarization and ease of construction. and yes, you can use maxwell's equations to model lumped elements, you just have to model them on the appropriate scale with a program that handles very small segments.

965. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 00:12:44 UTC
From: tom <news4792@taring.org>
Message-ID: <4baaaa78$0$633$8046368a@newsreader.iphouse.net>
Source record: 10465

On 3/24/2010 6:20 PM, Dave wrote:
> On Mar 24, 2:22 am, tom<news4...@taring.org> wrote:
>> On 3/23/2010 7:20 PM, Art Unwin wrote:
>>
>>>> your whole concept is malformed. if the 'static particles' are in
>>>> 'equilibrium' (i.e. not moving) and then you add a time varying field
>>
>> Equilibrium does not mean not moving.
>>
>> I won't go any deeper since you have problems with things complex and go
>> into babble mode when confronted with them.
>>
>> tom
>> K0TAR
>
> oh, so you understand art's concept of 'static' and 'equilibrium'
> enough to argue that side of it?? how do you 'equilibrium' and
> 'static particles' unless they aren't moving? equations please, show
> your work, extra points for deriving how his magical levitating
> diamagnetic neutrino fits into the equations. please, we need someone
> who can fill in the gaps that art can't seem to do.

No, I don't understand Art's concepts, who could? But I do know that equilibrium is not generally defined as "not moving". In fact motion is not even mentioned. Look it up. I did.

And I have no argument with the current state of affairs within Electromagnetic Fields and Waves, and no desire to argue it, either. It was a big enough pain in school.

What makes you think I was arguing his side? I couldn't disagree with him more.

tom
K0TAR

966. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 00:43:23 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <78680fb7-3374-4731-b151-505aca876a9c@t23g2000yqt.googlegroups.com>
Source record: 10466

On Mar 24, 6:30 pm, Dave <k1...@arrl.net> wrote:
> On Mar 24, 3:32 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Mar 23, 9:35 pm, Tim Shoppa <sho...@trailing-edge.com> wrote:
>
> > > On Mar 23, 1:50 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > > wrote:
>
> > > > Hi Tim,
>
> > > > "TimShoppa" <sho...@trailing-edge.com> wrote in message
>
> > > >news:4f97dfd4-1b3e-40fa-ad60-13030a10eea5@z4g2000yqa.googlegroups.com...
> > > > On Mar 22, 9:24 pm, "Joel Koltner" <zapwireDASHgro...@yahoo.com>
> > > > wrote:
>
> > > > > I think his method, especially for physically compact antennas and
> > > > > feed systems which tend to have very low radiation resistance at HF
> > > > > frequencies, is a great check on theoretical calculations. There has
> > > > > to be a meeting point between mathematical models/NEC and reality and
> > > > > he is working at one such point.
>
> > > > Agreed -- the controversy comes into play in that he ends up computing
> > > > electrically-small loop antennas as being upwards of 70-90% efficient, when
> > > > everyone "knows" that such antennas are typically <<10% efficient. He even
> > > > goes after Chu/Wheeler/McLean/etc. in suggesting that the fundamental limits
> > > > for the Q of an ESA are orders of magnitude off (slide 47), and that's pretty
> > > > sacrosanct terriority (see, e.g.,www.slyusar.kiev.ua/Slyusar_077.pdf -- even
> > > > the Ruskies buy into the traditional results :-)).
>
> > > > Hence, while I don't really have the background to know precisely how much of
> > > > what Underhill promotes is true or not, it's definitely intriguing to me, and
> > > > I'm looking around for various rebuttals by those more skilled in the art than
> > > > I am.
>
> > > > One link I found:http://qcwa70.org/truth%20and%20untruth.pdf(butthiswas
> > > > written before the PowerPoint presentation I originally linked to).
>
> > > I'm pretty sure that it is not so easy to just measure power in, heat
> > > lost, and assume that everything else is being usefully radiated.
>
> > > I think that after you've modeled and then built an antenna, that heat

> > > loss and temperature measurements are valuable to determine if the
> > > assumptions you put into the NEC model regarding loss etc. are correct
> > > or not, and where you need to improve your model, especially of
> > > materials like dielectrics.
>
> > > Even the heat loss measurements require some fairly heavy modeling
> > > just to convert the IR camera images to actual watts per square cm.
> > > Think it's purely radiative? Sometimes yeah, but make the wrong
> > > assumption when really it's convective and you can be off by a factor
> > > of ten to thirty.
>
> > > Tim.
>
> > But Tim Maxwells equations are accepted every where and appear to be
> > valid.
> > Because of this antenna computer programs are based on these
> > equations.
> > Thus when a optimiser is added the program can change the input to one
> > that satisfies
> > Maxwells equations. Assuming programers did a good job in focusing on
> > the Maxwell equations then we are provided with an array that meets
> > Maxwells equations.
> > What more can we possibly need other than a program that accounts for
> > all forces involved for the generation of ALL radiation available for
> > communication use that can be propagated
> > If we have a distrust in the programers or in Maxwells laws then one
> > should ditch the arrays
> > supplied by an optimiser and find what some refer to as a "new
> > technology." Until one comes along we first have to delegitemise
> > Maxwell and we have been unable to do that!
>
> up to here this is the most lucid thing i think i have seen art
> write... and then he starts going down hill.
>
> > Maxwells equations can be justified via all known laws in physics
> > including making static laws dynamic. and adhering to the absolute
> > requirement of equilibrium with respect to physics laws. The main
> > problem we have is misinterpretations we add by using lumped loads etc
> > which Maxwell never included same. This also is the case with the yagi
> > where
> > Maxwell never supplied anything with respect to planar or even a
> > stipulation that elements must be straight, parallel, resonant,
> > etc ,only EQUILIBRIUM. where all data can be placed on one side of an
> > equal sign and where on the other side MUST equal zero..
> > So we dance with the one that 'brung' us
> > Regards
> > Art
>
> the planar designs are a _result_ of maxwell's equations plus some
> basic mechanical engineering considerations.

Agreed on the use of various equations but they are not the maxwell
equations

 coupling between
> parallel wires or tubes is predictable and easily controlled by
> adjusting length and spacing,

Nothibg wrong with the yagi but it is not in accordance with maxwell

all in accordance with maxwell's
> equations, to make a family of easily designed and constructed
> antennas. are they the ultimate, no,

Yes the yagi has a lot going for it

i quoted you a book probably a
> couple years ago where an optimizer was used and came up with planar
> elements that were more like a wavelength long but shaped like a cross
> section of a bowl. a 3d optimizer can do other things, but then you
> loose some of the important characteristics of the Yagi-Uda arrays,
> like the control of polarization and ease of construction. and yes,
> you can use maxwell's equations to model lumped elements, you just
> have to model them on the appropriate scale with a program that
> handles very small segments.

No lumped elements are not included in maxwells equations
You can add them ofcourse but then they are not maxwells equations.
There are benefits to totally adhering to Maxwell equations without
alteration.
The books say that radiation is not understood but the equations of
maxwell are correct as they are, but when altered they are not
Maxwells laws anymore. So using maxwells equations without alteration
is building on a ultimate truth
We are now able to build smaller volume antennas because we are
adhering to equilibrium
which means we can compress the array into a smaller volume and still
retain equilibrium.
With only the Yagi at hand we have been unable to build the smaller
antennas that are not possible with the Yagi design.Now we can follow
maxwell to the letter and produce an array
that is sensitive to all that is thrown at it which many will seem as
a step forward while we have not deviated from Maxwells laws one bit.
Now maybe somebody will come along and advance beyond this point
knowing that he is building on truth because maxwell has accounted for
all forces involved in a process even tho at this time we do not know
what it includes. Now you may not like the aproach using Gauss but
that is o.k., because you can
still use Maxwell as it was intended instead of the alternative
aproach of the Yagi.
So the more we advance by building on truth the better off we are all
going to be even tho
we may not advance in knowing all that is happening in the process. A
case in point is the helix antenna, We now can compress the helix to a

zero pitch and by using a twin wire the antenna can be brought in equilibrium noting at the same time we have cancelled the lumped loads in accordance with Maxwells principles.

967. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 02:55:51 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <hoejbj$rk00$1@tr22n12.aset.psu.edu>
Source record: 10467

Roy Lewallen wrote:

> But I'm sure that some of the same folks who swallow homeopathic
> remedies and arrange their lives around astrological predictions will
> replace their 160 meter towers with tiny wire loops.

And they'll have to tell us about how well they work via Netnews.......

- 73 de Mike N3LI -

968. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 06:36:46 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <qh0mq51mbo2al2ghg93tk1sm842qq61i5m@4ax.com>
Source record: 10468

On Sun, 31 Jan 2010 08:47:29 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Roy Lewallen <w7el@eznec.com> wrote in
>news:a_SdndUAZLNGzPjWnZ2dnUVZ_shi4p2d@giganews.com:
>
>> Lostgallifreyan wrote:
>>> Roy Lewallen <w7el@eznec.com> wrote in
>>> news:_ZednQcJHu1eHv7WnZ2dnUVZ_o2dnZ2d@giganews.com:
>>>
>>>> If there was a "best" cable, there would be only one type. Some have
>>>> lower loss, some are more flexible, some have better weather
>>>> resistance, some have better shielding, some have a longer lifetime,
>>>> some tolerate temperature extremes better, some are more uniform, some
>>>> are less expensive, and so forth.
>>>>
>>>> So deciding which cable is "better" requires a lot more information
>>>> about what your requirements are.
>>>>
>>>
>>> If I went into most places selling cables I'd get laughed at if I took
>>> that line,

However he gave you the right answer to the question you asked.
There is no one best coax!
Are you just using it for receiving or transmitting as well. Typically
you don't find either of those cables used in ham stations, except to
feed Beverage receiving antennas.

I use a lot of "flooded" RG-6 with compression connectors for UHF
receiving. I use RG-8X (foil with shield) to the 40 meter, half wave
sloping dipoles. It's fairly rugged, very flexible, presents a low
profile to the wind and doesn't weight a lot. Its power handeling
capability is a bit low, but I haven't blown any out...yet, unlike
CNT-240.

>>> they'd say 'hie me to a research lab, if not an actual
>>> nunnery'. :)

Then perhaps you should purchase coax elsewhere?

>>>Not that you're wrong, but if you want a single general
>>> purpose cable for HF and VHF especially if stocking it for general
>>> sale, then there IS a 'best' cable, defined simply by that which most
>>> likely serves the wide range of purposes at a low price. Currently in
>>> the UK that cable seems to be RG6; few places like to stock more than

>>> one type for RF if they think one will do. . .

I take it then that this is not for an amateur radio station?

>>
>> Sounds like you have your answer, then.
>>
>> Roy Lewallen, W7EL
>>
>
>Yes, if I was using for UHF and perhaps VHF as they sell it for. But as far
>as I know the older UG59 used a braid with better physical coverage and was
>specified for HF as well. I'd rather get something this time that has good HF
>shielding as priority, so I'm not convinced that RG6 is the right choice. A
>bit of extra loss isn't as bad as poor shielding.

RG-6 is foil plus braid and it doesn't get much better than that.
However for HF my choice would be RG-8X (with foil plus braid- it
comes in many forms) although I use LMR-600.

Good luck,

Roger (K8RI)

969. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 06:47:55 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <u71mq5519fdi2qdfsv7lfc8ovq3ld8uvdm@4ax.com>
Source record: 10469

On Sun, 31 Jan 2010 08:56:41 -0600, Lostgallifreyan
<no-one@nowhere.net> wrote:

>Fred <fred@fred.fredsystem.com> wrote in
>news:hk3lua$g49$1@speranza.aioe.org:
>
>>
>>> If I went into most places selling cables I'd get laughed at if I took
>>> that line, they'd say 'hie me to a research lab, if not an actual
>>> nunnery'. :) Not that you're wrong, but if you want a single general
>>> purpose cable for HF and VHF especially if stocking it for general
>>> sale, then there IS a 'best' cable, defined simply by that which most
>>> likely serves the wide range of purposes at a low price. Currently in
>>> the UK that cable seems to be RG6; few places like to stock more than
>>> one type for RF if they think one will do. Perfectionism is NOT the
>>> first base. It's reasonable to expect some standard without being told
>>> to either become an expert or use a bell wire and stay in ignorance.
>>> RG6 works, but they sell it for VHF/UHF, not RF. I'm not so concerned
>>> with moderate losses, but SNR maintained by good shielding matters to
>>> me.
>>>
>>
>> You seem to miss the point that one shop's RG6 (or most other RG cables)
>> may well not be the same as another's. So there is no definitive answer
>> to you question.
>>
>
>No, haven't missed that at all. Most of my time is spent looking at all the
>RG6's out there and examinng that. Besides, most advice out there implies I
>have to buy it and try it to be sure, which is stupid because it's cheaper
>and faster to get a better cable! RG6 is specified for UHF, I want HF.

I have 5 runs of RG-6 (foil plus braid) running in a conduit with 2
LMR-600 cables carrying 1500 watts of RF at HF. I also have 3
CAT6 network cables in there. None of them hear the others.

>
>> It is also very unlikely that 'good shielding' will have any effect on
>> SNR in most applications, other than due to increased loss if the
>> braiding is very very poor, or you are running the cable very close to a
>> source of broadband interference.
>>
>
>I've been told that braid makes a great deal of difference to common mode
>noise pickup, and that while a thin foil and loose braid is fine at UHF it's

>not to be expected to do the same for HF.

It's the shield, of which the braid is only part. Only if you are running the RG-6 with other HF cables *might* you find a problem. As I said above, I have 5 of them in the same conduit with cables carrying 1500 watts of HF RF and there is no cross talk. That thin foil is just fine at HF as well as UHF as long as it's not carrying substantial power. Where you really need the extra shielding is at very low frequency,or very high power. They do make quad shield RG-6 for receiving, but it's not a cable for high power transmitting. I'd not put more than 100 watts into RG-6 of any configuration.

73 and good luck,

Roger (K8RI)

>
>http://www.abccables.com/info-rg59-vs-rg6.html is one of the more descriptive
>texts I read. No RG6 that I have found fits the description given there for
>HF. RG59 does though, as does BT2002. I think I'll be going with that BT2002
>anyway, never mind the expense. The waste of time trying to avoid it is alone
>beginning to look more expensive than the price difference.

970. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 06:54:06 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <ls1mq5ljd10l57s1mo0fk8gtglmhg5j51b@4ax.com>
Source record: 10470

On Sun, 31 Jan 2010 14:59:06 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@cable.mendelson.com> wrote:

>Lostgallifreyan wrote:
>>
>> Yes, if I was using for UHF and perhaps VHF as they sell it for. But as far
>> as I know the older UG59 used a braid with better physical coverage and was
>> specified for HF as well. I'd rather get something this time that has good HF
>> shielding as priority, so I'm not convinced that RG6 is the right choice. A
>> bit of extra loss isn't as bad as poor shielding.
>
>The standard for cable tv and satellite instalations is RG6 "quad shield",
>which has a less dense braid, but a (almost) 100% aluminum foil shield.
>
>The question is how do you connect to it? Commerical applications use special
>crimp on connectors, you can solder it with the proper flux.

Compression fittings. Easy to install, strong, water proof, and about
50 cents each.

>
>A friend brought some Radio Shack screw on PL-259 connectors that work fine
>with it, but they are $6 each in the US, and unavailable here.

And a waste of money.
The problem with the compression fittings is you need a compression
tool to install them although a pair of the "duck billed" vise grips,
or even pliers could be adapted to do the job. You only need hold the
front and back of the connector and then push the pack part with the
seal into the front part...a distance of maybe 1/8" (4mm) . The
commercial tools are kinda pricey, but you can make one up out of a
pair of pliers and a bit of ingenuity.

73

Roger (K8RI)

>
>Geoff.

971. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 08:13:30 UTC
From: W0BTU <mikewate@gmail.com>
Message-ID: <5a39fd34-0375-42de-8fad-5e01abe3ff7d@k17g2000yqb.googlegroups.com>
Source record: 10471

On Jan 29, 7:56 pm, Roy Lewallen <w...@eznec.com> wrote:
...
> If there was a "best" cable, there would be only one type. Some have
> lower loss, some are more flexible, some have better weather resistance,
> some have better shielding, some have a longer lifetime, some tolerate
> temperature extremes better, some are more uniform, some are less
> expensive, and so forth.
>
> So deciding which cable is "better" requires a lot more information
> about what your requirements are.
...
> Roy Lewallen, W7EL

Well said, Roy. I just purchased 2000 feet of "RG-6" coax. My main goal was that I needed hundreds of feet of flooded coax with (good shielding) that I could afford. The Commscope CATV aluminum foil/ braided coax that was available on eBay fit my needs perfectly.

I'm feeding my remote Beverages with it, as well as running medium power to an inverted L on 160. Works great.

I'm convinced that no other coax at any price would have worked any better.

73 Mike
W0BTU

972. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 08:48:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <hof8meadf1@nemesis.news.neostrada.pl>
Source record: 10472

"Michael Coslo" <mjc5@psu.edu>> wrote
news:hodr5t$ek3k$1@tr22n12.aset.psu.edu...> Szczepan Bialek wrote:

>
>> You should read and understand the slide 10:
>>
>> ". "All truth passes through three stages:
>> - First it is ridiculed,
>>
>> - Second it is violently opposed,
>>
>> - Third it is accepted as being self-evident"."
>
> This is great! My theory has always been that RF is like tiny little turds
> that fly off your antenna. And if you spend too much time transmitting and
> too little receiving, (after all, you antenna has to pick up little turds
> too) your antenna will get smaller.

Yes. "Stokes drift may occur in all instances of oscillatory flow which are
inhomogeneous in space. For instance in water waves, tides and atmospheric
waves. From: http://en.wikipedia.org/wiki/Stokes_drift
>
> I've already been ridiculed
>
> I got beat up after the last Ham club meeting becasue they think I'm
> making fun of them and they hate my turd theory.

The turds oscillate in antenna and if the VSWR is low they fly off. As they
oscillate some of them come back but not all (Stokes drift - mass
transport).
>
> So any day now, I'll be the new antenna master. Stage three, here we come!

The real masters are in the secret centres. H. Wabing wrote: "Shielding and
grounding is a secret science, so secret
and of military importance that Don White Consultants would not teach
foreigners
(damned furriners) how to shield a building from EMP." This apply to all
knowledge on RW.
>
> PS, the way a beam works is that the little turds hit the other elements
> and bounce back, making the signal more directional.

The dipoles directional pattern are the result of the interference of waves
from the two ends. The truds oscillate. It is wave.
>

> It's all accounted for in Mike's crappy antenna theory.

Civilian antenna theory.
S*

973. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 11:26:01 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <f1imq5dhe95v1fs44su0qalv5h1jmnhj4o@4ax.com>
Source record: 10473

On Thu, 25 Mar 2010 02:36:46 -0400, Roger <Invalid@rogerhalstead.com>
wrote:

>On Sun, 31 Jan 2010 08:47:29 -0600, Lostgallifreyan
><no-one@nowhere.net> wrote:
>
>>Roy Lewallen <w7el@eznec.com> wrote in
>>news:a_SdndUAZLNGzPjWnZ2dnUVZ_shi4p2d@giganews.com:
>>
>>> Lostgallifreyan wrote:
>>>> Roy Lewallen <w7el@eznec.com> wrote in
>>>> news:_ZednQcJHu1eHv7WnZ2dnUVZ_o2dnZ2d@giganews.com:
>>>>
>>>>> If there was a "best" cable, there would be only one type. Some have
>>>>> lower loss, some are more flexible, some have better weather
>>>>> resistance, some have better shielding, some have a longer lifetime,
>>>>> some tolerate temperature extremes better, some are more uniform, some
>>>>> are less expensive, and so forth.
>>>>>
>>>>> So deciding which cable is "better" requires a lot more information
>>>>> about what your requirements are.
>>>>>
>>>>
>>>> If I went into most places selling cables I'd get laughed at if I took
>>>> that line,
>>>
>>>However he gave you the right answer to the question you asked.
>>>There is no one best coax!
>>>Are you just using it for receiving or transmitting as well. Typically
>>>you don't find either of those cables used in ham stations, except to
>>>feed Beverage receiving antennas.
>>>
>>>I use a lot of "flooded" RG-6 with compression connectors for UHF
>>>receiving. I use RG-8X (foil with shield) to the 40 meter, half wave
>>>sloping dipoles. It's fairly rugged, very flexible, presents a low
>>>profile to the wind and doesn't weight a lot. Its power handeling
>>>capability is a bit low, but I haven't blown any out...yet, unlike
>>>CNT-240.
>>>
>>>> they'd say 'hie me to a research lab, if not an actual
>>>> nunnery'. :)
>>>
>>>Then perhaps you should purchase coax elsewhere?
>>>

>>>>Not that you're wrong, but if you want a single general
>>>> purpose cable for HF and VHF especially if stocking it for general
>>>> sale, then there IS a 'best' cable, defined simply by that which most
>>>> likely serves the wide range of purposes at a low price. Currently in
>>>> the UK that cable seems to be RG6; few places like to stock more than
>>>> one type for RF if they think one will do. . .
>
>I take it then that this is not for an amateur radio station?
>
>>>
>>> Sounds like you have your answer, then.
>>>
>>> Roy Lewallen, W7EL
>>>
>>
>>Yes, if I was using for UHF and perhaps VHF as they sell it for. But as far
>>as I know the older UG59 used a braid with better physical coverage and was
>>specified for HF as well. I'd rather get something this time that has good HF
>>shielding as priority, so I'm not convinced that RG6 is the right choice. A
>>bit of extra loss isn't as bad as poor shielding.
>
>RG-6 is foil plus braid and it doesn't get much better than that.
>However for HF my choice would be RG-8X (with foil plus braid- it
>comes in many forms) although I use LMR-600.
>
>
>Good luck,
>
>Roger (K8RI)

I use whatever cheap shit Radio Shack has on sale.

DXCC
5BWAS

974. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 12:28:53 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hofku5$ng3u$1@tr22n12.aset.psu.edu>
Source record: 10474

Richard Clark wrote:
> On Wed, 24 Mar 2010 16:03:09 -0400, Michael Coslo <mjc5@psu.edu>
> wrote:
>
>> I've already been ridiculed
>
> Sorry Mike, but Schopenhauer himself has to spit on you from the grave
> to make you truly the vicar of antennas.

The price of electromagnetic immortality, I suppose?

>
> Other posters would convince us they'd been through a shower of saliva
> - thus achieving the status of Pope of Gaussian Enlightenment or at
> least cardinal-elect wielding Maxwell's vector of the silver hammer.

A shower perhaps, but they may need to set their sights a bit lower...

- Mike -

975. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 19:42:51 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hogebs$b01e$1@tr22n12.aset.psu.edu>
Source record: 10475

joe wrote:

>
> As far as folks not debating you, first present your position in a clear
> way with the appropriate math and equations. Allow others to try to
> understand your way of thinking. To date, you have not provided the kind
> of detail necessary for the kind of debate you would like.

New here eh, Joe?

Homie don't play that.

I think it has something to do with the old saying" If I have to explain
it to you, You aren't capable of understanding it."

- 73 de Mike N3LI -

976. Re: RG6 and RG59

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 19:45:54 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hogehi$b01e$2@tr22n12.aset.psu.edu>
Source record: 10476

Kickin' Ass and Takin' Names wrote:
>
> I use whatever cheap shit Radio Shack has on sale.

You might try their coax too!

- 73 de Mike N3LI -

977. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 19:55:28 UTC
From: joe <none@domain.invalid>
Message-ID: <hogetp$7ui$1@speranza.aioe.org>
Source record: 10477

Michael Coslo wrote:
> joe wrote:
>
>>
>> As far as folks not debating you, first present your position in a
>> clear way with the appropriate math and equations. Allow others to try
>> to understand your way of thinking. To date, you have not provided the
>> kind of detail necessary for the kind of debate you would like.
>
> New here eh, Joe?

Not at all. Just trying to get Art to explain himself. If he really
wanted to discuss his ideas he had the opportunity.

However, his responses make it clear he really has no desire for a
constructive discussion.

>
> Homie don't play that.
>
> I think it has something to do with the old saying" If I have to explain
> it to you, You aren't capable of understanding it."
>
> - 73 de Mike N3LI -

978. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 21:28:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <76858cc0-4e81-4a31-a2d9-fbe51cc5af1c@q15g2000yqj.googlegroups.com>
Source record: 10478

On Mar 24, 6:20 pm, Dave <k1...@arrl.net> wrote:
> On Mar 24, 2:22 am, tom <news4...@taring.org> wrote:
>
> > On 3/23/2010 7:20 PM, Art Unwin wrote:
>
> > > your whole concept is malformed. if the 'static particles' are in
> > > 'equilibrium' (i.e. not moving) and then you add a time varying field
>
> > Equilibrium does not mean not moving.
>
> > I won't go any deeper since you have problems with things complex and go
> > into babble mode when confronted with them.
>
> > tom
> > K0TAR
>
> oh, so you understand art's concept of 'static' and 'equilibrium'
> enough to argue that side of it?? how do you 'equilibrium' and
> 'static particles' unless they aren't moving? equations please, show
> your work, extra points for deriving how his magical levitating
> diamagnetic neutrino fits into the equations. please, we need someone
> who can fill in the gaps that art can't seem to do.

I totally agree, Some body is needed to fill in the gaps that art is
unable to do

First, one has to explain equilibrium
Second, one has to explain the boundary laws
with respect to statics
making note that equilibrium must be
in place
Third, one has to make the field dynamic by
providing a
time varying field
Fourth, one has to add formally passive items
into the boundary
so that the entire dynamic field in
place is in a state of equilibrium.

Note: you may add radiators to the inside of
the boundary in the first
instance, but in the second instance
when you make them active
then they have to be both resonant as
well as a wavelength long

by firtue of also being a period One
can then applyMaxwells equations for radiation to the
final arbitrary boundar

Who ever manages to explain the above must
point out that the particles
that are ejected from inside the boundary are
immediately replaced fresh passive particles
that are outside the boundary looking for a diamagnetic surface to
reside upon where, in this instance, is aluminum or copper or any
other material that is diamagnetic such as the radiator

Who ever takes on this task of explaining the above to this
group so that they understand most assuredly has my respect .

979. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 22:35:53 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <ce1918b4-9007-4215-843a-c1286d3cfeba@g4g2000yqa.googlegroups.com>
Source record: 10479

```
On Mar 25, 5:28 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 24, 6:20 pm, Dave <k1...@arrl.net> wrote:
>
>
>
> > On Mar 24, 2:22 am, tom <news4...@taring.org> wrote:
>
> > > On 3/23/2010 7:20 PM, Art Unwin wrote:
>
> > > >> your whole concept is malformed.  if the 'static particles' are in
> > > >> 'equilibrium' (i.e. not moving) and then you add a time varying field
>
> > > Equilibrium does not mean not moving.
>
> > > I won't go any deeper since you have problems with things complex and go
> > > into babble mode when confronted with them.
>
> > > tom
> > > K0TAR
>
> > oh, so you understand art's concept of 'static' and 'equilibrium'
> > enough to argue that side of it??  how do you 'equilibrium' and
> > 'static particles' unless they aren't moving?  equations please, show
> > your work, extra points for deriving how his magical levitating
> > diamagnetic neutrino fits into the equations.  please, we need someone
> > who can fill in the gaps that art can't seem to do.
>
> I totally agree, Some body is needed to fill in the gaps that art is
> unable to do
>
>                        First, one has to explain equilibrium
>                       Second, one has to explain the boundary laws
> with respect to statics
>                                    making note that equilibrium must be
> in place
>                        Third, one has to make the field dynamic by
> providing a
>                                  time varying field
>                       Fourth, one has to add formally passive items
> into the boundary
>                                so that  the entire dynamic field in
> place is in a state of equilibrium.
>
>                          Note: you may add radiators to the inside of
```

> the boundary in the first
>   instance, but in the second instance
> when you make them active
>   then they have to be both resonant as
> well as a wavelength long
>   by firtue of also being a period   One
> can then applyMaxwells   equations for radiation to the
> final arbitrary boundar
>
>   Who ever manages to explain the above must
> point out that the particles
>   that are ejected from inside the boundary are
> immediately replaced   fresh   passive   particles
> that are outside the boundary looking for a diamagnetic surface to
> reside upon where, in this instance, is aluminum or copper or any
> other material that is diamagnetic such as the radiator
>
>   Who ever takes on this task of explaining the above to this
> group so that they understand most assuredly has my respect .

Ive never seen Art apply Maxwell's equations. If he had really been
applying Maxwells equations he would have know that contra wound dummy
load he ranted about for so long would not work.

Jimmie

980. Re: Measuring antenna loss: Heat balance?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 23:11:55 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <a56c8ce0-927e-4838-9019-2a2e94d5106e@19g2000yqu.googlegroups.com>
Source record: 10480

On Mar 25, 12:43 am, Art Unwin <arthurun...@gmail.com> wrote:

<snip everything>
nothing even worth commenting on from that, his meds must have run out
again after last message and he is back to random babbling again.

981. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-25 23:24:05 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e3c3c960-dff0-4dca-9577-fc2d8689308c@r27g2000yqn.googlegroups.com>
Source record: 10481

```
On Mar 25, 5:35 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Mar 25, 5:28 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Mar 24, 6:20 pm, Dave <k1...@arrl.net> wrote:
>
> > > On Mar 24, 2:22 am, tom <news4...@taring.org> wrote:
>
> > > > On 3/23/2010 7:20 PM, Art Unwin wrote:
>
> > > > >> your whole concept is malformed.  if the 'static particles' are in
> > > > >> 'equilibrium' (i.e. not moving) and then you add a time varying field
>
> > > > > Equilibrium does not mean not moving.
>
> > > > I won't go any deeper since you have problems with things complex and go
> > > > into babble mode when confronted with them.
>
> > > > tom
> > > > K0TAR
>
> > > oh, so you understand art's concept of 'static' and 'equilibrium'
> > > enough to argue that side of it??  how do you 'equilibrium' and
> > > 'static particles' unless they aren't moving?  equations please, show
> > > your work, extra points for deriving how his magical levitating
> > > diamagnetic neutrino fits into the equations.  please, we need someone
> > > who can fill in the gaps that art can't seem to do.
>
> > I totally agree, Some body is needed to fill in the gaps that art is
> > unable to do
>
> >                         First, one has to explain equilibrium
> >                        Second, one has to explain the boundary laws
> > with respect to statics
> >                                    making note that equilibrium must be
> > in place
> >                         Third, one has to make the field dynamic by
> > providing a
> >                                  time varying field
> >                        Fourth, one has to add formally passive items
> > into the boundary
> >                               so that  the entire dynamic field in
> > place is in a state of equilibrium.
```

>
> > Note: you may add radiators to the inside of
> > the boundary in the first
> > instance, but in the second instance
> > when you make them active
> > then they have to be both resonant as
> > well as a wavelength long
> > by firtue of also being a period One
> > can then applyMaxwells equations for radiation to the
> > final arbitrary boundar
>
> > Who ever manages to explain the above must
> > point out that the particles
> > that are ejected from inside the boundary are
> > immediately replaced fresh passive particles
> > that are outside the boundary looking for a diamagnetic surface to
> > reside upon where, in this instance, is aluminum or copper or any
> > other material that is diamagnetic such as the radiator
>
> > Who ever takes on this task of explaining the above to this
> > group so that they understand most assuredly has my respect .
>
> Ive never seen Art apply Maxwell's equations. If he had really been
> applying Maxwells equations he would have know that contra wound dummy
> load he ranted about for so long would not work.
>
> Jimmie

A slinky does "work" when it is contra wound .where a lumped load
cancels the other lumped load as Maxwell did not provide for them in
his equations,only distributed loads.
If you read Jasik's book he takes care to contra wind the coils, same
as one would do with traps. The so called slinky that one purchases
today are NOT contra wound
Jimmie, the group is looking for somebody who believes they
understand physics to explain what I cannot and you obviously perceive
yourself as an expert!
"Go for it!

982. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-26 01:48:33 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <7db9c725-1fd2-4c19-9237-fd8aa34b396f@k17g2000yqb.googlegroups.com>
Source record: 10482

On Mar 25, 7:24 pm, Art Unwin <arthurun...@gmail.com> wrote:

> Jimmie, the group is looking for somebody ... to explain what I cannot...

Not quite. "The group" probably just hopes someday you will make
sense. Will that happen? You are sloppy and undisciplined, and the
probability that you can develop the ability to be coherent is
extremely small. The least you could do is read your messages once
before you post them.

983. Re: Radiation penetration/absorbtion

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-26 10:28:17 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <3cee620c-2e6f-4738-bb9f-c3b1f6302cd0@30g2000yqi.googlegroups.com>
Source record: 10483

```
On Mar 25, 7:24 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Mar 25, 5:35 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
>
>
> > On Mar 25, 5:28 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Mar 24, 6:20 pm, Dave <k1...@arrl.net> wrote:
>
> > > > On Mar 24, 2:22 am, tom <news4...@taring.org> wrote:
>
> > > > > On 3/23/2010 7:20 PM, Art Unwin wrote:
>
> > > > > >> your whole concept is malformed.  if the 'static particles' are in
> > > > > >> 'equilibrium' (i.e. not moving) and then you add a time varying field
>
> > > > > Equilibrium does not mean not moving.
>
> > > > > I won't go any deeper since you have problems with things complex and go
> > > > > into babble mode when confronted with them.
>
> > > > > tom
> > > > > K0TAR
>
> > > > oh, so you understand art's concept of 'static' and 'equilibrium'
> > > > enough to argue that side of it??  how do you 'equilibrium' and
> > > > 'static particles' unless they aren't moving?  equations please, show
> > > > your work, extra points for deriving how his magical levitating
> > > > diamagnetic neutrino fits into the equations.  please, we need someone
> > > > who can fill in the gaps that art can't seem to do.
>
> > > I totally agree, Some body is needed to fill in the gaps that art is
> > > unable to do
>
> > >                        First, one has to explain equilibrium
> > >                       Second, one has to explain the boundary laws
> > > with respect to statics
> > >                                  making note that equilibrium must be
> > > in place
> > >                        Third, one has to make the field dynamic by
> > > providing a
> > >                                 time varying field
> > >                       Fourth, one has to add formally passive items
> > > into the boundary
```

> > >   so that the entire dynamic field in
> > > place is in a state of equilibrium.
>
> > >   Note: you may add radiators to the inside of
> > > the boundary in the first
> > >   instance, but in the second instance
> > > when you make them active
> > >   then they have to be both resonant as
> > > well as a wavelength long
> > >   by firtue of also being a period   One
> > > can then applyMaxwells   equations for radiation to the
> > > final arbitrary boundar
>
> > >   Who ever manages to explain the above must
> > > point out that the particles
> > >   that are ejected from inside the boundary are
> > > immediately replaced   fresh   passive   particles
> > > that are outside the boundary looking for a diamagnetic surface to
> > > reside upon where, in this instance, is aluminum or copper or any
> > > other material that is diamagnetic such as the radiator
>
> > >   Who ever takes on this task of explaining the above to this
> > > group so that they understand most assuredly has my respect .
>
> > Ive never seen Art apply Maxwell's equations. If he had really been
> > applying Maxwells equations he would have know that contra wound dummy
> > load he ranted about for so long would not work.
>
> > Jimmie
>
> A slinky does "work" when it is contra wound .where a lumped load
> cancels the other lumped load as Maxwell did not provide for them in
> his equations,only distributed loads.
> If you read Jasik's book he takes care to contra wind the coils, same
> as one would do with traps. The so called slinky that one purchases
> today are NOT contra wound
> Jimmie,   the group is looking for somebody who believes they
> understand physics to explain what I cannot and you obviously perceive
> yourself as an expert!
> "Go for it!

I seriously doubt if there is anyone here looking to have high school
physics explained to them.. Most already have that down pretty well.

JImmie

984. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-27 01:36:24 UTC
From: M0WYM <Sansspam@peartreegreen.org>
Message-ID: <hojneo$791$1@news.albasani.net>
Source record: 10484

Michael Coslo wrote:

>
> Fine. My interpretation of Amateur is a person who cannot do
> things in a professional manner, a person who is interested in
> something, but for lack of intelligence, skill, persistence, or
> talent, will never become proficient in what they are interested
> in.
>
You are entitled to your extremely judgemental interpretation but it is not necessarily correct!

An amateur is a person who is not a professional, a professional is someone who is paid for their skill(s). Nowhere does it say that either is competent or incompetent. Many amateurs are vastly more skilled than professionals operating in the same area.

Only this week NASA were impressed and enquiring of a UK hobbyist how he obtained such incredible pictures of the earth from 21 miles up when it cost them millions of dollars to to the what he had done for about $750.

(He'd put a common digital camera with some electronics and a simple radio beacon as the payload to a helium balloon which burst at 21 miles up and which then came down by parachute and he was able to locate it by radio DF. See http://news.bbc.co.uk/1/hi/england/west_yorkshire/8587749.stm . Now that is an amateur - hardly fits your idea of amateur does it :-)

Charlie.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

985. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-27 02:07:20 UTC
From: M0WYM <Sansspam@peartreegreen.org>
Message-ID: <hojp8o$c3f$1@news.albasani.net>
Source record: 10485

Michael Coslo wrote:

>
> Its really too bad too, I know a lot of obese people who are great folks.
>
> - 73 de Mike N3LI -

Yes but would you let your daughter marry one or let one move in
next door!

FFS, what has body shape got to do with anything outside the medical
sphere.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

986. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-27 02:19:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4bad6b22$0$636$8046368a@newsreader.iphouse.net>
Source record: 10486

On 3/26/2010 9:07 PM, M0WYM wrote:
> Michael Coslo wrote:
>
>>
>> Its really too bad too, I know a lot of obese people who are great folks.
>>
>> - 73 de Mike N3LI -
>
> Yes but would you let your daughter marry one or let one move in next door!
>
> FFS, what has body shape got to do with anything outside the medical
> sphere.
>
>
>

I know people that have been quite obese and have dropped 150 or more pounds while out of my sight. Without mentioning they were up to anything so sinister.

I know people that have fought their weight for their entire lives and can do nothing about it, even with serious and severe medical assistance and being warned it will eventually kill them.

So obesity is a mixed bag, almost always very tough to deal with, and nothing for anyone to make fun of. I assume just making fun is what you were doing. Unless you're a total ass. At this point, I'll give you the benefit of the doubt.

tom
K0TAR

987. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-27 02:30:44 UTC
From: tom <news4792@taring.org>
Message-ID: <4bad6dcd$0$50150$8046368a@newsreader.iphouse.net>
Source record: 10487

On 3/26/2010 9:07 PM, M0WYM wrote:
> Michael Coslo wrote:
>
>>
>> Its really too bad too, I know a lot of obese people who are great folks.
>>
>> - 73 de Mike N3LI -
>
> Yes but would you let your daughter marry one or let one move in next door!
>
> FFS, what has body shape got to do with anything outside the medical
> sphere.
>
>
>

I will reply about , but not in any way apologize for, what I wrote a
few minutes ago.

When you write a first line like what you did, you should expect that
some people will immediately go blind and respond harshly.

That is not an apology, I still think you may be an ass.

tom
K0TAR

988. lovely 27' Coronado sailboat

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-28 20:36:09 UTC
From: max <ethical.seo60@gmail.com>
Message-ID: <56272a8f-c7cc-41e0-8c7d-306227d38a55@k36g2000prb.googlegroups.com>
Source record: 10488

Hello,

Unfortunately for me, but lucky for you, I need to sell my lovely 27'
Coronado sailboat. She's really a beautiful boat, with a VHF radio,
stove, icebox, head, galley, can sleep 5, and lots more!

Please take a look, she's currently on eBay with pictures and a long
description, here: http://bit.ly/dAOa1O

Thanks a lot!

DaemonNite

989. http://www.radioteam.eu/

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-28 21:56:19 UTC
From: radio fan <indirizzo@dominio.cc>
Message-ID: <d3kvq5p3ik5f8npdvm40gq6ga5uefb0hrq@4ax.com>
Source record: 10489

Radioteam.eu is a directory of streaming media freely available in the Internet

http://www.radioteam.eu/

990. Re: lovely 27' Coronado sailboat

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-28 22:00:24 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <9akvq5pq7cepq7i9n4ku3slkd1ee21bokn@4ax.com>
Source record: 10490

On Sun, 28 Mar 2010 13:36:09 -0700 (PDT), max
<ethical.seo60@gmail.com> wrote:

>Hello,
>
>Unfortunately for me, but lucky for you, I need to sell my lovely 27'
>Coronado sailboat. She's really a beautiful boat, with a VHF radio,
>stove, icebox, head, galley, can sleep 5, and lots more!
>
>Please take a look, she's currently on eBay with pictures and a long
>description, here: http://bit.ly/dAOa1O
>
>Thanks a lot!
>
>DaemonNite

Boat: A hole in the water into which you pour money.

The two happiest days of a boat-owners life: The day you buy the boat
and the day you finally get rid of the damn thing.

991. Re: lovely 27' Coronado sailboat

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-29 02:03:49 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hop1q6$53r$1@news.eternal-september.org>
Source record: 10491

"Kickin' Ass and Takin' Names" <PopUlist349@hotmail.com> wrote in message
news:9akvq5pq7cepq7i9n4ku3slkd1ee21bokn@4ax.com...
> On Sun, 28 Mar 2010 13:36:09 -0700 (PDT), max
> <ethical.seo60@gmail.com> wrote:
>
>>Hello,
>>
>>Unfortunately for me, but lucky for you, I need to sell my lovely 27'
>>Coronado sailboat. She's really a beautiful boat, with a VHF radio,
>>stove, icebox, head, galley, can sleep 5, and lots more!
>>
>>Please take a look, she's currently on eBay with pictures and a long
>>description, here: http://bit.ly/dAOa1O
>>
>>Thanks a lot!
>>
>>DaemonNite
>
> Boat: A hole in the water into which you pour money.
>
> The two happiest days of a boat-owners life: The day you buy the boat
> and the day you finally get rid of the damn thing.
>
I had a Coronado 25 for about 10 years....fantastic boat. Spent a fortune
on it. Enjoyed every minute. I have more money now that it has been
sold.... ;)

992. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-29 17:39:35 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hoqoku$jc48$1@tr22n12.aset.psu.edu>
Source record: 10492

M0WYM wrote:
> Michael Coslo wrote:
>
>>
>> Fine. My interpretation of Amateur is a person who cannot do
>> things in a professional manner, a person who is interested in
>> something, but for lack of intelligence, skill, persistence, or
>> talent, will never become proficient in what they are interested
>> in.
>>
> You are entitled to your extremely judgemental interpretation but it is
> not necessarily correct!
>
> An amateur is a person who is not a professional, a professional is
> someone who is paid for their skill(s). Nowhere does it say that
> either is competent or incompetent. Many amateurs are vastly more
> skilled than professionals operating in the same area.

Incapable of recognizing sarcasm, or just looking for an argument?

I was replying to our good D. Stussy, who indeed has a problem with the word amateur, and seems to have issues with the obese.

I am an amateur radio operator in the classic definition, that of one who loves the activity, not in the much more recent corruption of the word - that of non-professional or shoddy.

Most very strange in a world where I can perform most activities much better than th eso called professionals.

- 73 de Mike N3LI -

993. Re: Amateur radio on Linux

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-29 17:49:12 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hoqp6o$jc4a$1@tr22n12.aset.psu.edu>
Source record: 10493

M0WYM wrote:
> Michael Coslo wrote:
>
>>
>> Its really too bad too, I know a lot of obese people who are great folks.
>>
>> - 73 de Mike N3LI -
>
> Yes but would you let your daughter marry one or let one move in next door!

Yes and yes.

FWIW, my son was engaged to one of the most stunnningly beautiful and
not-an-ounce-of-fat young ladies I ever met. She turned out to have a
not-so-stunning personality as we got to know her better.

It's a physical thing, I'm more interested in minds - and I'll take a
fat nice person any day over an evil thin one.

> FFS, what has body shape got to do with anything outside the medical
> sphere.

Darned if I know.

- 73 de Mike N3LI -

994. amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-29 21:08:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hor4t1$354$1@news.jpl.nasa.gov>
Source record: 10494

A couple recent comments:
1) An amateur is a person who is not a professional, a professional is someone who is paid for their skill(s). Nowhere does it say that either is competent or incompetent. Many amateurs are vastly more skilled than professionals operating in the same area.

2) I am an amateur radio operator in the classic definition, that of one who loves the activity, not in the much more recent corruption of the word - that of non-professional or shoddy.

Most very strange in a world where I can perform most activities much better than th eso called professionals.
---

pro -> does it for money. Implies that there is some (financial,reputation) responsibility for results

amateur -> does it for no money (e.g. for the love of the activity, see the Latin root of the word).

Proficiency, competency, or skill doesn't really enter into it. Although, an unskilled professional had better be a good salesperson, because otherwise, nobody is going to be willing to compensate them.

Lord Rayleigh was an amateur: nobody was paying him to do his work.

It's also true that a pro that has been in business (successfully) for a number of years is likely to be competent. (or they'd starve).

An amateur can get away with being incompetent for years without ill effect.

In some fields (Engineering, in the United States), there are some legal aspects to being "pro" aside from being compensated. To call oneself a Professional Engineer, one must have a certain amount of experience (6 years, typically) at engineering, have passed a couple of fairly rigorous tests, etc. so that you have a license. One could acquire the experience while unpaid, and certainly one doesn't get paid for the test, so one could be an amateur Professional Engineer.

995. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-30 08:10:59 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <imisn.74659$RI3.47076@newsfe13.ams2>
Source record: 10495

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D43532CDA23Enonenowhere@61.9.191.5...
> "David" <barett@blueyonder.co.uk> wrote in
> news:U0vpn.57227$jo6.725@newsfe14.ams2:
>
>>
>> "Owen Duffy" <none@no.where> wrote in message
>> news:Xns9D433AC93C99Dnonenowhere@61.9.191.5...
>>> "David" <barett@blueyonder.co.uk> wrote in
>>> news:CSrpn.496462$DL1.71964@newsfe25.ams2:
>>>
>>> David,
>>>
>>> If your tests are not exposed to temporal effects (eg comparing the
>>> R4 last
>>> year with the MA5B now), then the reduction in S/N with the MA5B on
>>> boresight is telling. Something is wrong somewhere. (A prophetic
>>> statement I know!)
>>>
>>> Some of the earlier suggestions remain relevant. Does the noise in a
>>> battery powered receiver reduce significantly when you turn the power
>>> off to everything in your own premises?
>>>
>>> Owen
>>>
>>
> ...
>> The only thing I can think of that is different is that I used some
>> special grease from Vine Antennas on all the joints that was
>> advertised for antenna joints.
>
> These compounds are often a waterproof grease of some kind with granular
> metal particles, often zinc. The concept is that the grease excludes
> oxygen and water from the joint and so reduces corrosion, and the
> irregular zinc particles improve conductivity by 'punching through' the
> oxide layer on the aluminium.
>
> It is conceivable that the stuff you have used may create some kind of
> galvanic action which could produce some noise. The goop that I have used
> has always worked without apparent problems, but it will depend on the
> recipe, and different recipes exist for compatibility with different
> metals.
>
> BTW, it is my experience that marine grease does just as good a job on

> clean aluminium without being nearly as messy. I use a small stainless
> wire brush in a dremel tool to clean the inside of mating tubes, a
> regular stainless scratch brush to do the outside, and a little marine
> grease on the mating surfaces. Don't be overzealous with the wire
> brushing as you embed steel in the aluminium. People often propose non-
> metallic scourers, but they also embend non conductive material in the
> aluminium surface.
>
> Have you looked for other current loops that could generate noise, AC and
> DC. DC loops can be 'powered' by galvanic action from things such as
> mixed earth electrodes (eg copper or copper clad electrodes bonded to
> galvanised iron water pipes or masts).
>
> Owen

I still haven't found enough time to be able to bring the MA5B back down to ground for a good look and put a good choke balun in line to see if the noise improves.

I do know that when I purchased the grease it did say its a conductive grease for aluminium. It didn't come with any instructions so I applied the grease as thick as I could to prevent any corrosion. It looks like using to much grease might be all or some of my problem. The only place I didn't put any grease was on the elements were the matching network connects to. I used clear silicon sealant for those.

As soon as I can find enough time I will post back with my findings.

Thanks

996. modelling colinear antenna for 4nec2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-30 08:20:27 UTC
From: nico <nico.5f783cf@radiobanter.com>
Message-ID: <nico.5f783cf@radiobanter.com>
Source record: 10496

Hello.. I am interested in modeling with 4nec2 a collinear antenna for
869 MHz frequencies, it's use for my security systems.
i wright this code in 4nec2 but i don't see the far field

```
GW 1 1 0 0.025 0.919 0 0.025 1 1.e-3
GW 2 1 0 0.025 1 0 0.035 1 1.e-3
GW 3 1 0 0.035 1 0 0.035 1.13 1.e-3
GW 4 1 0 0.035 1.13 0 0.025002 1.13009996 1.e-3
GW 5 1 0 0.025002 1.13009996 0 0.025 1.26 1.e-3
GW 7 1 0 0.035 1.26 0 0.035 1.3899 1.e-3
GW 8 1 0 0.035 1.39 0 0.025 1.39 1.e-3
GW 9 1 0 0.025 1.39 0 0.025 1.476 1.e-3
GE 0
EK
EX 0 4 1 0 1 0
GN 2 0 0 0 20 0.0303
FR 0 1 0 0 869 0
```

Thanks in advance for comments

sorry for my English I'm a French student

--
nico

997. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-30 17:04:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8bb4r59f9eilt8rgielqdovu6r2ueakmir@4ax.com>
Source record: 10497

On Tue, 30 Mar 2010 09:10:59 +0100, "David" <barett@blueyonder.co.uk>
wrote:

>I applied the
>grease as thick as I could to prevent any corrosion.

Hi David,

Protection is not often a product of liberal application.

>It looks like using to
>much grease might be all or some of my problem.

Hard to imagine. If you are clamping things together, the notion of
"too much" takes care of itself. i.e. You cannot have "too much"
toothpaste in the tube if you squeeze hard.

If, as you say, this is "conductive" grease, then clamping down hard
also brings electrical continuity and there is no issue of having "too
much" grease.

So, what this basically devolves to is: "did you apply enough
clamping?"

>The only place I didn't put
>any grease was on the elements were the matching network connects to.

Why?

> I used
>clear silicon sealant for those.

This has an acid base (depending upon the formulation being one of the
common, garden variety sealers) that sometimes brings problems of
corrosion. Again, this depends on the formulation.

However, the noise you describe is not one ascribed to grease in any
form, nor to sealants whatever their propensity is for corrosion.

73's
Richard Clark, KB7QHC

998. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-30 17:06:31 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <2rb4r5ps387ntphlhtv16i3rj40matcoad@4ax.com>
Source record: 10498

On Mon, 29 Mar 2010 14:08:49 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>A couple recent comments:
>1) An amateur is a person who is
An amateur is one who does it for fun!
John Ferrell W8CCW

999. Re: modelling colinear antenna for 4nec2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-30 17:08:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3qb4r51uf703b68q3lbmkr2tgs2mo1facq@4ax.com>
Source record: 10499

On Tue, 30 Mar 2010 09:20:27 +0100, nico
<nico.5f783cf@radiobanter.com> wrote:

>i wright this code in 4nec2 but i don't see the far field

Hi Nico,

Seeing the far field is a function of using 4nec2, not in describing
the wires (writing the code). This means there is a control button
you must activate to generate a view of the far field.

Perhaps someone who has experience with this package can help you with
that specific point.

73's
Richard Clark, KB7QHC

1000. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-30 18:08:29 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hotemtibf1@news.jpl.nasa.gov>
Source record: 10500

Bill wrote:
> On Mar 29, 10:08 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> Lord Rayleigh was an amateur: nobody was paying him to do his work.
>
> Are you talking about the Professor of Physics at Cambridge?
3rd Baron John Strutt

During the time he managed his late father's barony from 1873 to 1879,
he did some research. The Theory of Sound was published in 1878.

Then, after he left the Cavendish Lab at Cambridge in 1884, he continued
his research at home.

For all I know, Cambridge didn't pay him either.. he was definitely a
"man of means" and sort of typifies the "gentleman amateur"

Antoine Lavoisier or Joeseph Fourier would be other examples. Both had
"jobs" that paid well and didn't require a lot of their time, so they
could spend their spare time and cash on science/engineering.

1001. Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-30 22:43:05 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <%7vsn.154712$rq1.131442@en-nntp-02.dc1.easynews.com>
Source record: 10401

If I take an antenna that's resonant at, say, a couple GHz, and operate it well below that frequency (say, some hundreds of MHz), it's clear that for something simple like a dipole, its radiation pattern is the usual "bagel" shape that an "elemental" (infinitesimally short) dipole would give you.

But say I use something like a patch antenna that's designed for 2.4GHz and build enough of a matching network that it presents a 50ohm impedance to, say, a 70cm transmitter. Does the radiation pattern change much? Will it become so lossy (radiation resistance rapidly heading towards zero) that this isn't really a good idea in the first place? (I wouldn't be surprised if a patch antenna actually doesn't radiate much at all outside of the antenna's own resonances...) Or perhaps it's not possible to say, in general, what happens and one needs to perform simulations on a case-by-case basis?

I'm asking based on the thought that there are a lot of pretty nice, off-the-shelf antennas out there that were designed to be resonant (using, e.g., quarter-wave dimensions) at some pretty high frequency (2.4GHz being a common one, of course), and I'm interested in how viable it is to use these antenna for 2m/70cm amateur radio use.

Thanks for the input,
---Joel

1002. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 00:42:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9a65r5lurkf929bil2tg1bbs9iuhf18l7h@4ax.com>
Source record: 10402

On Tue, 30 Mar 2010 15:43:05 -0700, "Joel Koltner"
<zapwireDASHgroups@yahoo.com> wrote:

> Does the radiation pattern change much?

Hi Joel,

Depends on your meaning of "much." Given the ad-hoc nature of your
goal (and the resolution of any S-Meter in those services): you
wouldn't be able to tell any difference at all.

>Will it become
>so lossy (radiation resistance rapidly heading towards zero) that this isn't
>really a good idea in the first place? (I wouldn't be surprised if a patch
>antenna actually doesn't radiate much at all outside of the antenna's own
>resonances...) Or perhaps it's not possible to say, in general, what happens
>and one needs to perform simulations on a case-by-case basis?

Loss will be largely dictated by match, and the matching components'
and the radiator's Ohmic loss.

>I'm asking based on the thought that there are a lot of pretty nice,
>off-the-shelf antennas out there that were designed to be resonant (using,
>e.g., quarter-wave dimensions) at some pretty high frequency (2.4GHz being a
>common one, of course), and I'm interested in how viable it is to use these
>antenna for 2m/70cm amateur radio use.

Because they look cool? That will change fast when you add in the
matching accessories (and that doesn't mean fashion coordination).

73's
Richard Clark, KB7QHC

1003. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 02:25:30 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <cv2dnTEKf5EGLy_WnZ2dnUVZ_q-dnZ2d@giganews.com>
Source record: 10403

Joel Koltner wrote:
> If I take an antenna that's resonant at, say, a couple GHz, and operate
> it well below that frequency (say, some hundreds of MHz), it's clear
> that for something simple like a dipole, its radiation pattern is the
> usual "bagel" shape that an "elemental" (infinitesimally short) dipole
> would give you.
>
> But say I use something like a patch antenna that's designed for 2.4GHz
> and build enough of a matching network that it presents a 50ohm
> impedance to, say, a 70cm transmitter. Does the radiation pattern
> change much? Will it become so lossy (radiation resistance rapidly
> heading towards zero) that this isn't really a good idea in the first
> place? (I wouldn't be surprised if a patch antenna actually doesn't
> radiate much at all outside of the antenna's own resonances...) Or
> perhaps it's not possible to say, in general, what happens and one needs
> to perform simulations on a case-by-case basis?
>
> I'm asking based on the thought that there are a lot of pretty nice,
> off-the-shelf antennas out there that were designed to be resonant
> (using, e.g., quarter-wave dimensions) at some pretty high frequency
> (2.4GHz being a common one, of course), and I'm interested in how viable
> it is to use these antenna for 2m/70cm amateur radio use.
>
> Thanks for the input,
> ---Joel

The rule for any antenna is small - broadband - efficient: pick any two. You've chosen small, leaving you your choice, within reason, of one of the other two -- although as it gets really small, the efficiency choice gets less achievable. The lower the frequency, the more the patch will look like a capacitor, with lots of energy stored between the plates each cycle, and a small fraction of that being radiated. The large energy storage means high current, which means high I^2 * R loss and/or high loss in dielectrics due to very high E fields. This is the same basic problem you have with all electrically small antennas. You'll end up losing more and more in the matching network as frequency drops, too. If you do manage to minimize loss you'll end up with an exceedingly small bandwidth.

Expect the same pattern from the far-below-resonance patch as you get from a small loop or dipole.

Sorry, as Robert Heinlein (and others) said, TANSTAAFL (There Ain't No Such Thing As A Free Lunch).

But you'll probably be able to make some QSOs with it and, with the help of some mystical mumbling about equilibrium, photons, critical coupling, and reflected power waves, you'd surely be able to collect a gaggle of true believers.

Roy Lewallen, W7EL

1004. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 02:32:52 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <qvysn.156550$rq1.12794@en-nntp-02.dc1.easynews.com>
Source record: 10404

Hi Richard,

Thanks for your help...

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:9a65r5lurkf929bil2tg1bbs9iuhf18l7h@4ax.com...
> Because they look cool?

More because they don't take up a lot of space. I realize that any reasonably small antenna for 2m (meaning: "fits in the palm of your hand") is going to be a compromise anyway, but if you can have a nice-looking antenna that performs as well as a rubber ducky, heck, I'll have it look nice too...

---Joel

1005. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 02:40:14 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <jCysn.156765$rq1.59040@en-nntp-02.dc1.easynews.com>
Source record: 10405

Thanks Roy, that's a great summary.

If I started from the vantage point of wanting to design a flat panel-style (patch-like) antenna for 2m (and let's assume narrow band is fine for the moment), are there any obvious starting points besides a big patch that's being operated well below resonance (let's assume I want my panel to be no bigger than 6"x6")? Just meandered lines are probably as good (and can be readily simulated in NEC :-))? (I've read Randy Bancroft's book on patch antennas and have a reasonably good feel for how they operate... although he makes it clear there's often plenty of empirical design involved too, particularly when you want to get fancy and achieve circular polarization by exciting multiple modes at once.)

> But you'll probably be able to make some QSOs with it and, with the help of
> some mystical mumbling about equilibrium, photons, critical coupling, and
> reflected power waves, you'd surely be able to collect a gaggle of true
> believers.

It's a shame than Nathan Cohen has already largely cornered the market on overselling the potential of fractal antennas. :-)

---Joel

1006. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 05:30:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p3n5r5tffci20vbj981blj4fif89h8i4no@4ax.com>
Source record: 10406

On Tue, 30 Mar 2010 19:32:52 -0700, "Joel Koltner"
<zapwireDASHgroups@yahoo.com> wrote:

>> Because they look cool?
>

Hi Joel,

I noticed your response to Roy you made reference to Chip and
fractals.

A fractal will work, but back then we learned the lesson of Chip's
carefully crafted problems he posed to us such that only his antenna
would fit into the box he specified:
"Show me your best antenna that fits into
0.1WL by 0.005WL by 0.05WL
with a CCW dogleg twist in the longest
dimension that is elevated
22.5 deg above the horizon
and my fractal will beat it."

So, in commemoration of that sort of criteria, what do you mean by
>...don't take up a lot of space.

73's
Richard Clark, KB7QHC

1007. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 11:09:15 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <hovagr$or1$1@ra.nrl.navy.mil>
Source record: 10407

On 3/30/2010 3:03 PM, Edmund H. Ramm wrote:
> In<2rb4r5ps387ntphlhtv16i3rj40matcoad@4ax.com> John Ferrell<jferrell13@triad.rr.com>
writes:
>
>> On Mon, 29 Mar 2010 14:08:49 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
>> wrote:
>
>>> A couple recent comments:
>>> 1) An amateur is a person who is
>> An amateur is one who does it for fun!
>
> I do it for satisfaction and sense of accomplishment, certainly not
> for fun. Further the status of amateur doesn't imply the right of doing
> it less consciencious than a professional.
>
> 73, Eddi ._._.

Hello, all, and I think a wee bit of clarification is needed here:

Profession (n): One who engages in a pursuit or activity professionally.

Profession (adj, sense 1c): Characterized by or conforming to the
technical or ethical standards of a profession.

(Both definitions taken from Webster's New Collegiate Dictionary)

Now, in light of the above couldn't an amateur (not a dilettante, mind
you) radio person practice his/her craft "professionally?" Sincerely,
and 73s from N4GGO,

1008. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 16:14:23 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <hovsd0sov1@ra.nrl.navy.mil>
Source record: 10408

On 3/31/2010 7:09 AM, J.B. Wood wrote:
> On 3/30/2010 3:03 PM, Edmund H. Ramm wrote:
>> In<2rb4r5ps387ntphlhtv16i3rj40matcoad@4ax.com> John
>> Ferrell<jferrell13@triad.rr.com> writes:
>>
>>> On Mon, 29 Mar 2010 14:08:49 -0700, Jim Lux<james.p.lux@jpl.nasa.gov>
>>> wrote:
>>
>>>> A couple recent comments:
>>>> 1) An amateur is a person who is
>>> An amateur is one who does it for fun!
>>
>> I do it for satisfaction and sense of accomplishment, certainly not
>> for fun. Further the status of amateur doesn't imply the right of doing
>> it less consciencious than a professional.
>>
>> 73, Eddi ._._.
>
> Hello, all, and I think a wee bit of clarification is needed here:
>
> Profession (n): One who engages in a pursuit or activity professionally.
>
> Profession (adj, sense 1c): Characterized by or conforming to the
> technical or ethical standards of a profession.
>
> (Both definitions taken from Webster's New Collegiate Dictionary)
>
> Now, in light of the above couldn't an amateur (not a dilettante, mind
> you) radio person practice his/her craft "professionally?" Sincerely,
> and 73s from N4GGO,

Hello, all, and back to the rear of the class for grammar/spelling. The
two above terms should have read "professional" vice "profession".
Sincerely,

1009. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 17:27:17 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hp00ll$en8$1@news.jpl.nasa.gov>
Source record: 10410

Edmund H. Ramm wrote:
> In <2rb4r5ps387ntphlhtv16i3rj40matcoad@4ax.com> John Ferrell <jferrell13@triad.rr.com>
writes:
>
>> On Mon, 29 Mar 2010 14:08:49 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
>> wrote:
>
>>> A couple recent comments:
>>> 1) An amateur is a person who is
>> An amateur is one who does it for fun!
>
> I do it for satisfaction and sense of accomplishment, certainly not
> for fun.

Isn't deriving satisfaction and sense of accomplishment part of fun? It
is for me, anyway. I suppose one can do it and get paid, being
professional, and still have fun. So maybe I should clarify and say
"who does it for *only* fun".

Further the status of amateur doesn't imply the right of doing
> it less consciencious than a professional.

I don't know about that. Aside from regulatory requirements, as an
amateur one can do it however well or poorly one wishes, according to
one's own standards.

As a professional, the implication is that if you don't do a good job,
you won't get paid. Mind you, more than one person has paid another to
do a job and had a poor result. So, in the individual instances,
professional is no guarantee of quality. However, in the long run, an
incompetent professional will starve. And, if it's an activity for
which professional licensing is required (Engineer, Doctor, Lawyer,
Accountant, etc.), there's more requirements.

>
> 73, Eddi ._._.

1010. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 17:34:36 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hp013cfhu1@news.jpl.nasa.gov>
Source record: 10409

Joel Koltner wrote:
> Hi Richard,
>
> Thanks for your help...
>
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:9a65r5lurkf929bil2tg1bbs9iuhf18l7h@4ax.com...
>> Because they look cool?
>
> More because they don't take up a lot of space. I realize that any
> reasonably small antenna for 2m (meaning: "fits in the palm of your
> hand") is going to be a compromise anyway, but if you can have a
> nice-looking antenna that performs as well as a rubber ducky, heck, I'll
> have it look nice too...
>

Stated that way, it should be possible to create a patch antenna that
has comparable performance.

Or a "patch looking" antenna.

There's a couple ways to go about it, none of which involve starting
with a 2.4 GHz patch operated at 1/20th the design frequency.

1) use something as a dielectric that has a high epsilon, so the
wavelength is shorter. For cellphones and the like, various ceramics
like alumina are used. It's pretty easy to get to epsilon=10, but that
only gets you to 1/3 the size.

2) build something like a meander line on a suitable substrate. This is
sort of the squashed flat version of a rubber ducky loaded vertical.
Rather than making a 3d spiral which is a "radiating inductor" you do it
on a flat surface. It's a bit tricky because a simple back and forth in
a single plane won't radiate very well (the field from one meander
cancels the adjacent one). But a spiral might work.

3) low loss lumped loading components.

But, to return to your original 2.4GHz patch.. it's going to look like a
capacitor of some sort at 144 MHz. The feedline would probably do most
of the radiation.

1011. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 18:40:50 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <TGMsn.114764$Bs1.61880@en-nntp-01.dc1.easynews.com>
Source record: 10411

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:p3n5r5tffci20vbj981blj4fif89h8i4no@4ax.com...
> So, in commemoration of that sort of criteria, what do you mean by
>>...don't take up a lot of space.

I'm liking panel-type antennas that are on the order of, oh, say, 0.2\lambda
by 0.2\lamba by perhaps .05\lambda or less. So electrically small, but not
super-electrically small. :-)

1012. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 18:42:18 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <gIMsn.114765$Bs1.46773@en-nntp-01.dc1.easynews.com>
Source record: 10412

Thanks Jim, that gives me some good ideas to try out...

1013. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 19:15:08 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hp06vsqjj1@news.jpl.nasa.gov>
Source record: 10413

Joel Koltner wrote:
> "Richard Clark" <kb7qhc@comcast.net> wrote in message
> news:p3n5r5tffci20vbj981blj4fif89h8i4no@4ax.com...
>> So, in commemoration of that sort of criteria, what do you mean by
>>> ...don't take up a lot of space.
>
> I'm liking panel-type antennas that are on the order of, oh, say,
> 0.2\lambda by 0.2\lamba by perhaps .05\lambda or less. So electrically
> small, but not super-electrically small. :-)
>

Considering a dipole is 0.5 lambda by 0.01 lambda, getting a factor of 2.5 smaller is easy. (that is, you want 40cm by 40cm or so)

A simple short dipole with capacity hats and inductive loading will get you there quite nicely.

Imagine a "I" with the feedpoint at the middle, on a piece of FR-4 or G-10 (epsilon about 2). make it, say, 30x30 cm. You could also make the dipole diagonal across the square, and have the "capacity hats" be along the edge.

You could fool with NEC for a bit and get pretty close.

Or, do what I'd do.. get yourself a piece of suitable insulating substrate (a plastic cutting board or piece of acrylic window pane) and some copper foil tape. Lay it down, measure it with an antenna analyzer or similar, and start adjusting.

I've built more than one antenna like this using copper foil tape on paper or plastic sheets.

1014. Re: modelling colinear antenna for 4nec2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 20:20:48 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <0B7AMEJg66sLFwR0@b-howie.demon.co.uk>
Source record: 10414

In message <nico.5f783cf@radiobanter.com>, nico <nico.5f783cf@radiobanter.com> writes
>
>Hello.. I am interested in modeling with 4nec2 a collinear antenna for
>869 MHz frequencies, it's use for my security systems.
>i wright this code in 4nec2 but i don't see the far field
>
>GW 1 1 0 0.025 0.919 0 0.025 1 1.e-3
>GW 2 1 0 0.025 1 0 0.035 1 1.e-3
>GW 3 1 0 0.035 1 0 0.035 1.13 1.e-3
>GW 4 1 0 0.035 1.13 0 0.025002 1.13009996 1.e-3
>GW 5 1 0 0.025002 1.13009996 0 0.025 1.26 1.e-3
>GW 7 1 0 0.035 1.26 0 0.035 1.3899 1.e-3
>GW 8 1 0 0.035 1.39 0 0.025 1.39 1.e-3
>GW 9 1 0 0.025 1.39 0 0.025 1.476 1.e-3
>GE 0
>EK
>EX 0 4 1 0 1 0
>GN 2 0 0 0 20 0.0303
>FR 0 1 0 0 869 0
>
>
>Thanks in advance for comments
>
>sorry for my English I'm a French student

I got a warning

COLINEAR.NEC wavelength=0.345 mtr.

Warn.: volumes for Wires 6 (tag 6) and 7 (tag 7) are intersecting.

it was picking up a frequency of 1 millihertz as well maybe the diameter was being picked up as a
scale factor

However this ran (slowly) - I chose auto segmentation

GW 1 1 0 0.025 0.919 0 0.025 1 1.e-3
GW 2 1 0 0.025 1 0 0.035 1 1.e-3
GW 3 1 0 0.035 1 0 0.035 1.13 1.e-3
GW 4 1 0 0.035 1.13 0 0.025 1.13 1.e-3
GW 5 1 0 0.025 1.13 0 0.025 1.26 1.e-3
GW 6 1 0 0.035 1.26 0 0.035 1.3899 1.e-3
GW 7 1 0 0.035 1.39 0 0.025 1.39 1.e-3
GW 8 1 0 0.025 1.39 0 0.025 1.476 1.e-3
GE 0

```
EK
EX 0 4 1 0 1 0
GN 2 0 0 0 20 0.0303
FR 0 1 0 0 869 0
```

chose far field plot 5 degree or 1 degree steps - full pattern.

The pattern looked sensible. Gain of about 4.6dB at 55 degrees from horizontal.

Warning was still there.

Brian GM4DIJ

--
Brian Howie

1015. Re: Radiation patterns and loss of antennas operated well below resonance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-03-31 22:28:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <Ob6dnXHlPMLhUS7WnZ2dnUVZ_qednZ2d@giganews.com>
Source record: 10415

Joel Koltner wrote:
> Thanks Roy, that's a great summary.
>
> If I started from the vantage point of wanting to design a flat
> panel-style (patch-like) antenna for 2m (and let's assume narrow band is
> fine for the moment), are there any obvious starting points besides a
> big patch that's being operated well below resonance (let's assume I
> want my panel to be no bigger than 6"x6")? Just meandered lines are
> probably as good (and can be readily simulated in NEC :-))? (I've read
> Randy Bancroft's book on patch antennas and have a reasonably good feel
> for how they operate... although he makes it clear there's often plenty
> of empirical design involved too, particularly when you want to get
> fancy and achieve circular polarization by exciting multiple modes at
> once.)
>
>> But you'll probably be able to make some QSOs with it and, with the
>> help of some mystical mumbling about equilibrium, photons, critical
>> coupling, and reflected power waves, you'd surely be able to collect a
>> gaggle of true believers.
>
> It's a shame than Nathan Cohen has already largely cornered the market
> on overselling the potential of fractal antennas. :-)
>
> ---Joel

When the antenna becomes small, connecting wires can become a significant -- if not the dominant -- part of the radiating structure. So some attention has to be paid to them, too. Consider a short end loaded dipole, with large capacity hats at the wire ends. That's what your "patch" would look like if fed from the center. And it's not a bad choice for an electrically small antenna. The radiating is done by the dipole wire, and the end plates serve to make the current uniform along the wire, raising the radiation resistance and improving the efficiency over a non-loaded dipole. If you move the "dipole" toward the outside, some uneven current will flow on the plates and they'll contribute to the radiation. NEC can do a good job of modeling these structures, with the plates modeled as wire grids, if some care is taken. Of course it can't handle dielectrics. Making a planar antenna on a dielectric material might be advantageous, but putting dielectric between the two halves as in a conventional patch would likely reduce the efficiency without providing any advantage.

What you'll be making is just another small antenna, with no special properties because of its resemblance to a properly functioning patch. So you have to deal with the same considerations you do with any small

antenna, all directed toward minimizing the I^2 * R loss.

Roy Lewallen, W7EL

1016. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 00:40:25 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <spq7r51lhm36sfq0cejelh7j56m2ku7imj@4ax.com>
Source record: 10416

On Mon, 29 Mar 2010 14:08:49 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>A couple recent comments:
>1) An amateur is a person who is not a professional, a professional is
>someone who is paid for their skill(s). Nowhere does it say that
>either is competent or incompetent. Many amateurs are vastly more
>skilled than professionals operating in the same area.
>
>2) I am an amateur radio operator in the classic definition, that of one
>who loves the activity, not in the much more recent corruption of the
>word - that of non-professional or shoddy.
>
> Most very strange in a world where I can perform most activities
>much better than th eso called professionals.
>--------
>
>pro -> does it for money. Implies that there is some
>(financial,reputation) responsibility for results
>
>amateur -> does it for no money (e.g. for the love of the activity, see
>the Latin root of the word).
>
>Proficiency, competency, or skill doesn't really enter into it.
>Although, an unskilled professional had better be a good salesperson,
>because otherwise, nobody is going to be willing to compensate them.
>
>Lord Rayleigh was an amateur: nobody was paying him to do his work.
>
>It's also true that a pro that has been in business (successfully) for a
>number of years is likely to be competent. (or they'd starve).
>
>An amateur can get away with being incompetent for years without ill effect.
>
>In some fields (Engineering, in the United States), there are some legal
>aspects to being "pro" aside from being compensated. To call oneself a
>Professional Engineer, one must have a certain amount of experience (6
>years, typically) at engineering, have passed a couple of fairly
>rigorous tests, etc. so that you have a license. One could acquire the
>experience while unpaid, and certainly one doesn't get paid for the
>test, so one could be an amateur Professional Engineer.
>

I've always thought that folks who needed to argue the differences
between "amateur" and "professional" need to get themselves a life.

But, I'm an old redneck and what do I know about anything.

1017. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 01:25:13 UTC
From: brent <bulegoge@columbus.rr.com>
Message-ID: <6e93904f-5909-4522-bf4f-78451981d8e3@z3g2000yqz.googlegroups.com>
Source record: 10417

On Mar 30, 2:08 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Bill wrote:
> > On Mar 29, 10:08 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> >> Lord Rayleigh was an amateur: nobody was paying him to do his work.
>
> > Are you talking about the Professor of Physics at Cambridge?
>
> 3rd Baron John Strutt
>
> During the time he managed his late father's barony from 1873 to 1879,
> he did some research. The Theory of Sound was published in 1878.
>
> Then, after he left the Cavendish Lab at Cambridge in 1884, he continued
> his research at home.
>
> For all I know, Cambridge didn't pay him either.. he was definitely a
> "man of means" and sort of typifies the "gentleman amateur"
>
> Antoine Lavoisier or Joeseph Fourier would be other examples. Both had
> "jobs" that paid well and didn't require a lot of their time, so they
> could spend their spare time and cash on science/engineering.

when amateurs get bored out of their mind of the activity in question
they can take a break from it. Professionals cannot. They must
soldier on until they get interested in their livelihood again.

I believe that the "quitting (or resting) is not an option" is what
makes professionals so much better than amateurs in almost all cases.

Can there even be such a thing as an amateur soldier?

1018. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 02:30:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D4D895B4435Enonenowhere@61.9.191.5>
Source record: 10418

"David" <barett@blueyonder.co.uk> wrote in
news:imisn.74659$RI3.47076@newsfe13.ams2:

...
> The only place I didn't put any grease was on the elements were the
> matching network connects to. I used clear silicon sealant for those.

Was it a water based silcone sealant? I have observed high VSWR and noise on an antenna feed that used such, until the stuff had thoroughly dried / cured. It does not seem to be affected by rain since the initial cure.

If it was not a neutral cure silicone, perhaps there is something galvanic going on?

Owen

1019. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1270101601@panix.com>
Source record: 10419
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

1020. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 16:49:18 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hp2iqh$f04k$1@tr22n12.aset.psu.edu>
Source record: 10420

Jim Lux wrote:

> I don't know about that. Aside from regulatory requirements, as an
> amateur one can do it however well or poorly one wishes, according to
> one's own standards.
>
> As a professional, the implication is that if you don't do a good job,
> you won't get paid. Mind you, more than one person has paid another to
> do a job and had a poor result. So, in the individual instances,
> professional is no guarantee of quality. However, in the long run, an
> incompetent professional will starve. And, if it's an activity for
> which professional licensing is required (Engineer, Doctor, Lawyer,
> Accountant, etc.), there's more requirements.

I pulled off my power panel in preparation to installing wiring to a new spa. It was a rats nest of professional, inspected wiring. I rewired the entire thing. And you can find a lot more "quality work" like this in a lot of houses.

The sub-par professionals who do this work are more likely to lose their jobs when the market goes south, and there just isn't any work for them at all.

But during his employment, I have no doubt that the guy who wired my house did it quickly and cheaply, and the quicker and cheaper made his boss all the happier.I also have no doubt that there are hundred of other houses he did exactly the same way. As for the person who did the electrical inspection, I'll not speculate.

But the idea that the free market will weed out the poor actors is a noble one but not true. The free market is looking for the cheapest, not the best.

- 73 de Mike N3LI -

1021. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 16:50:16 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hp2is8$f04k$2@tr22n12.aset.psu.edu>
Source record: 10421

Kickin' Ass and Takin' Names wrote:

> I've always thought that folks who needed to argue the differences
> between "amateur" and "professional" need to get themselves a life.
>
> But, I'm an old redneck and what do I know about anything.

I was just thinkin' the same thing.

- 73 de Mike N3LI -

1022. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 17:56:44 UTC
From: Joel Koltner <zapwireDASHgroups@yahoo.com>
Message-ID: <x75tn.186285$Jq1.5543@en-nntp-05.dc1.easynews.com>
Source record: 10422

"brent" <bulegoge@columbus.rr.com> wrote in message
news:6e93904f-5909-4522-bf4f-78451981d8e3@z3g2000yqz.googlegroups.com...
> I believe that the "quitting (or resting) is not an option" is what
> makes professionals so much better than amateurs in almost all cases.

Actually so-called "professionals" quit all the time -- and it usually comes down to a decision about money ("can we still expect to make money on this project?") -- rather than a more subjective, emotional consideration an amateur might give ("I gave this guy my word I'd get this working for him, and I'm going to soldier on even though it's now clear it'll take twice as long as I thought").

Software projects by "professionals" are quit all the time -- there's some shockingly low percentage of software projects that are ever actually finished (like, <25%). Even for hardware projects, at least for awhile Tektronix seemed to be quitting upwards of a quarter of all the projects they'd start.

1023. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 18:38:21 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <kK5tn.95771$Vh1.3489@newsfe15.ams2>
Source record: 10423

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D4D895B4435Enonenowhere@61.9.191.5...
> "David" <barett@blueyonder.co.uk> wrote in
> news:imisn.74659$RI3.47076@newsfe13.ams2:
>
> ...
>> The only place I didn't put any grease was on the elements were the
>> matching network connects to. I used clear silicon sealant for those.
>
> Was it a water based silcone sealant? I have observed high VSWR and noise
> on an antenna feed that used such, until the stuff had thoroughly dried /
> cured. It does not seem to be affected by rain since the initial cure.
>
> If it was not a neutral cure silicone, perhaps there is something galvanic
> going on?
>
> Owen

It was normal sealant silicone from a diy store.

1024. Re: modelling colinear antenna for 4nec2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 19:33:59 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <uGb2NUCnUPtLFwLX@b-howie.demon.co.uk>
Source record: 10424

```
In message <nico.5f783cf@radiobanter.com>, nico <nico.5f783cf@radiobanter.com> writes
>
>Hello.. I am interested in modeling with 4nec2 a collinear antenna for
>869 MHz frequencies, it's use for my security systems.
>i wright this code in 4nec2 but i don't see the far field
>
>GW 1 1 0 0.025 0.919 0 0.025 1 1.e-3
>GW 2 1 0 0.025 1 0 0.035 1 1.e-3
>GW 3 1 0 0.035 1 0 0.035 1.13 1.e-3
>GW 4 1 0 0.035 1.13 0 0.025002 1.13009996 1.e-3
>GW 5 1 0 0.025002 1.13009996 0 0.025 1.26 1.e-3
>GW 7 1 0 0.035 1.26 0 0.035 1.3899 1.e-3
>GW 8 1 0 0.035 1.39 0 0.025 1.39 1.e-3
>GW 9 1 0 0.025 1.39 0 0.025 1.476 1.e-3
>GE 0
>EK
>EX 0 4 1 0 1 0
>GN 2 0 0 0 20 0.0303
>FR 0 1 0 0 869 0

This works OK -I'd more time - you missed a wire too

GW 1 1 0 0.025 0.919 0 0.025 1 1.e-3
GW 2 1 0 0.025 1 0 0.035 1 1.e-3
GW 3 1 0 0.035 1 0 0.035 1.13 1.e-3
GW 4 1 0 0.035 1.13 0 0.025 1.13 1.e-3
GW 5 1 0 0.025 1.13 0 0.025 1.26 1.e-3
GW 6 1 0 0.035 1.26 0 0.025 1.26 1.e-3
GW 7 1 0 0.035 1.26 0 0.035 1.39 1.e-3
GW 8 1 0 0.035 1.39 0 0.025 1.39 1.e-3
GW 9 1 0 0.025 1.39 0 0.025 1.476 1.e-3
GE 0
EK
EX 0 4 1 0 1 0
GN 2 0 0 0 20 0.0303
FR 0 1 0 0 869 0

Brian
--
Brian Howie
```

1025. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 19:48:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fjt9r552uvd8d26lrdp5iv9obd0bm4qanu@4ax.com>
Source record: 10425

On Thu, 1 Apr 2010 10:56:44 -0700, "Joel Koltner"
<zapwireDASHgroups@yahoo.com> wrote:

>Software projects by "professionals" are quit all the time -- there's some
>shockingly low percentage of software projects that are ever actually finished
>(like, <25%). Even for hardware projects, at least for awhile Tektronix
>seemed to be quitting upwards of a quarter of all the projects they'd start.

Usually a problem of poor specification. You cannot design what is
not described. Frequently, success is in the mind of the beholder:
"Oh! I forgot to mention you need to....(gestures made here). You
know what I mean."

In other words, professionalism that fails to rise above rank amateur.

My amateur designs are far more complete and robust than professional
ones, but they are not commercial. They would take too long the first
time (but they always could have been done in the time it had actually
taken to get to shipping).

Tracy Kidder's "Soul of a New Machine" proved how little so-called
professional effort is needed to do a professional job right. I work
with a lot of inventors/entrepreneurs whose idea-to-shipping time is
measured in the single digits of weeks.

73's
Richard Clark, KB7QHC

1026. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 19:51:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D4E45C0EE137nonenowhere@61.9.191.5>
Source record: 10426

"David" <barett@blueyonder.co.uk> wrote in
news:kK5tn.95771$Vh1.3489@newsfe15.ams2:

>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns9D4D895B4435Enonenowhere@61.9.191.5...
>> "David" <barett@blueyonder.co.uk> wrote in
>> news:imisn.74659$RI3.47076@newsfe13.ams2:
>>
>> ...
>>> The only place I didn't put any grease was on the elements were the
>>> matching network connects to. I used clear silicon sealant for
>>> those.
>>
>> Was it a water based silcone sealant? I have observed high VSWR and
>> noise on an antenna feed that used such, until the stuff had
>> thoroughly dried / cured. It does not seem to be affected by rain
>> since the initial cure.
>>
>> If it was not a neutral cure silicone, perhaps there is something
>> galvanic going on?
>>
>> Owen
>
> It was normal sealant silicone from a diy store.

What is "normal".

There are two kinds commonly available, neutral cure and acetic acid
cure. Some of the neutral cure ones are water based (ie water washup of
un-cured material).

If you use acetic acid cured silicone on metals, it corrodes them.
Silicone sealants intended for roofing will have a neutral cure.

Do you know what you used?

Owen

1027. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 20:13:37 UTC
From: Non scrivetemi <nonscrivetemi@pboxmix.winstonsmith.info>
Message-ID: <764cf2869c44d9d06f9ada6ac92a2ee8@pboxmix.winstonsmith.info>
Source record: 10427

> But the idea that the free market will weed out the poor actors is a
> noble one but not true. The free market is looking for the cheapest, not
> the best.

That may be true after decades of "public education" successes, but there was a time, in my lifetime, when the free market DID work because people were willing to pay for the best so as not to have to pay for "bargains" again and again. But then Toyotas and Hondas came along and the cheap bastard became a bigger market force than people with old fashioned outmoded values like doing a job right and making something to last.

1028. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 21:20:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hp32mg$9dv$1@news.jpl.nasa.gov>
Source record: 10428

Michael Coslo wrote:
> Jim Lux wrote:
>
>> I don't know about that. Aside from regulatory requirements, as an
>> amateur one can do it however well or poorly one wishes, according to
>> one's own standards.
>>
>> As a professional, the implication is that if you don't do a good job,
>> you won't get paid. Mind you, more than one person has paid another to
>> do a job and had a poor result. So, in the individual instances,
>> professional is no guarantee of quality. However, in the long run, an
>> incompetent professional will starve. And, if it's an activity for
>> which professional licensing is required (Engineer, Doctor, Lawyer,
>> Accountant, etc.), there's more requirements.
>
> I pulled off my power panel in preparation to installing wiring to a new
> spa. It was a rats nest of professional, inspected wiring. I rewired
> the entire thing. And you can find a lot more "quality work" like this
> in a lot of houses.
>
> The sub-par professionals who do this work are more likely to lose their
> jobs when the market goes south, and there just isn't any work for them
> at all.
>
> But during his employment, I have no doubt that the guy who wired my
> house did it quickly and cheaply, and the quicker and cheaper made his
> boss all the happier.I also have no doubt that there are hundred of
> other houses he did exactly the same way. As for the person who did the
> electrical inspection, I'll not speculate.
>
> But the idea that the free market will weed out the poor actors is a
> noble one but not true. The free market is looking for the cheapest, not
> the best.

actually, the market looks for "good enough"..

And, in the long enough run, it does weed out the poorer actors. Of
course, in a growing market(e.g. a housing boom), there's always room
for new incompetents to enter.

1029. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-01 23:11:06 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <sn1ar514414a54mnkd3v0th3nd6tu8tskm@4ax.com>
Source record: 10429

On Thu, 01 Apr 2010 12:48:37 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Thu, 1 Apr 2010 10:56:44 -0700, "Joel Koltner"
><zapwireDASHgroups@yahoo.com> wrote:
>
>>Software projects by "professionals" are quit all the time -- there's some
>>shockingly low percentage of software projects that are ever actually finished
>>(like, <25%). Even for hardware projects, at least for awhile Tektronix
>>seemed to be quitting upwards of a quarter of all the projects they'd start.
>
Pulling the plug on an IT project is not necessarily a bad thing. A
project I've been working on has changed functional scope four times
in the last nine months. Is it any wonder the project is six months
late?

WHOOSH - the sound of a deadline flying by.

Business owners and project managers are reluctant to make any
admission of poor decision making. Being able to say the project is
'done' is how too many measure success. User adoption and satisfaction
always seems to be secondary. Arbitrary due dates are determined
before any real analysis of the problem and potential solutions is
made. Requirements fall by the wayside as EOQ or the day after
Thanksgiving approaches. Project managers, especially the
non-technical, often fail to manage their own unrealistic
expectations. Over-promised and under-delivered is an unfortunate fact
of life.

>Usually a problem of poor specification. You cannot design what is
>not described. Frequently, success is in the mind of the beholder:
>"Oh! I forgot to mention you need to....(gestures made here). You
>know what I mean."
>
Absolutely. Deliver exactly what the customer asked for and then
they'll tell you what's missing. And again and again .... For web
applications it's not unusual to be given a 'design' of what it should
look like (image only, no mark-up) and a contradictory list of
commingled business rules, requirements. features and functionality.

>In other words, professionalism that fails to rise above rank amateur.
>
>My amateur designs are far more complete and robust than professional
>ones, but they are not commercial. They would take too long the first
>time (but they always could have been done in the time it had actually
>taken to get to shipping).

>
We always do throw-away proof of concepts to test and better understand both design and functionality. Essentially the project gets written twice. Producing a proper deliverable is much easier if you've done 'it' before. Too many people consider the investment in any code as being too valuable to be discarded. That's just plain wrong. A maintainable and extensible design is of the utmost importance.

>Tracy Kidder's "Soul of a New Machine" proved how little so-called
>professional effort is needed to do a professional job right. I work
>with a lot of inventors/entrepreneurs whose idea-to-shipping time is
>measured in the single digits of weeks.
>
Much depends upon the complexity of the problem, management's understanding of possible solutions, and the skillsets, abilities & dedication of the individuals involved. In DG's case a knowledgeable project manager was working with a team of not just any recent engineering graduates. Most of these were hired specifically for the project. For all the successes in some respects the project can be considered a failure.

Very seldom does a business owner or project manager ask "what's the best way to ..." because in their mind they already have determined what the only solution is. IT should be treated as vested peers rather than day laborers.

1030. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-02 09:03:49 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <Wpitn.580013$DL1.346763@newsfe25.ams2>
Source record: 10430

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D4E45C0EE137nonenowhere@61.9.191.5...
> "David" <barett@blueyonder.co.uk> wrote in
> news:kK5tn.95771$Vh1.3489@newsfe15.ams2:
>
>>
>> "Owen Duffy" <none@no.where> wrote in message
>> news:Xns9D4D895B4435Enonenowhere@61.9.191.5...
>>> "David" <barett@blueyonder.co.uk> wrote in
>>> news:imisn.74659$RI3.47076@newsfe13.ams2:
>>>
>>> ...
>>>> The only place I didn't put any grease was on the elements were the
>>>> matching network connects to. I used clear silicon sealant for
>>>> those.
>>>
>>> Was it a water based silcone sealant? I have observed high VSWR and
>>> noise on an antenna feed that used such, until the stuff had
>>> thoroughly dried / cured. It does not seem to be affected by rain
>>> since the initial cure.
>>>
>>> If it was not a neutral cure silicone, perhaps there is something
>>> galvanic going on?
>>>
>>> Owen
>>
>> It was normal sealant silicone from a diy store.
>
> What is "normal".
>
> There are two kinds commonly available, neutral cure and acetic acid
> cure. Some of the neutral cure ones are water based (ie water washup of
> un-cured material).
>
> If you use acetic acid cured silicone on metals, it corrodes them.
> Silicone sealants intended for roofing will have a neutral cure.
>
> Do you know what you used?
>
> Owen

Thanks for the explanation. I didn't know that the did a neutral (water
based silicone).

The one that I have used is the acetic acid cured silicone.

1031. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-03 06:59:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D4FB706C596Dnonenowhere@61.9.191.5>
Source record: 10431

"David" <barett@blueyonder.co.uk> wrote in news:Wpitn.580013$DL1.346763
@newsfe25.ams2:

> The one that I have used is the acetic acid cured silicone.

Then it is corrosive on aluminium. The galvanic currents created may be
causing or contributing to your noise problem.

I would be removing the stuff, difficult as it is to do, but if it is in
contact with metal, it is not suited to your application.

Owen

1032. Trigonometry Tutorial

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-03 14:24:15 UTC
From: brent <bulegoge@columbus.rr.com>
Message-ID: <a7fd0b6e-aa58-4c75-951a-cfea402bff36@k13g2000yqe.googlegroups.com>
Source record: 10432

Hi,

below is a link to a trigonometry tutorial that uses interactive flash
programs to explain the basics of trigonometry.

http://www.fourier-series.com/Math/Trig/index.html

I also have other material on the website that may be of interest to
ham radio operators , such as a smith chart tutorial and information
on reflected waves and VSWR.

Brent

1033. PROOF that Helicopter Pilots are IN ON IT!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-03 21:07:46 UTC
From: the14thdisciple <the14thdisciple@gmail.com>
Message-ID: <3ed32981-ae79-451d-b175-0a82c9a76b88@q15g2000yqj.googlegroups.com>
Source record: 10433

the Ever-so Amusing new album from yoar old freand 14! out Now on
iTunes, Amazon, eMusic and all good digital stockists, or visit our
homesite for free tracks & much more!

http://www.littleboxes.nl/the14thdisciple

love from Yoar old freand 14

1034. Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 03:17:16 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <82b77875-3df6-4a22-9b99-08bc8285dcaf@z6g2000yqz.googlegroups.com>
Source record: 10434

I have just rewritten the description on my antenna page in response
to complaints, some of which were justified. It probably is still
not good enough for some but I have at least tried to apply some
remedies that hopefully will provide a better understanding for those
who presently are having difficulties.
Regards
Art

1035. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 11:02:23 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <0l_tn.614812$DL1.413515@newsfe25.ams2>
Source record: 10435

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D4FB706C596Dnonenowhere@61.9.191.5...
> "David" <barett@blueyonder.co.uk> wrote in news:Wpitn.580013$DL1.346763
> @newsfe25.ams2:
>
>> The one that I have used is the acetic acid cured silicone.
>
> Then it is corrosive on aluminium. The galvanic currents created may be
> causing or contributing to your noise problem.
>
> I would be removing the stuff, difficult as it is to do, but if it is in
> contact with metal, it is not suited to your application.
>
> Owen

Ok Owen. I will remove it as soon as I get the time to bring it back down to
ground level.

Thanks

1036. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 11:32:36 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <fb1fbbea-a2f8-4442-9c69-f1dcfd80b4a3@e7g2000yqf.googlegroups.com>
Source record: 10436

On Apr 4, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
> I have just rewritten the description on my antenna page in response
> to complaints, some of which were justified. It probably is still
> not good enough for some but I have at least tried to apply some
> remedies that hopefully will provide a better understanding for those
> who presently are having difficulties.
> Regards
> Art

I must admit art that your ability to spew bafflegab is improving.
that one could almost go on one of those parody videos that pop up on
april-1 every year. unfortunately i think you actually believe your
own rantings... that is fine with me, i always get a good chuckle out
of them, though i am sorry that you killed off the magical levitating
diamagnetic neutrinos in favor of a charge dumping transforming
lepton, maybe that will help you explain why my ferromagnetic antennas
still work.

1037. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 13:34:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <286ea314-5e7b-4559-babe-1a82d7466d84@z7g2000yqb.googlegroups.com>
Source record: 10437

On Apr 4, 6:32 am, Dave <k1...@arrl.net> wrote:
> On Apr 4, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > I have just rewritten the description on my antenna page in response
> > to complaints, some of which were justified. It probably is still
> > not good enough for some but I have at least tried to apply some
> > remedies that hopefully will provide a better understanding for those
> > who presently are having difficulties.
> > Regards
> > Art
>
> I must admit art that your ability to spew bafflegab is improving.
> that one could almost go on one of those parody videos that pop up on
> april-1 every year. unfortunately i think you actually believe your
> own rantings... that is fine with me, i always get a good chuckle out
> of them, though i am sorry that you killed off the magical levitating
> diamagnetic neutrinos in favor of a charge dumping transforming
> lepton, maybe that will help you explain why my ferromagnetic antennas
> still work.

Well let's say that anything metallic or insulator that can carry a
charge is capable of radiation. The problem is that some materials
retain some energy in terms of the hysteryses curve.Since Maxwell
wanted to account for all forces and yet a easily adaptable
formula he chose to encompass materials that did not retain applied
energy so that he could still account for all forces. As far as
Neutrinos are concerned they become unbound electrons after giving up
their accumulated charge to the Earth's core. When they are
accellerated in radiation they again carry a charge but this time the
charge carries applied information. One poster suggested that I stick
to the description of "particle" and I have done that.
so obviously requires a different name.

1038. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 13:48:08 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <213d24d2-784c-4569-924e-0522f9749b54@n34g2000yqb.googlegroups.com>
Source record: 10438

On Apr 4, 1:34 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Apr 4, 6:32 am, Dave <k1...@arrl.net> wrote:
>
>
>
> > On Apr 4, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > I have just rewritten the description on my antenna page in response
> > > to complaints, some of which were justified. It probably is still
> > > not good enough for some but I have at least tried to apply some
> > > remedies that hopefully will provide a better understanding for those
> > > who presently are having difficulties.
> > > Regards
> > > Art
>
> > I must admit art that your ability to spew bafflegab is improving.
> > that one could almost go on one of those parody videos that pop up on
> > april-1 every year. unfortunately i think you actually believe your
> > own rantings... that is fine with me, i always get a good chuckle out
> > of them, though i am sorry that you killed off the magical levitating
> > diamagnetic neutrinos in favor of a charge dumping transforming
> > lepton, maybe that will help you explain why my ferromagnetic antennas
> > still work.
>
> Well let's say that anything metallic or insulator that can carry a
> charge is capable of radiation. The problem is that some materials
> retain some energy in terms of the hysteryses curve.Since Maxwell
> wanted to account for all forces and yet a easily adaptable
> formula he chose to encompass materials that did not retain applied
> energy so that he could still account for all forces. As far as
> Neutrinos are concerned they become unbound electrons after giving up
> their accumulated charge to the Earth's core. When they are
> accellerated in radiation they again carry a charge but this time the
> charge carries applied information. One poster suggested that I stick
> to the description of "particle" and I have done that.
> so obviously requires a different name.

but the fields around the aluminum retain energy even without
hysteresis, and you have talked of eddy currents, those are another
form of stored energy in a material. if you use maxwell's equations
properly with the correct boundary conditions you can account for all
those effects. by using maxwell's equations plus ohm's law(to handle
lossy materials and the conversion of current to heat) you can also
account for all effects of lumped elements.

so now neutrinos mutate into electrons, i'm sure the cern guys are going to try to figure that one out... the transfer of charge and mass must be some effect of the big bang that they are simulating so maybe they'll be able to figure that one out. since neutrinos carry no charge or magnetic moment it would be rather hard to accelerate them, its damn hard to even slow them down since they interact very rarely with matter.

1039. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 14:10:07 UTC
From: joe <none@domain.invalid>
Message-ID: <hpa6dv$sg2$1@speranza.aioe.org>
Source record: 10439

Dave wrote:
> On Apr 4, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>> I have just rewritten the description on my antenna page in response
>> to complaints, some of which were justified. It probably is still
>> not good enough for some but I have at least tried to apply some
>> remedies that hopefully will provide a better understanding for those
>> who presently are having difficulties.
>> Regards
>> Art
>
> I must admit art that your ability to spew bafflegab is improving.
> that one could almost go on one of those parody videos that pop up on
> april-1 every year. unfortunately i think you actually believe your
> own rantings... that is fine with me, i always get a good chuckle out
> of them, though i am sorry that you killed off the magical levitating
> diamagnetic neutrinos in favor of a charge dumping transforming
> lepton, maybe that will help you explain why my ferromagnetic antennas
> still work.

In the beginning, I was confused, then I read this on the internet.

"Radiators or antennas of present day follow the form of Yagi antennas
that are planar forms (parallel) at right angles to the center of
gravity of our Universe."

I wondered, how could antennas that look like this;

http://www.df9cy.de/tech-mat/zx6-6/2008-05-19_df9cy_all2.jpg

maintain their orientation with respect to the 'center of gravity of our
universe' as the earth spins in its axis and moves around the sun.

Since "Classical Physics" was mentioned I knew I had to take a more
classical view of things around me.

Aha, now I understand! The center of the earth must be the center of the
universe. That was the classical view of everything at one time.

But then. I saw antennas like these.

http://imghost1.indiamart.com/data2/LG/JV/HELLOTD-1801186/vhf_yagi-250x250.jpg
http://www.telonics.com/images/photos/rans4a_truckroof.jpg

They are not oriented the same.

Once again, I am confused.

On the other hand, Art may have wanted to make his post on Thursday.

(Apologies go to the owners of the pictures.)

1040. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 15:57:10 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3ae87842-f1c8-43d9-bc5c-8ec36f025c6d@u22g2000yqf.googlegroups.com>
Source record: 10440

On Apr 4, 8:48 am, Dave <k1...@arrl.net> wrote:
> On Apr 4, 1:34 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Apr 4, 6:32 am, Dave <k1...@arrl.net> wrote:
>
> > > On Apr 4, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > I have just rewritten the description on my antenna page in response
> > > > to complaints, some of which were justified. It probably is still
> > > > not good enough for some but I have at least tried to apply some
> > > > remedies that hopefully will provide a better understanding for those
> > > > who presently are having difficulties.
> > > > Regards
> > > > Art
>
> > > I must admit art that your ability to spew bafflegab is improving.
> > > that one could almost go on one of those parody videos that pop up on
> > > april-1 every year. unfortunately i think you actually believe your
> > > own rantings... that is fine with me, i always get a good chuckle out
> > > of them, though i am sorry that you killed off the magical levitating
> > > diamagnetic neutrinos in favor of a charge dumping transforming
> > > lepton, maybe that will help you explain why my ferromagnetic antennas
> > > still work.
>
> > Well let's say that anything metallic or insulator that can carry a
> > charge is capable of radiation. The problem is that some materials
> > retain some energy in terms of the hysteryses curve.Since Maxwell
> > wanted to account for all forces and yet a easily adaptable
> > formula he chose to encompass materials that did not retain applied
> > energy so that he could still account for all forces. As far as
> > Neutrinos are concerned they become unbound electrons after giving up
> > their accumulated charge to the Earth's core. When they are
> > accellerated in radiation they again carry a charge but this time the
> > charge carries applied information. One poster suggested that I stick
> > to the description of "particle" and I have done that.
> > so obviously requires a different name.
>

> but the fields around the aluminum retain energy even without
> hysteresis,
Perhaps you can explain with specifics.

and you have talked of eddy currents, those are another
> form of stored energy in a material.
Maxwell accounted for those when he added displacement current
but he took it as an action not as stored energy since there is an
equal and oposite reaction which can be seen as skin reaction.
Thus a steel radiater versus one of aluminum will expend more energy
in penatrating the skin which detracts from energy that could be used
for radiation.

 if you use maxwell's equations
> properly with the correct boundary conditions you can account for all
> those effects. by using maxwell's equations plus ohm's law(to handle
> lossy materials and the conversion of current to heat) you can also
> account for all effects of lumped elements.
Yes that is true but Maxwell and Heavyside were solely interested in
reducing
the number of laws that were in existent in those days. If you want to
backtrack and add a fresh law then you are on the right track and I
imagine you can expand them so the exceed the original number that
Heaviside had to deal with. You certainly have my support!

>
> so now neutrinos mutate into electrons,

The mass is the same, the differnce is the charge it carries.
The reasoning behind the mass content is that it is the smallest
possible mass such that the speed of light is a constant. At the same
time science has not determined for comparison the chemical make up
for all these different stages so we have to walk before we can run. A
case in point is the electron removed from a neucleus of a filiament
via the addition of heat to increase oscillation in a CRT. the
difference between such a electron
and the neutron/unbound electron has not been ascertained.

i'm sure the cern guys are
> going to try to figure that one out... the transfer of charge and mass
> must be some effect of the big bang that they are simulating so maybe
> they'll be able to figure that one out. since neutrinos carry no
> charge or magnetic moment

I don't think that is true as the mass is accelerated when it upsets
equilibrium around the Sun A similar action occures when impact
with Earth's polar fields occures where one often can see the effects
in a aurora when energy in the form of light is removed.

it would be rather hard to accelerate them,

> its damn hard to even slow them down since they interact very rarely
> with matter.

But they do have matter! Remove the charge that they carry removes
momentum.
We have millions of the floating around per cubic metre in the Earths
atmosphere looking for a place to rest such as a diamagnetic surface.

It is good to see you thinking outside of the box
Regards
Art

1041. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 16:28:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <icfhr5lm7u8u6f7mqdgaatg07kjtotug71@4ax.com>
Source record: 10441

```
>> insulator that can carry a charge

... wouldn't be an insulator.

73's
Richard Clark, KB7QHC
```

1042. velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 17:13:22 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <drhhr5lhpf6rv02ckm95323tkahlhijo63@4ax.com>
Source record: 10442

Anyone know the velocity factor of JSC #1317 450 ohm line, 18 AWG?
Googling seems to give a variety of answers, and it's not posted at
the JSC site.

tnx,

Bob
k5qwg

1043. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 17:31:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8kihr51illkatq9qhk9apf19eihuo79434@4ax.com>
Source record: 10443

On Sun, 04 Apr 2010 12:13:22 -0500, Bob <rmiller47@satx.rr.com> wrote:

>Anyone know the velocity factor of JSC #1317 450 ohm line, 18 AWG?

Hi Bob,

If you were to find a specification, it stands every chance of being
wrong. How much wrong is wholly dependant on your need for accuracy.

The answer to your question can only be effectively found at the bench
through measurements. Various reports from different reporters will
reveal a range of values because test conditions are also very
important and their variety give considerable sway. Some variation is
simply due to poor measurement technique. Some variation is a
function of production variation. Weather will contribute a
significant variation - more for ribbon line than open line.

At the end of the day, you can take an average of all such reports and
simply buy into the proposition that you have to tolerate a certain
level of indeterminacy. If you application demands precise accuracy,
then you might find you will never achieve it.

73's
Richard Clark, KB7QHC

1044. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 18:47:41 UTC
From: John <johnasiegel@optonline.net>
Message-ID: <4bb8decf$0$4993$607ed4bc@cv.net>
Source record: 10444

"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:3ae87842-f1c8-43d9-bc5c-8ec36f025c6d@u22g2000yqf.googlegroups.com...
On Apr 4, 8:48 am, Dave <k1...@arrl.net> wrote:
> On Apr 4, 1:34 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Apr 4, 6:32 am, Dave <k1...@arrl.net> wrote:
>
> > > On Apr 4, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > I have just rewritten the description on my antenna page in response
> > > > to complaints, some of which were justified. It probably is still
> > > > not good enough for some but I have at least tried to apply some
> > > > remedies that hopefully will provide a better understanding for
> > > > those
> > > > who presently are having difficulties.
> > > > Regards
> > > > Art
>
> > > I must admit art that your ability to spew bafflegab is improving.
> > > that one could almost go on one of those parody videos that pop up on
> > > april-1 every year. unfortunately i think you actually believe your
> > > own rantings... that is fine with me, i always get a good chuckle out
> > > of them, though i am sorry that you killed off the magical levitating
> > > diamagnetic neutrinos in favor of a charge dumping transforming
> > > lepton, maybe that will help you explain why my ferromagnetic antennas
> > > still work.
>
> > Well let's say that anything metallic or insulator that can carry a
> > charge is capable of radiation. The problem is that some materials
> > retain some energy in terms of the hysteryses curve.Since Maxwell
> > wanted to account for all forces and yet a easily adaptable
> > formula he chose to encompass materials that did not retain applied
> > energy so that he could still account for all forces. As far as
> > Neutrinos are concerned they become unbound electrons after giving up
> > their accumulated charge to the Earth's core. When they are
> > accellerated in radiation they again carry a charge but this time the
> > charge carries applied information. One poster suggested that I stick
> > to the description of "particle" and I have done that.
> > so obviously requires a different name.
>

> but the fields around the aluminum retain energy even without
> hysteresis,
Perhaps you can explain with specifics.

and you have talked of eddy currents, those are another
> form of stored energy in a material.
Maxwell accounted for those when he added displacement current
but he took it as an action not as stored energy since there is an
equal and oposite reaction which can be seen as skin reaction.
Thus a steel radiater versus one of aluminum will expend more energy
in penatrating the skin which detracts from energy that could be used
for radiation.

if you use maxwell's equations
> properly with the correct boundary conditions you can account for all
> those effects. by using maxwell's equations plus ohm's law(to handle
> lossy materials and the conversion of current to heat) you can also
> account for all effects of lumped elements.
Yes that is true but Maxwell and Heavyside were solely interested in
reducing
the number of laws that were in existent in those days. If you want to
backtrack and add a fresh law then you are on the right track and I
imagine you can expand them so the exceed the original number that
Heaviside had to deal with. You certainly have my support!

>
> so now neutrinos mutate into electrons,

The mass is the same, the differnce is the charge it carries.
The reasoning behind the mass content is that it is the smallest
possible mass such that the speed of light is a constant. At the same
time science has not determined for comparison the chemical make up
for all these different stages so we have to walk before we can run. A
case in point is the electron removed from a neucleus of a filiament
via the addition of heat to increase oscillation in a CRT. the
difference between such a electron
and the neutron/unbound electron has not been ascertained.

i'm sure the cern guys are
> going to try to figure that one out... the transfer of charge and mass
> must be some effect of the big bang that they are simulating so maybe
> they'll be able to figure that one out. since neutrinos carry no
> charge or magnetic moment

I don't think that is true as the mass is accelerated when it upsets
equilibrium around the Sun A similar action occures when impact
with Earth's polar fields occures where one often can see the effects
in a aurora when energy in the form of light is removed.

it would be rather hard to accelerate them,

> its damn hard to even slow them down since they interact very rarely
> with matter.

But they do have matter! Remove the charge that they carry removes
momentum.
We have millions of the floating around per cubic metre in the Earths
atmosphere looking for a place to rest such as a diamagnetic surface.
It is good to see you thinking outside of the box
Regards
Art

What language is this?

Neutron is not the same as neutrino.
Mass of electron does not equal mass of neutrino.

1045. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 19:15:29 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bc8b595c-a966-44b5-bb88-037086cfecc2@g10g2000yqh.googlegroups.com>
Source record: 10445

On Apr 4, 1:47 pm, "John" <johnasie...@optonline.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:3ae87842-f1c8-43d9-bc5c-8ec36f025c6d@u22g2000yqf.googlegroups.com...
> On Apr 4, 8:48 am, Dave <k1...@arrl.net> wrote:
>
>
>
> > On Apr 4, 1:34 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Apr 4, 6:32 am, Dave <k1...@arrl.net> wrote:
>
> > > > On Apr 4, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > I have just rewritten the description on my antenna page in response
> > > > > to complaints, some of which were justified. It probably is still
> > > > > not good enough for some but I have at least tried to apply some
> > > > > remedies that hopefully will provide a better understanding for
> > > > > those
> > > > > who presently are having difficulties.
> > > > > Regards
> > > > > Art
>
> > > > I must admit art that your ability to spew bafflegab is improving.
> > > > that one could almost go on one of those parody videos that pop up on
> > > > april-1 every year. unfortunately i think you actually believe your
> > > > own rantings... that is fine with me, i always get a good chuckle out
> > > > of them, though i am sorry that you killed off the magical levitating
> > > > diamagnetic neutrinos in favor of a charge dumping transforming
> > > > lepton, maybe that will help you explain why my ferromagnetic antennas
> > > > still work.
>
> > > Well let's say that anything metallic or insulator that can carry a
> > > charge is capable of radiation. The problem is that some materials
> > > retain some energy in terms of the hysteryses curve.Since Maxwell
> > > wanted to account for all forces and yet a easily adaptable
> > > formula he chose to encompass materials that did not retain applied
> > > energy so that he could still account for all forces. As far as
> > > Neutrinos are concerned they become unbound electrons after giving up
> > > their accumulated charge to the Earth's core. When they are
> > > accellerated in radiation they again carry a charge but this time the
> > > charge carries applied information. One poster suggested that I stick
> > > to the description of "particle" and I have done that.
> > > so obviously requires a different name.

>
> > but the fields around the aluminum retain energy even without
> > hysteresis,
>
> Perhaps you can explain with specifics.
>
> and you have talked of eddy currents, those are another> form of stored energy in a material.
>
> Maxwell accounted for those when he added displacement current
> but he took it as an action not as stored energy since there is an
> equal and oposite reaction which can be seen as skin reaction.
> Thus a steel radiater versus one of aluminum will expend more energy
> in penatrating the skin which detracts from energy that could be used
> for radiation.
>
> if you use maxwell's equations> properly with the correct boundary conditions you can account for all
> > those effects. by using maxwell's equations plus ohm's law(to handle
> > lossy materials and the conversion of current to heat) you can also
> > account for all effects of lumped elements.
>
> Yes that is true but Maxwell and Heavyside were solely interested in
> reducing
> the number of laws that were in existent in those days. If you want to
> backtrack and add a fresh law then you are on the right track and I
> imagine you can expand them so the exceed the original number that
> Heaviside had to deal with. You certainly have my support!
>
>
>
> > so now neutrinos mutate into electrons,
>
> The mass is the same, the differnce is the charge it carries.
> The reasoning behind the mass content is that it is the smallest
> possible mass such that the speed of light is a constant. At the same
> time science has not determined for comparison the chemical make up
> for all these different stages so we have to walk before we can run. A
> case in point is the electron removed from a neucleus of a filiament
> via the addition of heat to increase oscillation in a CRT. the
> difference between such a electron
> and the neutron/unbound electron has not been ascertained.
>
> i'm sure the cern guys are
>
> > going to try to figure that one out... the transfer of charge and mass
> > must be some effect of the big bang that they are simulating so maybe
> > they'll be able to figure that one out. since neutrinos carry no
> > charge or magnetic moment
>

> I don't think that is true as the mass is accelerated when it upsets
> equilibrium around the Sun A similar action occures when impact
> with Earth's polar fields occures where one often can see the effects
> in a aurora when energy in the form of light is removed.
>
> it would be rather hard to accelerate them,
>
> > its damn hard to even slow them down since they interact very rarely
> > with matter.
>
> But they do have matter! Remove the charge that they carry removes
> momentum.
> We have millions of the floating around per cubic metre in the Earths
> atmosphere looking for a place to rest such as a diamagnetic surface.
> It is good to see you thinking outside of the box
> Regards
> Art
>
> What language is this?
>
> Neutron is not the same as neutrino. Very good
> Mass of electron does not equal mass of neutrino.
I look forward to your specifics with respect to the above
Maybe point me towards the book that you authored where they compared
the mass
to each other? I am really interested in the comparison for future
notes.
Still, if that is the only thing that you are scratching your head on
I didn't do to bad.
I certainly knew that even with a rewrite spammers would still launch
missiles and you have always stood above the rest in the past.
Some children like to bully and some always stay as a child even when
they grow upwards.
Fortunately, some that bully are now going to prison.

1046. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 19:32:09 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <c545af1f-d53c-4709-a658-e64f3360e1e9@u31g2000yqb.googlegroups.com>
Source record: 10446

he claims to be following the 'standard model' and yet makes up his
own properties for well measured and understood particles. its all
just a joke, to art it is april fools day all year long and he is just
seeing how long he can string everyone along. its fun sometimes to
see how he sucks in the new guys with his psuedo technological
meaningless bafflegab.

1047. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 19:38:35 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hpapr9$93e$1@news.eternal-september.org>
Source record: 10447

Bob Inscribed thus:

> Anyone know the velocity factor of JSC #1317 450 ohm line, 18 AWG?
> Googling seems to give a variety of answers, and it's not posted at
> the JSC site.
>
> tnx,
>
> Bob
> k5qwg

You could get a sample and measure it !

--
Best Regards:
Baron.

1048. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 20:04:58 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <22dd9465-a890-4a94-aa0e-e45a44384590@k19g2000yqn.googlegroups.com>
Source record: 10448

On Apr 4, 3:32 pm, Dave <k1...@arrl.net> wrote:
> he claims to be following the 'standard model' and yet makes up his
> own properties for well measured and understood particles. its all
> just a joke, to art it is april fools day all year long and he is just
> seeing how long he can string everyone along. its fun sometimes to
> see how he sucks in the new guys with his psuedo technological
> meaningless bafflegab.

Its fun how he sucks in the old guys too, the ones that should know
better.
Self included. It is very interesting to observe the effect Art has on
people.

Jimmie

1049. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 20:46:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D5144E4CB25Fnonenowhere@61.9.191.5>
Source record: 10449

Bob <rmiller47@satx.rr.com> wrote in
news:drhhr5lhpf6rv02ckm95323tkahlhijo63@4ax.com:

> Anyone know the velocity factor of JSC #1317 450 ohm line, 18 AWG?
> Googling seems to give a variety of answers, and it's not posted at
> the JSC site.

Wes, N7WS, measured some Wireman lines similar to that above. His measurements indicated Zo quite different to nominal, and velocity factor around 0.9.

For applications where velocity factor is important, eg the 'matching section' of a G5RV, I suggest you measure the actual cable.

Wes's data is included in TLLC (http://www.vk1od.net/calc/tl/tllc.php). Your cable has similar stranding to Wireman 551, but velocity factor will depend on the detail of the dielectric extrusion and punching. If JSC is the manufacturer, they may even be the source of Wireman lines, in which case Wes's data may be directly applicable.

I have reservations about the adequacy of copper cladding on the cable such as yours at the lower end of HF.

Owen

1050. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 21:19:00 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <r40ir59603uld1qjsjrdj5tetttnooa7iu@4ax.com>
Source record: 10450

On Sun, 04 Apr 2010 20:46:21 GMT, Owen Duffy <none@no.where> wrote:

>Bob <rmiller47@satx.rr.com> wrote in
>news:drhhr5lhpf6rv02ckm95323tkahlhijo63@4ax.com:
>
>> Anyone know the velocity factor of JSC #1317 450 ohm line, 18 AWG?
>> Googling seems to give a variety of answers, and it's not posted at
>> the JSC site.
>
>Wes, N7WS, measured some Wireman lines similar to that above. His
>measurements indicated Zo quite different to nominal, and velocity factor
>around 0.9.
>
>For applications where velocity factor is important, eg the 'matching
>section' of a G5RV, I suggest you measure the actual cable.

I'm plugging the velocity factor figure into Cecil's program for
optimum feedline lengths on a multiband dipole, IMAXMIN.EXE. Given the
approximate nature of this kind of feed, a ballpark figure is probably
okay.

Bob
k5qwg

>
>Wes's data is included in TLLC (http://www.vk1od.net/calc/tl/tllc.php).
>Your cable has similar stranding to Wireman 551, but velocity factor will
>depend on the detail of the dielectric extrusion and punching. If JSC is
>the manufacturer, they may even be the source of Wireman lines, in which
>case Wes's data may be directly applicable.
>
>I have reservations about the adequacy of copper cladding on the cable
>such as yours at the lower end of HF.
>
>Owen

1051. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 21:27:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D514BDA3459Enonenowhere@61.9.191.5>
Source record: 10251

Bob <rmiller47@satx.rr.com> wrote in
news:r40ir59603uld1qjsjrdj5tetttnooa7iu@4ax.com:

...
> I'm plugging the velocity factor figure into Cecil's program for
> optimum feedline lengths on a multiband dipole, IMAXMIN.EXE. Given the
> approximate nature of this kind of feed, a ballpark figure is probably
> okay.

Bob,

Have you seen my article "Optimum length of ladder line" at
http://vk1od.net/blog/?p=949 ?

Owen

1052. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 21:30:56 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <a5480c6d-4ac8-4d2e-871b-37579a8eb023@10g2000yqq.googlegroups.com>
Source record: 10252

On 4 abr, 19:13, Bob <rmille...@satx.rr.com> wrote:
> Anyone know the velocity factor of JSC #1317 450 ohm line, 18 AWG?
> Googling seems to give a variety of answers, and it's not posted at
> the JSC site.
>
> tnx,
>
> Bob
> k5qwg

Hello Bob,

I used the ATLC program to calculate the properties of weird transmission lines. It accepts arbitrary shaped dielectric material. It outputs the line properties. When you run two simulations (with window and without window), you can average them to find the velocity factor of the ladder line.

The program can be retrieved from atlc.sourceforge.net (also Windows versions). When you hit the tutorial button, you can check whether it is worth to spend the time.

Looking to the picture of the line, most important for Zo is the ratio (bare wire diameter)/(wire + insulation diameter) as E-field is highest close to the conductors. For a ballpark calculation, I would use VF = 0.92.

You can also determine the quarter wave resonance length by measurement and calculate the velocity factor, but then you need several meters at hand. When you really need VF with high accuracy, measuring is the best option (around the frequency of interest). As the separation of the wires is very small (w.r.t. length), it is probably not necessary to correct for fringing at the open end.

Maybe the vendor cannot guarantee VF, because he receives material from different sources.

Best regards and good luck with determining VF,

Wim
PA3DJS
www.tetech.nl
When using PM, remove abc before hitting the send button.

1053. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 21:49:27 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <6badnayyi-64lCTWnZ2dnUVZ_uudnZ2d@earthlink.com>
Source record: 10253

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D5144E4CB25Fnonenowhere@61.9.191.5...
>
> I have reservations about the adequacy of copper cladding on the cable
> such as yours at the lower end of HF.
>
> Owen

I have often wondered the same thing. Mainly does the LMR400 center conductor have enough copper over the center conductor for 1.8 to 7 MHz. I don't use it at all as I just don't like the cladded cable.

1054. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 22:44:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D5158D9C9D3Fnonenowhere@61.9.191.5>
Source record: 10254

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in
news:6badnayyi-64lCTWnZ2dnUVZ_uudnZ2d@earthlink.com:

>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns9D5144E4CB25Fnonenowhere@61.9.191.5...
>>
>> I have reservations about the adequacy of copper cladding on the
>> cable such as yours at the lower end of HF.
>>
>> Owen
>
> I have often wondered the same thing. Mainly does the LMR400 center
> conductor have enough copper over the center conductor for 1.8 to 7
> MHz. I don't use it at all as I just don't like the cladded cable.
>
>
>

The issue is greater with the CCS conductors in ladder line, because the
strands are thinner in the first place, and the core is steel.

The effect of CCS inner conductor in some types of RG6 shows up as a
departure from the classic loss model at frequencies below 5MHz.

Owen

Owen

1055. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 23:20:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <rpednYmKoO9bgyTWnZ2dnUVZ_u2dnZ2d@giganews.com>
Source record: 10255

JIMMIE wrote:
>
> Its fun how he sucks in the old guys too, the ones that should know
> better.
> Self included. It is very interesting to observe the effect Art has on
> people.
>
> Jimmie

Yes, I've found it to be a fascinating example of human nature.

Roy Lewallen, W7EL

1056. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-04 23:36:35 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <978ir5dft9etnl9lj07o3vj1tcu61ol0a0@4ax.com>
Source record: 10256

On Sun, 04 Apr 2010 20:38:35 +0100, Baron
<baron.nospam@linuxmaniac.nospam.net> wrote:

>Bob Inscribed thus:
>
>> Anyone know the velocity factor of JSC #1317 450 ohm line, 18 AWG?
>> Googling seems to give a variety of answers, and it's not posted at
>> the JSC site.
>>
>> tnx,
>>
>> Bob
>> k5qwg
>
>You could get a sample and measure it !

Well, I discarded that idea because I have no idea how.

But then, on a hunch, I checked the manual that came with my MFJ-269,
and sure enough, on page 34, it tells how to measure Velocity Factor,
utilizing the distance to fault mode. It'll take a day or so to
recharge the 269's batteries, and then I'll have at it.

Bob
k5qwg

1057. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 04:19:36 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <47e81a4c-7016-4e0f-8dfc-f711d287b73f@i37g2000yqn.googlegroups.com>
Source record: 10257

On Apr 4, 3:04 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 4, 3:32 pm, Dave <k1...@arrl.net> wrote:
>
> > he claims to be following the 'standard model' and yet makes up his
> > own properties for well measured and understood particles. its all
> > just a joke, to art it is april fools day all year long and he is just
> > seeing how long he can string everyone along. its fun sometimes to
> > see how he sucks in the new guys with his psuedo technological
> > meaningless bafflegab.
>
> Its fun how he sucks in the old guys too, the ones that should know
> better.
> Self included. It is very interesting to observe the effect Art has on
> people.
>
> Jimmie

I don't suck people in , people just want to show off their phseudo
abilities because they have read a book. But all things are not in the
books. Look at those particles that settle on diamagnetic materials
such as water. They are so greedy for space to occupy that they can
scoop up water into droplets to maximize the surface area. Just
imagine if they did not rest on diamagnetic surfaces insects that walk
on the surface of these tightly clinging particles would fall into the
water! And how do you think that moisture rises in a updraft?
Because the water is in fine droplets covered by these particles.
Ofcourse if the droplets
go very high the water turns into ice leaving no diamagnetic surface
to cling to, so they are forced to take their charge to a nearby cloud
which esentially gets saturated and the charge carrying particles rush
to the ground. And we all know what happens when a charge is
accelerated
You know that once you accept the existence of these particles and the
predominating diamagnetic surfaces on Earth it begins to explain a lot
with respect to weather and tornadoes e.t.c. and why water circulates
when draining. It all come back to two forces,
direct and rotational which is the mechanism for radiation and the
laws of equilibrium otherwise known as boundary laws based on Newton.
Computer programs show that when skin depth is zero radiation is a
maximum because all the applied current is concentrated within the
encapsulating particles and none is flowing
in the base element. Yes, E=IR even tho there is no resistance
created by the element.
Now you have something more to complain about. Isn't physics wonderful?

1058. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 05:39:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <17WdncDR248e6iTWnZ2dnUVZ_vudnZ2d@giganews.com>
Source record: 10258

Bob wrote:
> On Sun, 04 Apr 2010 20:38:35 +0100, Baron
> <baron.nospam@linuxmaniac.nospam.net> wrote:
>
>> You could get a sample and measure it !
>
> Well, I discarded that idea because I have no idea how.
>
> But then, on a hunch, I checked the manual that came with my MFJ-269,
> and sure enough, on page 34, it tells how to measure Velocity Factor,
> utilizing the distance to fault mode. It'll take a day or so to
> recharge the 269's batteries, and then I'll have at it.
>
> Bob
> k5qwg

Unfortunately, it's not really simple to make measurements with symmetrical line. You'll be exciting a common mode current which will travel with a different velocity factor and affect the measurement. I suggest making an approximate measurement, then doing final adjustments of the MFJ kept as far as possible from conductive objects including yourself. You'll have to adjust it, let go, back off and read the meter, readjust, etc. And then it'll still be a bit off unless the length of the MFJ meter is quite short relative to a wavelength. You'll also have to keep the line well away from any conductors and avoid coiling it. Of course, the same problems will exist when you install the line in whatever system it'll be used for, unless you can get it very well balanced.

It'll be a good exercise in learning some basic measurement techniques. Whether your results are adequately accurate depends on the application you'll be using the line for.

I sometimes taught a class on TDR techniques, and I'd start by connecting a foot or so of two-conductor ribbon cable -- just soldered into and to the shell of an SMA connector -- to a high speed TDR. The trace would show the large reflection from the open end, of course, but a smaller reflection seemingly coming from a point about 1/4 of the way from the end. I explained that ribbon cable isn't controlled for impedance, so it obviously had a construction anomaly at that point, and pinched the line, running my fingers along until the reflection from the fingers was at the same point as the anomaly. Then I cut the line well toward the TDR unit, discarding the portion with the anomaly. When the audience saw the *new* reflection about 1/4 of the way from the end of the shorter wire, I had their attention. And thus began a discussion of differential and common mode waves.

Roy Lewallen, W7EL

1059. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 13:27:54 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <338e4526-2c9a-4b87-9698-89c5a941d463@r1g2000yqb.googlegroups.com>
Source record: 10259

On Apr 4, 4:19 pm, Bob <rmille...@satx.rr.com> wrote:
> I'm plugging the velocity factor figure into Cecil's program for
> optimum feedline lengths on a multiband dipole, IMAXMIN.EXE. Given the
> approximate nature of this kind of feed, a ballpark figure is probably
> okay.

Yes, given all the variables, adjusting the final length, sometimes by
a few feet (depending on wavelength) is almost always required to
achieve system resonance. Remember that this approach is designed to
eliminate the tuner and therefore eliminate tuner losses and it is
designed to be used with a 1:1 current-choke-balun. Owen's comments
are certainly valid for systems using antenna tuners and 4:1 baluns.
In fact, if one chooses a ladder-line length halfway in between my
"good" (current maximum) and "bad" (voltage maximum) lengths, one will
obtain the odd 1/8 wavelengths points that are recommended for use
with 4:1 baluns. Those points result in a ballpark impedance in the
neighborhood of Z0 +/- jZ0/4, e.g. 400+j100 ohms. For those who
understand a Smith Chart, a picture is worth a thousand words.

http://www.w5dxp.com/smith.htm
--
73, Cecil, w5dxp.com

1060. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 16:55:26 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <a515184d-8c6a-481b-bb2a-9eb484089700@i25g2000yqm.googlegroups.com>
Source record: 10260

On 4 abr, 18:28, Richard Clark <kb7...@comcast.net> wrote:
> >> insulator that can carry a charge
>
> ... wouldn't be an insulator.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

Maybe he mends the displacement of charge via polarization that is accounted for in the epsilon of a material. This additional displacement current (with respect to the displacement current due to vacuum) does radiate as you know.

Best regards,

Wim
PA3DJS
www.tetech.nl
you can use PM, but remove abc before hitting the send button.

1061. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 17:42:47 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <6a7kr5dcjuc49b0h3h5lf4ovo05l86arla@4ax.com>
Source record: 10261

On Mon, 5 Apr 2010 06:27:54 -0700 (PDT), Cecil Moore
<w5dxp@hotmail.com> wrote:

>On Apr 4, 4:19ï¿½pm, Bob <rmille...@satx.rr.com> wrote:
>> I'm plugging the velocity factor figure into Cecil's program for
>> optimum feedline lengths on a multiband dipole, IMAXMIN.EXE. Given the
>> approximate nature of this kind of feed, a ballpark figure is probably
>> okay.
>
>Yes, given all the variables, adjusting the final length, sometimes by
>a few feet (depending on wavelength) is almost always required to
>achieve system resonance. Remember that this approach is designed to
>eliminate the tuner and therefore eliminate tuner losses and it is
>designed to be used with a 1:1 current-choke-balun. Owen's comments
>are certainly valid for systems using antenna tuners and 4:1 baluns.
>In fact, if one chooses a ladder-line length halfway in between my
>"good" (current maximum) and "bad" (voltage maximum) lengths, one will
>obtain the odd 1/8 wavelengths points that are recommended for use
>with 4:1 baluns.

The more I look at it, the odd 1/8 wavelengths is probably the way I
will go, connecting to my tuner's 4:1 balun. There will be a 130 foot
flat-top, and the 450-ohm feedline length can be somewhere between 50
to 100 feet or so. Tnx for the input!

Bob
k5qwg

> Those points result in a ballpark impedance in the
>neighborhood of Z0 +/- jZ0/4, e.g. 400+j100 ohms. For those who
>understand a Smith Chart, a picture is worth a thousand words.
>
>http://www.w5dxp.com/smith.htm

1062. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 17:43:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <11b046b8-04c9-4961-b013-69aae4762742@o30g2000yqb.googlegroups.com>
Source record: 10262

On Apr 5, 11:55 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 4 abr, 18:28, Richard Clark <kb7...@comcast.net> wrote:
>
> > >> insulator that can carry a charge
>
> > ... wouldn't be an insulator.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hello Richard,
>
> Maybe he mends the displacement of charge via polarization that is
> accounted for in the epsilon of a material. This additional
> displacement current (with respect to the displacement current due to
> vacuum) does radiate as you know.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl
> you can use PM, but remove abc before hitting the send button.

Correct, but he knew that.He was just spamming.His point was with
breakdown it is no longer a conductor. sheeesh

As an aside Planke hypothosized that light was a matter of packets or
quanta in sequence.
If one looks at the current and field drawing on my page you can see
that this is shown by the presence of only a single field intersecting
the eddy flow where as the other field does not. He inferred that the
flow was also segmented within the packet but I have seen nothing that
points to that. Either way, my page is in line with Planks thoughts
and completes another sement to the jigsaw.

1063. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 17:54:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t98kr5le5jaep0a4e19eo2otp1ac7nplfr@4ax.com>
Source record: 10263

On Mon, 5 Apr 2010 09:55:26 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>> >> insulator that can carry a charge
>>
>> ... wouldn't be an insulator.

>Maybe he mends the displacement of charge via polarization that is
>accounted for in the epsilon of a material.

He might agree, but he wouldn't know what you mean - even I don't.

There are only 6 words in a simple statement to examine here. Your
36+ words to explain that statement violate Occam's razor. Your
sentence above begs several paragraphs of untwisting.

Carrying a charge is unambiguous in the context of physics. That an
insulator performs this action plunges the original statement into an
abyss of ambiguity through redefinition of a word's accepted usages.

>This additional
>displacement current (with respect to the displacement current due to
>vacuum) does radiate as you know.

This would make capacitors radiators. This generalism faces bleak
prospects in communicating a concept.

73's
Richard Clark, KB7QHC

1064. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 20:05:35 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hpdfpu$670$1@news.eternal-september.org>
Source record: 10264

Roy Lewallen Inscribed thus:

> Bob wrote:
>> On Sun, 04 Apr 2010 20:38:35 +0100, Baron
>> <baron.nospam@linuxmaniac.nospam.net> wrote:
>>
>>> You could get a sample and measure it !
>>
>> Well, I discarded that idea because I have no idea how.
>>
>> But then, on a hunch, I checked the manual that came with my MFJ-269,
>> and sure enough, on page 34, it tells how to measure Velocity Factor,
>> utilizing the distance to fault mode. It'll take a day or so to
>> recharge the 269's batteries, and then I'll have at it.
>>
>> Bob
>> k5qwg
>
> Unfortunately, it's not really simple to make measurements with
> symmetrical line. You'll be exciting a common mode current which will
> travel with a different velocity factor and affect the measurement.
> >
> Roy Lewallen, W7EL

Please could you elaborate on how and why a common mode current has a
different VF on a balanced line.

--
Best Regards:
Baron.

1065. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 20:33:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D5242C34C466nonenowhere@61.9.191.5>
Source record: 10265

Bob <rmiller47@satx.rr.com> wrote in
news:6a7kr5dcjuc49b0h3h5lf4ovo05l86arla@4ax.com:

> The more I look at it, the odd 1/8 wavelengths is probably the way I
> will go, connecting to my tuner's 4:1 balun. There will be a 130 foot
> flat-top, and the 450-ohm feedline length can be somewhere between 50
> to 100 feet or so. Tnx for the input!

I guess then that you didn't look at the article I quoted.

Typical T match ATU's are lossier on capacitive loads than on inductive loads.

The odd eighth wave rule of thumb is a popular one. But, alternate odd eight waves (on a resonant load) assures the highest ATU losses for the given SWR.

These rules of thumb, and there are plenty that are conflicting, are usually given without explanation of why they work. We are a gullible lot!

The same occurs with 4:1 voltage tuner baluns which anecdotal evidence suggests assist match of a wider range of loads. There is good reason to think that the mechanism behind this is that their own loss assists, and it is an inefficient work-around for another problem.

Owen

1066. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 21:07:00 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <c7jkr597recb9g2eedppogs31n4s73cdu9@4ax.com>
Source record: 10266

On Mon, 05 Apr 2010 20:33:47 GMT, Owen Duffy <none@no.where> wrote:

>Bob <rmiller47@satx.rr.com> wrote in
>news:6a7kr5dcjuc49b0h3h5lf4ovo05l86arla@4ax.com:
>
>> The more I look at it, the odd 1/8 wavelengths is probably the way I
>> will go, connecting to my tuner's 4:1 balun. There will be a 130 foot
>> flat-top, and the 450-ohm feedline length can be somewhere between 50
>> to 100 feet or so. Tnx for the input!
>
>I guess then that you didn't look at the article I quoted.

Actually, I did look at the article.

It mentioned the voltage maximum problems, the current maximum
problems, and then said, "Is there a better option?" And I don't
understand the few sentences that follow that query. In other words, I
don't understand the solution -- i.e. "line lengths around 135
degrees longer than voltage maximum" :-)

Bob
k5qwg

>
>Typical T match ATU's are lossier on capacitive loads than on inductive
>loads.
>
>The odd eighth wave rule of thumb is a popular one. But, alternate odd
>eight waves (on a resonant load) assures the highest ATU losses for the
>given SWR.
>
>These rules of thumb, and there are plenty that are conflicting, are
>usually given without explanation of why they work. We are a gullible
>lot!
>
>The same occurs with 4:1 voltage tuner baluns which anecdotal evidence
>suggests assist match of a wider range of loads. There is good reason to
>think that the mechanism behind this is that their own loss assists, and
>it is an inefficient work-around for another problem.
>
>Owen

1067. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 21:17:12 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hpdk0oslr1@news.jpl.nasa.gov>
Source record: 10269

Baron wrote:
> Roy Lewallen Inscribed thus:
>
>> Bob wrote:
>>> On Sun, 04 Apr 2010 20:38:35 +0100, Baron
>>> <baron.nospam@linuxmaniac.nospam.net> wrote:
>>>
>>>> You could get a sample and measure it !
>>> Well, I discarded that idea because I have no idea how.
>>>
>>> But then, on a hunch, I checked the manual that came with my MFJ-269,
>>> and sure enough, on page 34, it tells how to measure Velocity Factor,
>>> utilizing the distance to fault mode. It'll take a day or so to
>>> recharge the 269's batteries, and then I'll have at it.
>>>
>>> Bob
>>> k5qwg
>> Unfortunately, it's not really simple to make measurements with
>> symmetrical line. You'll be exciting a common mode current which will
>> travel with a different velocity factor and affect the measurement.
>>>
>> Roy Lewallen, W7EL
>
> Please could you elaborate on how and why a common mode current has a
> different VF on a balanced line.
>

I'll take a shot..

The VF, to a first order, depends on the dielectric constant (permittivity) of the medium separating the conductors of the transmission line. (more correctly, the medium containing the electric and magnetic fields) For differential mode, it's the insulation between the wires (for window line, a value somewhere between that of the plastic and that of air)...

For common mode, it's more the two wires acting as one conductor against the surroundings (e.g. earth) as the other conductor. The permittivity of that tends to be lower than that of the medium between the wires, so the velocity factor is "faster" for the common mode than the differential mode.

It's not quite that simple, of course, because the field surrounds the conductors in all directions, not just conveniently between them.

Another way to look at it is think of a balanced pair with distributed L and C suspended above a ground plane. The C (per unit length) between the pair is different than the C to ground, as is the L, for the common mode vs differential mode.

1068. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 21:30:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D524C5D8FA40nonenowhere@61.9.191.5>
Source record: 10267

Bob <rmiller47@satx.rr.com> wrote in
news:c7jkr597recb9g2eedppogs31n4s73cdu9@4ax.com:

...
> It mentioned the voltage maximum problems, the current maximum
> problems, and then said, "Is there a better option?" And I don't
> understand the few sentences that follow that query. In other words, I
> don't understand the solution -- i.e. "line lengths around 135
> degrees longer than voltage maximum" :-)

The location of voltage maxima depends on the load on the line. If you were to plot the impedance at various lengths of line, it is highest (and purely resistive) when fed at a voltage maximum. As the line is lengthed, that impedance becomes capacitive, and lower, eventually becoming lowest (purely resistive again) at the current maximum (90° longer than the point of voltage maximum). Increasing the length further, impedance becomes inductive and increases eventually becoming highest at the next voltage maximum. At a point of about 135° longer than the voltage maximum, the impedance presented to the T match is in the region where it is most efficient. Alternatively, you could state this as 45° shorter than a voltage maximum.

This is not your odd eighth wave (from a resonant load) rule, because
that also encourages the capacitive region where losses are higher.

Owen

1069. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 21:53:21 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <TJqdncg6apdJxifWnZ2dnUVZ_qydnZ2d@giganews.com>
Source record: 10268

Baron wrote:
>
> Please could you elaborate on how and why a common mode current has a
> different VF on a balanced line.

Sure.

First, a balanced line, whether it's twinlead or coax, doesn't have any common mode current, by definition -- the lack of common mode is what makes it balanced. We're talking about a physically symmetrical line.

Whenever you have a two conductor line, you effectively have two transmission lines, differential mode and common mode. Although you actually have only one current on each conductor, by taking advantage of the principle of superposition you can mathematically separate the two currents into two *sets* or components of currents, analyze their effects separately to gain a better understanding, and simply add the results if you want to know the overall solution. The sum of the common mode and differential currents are the actual conductor currents, and the sum of the common mode and differential responses is the actual response.

The differential or transmission line mode waves (voltage and current) are the components which are equal and opposite on the two conductors, so the field is strongest between the two conductors, fringing outward in the case of ladder line. The presence of the dielectric material in a major portion of the field slows down the waves, lowering the velocity factor. In the case of coax, the field is entirely within the dielectric so we can easily calculate the velocity factor if we know the dielectric constant of the material. In the case of ladder line, we don't know what fraction of the field is in the air and what's in the dielectric without a very advanced computer program, so we have to measure the velocity factor. The fraction and therefore velocity factor changes, by the way, with frequency, a phenomenon known as dispersion.

The common or antenna mode waves are the components that are equal and in the same direction or polarity on the two conductors. The field is the same as it would be if the two conductors were connected together to make a single conductor. One conductor of the common mode transmission line is the two conductors of the ladder line, and the other is the Earth and/or surrounding conductors. These two common mode transmission line conductors are usually much farther apart than the ladder line conductors, so the common mode characteristic impedance is higher than the differential mode impedance. The velocity factor is usually higher, too, because the field is between the two common mode conductors -- the ladder line and the Earth --, and almost none of it is in the line

dielectric. So its velocity factor is nearly 1. In my TDR demonstration, the common mode open end reflection occurred before the larger differential mode reflection because of the higher velocity factor, so it looked like a differential mode reflection from a point short of the end. (And I helped reinforce this mistake in order to get the audience's attention.)

Any two conductor line supports both modes and behave the same, but coax is a little easier to understand because the differential and common mode currents are actually physically separate -- so no mathematical hocus-pocus is necessary. The differential currents and waves are entirely inside the cable, and the common mode currents and waves are outside. The velocity factor inside (differential mode) is determined by the dielectric material, and the velocity factor of the outside (common mode) is nearly 1.

Roy Lewallen, W7EL

1070. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 22:03:23 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <78e8ae21-2161-4a0b-beb0-ff9ff1127723@h27g2000yqm.googlegroups.com>
Source record: 10270

On Apr 5, 5:54 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 5 Apr 2010 09:55:26 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >> >> insulator that can carry a charge
>
> >> ... wouldn't be an insulator.
> >Maybe he mends the displacement of charge via polarization that is
> >accounted for in the epsilon of a material.
>
> He might agree, but he wouldn't know what you mean - even I don't.
>
> There are only 6 words in a simple statement to examine here. Your
> 36+ words to explain that statement violate Occam's razor. Your
> sentence above begs several paragraphs of untwisting.
>
> Carrying a charge is unambiguous in the context of physics. That an
> insulator performs this action plunges the original statement into an
> abyss of ambiguity through redefinition of a word's accepted usages.
>
> >This additional
> >displacement current (with respect to the displacement current due to
> >vacuum) does radiate as you know.
>
> This would make capacitors radiators. This generalism faces bleak
> prospects in communicating a concept.
>
> 73's
> Richard Clark, KB7QHC

sounds like the EH antenna!

1071. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 22:06:52 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <d074aab6-6c2b-46e4-a30d-267384cc639d@8g2000yqz.googlegroups.com>
Source record: 10271

On Apr 5, 4:05 am, Bill <k4...@arrl.net> wrote:
> On Apr 4, 7:20 pm, Roy Lewallen <w...@eznec.com> wrote:
>
> > JIMMIE wrote:
>
> > > Its fun how he sucks in the old guys too, the ones that should know
> > > better.
> > > Self included. It is very interesting to observe the effect Art has on
> > > people.
>
> > > Jimmie
>
> > Yes, I've found it to be a fascinating example of human nature.
>
> > Roy Lewallen, W7EL
>
> I think it is human nature to correct errors.
>
> You remember W1YW (nee N1IR) and his games here. He also saw himself
> as an unappreciated genius and a persecuted martyr.

his problems and those of his employees on here were all self made.
much like art's... though fracky at least had the proper scientific
background, he was pushing a technology that wasn't really needed by
this community as the final answer to small antennas. add to that his
propensity for yelling about lawsuits and other stuff like that and he
just rubbed many regulars the wrong way.

1072. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 22:10:09 UTC
From: Dave <k1ttt@arrl.net>
Message-ID: <73a753a6-9d1c-442a-823e-1d4edcb67c9b@v20g2000yqv.googlegroups.com>
Source record: 10272

On Apr 5, 4:55 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 4 abr, 18:28, Richard Clark <kb7...@comcast.net> wrote:
>
> > >> insulator that can carry a charge
>
> > ... wouldn't be an insulator.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hello Richard,
>
> Maybe he mends the displacement of charge via polarization that is
> accounted for in the epsilon of a material. This additional
> displacement current (with respect to the displacement current due to
> vacuum) does radiate as you know.

of course insulators can 'carry' a charge, they just aren't very good
at getting it from point a to point b. ever rub a balloon and stick
it to a wall? both are decent insulators yet there is obviously
charge at work. ever comb your hair with a rubber comb and see your
hair stand up? charges being 'carried' on insulators.

1073. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-05 23:50:52 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e310d76e-bf0c-4e03-9728-37b5bb6e6804@v20g2000yqv.googlegroups.com>
Source record: 10273

On Apr 5, 5:06 pm, Dave <k1...@arrl.net> wrote:
> On Apr 5, 4:05 am, Bill <k4...@arrl.net> wrote:
>
>
>
> > On Apr 4, 7:20 pm, Roy Lewallen <w...@eznec.com> wrote:
>
> > > JIMMIE wrote:
>
> > > > Its fun how he sucks in the old guys too, the ones that should know
> > > > better.
> > > > Self included. It is very interesting to observe the effect Art has on
> > > > people.
>
> > > > Jimmie
>
> > > Yes, I've found it to be a fascinating example of human nature.
>
> > > Roy Lewallen, W7EL
>
> > I think it is human nature to correct errors.
>
> > You remember W1YW (nee N1IR) and his games here. He also saw himself
> > as an unappreciated genius and a persecuted martyr.
>
> his problems and those of his employees on here were all self made.
> much like art's... though fracky at least had the proper scientific
> background, he was pushing a technology that wasn't really needed by
> this community as the final answer to small antennas. add to that his
> propensity for yelling about lawsuits and other stuff like that and he
> just rubbed many regulars the wrong way.

Yes you are correct Dave but that has its advantages. At a later age
especially when you are retired you are not concerned with exams
coming up and cramming. You have time to study and even question what
you read. So I took up the hobby of ham radio and because of my
background I went thru various phases including improved mixers and
the like and eventually very large antennas or long boom antennas, all
the way upto 80 foot long by following Lawson. Then I changed to small
antennas and ofcourse the reading that goes with it. No, I am not a
"electrical" engineer but nor are most hams, so yes in a way I am self
taught. This is probably why I pursued the Gauss approach where
experimenters did not give it a passing thought because of prior
teachings. Thus it would not be unusual to find yourself working and

thinking outside the box. Remember it is a hobby that includes people from all aspects of life, and they should not be detracted from the hobby by those who feel they are better suited to understand all that goes with ham radio. So yes, by not following a structured education on antennas I am bound to make a lot of mistakes but it also allows me to go off track to areas that were discouraged by formal teachings. Some times the one eyed man becomes king especially when his earlier life it was drummed into him the overiding importance of equilibrium in Newtons teachings which all mechanical engineers absorb from the beginning.,
As far as Chip was concerned he followed a similar thinking where all his antennas were in equilibrium or balanced in a two dimensional form. So he is building efficient antennas with respect to area used where the radiation is judged on its final aperture. He is in fact following the cardinal rule of equilibrium even thohe suffered from the "not invented here"
syndrome where all is upposedly known by opposing experts.
Regards
Art

1074. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 00:16:56 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D526898D7CD0nonenowhere@61.9.191.5>
Source record: 10274

Bob <rmiller47@satx.rr.com> wrote in
news:978ir5dft9etnl9lj07o3vj1tcu61ol0a0@4ax.com:

...
>
> But then, on a hunch, I checked the manual that came with my MFJ-269,
> and sure enough, on page 34, it tells how to measure Velocity Factor,
> utilizing the distance to fault mode. It'll take a day or so to
> recharge the 269's batteries, and then I'll have at it.

As Roy has explained, you need to stop common mode current from
significantly altering your measurement.

I have had sucess with placing a balun of a string of ferrite cores over
the line. It is easy to observe the effectiveness using a VNA sweep, a
bit tricker with the MFJ269.

I have also found that stretching the line out straight causes the worst
common mode problems, but if you coil it, you have to keep adjacent turns
much further apart than the line's conductor separation.

All this has to be done with the line suspended in the air, well clear of
other dielectrics or conductors. (Hint: fishing line can be your friend!)

Before these analysers, we measured the resonant frequency of a line
section using a GDO. By very loosely coupling the GDO, and reading the
GDO frequency from a calibrated receiver, good results could be obtained.

Owen

1075. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 00:36:07 UTC
From: tom <news4792@taring.org>
Message-ID: <4bba81f3$0$50152$8046368a@newsreader.iphouse.net>
Source record: 10275

On 4/5/2010 5:21 PM, Bill wrote:
> On Apr 5, 1:43 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> On Apr 5, 11:55 am, Wimpie<wimabc...@tetech.nl> wrote:
>>
>>
>>
>>
>>
>>> On 4 abr, 18:28, Richard Clark<kb7...@comcast.net> wrote:
>>
>>>>>>> insulator that can carry a charge
>>
>>>>>> ... wouldn't be an insulator.
>>
>>>>>> 73's
>>>>>> Richard Clark, KB7QHC
>>
>>> Hello Richard,
>>
>>> Maybe he mends the displacement of charge via polarization that is
>>> accounted for in the epsilon of a material. This additional
>>> displacement current (with respect to the displacement current due to
>>> vacuum) does radiate as you know.
>>
>>> Best regards,
>>
>>> Wim
>
>> Correct, but he knew that.He was just spamming.
>
> You are always the spammer here, Art, You consistently accuse others
> of the behavior you exhibet.
> .

And I would bet he DIDN'T know that the additional displacement current
radiated since he knows virtually nothing about radiation.

tom
K0TAR

1076. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 01:05:24 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <dl1lr59rejf7iir6svv7quejtp3u4mhklq@4ax.com>
Source record: 10276

On Tue, 06 Apr 2010 00:16:56 GMT, Owen Duffy <none@no.where> wrote:

>Bob <rmiller47@satx.rr.com> wrote in
>news:978ir5dft9etnl9lj07o3vj1tcu61ol0a0@4ax.com:
>
>...
>>
>> But then, on a hunch, I checked the manual that came with my MFJ-269,
>> and sure enough, on page 34, it tells how to measure Velocity Factor,
>> utilizing the distance to fault mode. It'll take a day or so to
>> recharge the 269's batteries, and then I'll have at it.
>
>As Roy has explained, you need to stop common mode current from
>significantly altering your measurement.
>
>I have had sucess with placing a balun of a string of ferrite cores over
>the line. It is easy to observe the effectiveness using a VNA sweep, a
>bit tricker with the MFJ269.

I do have a W2DU-style balun of ferrite beads on coax, if that is what
you mean.

I also have an MFJ gizmo, a tiny 1:1 current balun for antenna
analyzers, a coax fitting on one side, and balanced line fasteners on
the other side -- but I'm guessing then I'd be measuring the velocity
factor of the balun, in addition to the balanced line.

Bob
k5qwg

>
>I have also found that stretching the line out straight causes the worst
>common mode problems, but if you coil it, you have to keep adjacent turns
>much further apart than the line's conductor separation.
>
>All this has to be done with the line suspended in the air, well clear of
>other dielectrics or conductors. (Hint: fishing line can be your friend!)
>
>Before these analysers, we measured the resonant frequency of a line
>section using a GDO. By very loosely coupling the GDO, and reading the
>GDO frequency from a calibrated receiver, good results could be obtained.
>
>Owen

1077. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 01:26:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D52745A38960nonenowhere@61.9.191.5>
Source record: 10277

Bob <rmiller47@satx.rr.com> wrote in
news:dl1lr59rejf7iir6svv7quejtp3u4mhklq@4ax.com:

> On Tue, 06 Apr 2010 00:16:56 GMT, Owen Duffy <none@no.where> wrote:
...
>>I have had sucess with placing a balun of a string of ferrite cores
>>over the line.

That means literally threading some suitable ferrite toroidal cores over
the transmission line you are measuring.

If you add a separate balun between the analyser and the cable under test,
you introduce an unknown component that will probably disturb your
readings.

Owen

1078. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 06:47:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <o2llr5le7iupc6pj15k4keqqbf5hcfnmjn@4ax.com>
Source record: 10278

On Mon, 5 Apr 2010 15:21:52 -0700 (PDT), Bill <k4wge@arrl.net> wrote:

>> > > >> insulator that can carry a charge
>>
>> > > ... wouldn't be an insulator.

>> > Maybe he mends the displacement of charge via polarization that is
>> > accounted for in the epsilon of a material.

>> Correct,

(Drum-roll) tada-boom.

So, Toto, we are not in Kansas anymore. Here in Odz, insulators AND conductors can BOTH carry a charge.

[Glancing at the bottom of the house they traveled in through the Twister. Two legs are exposed.]

Look! Under the porch! Apparently those ruby slippers cannot carry a house.

[Munchkin] You must see the Professor of Odz - follow the yellow brick transit line.

Toto, do you think ruby slippers can carry a charge along the yellow brick transit line?

[Tin Woodman] Can I go with you Dorothy? Do you think the Professor of Odz can give me a diamagnetic heart?

[Scarecrow] And me! Don't forget me, Dorothy! I want the Professor of Odz to give me a patent so I can prove my intellect.

[Lion] Roawrrrrr! I'm going too so the Professor of Odz will grant me courage to stand up against newsgroup bullies.

[Toto] jest let me hump the leg of Glenda, the Witch of the West - her Tiara is ï¿½bercool.

73's
Richard Clark, KB7QHC

1079. Re: Unwinantenna.com page

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 11:21:40 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <396mr5h7jm7m81bfr0rv769ta81higc0l0@4ax.com>
Source record: 10279

On Sat, 3 Apr 2010 20:17:16 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:

>I have just rewritten the description on my antenna page in response
>to complaints, some of which were justified. It probably is still
>not good enough for some but I have at least tried to apply some
>remedies that hopefully will provide a better understanding for those
>who presently are having difficulties.
>Regards
>Art

Do your parents know you're playing with the computer and wasting
their bandwidth?

1080. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 14:12:07 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <0ufmr59kj3do90pj3fqkrbaqqkc4dnik7k@4ax.com>
Source record: 10280

On Tue, 06 Apr 2010 01:26:16 GMT, Owen Duffy <none@no.where> wrote:

>Bob <rmiller47@satx.rr.com> wrote in
>news:dl1lr59rejf7iir6svv7quejtp3u4mhklq@4ax.com:
>
>> On Tue, 06 Apr 2010 00:16:56 GMT, Owen Duffy <none@no.where> wrote:
>...
>>>I have had sucess with placing a balun of a string of ferrite cores
>>>over the line.
>
>That means literally threading some suitable ferrite toroidal cores over
>the transmission line you are measuring.
>
>If you add a separate balun between the analyser and the cable under test,
>you introduce an unknown component that will probably disturb your
>readings.
>
>Owen

Another question -- I'm thinking of cutting a 10-foot section of
balanced line to test. Should I count the bared pigtails of the line,
which I will attach to the analyzer's coax output, as part of the 10
foot length? Or just count that part of the line where all insulation
is in place?

Bob
k5qwg

1081. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 14:28:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8ca99210-42d8-4a5d-98ec-ba32ba846ca1@r1g2000yqj.googlegroups.com>
Source record: 10281

On Apr 5, 3:33 pm, Owen Duffy <n...@no.where> wrote:
> Typical T match ATU's are lossier on capacitive loads than on inductive
> loads.

How about typical CLC Pi-Net ATUs?
--
73, Cecil, w5dxp.com

1082. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 16:48:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hpfokfutq1@news.jpl.nasa.gov>
Source record: 10282

Bob wrote:
> On Tue, 06 Apr 2010 01:26:16 GMT, Owen Duffy <none@no.where> wrote:
>
>> Bob <rmiller47@satx.rr.com> wrote in
>> news:dl1lr59rejf7iir6svv7quejtp3u4mhklq@4ax.com:
>>
>>> On Tue, 06 Apr 2010 00:16:56 GMT, Owen Duffy <none@no.where> wrote:
>> ...
>>>> I have had sucess with placing a balun of a string of ferrite cores
>>>> over the line.
>> That means literally threading some suitable ferrite toroidal cores over
>> the transmission line you are measuring.
>>
>> If you add a separate balun between the analyser and the cable under test,
>> you introduce an unknown component that will probably disturb your
>> readings.
>>
>> Owen
>
> Another question -- I'm thinking of cutting a 10-foot section of
> balanced line to test. Should I count the bared pigtails of the line,
> which I will attach to the analyzer's coax output, as part of the 10
> foot length? Or just count that part of the line where all insulation
> is in place?
>

Aha.. you start to see the problems in precision RF measurement... Where is the "reference plane"..and how do you calibrate out the "fixture".

One way to do it is to do two sets of measurements. Do one with your 10 foot length. Then, cut 5 feet off and do it again. Then, the "difference" between the measurements is the result for the now missing 5 feet.

How much precision are you looking for, anyway. To a first order, think about how long that fixture is. If it's an inch or so, that's less than 1% of the overall length of the line.

1083. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 17:11:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <wKidnWQnMIGh9ibWnZ2dnUVZ_uSdnZ2d@giganews.com>
Source record: 10283

Bob wrote:
>
> Another question -- I'm thinking of cutting a 10-foot section of
> balanced line to test. Should I count the bared pigtails of the line,
> which I will attach to the analyzer's coax output, as part of the 10
> foot length? Or just count that part of the line where all insulation
> is in place?
>
> Bob
> k5qwg

I think 10 feet is going to be too short to make a good measurement, because the lengths of such things as the pigtails and the MFJ are a substantial fraction of the overall length. I recommend using the whole length of line you have. You might have to be a bit creative in keeping it away from other conductors, but that'll give you the best results.

When you do make the measurement, maintain the integrity of the line to as close to the impedance meter as you can. Then measure the line to the impedance meter connector.

Roy Lewallen, W7EL

1084. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 18:15:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D532B4802ACDnonenowhere@61.9.191.5>
Source record: 10284

Bob <rmiller47@satx.rr.com> wrote in
news:0ufmr59kj3do90pj3fqkrbaqqkc4dnik7k@4ax.com:

...
> Another question -- I'm thinking of cutting a 10-foot section of
> balanced line to test. Should I count the bared pigtails of the line,
> which I will attach to the analyzer's coax output, as part of the 10
> foot length? Or just count that part of the line where all insulation
> is in place?

What you have is two transmission line sections in cascade, one with bare conductors, and one with the conductors immersed in insulation.

If you want to measure the effects only of the latter, you need to find some way of minimising the contribution of the former.

The calibration of the MFJ269 is not that flash that you will pick a mm or two. When I have used them for the test you are performing, I zip tie the conductor to the external threads of the connector so that there is as close to zero length of 'different' transmission line as possible. You could also use a small stainless hose clamp, but in my experience, the zip tie has been reliable.

You can zip tie a piece of PE irrigation pipe to the VFO knob so that you hand doesn't need to be within half a meter of the instrument, use a wooden table to support the instrument, use the balun I suggested, and arrange the line to minimise radiation from residual common mode current.

I would try to measure a length of 10m or so. It is a compromise between making end effects (tails, effect of the windows) insignificant, an effective balun, and physically supporting the line for least radiation and other external influences.

Some of my focus was on trying to get a valid measure of R as well as X, R due to line losses alone.

Owen

1085. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 18:50:32 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <p7umr512rc9qeqis58bufhk8a6ertdftv1@4ax.com>
Source record: 10285

On Tue, 06 Apr 2010 10:11:20 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Bob wrote:
>>
>> Another question -- I'm thinking of cutting a 10-foot section of
>> balanced line to test. Should I count the bared pigtails of the line,
>> which I will attach to the analyzer's coax output, as part of the 10
>> foot length? Or just count that part of the line where all insulation
>> is in place?
>>
>> Bob
>> k5qwg
>
>I think 10 feet is going to be too short to make a good measurement,
>because the lengths of such things as the pigtails and the MFJ are a
>substantial fraction of the overall length. I recommend using the whole
>length of line you have. You might have to be a bit creative in keeping
>it away from other conductors, but that'll give you the best results.
>
>When you do make the measurement, maintain the integrity of the line to
>as close to the impedance meter as you can. Then measure the line to the
>impedance meter connector.
>
>Roy Lewallen, W7EL

I have 53-foot- and 122-foot-long lengths of the line. I might stretch
the 53-footer from the roof out toward the back fench, and measure
that.

Bob
k5qwg

1086. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 20:03:23 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hpg41p$b9$1@news.eternal-september.org>
Source record: 10286

Roy Lewallen Inscribed thus:

> Baron wrote:
>>
>> Please could you elaborate on how and why a common mode current has a
>> different VF on a balanced line.
>
> Sure.
>
> First, a balanced line, whether it's twinlead or coax, doesn't have
> any common mode current, by definition -- the lack of common mode is
> what makes it balanced. We're talking about a physically symmetrical
> line.
>
> Whenever you have a two conductor line, you effectively have two
> transmission lines, differential mode and common mode. Although you
> actually have only one current on each conductor, by taking advantage
> of the principle of superposition you can mathematically separate the
> two currents into two *sets* or components of currents, analyze their
> effects separately to gain a better understanding, and simply add the
> results if you want to know the overall solution. The sum of the
> common mode and differential currents are the actual conductor
> currents, and the sum of the common mode and differential responses is
> the actual response.
>
> The differential or transmission line mode waves (voltage and current)
> are the components which are equal and opposite on the two conductors,
> so the field is strongest between the two conductors, fringing outward
> in the case of ladder line. The presence of the dielectric material in
> a major portion of the field slows down the waves, lowering the
> velocity factor. In the case of coax, the field is entirely within the
> dielectric so we can easily calculate the velocity factor if we know
> the dielectric constant of the material. In the case of ladder line,
> we don't know what fraction of the field is in the air and what's in
> the dielectric without a very advanced computer program, so we have to
> measure the velocity factor. The fraction and therefore velocity
> factor changes, by the way, with frequency, a phenomenon known as
> dispersion.
>
> The common or antenna mode waves are the components that are equal and
> in the same direction or polarity on the two conductors. The field is
> the same as it would be if the two conductors were connected together
> to make a single conductor. One conductor of the common mode
> transmission line is the two conductors of the ladder line, and the

> other is the Earth and/or surrounding conductors. These two common
> mode transmission line conductors are usually much farther apart than
> the ladder line conductors, so the common mode characteristic
> impedance is higher than the differential mode impedance. The velocity
> factor is usually higher, too, because the field is between the two
> common mode conductors -- the ladder line and the Earth --, and almost
> none of it is in the line dielectric. So its velocity factor is nearly
> 1. In my TDR demonstration, the common mode open end reflection
> occurred before the larger differential mode reflection because of the
> higher velocity factor, so it looked like a differential mode
> reflection from a point short of the end. (And I helped reinforce this
> mistake in order to get the audience's attention.)
>
> Any two conductor line supports both modes and behave the same, but
> coax is a little easier to understand because the differential and
> common mode currents are actually physically separate -- so no
> mathematical hocus-pocus is necessary. The differential currents and
> waves are entirely inside the cable, and the common mode currents and
> waves are outside. The velocity factor inside (differential mode) is
> determined by the dielectric material, and the velocity factor of the
> outside (common mode) is nearly 1.
>
> Roy Lewallen, W7EL

Thankyou, Jim & Roy.
Your explanations were most enlightening. I just couldn't get my head around the "how & why" the VF should be different. I have also realised why I have sometimes seen more than one TDR reflection from a perfectly good transmission line.

73's
--
Best Regards:
Baron.

1087. Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 20:56:43 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <uo7nr5lt0hr00073p1nhfujpv3qkchfs10@4ax.com>
Source record: 10287

Thanks to all for the advice on measuring velocity factor.

I suspended 53.25 feet of JSC #1317 18-AWG balanced line in the backyard.

At a velocity factor of 1, the MFJ 269 claimed an electrical length of 59.5 feet, which would give an actual velocity factor of .89.

After four or five more tries, I nearly replicated it with an electrical length of 59.6 feet.

To verify the results, I tried entering the .89 velocity factor to get the length of the line, and it kept coming in at a 26.6 foot length -- oh, well.

Bob
k5qwg

1088. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 21:08:45 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hpg7sa$t0r$1@news.eternal-september.org>
Source record: 10288

Bob Inscribed thus:

> Thanks to all for the advice on measuring velocity factor.
>
> I suspended 53.25 feet of JSC #1317 18-AWG balanced line in the
> backyard.
>
> At a velocity factor of 1, the MFJ 269 claimed an electrical length of
> 59.5 feet, which would give an actual velocity factor of .89.
>
> After four or five more tries, I nearly replicated it with an
> electrical length of 59.6 feet.
>
> To verify the results, I tried entering the .89 velocity factor to get
> the length of the line, and it kept coming in at a 26.6 foot length --
> oh, well.
>
> Bob
> k5qwg

That sounds pretty close to half of the physical line length you
mentioned.

--
Best Regards:
Baron.

1089. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 21:44:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D534EB3FD826nonenowhere@61.9.191.5>
Source record: 10289

Bob <rmiller47@satx.rr.com> wrote in
news:uo7nr5lt0hr00073p1nhfujpv3qkchfs10@4ax.com:
...
>
> To verify the results, I tried entering the .89 velocity factor to get
> the length of the line, and it kept coming in at a 26.6 foot length --
> oh, well.

"Oh, well" means you didn't understand something, a problem to be resolved.

It is a long time since I used one of these.

I assume you are using the Distance to Fault mode.

Did you find the first X=0 point to be around 4MHz? If you mistakenly found
the first at a higher frequency, it will give a harmonically related
result.

Owen

1090. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 22:20:54 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <pncnr59i8j69m1f45gagaed1ggq2lv94fu@4ax.com>
Source record: 10290

On Tue, 06 Apr 2010 21:44:12 GMT, Owen Duffy <none@no.where> wrote:

>Bob <rmiller47@satx.rr.com> wrote in
>news:uo7nr5lt0hr00073p1nhfujpv3qkchfs10@4ax.com:
>...
>>
>> To verify the results, I tried entering the .89 velocity factor to get
>> the length of the line, and it kept coming in at a 26.6 foot length --
>> oh, well.
>
>"Oh, well" means you didn't understand something, a problem to be resolved.
>
>It is a long time since I used one of these.
>
>I assume you are using the Distance to Fault mode.
>
>Did you find the first X=0 point to be around 4MHz? If you mistakenly found
>the first at a higher frequency, it will give a harmonically related
>result.
>
>Owen

I am using the Distance to Fault mode. I've tried several frequencies
for X=0, and sometimes get the 26.6 foot figure, other times
non-sensical answers in the thousands of feet.

Bob
k5qwg

1091. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 23:11:27 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnhrnfv7.2082.bit-bucket@shell.config.com>
Source record: 10291

```
On Tue, 06 Apr 2010 22:08:45 +0100, Baron wrote:
> Bob Inscribed thus:
>
>> Thanks to all for the advice on measuring velocity factor.
>>
>> I suspended 53.25 feet of JSC #1317 18-AWG balanced line in the
>> backyard.
>> ... <-snip->
>> To verify the results, I tried entering the .89 velocity factor to get
>> the length of the line, and it kept coming in at a 26.6 foot length --
>> oh, well.
>
> That sounds pretty close to half of the physical line length you
> mentioned.

Yep. For selected values of 1/2 ...... HI!HI!

Jonesy
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
* Killfiling google & XXXXbanter.com: jonz.net/ng.htm
```

1092. Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-06 23:47:25 UTC
From: WA2SI <wa2si@arrl.net>
Message-ID: <9b15fa41-3f26-4409-9301-761882ccb4b1@v8g2000vbh.googlegroups.com>
Source record: 10292

Hello everybody,

I hope everyone had a very Happy Easter. I have a spare 2:1 current balun and would like to use it to feed a vertically oriented single-band full-wave loop. I began to wonder; Can one feed two vertically oriented full-wave loops perpendicular to each other with a common feed point? Any opinions? Thanks in advance. As always, take care es...

Vy 73 de Bert
WA2SI

1093. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 03:00:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t7tnr51gtdnu8r6d8e0gkfd1qud46nocb2@4ax.com>
Source record: 10293

>Can one feed two vertically oriented full-wave loops perpendicular to each other with a common feed point?

Many have.

73's
Richard Clark, KB7QHC

1094. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 06:05:00 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1270620300@panix.com>
Source record: 10294
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

1095. Re: velocity factor, balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 07:24:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <vvKdnR06NqzRriHWnZ2dnUVZ_s-dnZ2d@giganews.com>
Source record: 10295

Baron wrote:
>
> Thankyou, Jim & Roy.
> Your explanations were most enlightening. I just couldn't get my head
> around the "how & why" the VF should be different. I have also
> realised why I have sometimes seen more than one TDR reflection from a
> perfectly good transmission line.

You can easily excite a common mode wave on coax with a TDR -- or transmitter -- simply by connecting to it with pigtails. This provides a path between the inside and outside of the shield, unlike a proper coax connector which preserves the integrity of the shield.

Roy Lewallen, W7EL

1096. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 09:29:18 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <0514a44d-692d-404c-9550-1c56a3faf62d@j21g2000yqh.googlegroups.com>
Source record: 10296

On 7 abr, 01:47, WA2SI <wa...@arrl.net> wrote:
> Hello everybody,
>
> I hope everyone had a very Happy Easter. I have a spare 2:1 current
> balun and would like to use it to feed a vertically oriented single-
> band full-wave loop. I began to wonder; Can one feed two vertically
> oriented full-wave loops perpendicular to each other with a common
> feed point? Any opinions? Thanks in advance. As always, take care
> es...
>
> Vy 73 de Bert
> WA2SI

Hello Bert,

When you have identical loops, with same orientation, and distance between them is less then 0.2 lambda, you can connect them in parallel. Current in both loops will be the same (magnitude and phase) and far field radiation pattern will also not change (with respect to a single loop).

When the distance between the loops >> wire diameter, you will experience an increase in useful bandwidth. Impedance at current nodes will not change that much, but impedance at voltage nodes will reduce. Due to the mutual coupling, you will experience some drift in resonant frequency.

Feeding in opposite phase will give a complete new radiation pattern, significant reduction in useful bandwidth and possibly reduction in radiation efficiency.

Best regards,

Wim
PA3DJS
www.tetech.nl
in case of PM, don't forget to remove abc from the address.

1097. Re: modelling colinear antenna for 4nec2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 13:04:27 UTC
From: nico <nico.602642b@radiobanter.com>
Message-ID: <nico.602642b@radiobanter.com>
Source record: 10299

thank you for your reply

Nicolas Sarthe
ESECO Systems

--
nico

1098. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 15:28:27 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <0b89ad59-cbcc-48ce-875c-f7ac61aa2a2a@n34g2000yqb.googlegroups.com>
Source record: 10297

Any chance the 2:1 error is related to the incorrect measurement
procedure described in some versions of user manual:

http://lists.contesting.com/_topband/2005-06/msg00017.html

73,
Steve G3TXQ

1099. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 15:50:42 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <a7apr5hk3k35ahcvqbucat2ci7sln9pql7@4ax.com>
Source record: 10298

On Wed, 7 Apr 2010 08:28:27 -0700 (PDT), steveeh131047
<google@karinya.net> wrote:

>Any chance the 2:1 error is related to the incorrect measurement
>procedure described in some versions of user manual:
>
>http://lists.contesting.com/_topband/2005-06/msg00017.html
>
>73,
>Steve G3TXQ

That's very interesting. The newest online manual has a slightly
different procedure for measuring Distance to Fault. When it stops
raining (and the balanced line dries off) I'll go and measure again
with the newer procedure.

Bob
k5qwg

1100. Re: modelling colinear antenna for 4nec2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 16:13:51 UTC
From: Frank <frank@spamfree.telus.net>
Message-ID: <3b2vn.1140$Z6.546@edtnps82>
Source record: 10300

"nico" <nico.5f783cf@radiobanter.com> wrote in message
news:nico.5f783cf@radiobanter.com...
>
> Hello.. I am interested in modeling with 4nec2 a collinear antenna for
> 869 MHz frequencies, it's use for my security systems.
> i wright this code in 4nec2 but i don't see the far field
>
> GW 1 1 0 0.025 0.919 0 0.025 1 1.e-3
> GW 2 1 0 0.025 1 0 0.035 1 1.e-3
> GW 3 1 0 0.035 1 0 0.035 1.13 1.e-3
> GW 4 1 0 0.035 1.13 0 0.025002 1.13009996 1.e-3
> GW 5 1 0 0.025002 1.13009996 0 0.025 1.26 1.e-3
> GW 7 1 0 0.035 1.26 0 0.035 1.3899 1.e-3
> GW 8 1 0 0.035 1.39 0 0.025 1.39 1.e-3
> GW 9 1 0 0.025 1.39 0 0.025 1.476 1.e-3
> GE 0
> EK
> EX 0 4 1 0 1 0
> GN 2 0 0 0 20 0.0303
> FR 0 1 0 0 869 0
>

Hi Nico,

You are missing a "Tag" 6, which should connect tags 5 and 7.
On a quick check; tags: 2, 4, "6", and 8 are 10mm long. As close
as possible; all other tags should be segmented in 10mm lengths --
for example tag 1 is 81 mm long and should be segmented as:
GW 1 8 0 0.025 0.919 0 0.025 1 1.e-3.

Your "GE" card shows "no groundplane. It should be changed to:

GE 1 0 0

indicating a ground plane is specified.

If you wish to show the far field you must include and "RP" card;
for example:

RP 0 181 1 1000 -90 90 1.00000 1.00000

Which shows Theta from -90 to 90 degrees at phi = 90 degrees

You should also show an "EN" card at the end of your code to
indicate program end.

Regards,

Frank

1101. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 18:47:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tnkpr5hkc7598ncv6ee6s87b9jtf1g74r2@4ax.com>
Source record: 10351

On Wed, 07 Apr 2010 10:50:42 -0500, Bob <rmiller47@satx.rr.com> wrote:

>When it stops
>raining (and the balanced line dries off) I'll go and measure again
>with the newer procedure.

Hi Bob,

This rain is an opportunity to astonish youself about the measurement
variability of line operation in real-life.

73's
Richard Clark, KB7QHC

1102. Re: Measured Velocity Factor of balanced line

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-07 22:36:21 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <5v1qr5ddnt50dmogekos26h60tk9codcjl@4ax.com>
Source record: 10352

On Wed, 7 Apr 2010 08:28:27 -0700 (PDT), steveeh131047
<google@karinya.net> wrote:

>Any chance the 2:1 error is related to the incorrect measurement
>procedure described in some versions of user manual:
>
>http://lists.contesting.com/_topband/2005-06/msg00017.html
>
>73,
>Steve G3TXQ

I finally got it to work properly. The trick is getting Xs=0 at a
second frequency -- I couldn't get it on the same band as the first
frequency but had to go to a second band, either up or down, and once
the second frequency was found with Xs=0, it came up with the correct
distance to fault, 53.2 feet.

Bob
k5qwg

1103. ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-08 03:09:56 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <96373868-342c-4fd8-b1ce-c52644e103c3@x42g2000vbb.googlegroups.com>
Source record: 10353

I am interested in having a rapid set up multi-band vertical for Field Day and EMCOMM. If I use the Hy-Gain sixty four foot (64') push up mast as the radiator and an ICOM AH-4 as the automatic antenna tuner is this likely to be an effective approach to having a rapid set up multi band vertical? Will I need radials? Should they be elevated or can they lie on the ground? Since the total length of the radiator is less than a 1/4 wave on eighty meters at say 3.6 MHz will that make the antenna ineffective on eighty meters?

Second question would four of those sixty four foot masts make an effective forty meter four square. Yes I realize that it would cost eight hundred dollars for the masts alone before the cost of controller, remote, phasing coax, and control cable. Once again would radials be required for forty meters.

I've only been back in radio for a few years after very long gap so I'm starting over and finding the learning curve a little steeper than I remember.
--
Tom Horne, W3TDH

1104. Re: Cat contacting aliens using Morse Code!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-08 03:23:28 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <ebf4c54b-66f2-41cf-9f7e-32e4382f4e1f@r1g2000yqj.googlegroups.com>
Source record: 10354

On Mar 1, 4:58 pm, AndyS <andysha...@juno.com> wrote:
> On Feb 28, 8:12 pm, Tonyfrost <jupal...@gmail.com> wrote:
>
> > This Cat is tapping out morse code on a box-telegraph: "send help...
> > trapped in a box..."
> > Have you evere received any messages from this one??
>
> >http://www.youtube.com/watch?v=2SkDOfYpGLI&feature=player_embedded
>
> Andy comments:
>
>   I would think a cat would be sending " Morris Code
> "....   :>)))

Andy
Thanks I enjoyed that.
--
Tom W3TDH

1105. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-08 05:13:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dapqr59r436pfjfj316qfn6vvlof8g8t7j@4ax.com>
Source record: 10355

On Wed, 7 Apr 2010 20:09:56 -0700 (PDT), Tom Horne <hornetd@gmail.com>
wrote:

>I am interested in having a rapid set up multi-band vertical for Field
>Day and EMCOMM. If I use the Hy-Gain sixty four foot (64') push up
>mast as the radiator and an ICOM AH-4 as the automatic antenna tuner
>is this likely to be an effective approach to having a rapid set up
>multi band vertical?

Hi Tom,

Yes.

>Will I need radials?

Yes.

>Should they be elevated or
>can they lie on the ground?

Yes.

>Since the total length of the radiator is
>less than a 1/4 wave on eighty meters at say 3.6 MHz will that make
>the antenna ineffective on eighty meters?

No.

>Second question
5th, actually.
> would four of those sixty four foot masts make an
>effective forty meter four square.

Yes.

> Yes I realize that it would cost
>eight hundred dollars for the masts alone before the cost of
>controller, remote, phasing coax, and control cable. Once again would
>radials be required for forty meters.

Yes.

>I've only been back in radio for a few years after very long gap so
>I'm starting over and finding the learning curve a little steeper than
>I remember.

You are still on the level wit the climb to come. There are a LOT of
details to make those simple answers work.

73's
Richard Clark, KB7QHC

1106. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-08 17:47:57 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hpl4se$fg7q$1@tr22n12.aset.psu.edu>
Source record: 10356

Richard Clark wrote:
> On Wed, 7 Apr 2010 20:09:56 -0700 (PDT), Tom Horne <hornetd@gmail.com>
> wrote:
>
>> I am interested in having a rapid set up multi-band vertical for Field
>> Day and EMCOMM. If I use the Hy-Gain sixty four foot (64') push up
>> mast as the radiator and an ICOM AH-4 as the automatic antenna tuner
>> is this likely to be an effective approach to having a rapid set up
>> multi band vertical?

> Hi Tom,
>
> Yes.

>> Will I need radials?
>
> Yes.

Which of course make rapid set-up somewhat less rapid.

>> Should they be elevated or
>> can they lie on the ground?
>
> Yes.

Side route here, can be skipped to remain strictly on topic.

Ohh, Ohh! I can segue into my radials burying method. Banned in several countries!

Beyond Richard's concise answer, Elevated radials are kind of a PITA, and the stuff that neighborhood Antenna bans are based on. And for this use, they are also going to be in the way.

I'd also note that one method of laying radials is easy, but not so good. I tried laying half of my radials laying the lines on the ground, held in place with ground staples. It works well technically, for practical purposes, not so good.

Raking the yard is a great way to lift the staples and the rake pulls the wires up also.

I'm a big fan of shallow trenching.

Now on to my trenching method......

All those years of organized sports have taught me many things- Sportsmanship, Teamwork, Goal setting and achievement, and especially

how broken bones, pulled tendons, and ligaments can conspire to make
life a little painful as the years go by.

Anyhow, hand digging a trenches and laying the radials is really painful
for me.

And renting a professional trencher just goes against my Hamness, M R
expensive!

The following is a description of a method I have used, and not a
suggestion that anyone actually do this. As they say on Mythbusters,
Don't do this at home - are you crazy? Never use a tool for other than
it's intended purpose. Do not use sharp things - ever. You have been warned.

So my solution is using an inexpensive electric chain saw to do the
trenching with. Simply start at the ground plate of your vertical, and
dig a trence with the chain saw. Works a trick! Lay the radial wires in
and cover them back up.

This is needless to say, rather hard on the chainsaw blade, and probably
the chain bar.

I repeat, don't ever try this method. It's dangerous.

>> Since the total length of the radiator is
>> less than a 1/4 wave on eighty meters at say 3.6 MHz will that make
>> the antenna ineffective on eighty meters?
>
> No.

>> Second question
> 5th, actually.
>> would four of those sixty four foot masts make an
>> effective forty meter four square.
>
> Yes.
>
>> Yes I realize that it would cost
>> eight hundred dollars for the masts alone before the cost of
>> controller, remote, phasing coax, and control cable. Once again would
>> radials be required for forty meters.
>
> Yes.
>
>> I've only been back in radio for a few years after very long gap so
>> I'm starting over and finding the learning curve a little steeper than
>> I remember.
>
> You are still on the level wit the climb to come. There are a LOT of
> details to make those simple answers work.

Back on topic

For emergency work, simplicity is mandatory. I see the idea of setting up multiple masts and radials on location as an unneeded complication, and a failure point as well.

I'd also be inclined to have different antennas for each use.

And while it's heresy in here, if you want ease of tuning (or complete lack thereof), you might give some thought to a T2FD folded dipole antenna. Not a particularly great antenna, but wide band, and you make up for it's inefficiency by running legal limit power.

Otherwise give some thought to dipole antennas, perhaps a doublet, and use an autotuner on it. A couple masts, amybe those fiberglass pole types and you should be good.

If you really want directional power on 40 meters, look into a portable mast and a 40 meter beam. Coupled with full legal limit power, you'll make your own propagation!

I think that outside of a permanent EC command center, simple and quick is the order of the day.

- 73 de Mike N3LI -

1107. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-08 18:16:06 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hpl6h7amo1@news.jpl.nasa.gov>
Source record: 10357

Tom Horne wrote:
> I am interested in having a rapid set up multi-band vertical for Field
> Day and EMCOMM. If I use the Hy-Gain sixty four foot (64') push up
> mast as the radiator and an ICOM AH-4 as the automatic antenna tuner
> is this likely to be an effective approach to having a rapid set up
> multi band vertical?

Yes..
You don't need that much height, though.. the loss in radiation effectiveness going from 1/4 wavelength (20m long) to 1/8 wavelength (10m) isn't all that big a deal. It's when you get down to the 1/20th wavelength and the feedpoint Z gets very wild that you have problems with loss in the matching network.

Will I need radials? Should they be elevated or
> can they lie on the ground?

Yes.. you do need radials. Laying on the ground is just fine. Get some very flexible stranded insulated wire (the kind with lots of fine strands is better.) and figure a way to rapidly throw it out and store without tangling. I've thought about spring return reels.

3 or 4 makes a huge difference over 1 or 2. after that, it's a bit of diminishing returns.. You'd be better off just doing what the people who do this for a living (rapid deploy HF comms) do.. jack up the Tx power.

BTW, a better approach than a vertical might be a inverted V dipole from the top of your 60 foot pole. MUCH better radiation effectiveness because of H polarization..

Since the total length of the radiator is
> less than a 1/4 wave on eighty meters at say 3.6 MHz will that make
> the antenna ineffective on eighty meters?

Nope.. it's the loss in the tuning network that's the thing to worry about.. you could make a lumped matching network to feed with your autotuner if you're worried..

>
> Second question would four of those sixty four foot masts make an
> effective forty meter four square. Yes I realize that it would cost
> eight hundred dollars for the masts alone before the cost of
> controller, remote, phasing coax, and control cable. Once again would
> radials be required for forty meters.

Radials are (almost) always required for verticals. even if you don't install them, your feedline shield will act as a radial with

unpredictable and usually undesirable effects.

Running a 4 square with autotuners at each element is VERY difficult (if not impossible).. the tuner changes the phase shift, and the interaction from the other antennas will screw up the auto adjustment algorithm.

>
> I've only been back in radio for a few years after very long gap so
> I'm starting over and finding the learning curve a little steeper than
> I remember.
> --
> Tom Horne, W3TDH

1108. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 00:08:12 UTC
From: nm5k@wt.net
Message-ID: <e0c22e9a-36ba-4445-9250-6af6c321d749@i37g2000yqn.googlegroups.com>
Source record: 10358

On Apr 8, 1:16 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:

>
> BTW, a better approach than a vertical might be a inverted V dipole from
> the top of your 60 foot pole. MUCH better radiation effectiveness
> because of H polarization..

Much easier to deal with. You really don't want to have to deal
with radials at a field day. And using an antenna tuner to match
a vertical is not the greatest way to go about it.
Then you have the radiator height issue.. A 64 foot mast is too
tall for most of the higher HF bands. So it's not going to be too
practical for multi band use unless it's only for the lower bands.
Heck, it's slightly tall even to be a 5/8 wave on 30m...
It's going to be fairly useless as a vertical on 20m and up..
High angle lobes..

If it were me, I'd use the mast to support dipoles for each band
to be used. I feed them all with a single coax and spread the
legs apart at right angles to minimize interaction.
Or one could use a multi band dipole of some type.
One method I used to use camping was the "jumper"
dipole. IE: I'd run a 80m length dipole, but have insulators
breaking it up into higher band dipoles. For 80m, they would
all have jumpers across them.
For higher bands, you would use remove the jumper across the
insulator to shorten the length.
But I prefer the parallel dipoles for FD use, and I almost always
have enough room to do it. That way I have instant band changing
with no retuning, fiddling, etc..
If I were to use a vertical for all bands, I'd probably go with some
type of elevated 1/2 wave design that didn't require radials.
But except for far off DX, I would prefer the dipoles.
The bulk of FD contacts are not going to be DX on the lower
bands. You would be better served with the NVIS pattern of a
dipole on 40, 80 meters. An 80 or 40 meter dipole will work quite
well if supported at 60 ft at the apex. Really doesn't have to be that
high, but if you can get them up to 60 ft, they will work well.
Even to most DX.

1109. HY-Gain Trap Orientation th5mk2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 01:00:44 UTC
From: Chuck Forsberg WA7KGX N2469R <caf@omen.com>
Message-ID: <CbKdnUPWS-eh4SPWnZ2dnUVZ_hydnZ2d@giganews.com>
Source record: 10359

I am installing a used Hy-Gain th5mk2 tribander.
A previous owner added screws on some of the elements at the
boom to element clamp and between element sections.
This is not mentioned in the manual.

Unfortunately whoever added the screws forgot to make sure
the trap assembly drain holes point down. They are up to
20 or so degrees from straight down. Is this good enough
or would it be better to remove the screws so the traps can
be adjusted with the drain holes down?

1110. Isopole parts

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 01:18:13 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <e74f620d-0199-4448-a581-0c35975e9eac@u31g2000yqb.googlegroups.com>
Source record: 10360

I came by the bottom half of an Isopole 2M antenna. I am missing the matching network and upper portion of the antenna. I am looking for information on purchasing or fabricating these parts. I have a home made 5/8 antenna that consist of a SS whip mounted on a Lucite rod that also serves as a form for the matching coil. Would this work? I have my doubts as it would considerably longer than the original.

Jimmie

1111. Re: HY-Gain Trap Orientation th5mk2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 01:55:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f22tr5l655v9b550jkjmla5p9m5jlsj9bo@4ax.com>
Source record: 10361

On Thu, 08 Apr 2010 20:00:44 -0500, Chuck Forsberg WA7KGX N2469R
<caf@omen.com> wrote:

> Is this good enough
>or would it be better to remove the screws so the traps can
>be adjusted with the drain holes down?

Hi Chuck,

You could drill drain holes too.

73's
Richard Clark, KB7QHC

1112. Re: Isopole parts

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 01:56:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <892tr59lsuvg2ncst041i1injh74u6cick@4ax.com>
Source record: 10362

On Thu, 8 Apr 2010 18:18:13 -0700 (PDT), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

> I have a home
>made 5/8 antenna that consist of a SS whip mounted on a Lucite rod
>that also serves as a form for the matching coil. Would this work? I
>have my doubts as it would considerably longer than the original.

Hi Jimmie,

What band was the whip home made for?

73's
Richard Clark, KB7QHC

1113. Re: Isopole parts

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 02:00:17 UTC
From: nm5k@wt.net
Message-ID: <c377ee97-332d-46d3-b27e-0dc799b62975@r27g2000yqn.googlegroups.com>
Source record: 10363

On Apr 8, 8:18 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> I came by the bottom half of an Isopole 2M antenna. I am missing the
> matching network and upper portion of the antenna. I am looking for
> information on purchasing or fabricating these parts. I have a home
> made 5/8 antenna that consist of a SS whip mounted on a Lucite rod
> that also serves as a form for the matching coil. Would this work? I
> have my doubts as it would considerably longer than the original.
>
> Jimmie

Should work if you can find a way to mount it. The original upper
5/8 whip was 50 inches, same as the lower 5/8 section, not counting
the lower decoupling cone.
http://www.repeater-builder.com/aea/aea-index.html

1114. Re: Isopole parts

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 03:52:20 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <238b7c66-9820-47b9-a247-36f8731fc87f@u34g2000yqu.googlegroups.com>
Source record: 10364

On Apr 8, 9:56 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 8 Apr 2010 18:18:13 -0700 (PDT), JIMMIE
>
> <JIMMIEDEE...@YAHOO.COM> wrote:
> > I have a home
> >made 5/8 antenna that consist of a SS whip mounted on a Lucite rod
> >that also serves as a form for the matching coil. Would this work? I
> >have my doubts as it would considerably longer than the original.
>
> Hi Jimmie,
>
> What band was the whip home made for?
>
> 73's
> Richard Clark, KB7QHC

2m

1115. Re: Isopole parts

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 03:58:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0e9tr55deiuiljq2keerjppsvc2u4437sn@4ax.com>
Source record: 10365

On Thu, 8 Apr 2010 20:52:20 -0700 (PDT), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>2m

Should be doable.

73's
Richard Clark, KB7QHC

1116. Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 14:41:09 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <629fcb62-7e51-4c8d-b8c6-01d58b2b8c81@d33g2000vbu.googlegroups.com>
Source record: 10366

A friend of mine planted a bamboo shoot in his side yard, now it is taking over his and his neighbors yards. Told me to cut down all I want. Had planned to use it for bean poles and plant supports, then it occurred to me: quads, moxons, spiderwebs -- this stuff is really strong and stiff. Some canes are 12-16 feet long.

Anybody have experience with bamboo, especially used as semi-permanent end supports for dipoles and inverted vs?

TNX
Paul KB1GEJ

1117. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 15:19:09 UTC
From: Eternal September Newsgroups <NotMe@ThisAddress.Org>
Message-ID: <hpnghf$qa5$1@news.eternal-september.org>
Source record: 10367

<cybrinjn@gmail.com> wrote in message
news:629fcb62-7e51-4c8d-b8c6-01d58b2b8c81@d33g2000vbu.googlegroups.com...
> A friend of mine planted a bamboo shoot in his side yard, now it is
> taking over his and his neighbors yards. Told me to cut down all I
> want. Had planned to use it for bean poles and plant supports, then
> it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> strong and stiff. Some canes are 12-16 feet long.
>
> Anybody have experience with bamboo, especially used as semi-permanent
> end supports for dipoles and inverted vs?
>
> TNX
> Paul KB1GEJ

How long did it take to grow to 12 - 16 feet long? That would be great to
use on a hex beam. How flexible is the bamboo?

1118. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 16:03:34 UTC
From: amdx <amdx@knology.net>
Message-ID: <43fc0$4bbf4fd9$d8baf3b7$14056@KNOLOGY.NET>
Source record: 10368

<cybrinjn@gmail.com> wrote in message
news:629fcb62-7e51-4c8d-b8c6-01d58b2b8c81@d33g2000vbu.googlegroups.com...
>A friend of mine planted a bamboo shoot in his side yard, now it is
> taking over his and his neighbors yards. Told me to cut down all I
> want. Had planned to use it for bean poles and plant supports, then
> it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> strong and stiff. Some canes are 12-16 feet long.
>
> Anybody have experience with bamboo, especially used as semi-permanent
> end supports for dipoles and inverted vs?
>
> TNX
> Paul KB1GEJ

I used some bamboo for a Flag antenna about 10 years ago, I prepped and
applied an epoxy paint to the bamboo and after 5 years I needed to replace
it.
The next time I used fiberglas pipe I got on Ebay.
http://cgi.ebay.com/12-Military-Fiberglass-Mast-Poles-Great-for-Antenna-WOW_W0QQitemZ11051
7469271QQcmdZViewItemQQptZLH_DefaultDomain_0?hash=item19bb5ac057
Here's a picture of the Flag antenna with Fiberglass poles.
http://i395.photobucket.com/albums/pp37/Qmavam/P1010128.jpg
Mike

1119. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 17:25:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <m4GdnTlN4uO8_iLWnZ2dnUVZ_jWdnZ2d@giganews.com>
Source record: 10369

cybrinjn@gmail.com wrote:
> A friend of mine planted a bamboo shoot in his side yard, now it is
> taking over his and his neighbors yards. Told me to cut down all I
> want. Had planned to use it for bean poles and plant supports, then
> it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> strong and stiff. Some canes are 12-16 feet long.
>
> Anybody have experience with bamboo, especially used as semi-permanent
> end supports for dipoles and inverted vs?
>
> TNX
> Paul KB1GEJ

Bamboo used to be very commonly used for quad spreaders. I think the practice was to put spar varnish on them to make them last. I'll bet you could get some tips from an old Handbook, say '70s and earlier.

Roy Lewallen, W7EL

1120. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 19:49:44 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <9009b190-f205-4d6c-80ee-9c14f89c399e@u34g2000yqu.googlegroups.com>
Source record: 10370

On Apr 9, 1:25 pm, Roy Lewallen <w...@eznec.com> wrote:
> cybri...@gmail.com wrote:
> > A friend of mine planted a bamboo shoot in his side yard, now it is
> > taking over his and his neighbors yards. Told me to cut down all I
> > want. Had planned to use it for bean poles and plant supports, then
> > it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> > strong and stiff.   Some canes are 12-16 feet long.
>
> > Anybody have experience with bamboo, especially used as semi-permanent
> > end supports for dipoles and inverted vs?
>
> > TNX
> > Paul KB1GEJ
>
> Bamboo used to be very commonly used for quad spreaders. I think the
> practice was to put spar varnish on them to make them last. I'll bet you
> could get some tips from an old Handbook, say '70s and earlier.
>
> Roy Lewallen, W7EL

Ive built a few antennas using bamboo including a 5/8th CB antenna
that was up for at least 10 years. All did not do so well. Painting
before the wood had a chance to thoroughly cure was a problem as a
matter of fact it was worse than not painting them at all.

Jimmie

1121. IT'S TAX TIME AGAIN KC8QJP TAX SERVICE!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 20:17:01 UTC
From: George Orwell <nobody@mixmaster.it>
Message-ID: <d7218b4f0889a9f8c8d0d5648ad10ac5@mixmaster.it>
Source record: 10371

I AM KC8QJP CRISCO KATHY,TAX SEASON IS ALMOST UPON US. I CAN GET YOU THE BEST
RETURN. IT MIGHT BE A LITTLE BIT ILLEGAL.BUT WHAT THE HECK,THE
GOVERMENT TAKES TO MUCH OF OUR MONEY. BE SURE AND BRING A BIG CAN OF
CRISCO WITH YOU. I WORK BEST ON MY KNEES WHILE SOMEONE SLATHERS MY FAT
ASS WITH CRISCO. BRING A BIG CAN, I HAVE A VERY LARGE ASS.

CALL 419-698-2075 AND ASK FOR KATHY

OR STOP BY WITH THE CRISCO!

322 Burger
Toledo, OH 43605

Il mittente di questo messaggio|The sender address of this
non corrisponde ad un utente |message is not related to a real
reale ma all'indirizzo fittizio|person but to a fake address of an
di un sistema anonimizzatore |anonymous system
Per maggiori informazioni |For more info
https://www.mixmaster.it

1122. IT'S TAX TIME AGAIN KC8QJP TAX SERVICE!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 20:20:44 UTC
From: Nomen Nescio <nobody@dizum.com>
Message-ID: <e14dd218776c08bb79ab69d6ec0775e3@dizum.com>
Source record: 10372

I AM KC8QJP CRISCO KATHY,TAX SEASON IS ALMOST UPON US. I CAN GET YOU THE BEST RETURN. IT MIGHT BE A LITTLE BIT ILLEGAL.BUT WHAT THE HECK,THE GOVERMENT TAKES TO MUCH OF OUR MONEY. BE SURE AND BRING A BIG CAN OF CRISCO WITH YOU. I WORK BEST ON MY KNEES WHILE SOMEONE SLATHERS MY FAT ASS WITH CRISCO. BRING A BIG CAN, I HAVE A VERY LARGE ASS.

CALL 419-698-2075 AND ASK FOR KATHY

OR STOP BY WITH THE CRISCO!

322 Burger
Toledo, OH 43605

1123. IT'S TAX TIME AGAIN KC8QJP TAX SERVICE!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-09 21:53:13 UTC
From: Nomen Nescio <nobody@dizum.com>
Message-ID: <040a1a0c70f9e0fbc0c77343702638a4@dizum.com>
Source record: 10373

I AM KC8QJP CRISCO KATHY,TAX SEASON IS ALMOST UPON US. I CAN GET YOU THE BEST RETURN. IT MIGHT BE A LITTLE BIT ILLEGAL.BUT WHAT THE HECK,THE GOVERMENT TAKES TO MUCH OF OUR MONEY. BE SURE AND BRING A BIG CAN OF CRISCO WITH YOU. I WORK BEST ON MY KNEES WHILE SOMEONE SLATHERS MY FAT ASS WITH CRISCO. BRING A BIG CAN, I HAVE A VERY LARGE ASS.

CALL 419-698-2075 AND ASK FOR KATHY

OR STOP BY WITH THE CRISCO!

322 Burger
Toledo, OH 43605

1124. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-10 00:25:02 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <0ffa71e0-5817-44ef-942d-4392bca4ec36@v20g2000yqv.googlegroups.com>
Source record: 10374

On Apr 9, 11:19 am, "Eternal September Newsgroups"
<No...@ThisAddress.Org> wrote:
> <cybri...@gmail.com> wrote in message
>
> news:629fcb62-7e51-4c8d-b8c6-01d58b2b8c81@d33g2000vbu.googlegroups.com...
>
> > A friend of mine planted a bamboo shoot in his side yard, now it is
> > taking over his and his neighbors yards. Told me to cut down all I
> > want. Had planned to use it for bean poles and plant supports, then
> > it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> > strong and stiff.   Some canes are 12-16 feet long.
>
> > Anybody have experience with bamboo, especially used as semi-permanent
> > end supports for dipoles and inverted vs?
>
> > TNX
> > Paul KB1GEJ
>
> How long did it take to grow to 12 - 16 feet long? That would be great to
> use on a hex beam. How flexible is the bamboo?

Dunno how long it took to grow, but I'm told you can see growth in a
day's time. Bamboo is some kind of giant grass and comes in hundreds
of varieties. It is fairly stiff for the thickness and weight.

1125. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-10 00:25:07 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <2349a78b-6110-4e04-a056-b583930cbb7c@k33g2000yqc.googlegroups.com>
Source record: 10375

On Apr 9, 1:25 pm, Roy Lewallen <w...@eznec.com> wrote:
> cybri...@gmail.com wrote:
> > A friend of mine planted a bamboo shoot in his side yard, now it is
> > taking over his and his neighbors yards. Told me to cut down all I
> > want. Had planned to use it for bean poles and plant supports, then
> > it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> > strong and stiff.   Some canes are 12-16 feet long.
>
> > Anybody have experience with bamboo, especially used as semi-permanent
> > end supports for dipoles and inverted vs?
>
> > TNX
> > Paul KB1GEJ
>
> Bamboo used to be very commonly used for quad spreaders. I think the
> practice was to put spar varnish on them to make them last. I'll bet you
> could get some tips from an old Handbook, say '70s and earlier.
>
> Roy Lewallen, W7EL

Yeah, I was thinking about a 17-15-12-10 quad, or maybe a Moxon. I'm
too fickle about antennae to worry about them rotting! :-)

1126. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-10 14:10:58 UTC
From: kc9pbu <kc9pbu@arrl.net>
Message-ID: <a319bb5c-cfb0-4d70-baec-5bf304ca9c08@w42g2000yqm.googlegroups.com>
Source record: 10376

On Apr 9, 9:41 am, "cybri...@gmail.com" <cybri...@gmail.com> wrote:
> A friend of mine planted a bamboo shoot in his side yard, now it is
> taking over his and his neighbors yards. Told me to cut down all I
> want. Had planned to use it for bean poles and plant supports, then
> it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> strong and stiff.   Some canes are 12-16 feet long.
>
> Anybody have experience with bamboo, especially used as semi-permanent
> end supports for dipoles and inverted vs?
>
> TNX
> Paul KB1GEJ

Bamboo is making a resurgence. Not only might you find ideas in older books, but newer ones as well. ARRL's 2008 "Simple and Fun Antennas for Hams" details the use of bamboo for a wire antenna. On page 16 of Chapter five, the author recommends using "vinyl electrical tape to secure the wire to bamboo to make antenna elements."

In that article they are using it as a mast in an inverted-L wire antenna. I could imagine using bamboo as spreaders for a folded dipole, or as supports for a yagi or loop and just attaching wire to the bamboo to create elements. Using a saw to create a notch in the end of the bamboo would make it great for running wire across the ends.

I wonder what the maximum support length for a piece of bamboo would be? I would also be interested to see if someone knows of a way to jigsaw the pieces properly and maybe use hose clamps to create sections longer than 12 feet.

KC9PBU

Works Cited
Hutchinson, Chuck, and Dean Straw. Simple and Fun Antennas for Hams. N.p.: The
American Radio Relay League, Inc, 2008. Print.

1127. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-10 15:25:54 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hpq5a4$276$1@news.eternal-september.org>
Source record: 10377

<cybrinjn@gmail.com> wrote in message
news:629fcb62-7e51-4c8d-b8c6-01d58b2b8c81@d33g2000vbu.googlegroups.com...
>A friend of mine planted a bamboo shoot in his side yard, now it is
> taking over his and his neighbors yards. Told me to cut down all I
> want. Had planned to use it for bean poles and plant supports, then
> it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> strong and stiff. Some canes are 12-16 feet long.
>
> Anybody have experience with bamboo, especially used as semi-permanent
> end supports for dipoles and inverted vs?
>
> TNX
> Paul KB1GEJ
-
Yep. Years ago CQ magazine had an article about a $4 2 element 15 meter beam made from bamboo. Of course, bamboo fishing poles were about $0.25 each back then. The boom was made from 2 1x2 wood screwed together, and there were 6 foot long 1x2 boards at each end of the boom for element supports.

Aluminum foil was laid out on the ground and the pole was placed on top and wrapped with the foil. Electrical tape wraps between bamboo joints kept it in place. Electrical connections were via hose clamps on the butt ends of the bamboo poles.

The elements were mounted on the boom/cross supports via screw-in supports intended for routing 300 ohm tv cable. Open the eye of the support, and pop out the cable centering insulator, screw it into the boom end supports, put the element in place and crimp down the eye on the element.

Works great, and doesn't look too bad. However, it may not pass the neighborhood popularity test.

1128. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-10 15:46:32 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <a4ac1ba8-459c-44e3-aa04-e50c445fff01@y14g2000yqm.googlegroups.com>
Source record: 10378

On Apr 10, 10:10 am, kc9pbu <kc9...@arrl.net> wrote:

> I would also be interested to see if someone knows of a way to
> jigsaw the pieces properly and maybe use hose clamps to create
> sections longer than 12 feet.

My thought exactly. Maybe some kind of scarf joint or other and hose
clamps. How about multiple (3?) canes with butt/scarf joints
staggered along the length? Dowels maybe?

1129. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-10 16:44:42 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <24af4b7f-8572-4096-9615-944e6cf3745a@v20g2000yqv.googlegroups.com>
Source record: 10379

On Apr 10, 10:10 am, kc9pbu <kc9...@arrl.net> wrote:
> On Apr 9, 9:41 am, "cybri...@gmail.com" <cybri...@gmail.com> wrote:
>
> > A friend of mine planted a bamboo shoot in his side yard, now it is
> > taking over his and his neighbors yards. Told me to cut down all I
> > want. Had planned to use it for bean poles and plant supports, then
> > it occurred to me: quads, moxons, spiderwebs -- this stuff is really
> > strong and stiff.   Some canes are 12-16 feet long.
>
> > Anybody have experience with bamboo, especially used as semi-permanent
> > end supports for dipoles and inverted vs?
>
> > TNX
> > Paul KB1GEJ
>
> Bamboo is making a resurgence. Not only might you find ideas in older
> books, but newer ones as well. ARRL's 2008 "Simple and Fun Antennas
> for Hams" details the use of bamboo for a wire antenna. On page 16 of
> Chapter five, the author recommends using "vinyl electrical tape to
> secure the wire to bamboo to make antenna elements."
>
> In that article they are using it as a mast in an inverted-L wire
> antenna. I could imagine using bamboo as spreaders for a folded
> dipole, or as supports for a yagi or loop and just attaching wire to
> the bamboo to create elements. Using a saw to create a notch in the
> end of the bamboo would make it great for running wire across the
> ends.
>
> I wonder what the maximum support length for a piece of bamboo would
> be? I would also be interested to see if someone knows of a way to
> jigsaw the pieces properly and maybe use hose clamps to create
> sections longer than 12 feet.
>
> KC9PBU
>
> Works Cited
> Hutchinson, Chuck, and Dean Straw. Simple and Fun Antennas for Hams.
> N.p.: The
>   American Radio Relay League, Inc, 2008. Print.

http://www.edinphoto.org.uk/0_MY_P_F/0_my_photographs_hong_kong_-_bamboo_scaffolding_hy17.jpg

Jimmie

1130. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 00:24:05 UTC
From: Gerald Simonowits <jerseyj@superlink.net>
Message-ID: <jerseyj-86BA8F.20240510042010@cpe-76-190-186-198.neo.res.rr.com>
Source record: 10380

In article
<a4ac1ba8-459c-44e3-aa04-e50c445fff01@y14g2000yqm.googlegroups.com>,
"cybrinjn@gmail.com" <cybrinjn@gmail.com> wrote:

> On Apr 10, 10:10 am, kc9pbu <kc9...@arrl.net> wrote:
>
>
>
> > I would also be interested to see if someone knows of a way to
> > jigsaw the pieces properly and maybe use hose clamps to create
> > sections longer than 12 feet.
>
> My thought exactly. Maybe some kind of scarf joint or other and hose
> clamps. How about multiple (3?) canes with butt/scarf joints
> staggered along the length? Dowels maybe?

FYI, bamboo is a weed and grows like all heck!

1131. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 14:00:45 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <78l3s512e6gjhtjurs7jdvlum3kl7lbqoj@4ax.com>
Source record: 10381

>>
>> Bamboo is making a resurgence. Not only might you find ideas in older
>> books, but newer ones as well. ARRL's 2008 "Simple and Fun Antennas
>> for Hams" details the use of bamboo for a wire antenna. On page 16 of
>> Chapter five, the author recommends using "vinyl electrical tape to
>> secure the wire to bamboo to make antenna elements."
>>
>> In that article they are using it as a mast in an inverted-L wire
>> antenna. I could imagine using bamboo as spreaders for a folded
>> dipole, or as supports for a yagi or loop and just attaching wire to
>> the bamboo to create elements. Using a saw to create a notch in the
>> end of the bamboo would make it great for running wire across the
>> ends.
>>
>> I wonder what the maximum support length for a piece of bamboo would
>> be? I would also be interested to see if someone knows of a way to
>> jigsaw the pieces properly and maybe use hose clamps to create
>> sections longer than 12 feet.
>>
>> KC9PBU
>>
>> Works Cited
>> Hutchinson, Chuck, and Dean Straw. Simple and Fun Antennas for Hams.
>> N.p.: The
>> ï¿½ ï¿½ ï¿½American Radio Relay League, Inc, 2008. Print.
>
>http://www.edinphoto.org.uk/0_MY_P_F/0_my_photographs_hong_kong_-_bamboo_scaffolding_hy17
.jpg
>
>Jimmie
Bamboo is a good resource. On the other end of the scale I recall that
Post made a good Slide Rule in the 1950's from Bamboo. I still prefer
my Dietzgen though.

I wonder if it could be cultivated in North Carolina?
John Ferrell W8CCW

1132. moparholic@hotmail.com's pig puke ass wife speaks out about dog sex-has queer

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 15:41:52 UTC
From: George Orwell <nobody@mixmaster.it>
Message-ID: <f89bbcbf192f4b2fd45d004a88f889f1@mixmaster.it>
Source record: 10382

http://nimbusters.org/forum/read.php?board=8&id=138305

Il mittente di questo messaggio|The sender address of this
non corrisponde ad un utente |message is not related to a real
reale ma all'indirizzo fittizio|person but to a fake address of an
di un sistema anonimizzatore |anonymous system
Per maggiori informazioni |For more info
https://www.mixmaster.it

1133. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 15:52:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <irr3s59hnioe98oh1fvlhg3pjasr1rfv94@4ax.com>
Source record: 10383

On Sun, 11 Apr 2010 10:00:45 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>I wonder if it could be cultivated in North Carolina?

Hi John,

More's the problem of getting rid of it if it becomes a nuisance.

It probably will if you pick the wrong specie. Bamboo propagates
(imagine, talking about plants and still being "on topic") through
the roots and those roots quickly propagate far and wide. You either
have to put in deep root barriers, or have neighbors that like a
living fence (which might be another problem through CCRs). Bamboo
generally likes wet (read soggy) soil.

73's
Richard Clark, KB7QHC

1134. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 16:16:25 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hpsskr$371$1@news.eternal-september.org>
Source record: 10384

"John Ferrell" <jferrell13@triad.rr.com> wrote in message
news:78l3s512e6gjhtjurs7jdvlum3kl7lbqoj@4ax.com...
>
>>>
>>> Bamboo is making a resurgence. Not only might you find ideas in older
>>> books, but newer ones as well. ARRL's 2008 "Simple and Fun Antennas
>>> for Hams" details the use of bamboo for a wire antenna. On page 16 of
>>> Chapter five, the author recommends using "vinyl electrical tape to
>>> secure the wire to bamboo to make antenna elements."
>>>
>>> In that article they are using it as a mast in an inverted-L wire
>>> antenna. I could imagine using bamboo as spreaders for a folded
>>> dipole, or as supports for a yagi or loop and just attaching wire to
>>> the bamboo to create elements. Using a saw to create a notch in the
>>> end of the bamboo would make it great for running wire across the
>>> ends.
>>>
>>> I wonder what the maximum support length for a piece of bamboo would
>>> be? I would also be interested to see if someone knows of a way to
>>> jigsaw the pieces properly and maybe use hose clamps to create
>>> sections longer than 12 feet.
>>>
>>> KC9PBU
>>>
>>> Works Cited
>>> Hutchinson, Chuck, and Dean Straw. Simple and Fun Antennas for Hams.
>>> N.p.: The
>>> American Radio Relay League, Inc, 2008. Print.
>>
>>http://www.edinphoto.org.uk/0_MY_P_F/0_my_photographs_hong_kong_-_bamboo_scaffolding_hy1
7.jpg
>>
>>Jimmie
> Bamboo is a good resource. On the other end of the scale I recall that
> Post made a good Slide Rule in the 1950's from Bamboo. I still prefer
> my Dietzgen though.
>
Another Dietzgen head? Probably drink chardonnay also <snort> Post is the
only way to go :)
heh heh
--Wayne

1135. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 16:58:08 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <fbqdnZyT_vnBYlzWnZ2dnUVZ_t2dnZ2d@earthlink.com>
Source record: 10385

"John Ferrell" <jferrell13@triad.rr.com> wrote in message
news:78l3s512e6gjhtjurs7jdvlum3kl7lbqoj@4ax.com...
>
>
> I wonder if it could be cultivated in North Carolina?
> John Ferrell W8CCW

I don't know about cultivated, but in the mid part of NC it will grow like
the weed it is. If planted, you may have trouble getting rid of it.

1136. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 17:05:33 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <03d64f19-278c-4101-9e4f-4bdce3f6cb23@y14g2000yqm.googlegroups.com>
Source record: 10386

On Apr 11, 12:58 pm, "Ralph Mowery" <rmowery28...@earthlink.net>
wrote:
> "John Ferrell" <jferrel...@triad.rr.com> wrote in message
>
> news:78l3s512e6gjhtjurs7jdvlum3kl7lbqoj@4ax.com...
>
>
>
> > I wonder if it could be cultivated in North Carolina?
> > John Ferrell W8CCW
>
> I don't know about cultivated, but in the mid part of NC it will grow like
> the weed it is. If planted, you may have trouble getting rid of it.

might crowd out the kudzu ;^)

1137. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 17:32:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mp14s599cg7u2egc9okpvgvkhe0kjhmsme@4ax.com>
Source record: 10387

On Sun, 11 Apr 2010 09:16:25 -0700, "Wayne" <mygarbagecan@verizon.net>
wrote:

>>>
>>>Jimmie
>> Bamboo is a good resource. On the other end of the scale I recall that
>> Post made a good Slide Rule in the 1950's from Bamboo. I still prefer
>> my Dietzgen though.
>>
>Another Dietzgen head? Probably drink chardonnay also <snort> Post is the
>only way to go :)
>heh heh
>--Wayne

K&E, then later a 5" circular Pickett for use at the bench.

73's
Richard Clark, KB7QHC

1138. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 17:34:31 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <r204s552saq5t1vhrvhl2isvav0mdla3cr@4ax.com>
Source record: 10388

On Sun, 11 Apr 2010 08:52:32 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Sun, 11 Apr 2010 10:00:45 -0400, John Ferrell
><jferrell13@triad.rr.com> wrote:
>
>>I wonder if it could be cultivated in North Carolina?
>
>Hi John,
>
>More's the problem of getting rid of it if it becomes a nuisance.
>
>It probably will if you pick the wrong specie. Bamboo propagates
>(imagine, talking about plants and still being "on topic") through
>the roots and those roots quickly propagate far and wide.

There are two major types of bamboo. Richard's description matches the
running type. The clumping type is not highly invasive and its spread
is easy to control.

>You either
>have to put in deep root barriers, or have neighbors that like a
>living fence (which might be another problem through CCRs). Bamboo
>generally likes wet (read soggy) soil.
>

According to the Maryland Cooperative Extension Service
- quote -
Bamboo grows best in a fertile, well-drained soil rich in organic
matter.
- end quote -

Half inch diameter schedule 40 PVC tubing might be a better choice for
a framework than bamboo canes. Through the years I have built several
multiband VK-parasols using PVC tubing. The Oct 1984 issue of 73
descibes the VK-parasol and provides the appropriate formulas.

1139. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 18:32:42 UTC
From: dplatt@radagast.org
Message-ID: <a7h997-cj9.ln1@radagast.org>
Source record: 10389

In article <78l3s512e6gjhtjurs7jdvlum3kl7lbqoj@4ax.com>,
John Ferrell <jferrell13@triad.rr.com> wrote:

>Bamboo is a good resource. On the other end of the scale I recall that
>Post made a good Slide Rule in the 1950's from Bamboo. I still prefer
>my Dietzgen though.

Yes, those were good rules... although they were actually manufactured
by Hemmi in Japan, and imported and sold here in the U.S. by Post.
The Post Versalog 1460 was one of the best (and best-known) of these
high-end 10" rules.

Dietzgen tended to use mahogany, although they did have a bamboo
version of their high-end "microglide" 1734 rule. The Dietzgen rules
were also very nice... if I recall correctly my good high-school
log-log rule was a Dietzgen.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

1140. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 20:20:50 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <77af4f92-9fe8-42b8-a0d4-90f34250517a@w17g2000yqj.googlegroups.com>
Source record: 10390

On Apr 11, 1:05 pm, "cybri...@gmail.com" <cybri...@gmail.com> wrote:
> On Apr 11, 12:58 pm, "Ralph Mowery" <rmowery28...@earthlink.net>
> wrote:
>
> > "John Ferrell" <jferrel...@triad.rr.com> wrote in message
>
> >news:78l3s512e6gjhtjurs7jdvlum3kl7lbqoj@4ax.com...
>
> > > I wonder if it could be cultivated in North Carolina?
> > > John Ferrell W8CCW
>
> > I don't know about cultivated, but in the mid part of NC it will grow like
> > the weed it is. If planted, you may have trouble getting rid of it.
>
> might crowd out the kudzu ;^)

I always thought that if I got really POed at someone I would plant
kudzu and bamboo in their yard.

Jimmie

1141. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-11 23:46:53 UTC
From: tom <news4792@taring.org>
Message-ID: <4bc25f65$0$638$8046368a@newsreader.iphouse.net>
Source record: 10391

On 4/11/2010 12:32 PM, Richard Clark wrote:
> On Sun, 11 Apr 2010 09:16:25 -0700, "Wayne"<mygarbagecan@verizon.net>
> wrote:
>
>>>>
>>>> Jimmie
>>> Bamboo is a good resource. On the other end of the scale I recall that
>>> Post made a good Slide Rule in the 1950's from Bamboo. I still prefer
>>> my Dietzgen though.
>>>
>> Another Dietzgen head? Probably drink chardonnay also<snort> Post is the
>> only way to go :)
>> heh heh
>> --Wayne
>
> K&E, then later a 5" circular Pickett for use at the bench.
>
> 73's
> Richard Clark, KB7QHC

I compromised with one of each (K&E and Post) and an HP-45.

tom
K0TAR

1142. Saint Justin 9-27-95

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 01:58:23 UTC
From: linfarre@yahoo.com
Message-ID: <e4ac0b09-7050-4d59-bfc6-873f4a1ae018@l37g2000vbd.googlegroups.com>
Source record: 10392

St. Justin says,
"Human life has the power to decide on
decisions available, choosing right over wrong, truth over
untruth. These Words have been spoken before.
Repetitiveness, as man knows, is the best instructor in
the world."

REVELATION DELIVERED THROUGH FRANCES M. KLUG
ON SEPTEMBER 27,1995 AT 2:27 P.M.

SAINT JUSTIN

" I am Saint Justin. Mankind believes in
Christmas, Easter, and when a New Year begins. These
three things I mention, because in many ways they are
celebrated by men, women and children, and in the
celebration there is always much festivity, and much
concern for the very young and for those close to them.
These days I point out are small in number, and yet
important to mankind because mankind makes them
officially important.

All of Us Here in the Heavens, when We speak,
there is a tremendous desire that mankind begin to feel
the importance of every day in life, because each day
has an importance in it that is above and beyond
celebration. It is important, because for every act, for
every thought, for every deed, for every mood, of each
day, a Soul of the individual will be accountable to
God. To some, this statement will not register in its
full impact, but it is important for mankind to begin to
see each day as being a day of responsibility, and a day
that will be accountable to God for every act that was
performed. It is important for mankind to see human
life as the privilege it is, because human life has a
Goal beyond any other goal.

Men, women and children are told to read scripture,
or some form of prayers drawing their attention to God,
or some particular Saint, or even to someone who they
know who has died.

Materialism is most times of the utmost importance
in mankind's thinking or desire to obtain. Many
grievous sins are committed against one's Soul, because
of the manner in which mankind achieves materialistic

values. Also, from little on, some children are taught that education is the most important thing to their welfare, because through education they will be able to strive for higher places; but what is left out many times, is any conversation regarding what the Real Goal of life should be, and that is Sainthood.

At this time throughout the world, there are many forms of religious beliefs, most of them man-made, because through religion, many times, there can be much financial gain, so when an individual, or individuals, feel they have the knowledge, the ability, the personality, to instruct thousands of others on scripture, on believing in themselves, on the importance of learning to spread God's Words, it is sad to see so much diabolical practices thrive in this manner of so-called spiritual beliefs, practices, encouraging more and more and more to become involved.

At the time Our Lord walked the earth, and much of what He spoke was not heard in distant places, the Words were passed on through crowds, and it was difficult for the exactness to be transmitted, sometimes because of the different dialects, sometimes because of the beliefs that the individuals had, sometimes because there was so much interference. That is what is happening today in your time. There is much misinterpretation, much personal manipulation, and many preaching and teaching, because they want attention and, of course, financial gain.

This Miracle has been given to the world, most of which has been written, so that there can be no misinterpretation, no personal gratification, and so that all people reading the Words, no matter what religion they are, it is to instruct mankind on the Importance of their Soul.

It is sad to say, many times, when The Father hands a Precious Gift to the world, It is abused. All of Us Here in the Heavens constantly do all We are able to do, to protect this Miracle in many ways, in many areas. Sometimes when We see someone, or more than one, not just speak out against this Gift of The Father's Love, not just mistreat It, but who diabolically misinterpret It, it is difficult, because Each Word handed to mankind is like a Diamond of great worth, and for these Diamonds to be abused physically, morally, ungraciously, it is a sadness, because All that is given is beyond human ability to give; and also, if all men who were instructed in sound religious factors, truths,

had been doing what they agreed to do, this Miracle would not have been necessary, but satan has so many devious methods to use, and many times will go to the highest places, to either confuse with his hate, his jealousy, or infuse wrong interpretation with his hate and/or jealousy.

I could speak hours on this subject, because it is a subject that mankind should not reject or resist thinking about. It is important for mankind to look to the value of what a Precious Gift human life is, and to see beyond this value, as having a particular place above all other creations The Father has given. Human life has abilities, mentality. Human life has the power to decide on decisions available, choosing right over wrong, truth over untruth. These Words have been spoken before. Repetitiveness, as man knows, is the best instructor in the world.

As mankind learns to repeatedly learn more about The Father's Commandments, mankind can become a great Saint, because the more one learns, the more one applies the good in what they have learned, there are obviously great benefits. Remember this. So be it."

Saint Joseph's Hill Of Hope
Brea, California 92822 U.S.A.
www.TheMiracleOfStJoseph.org
All Revelations are delivered spontaneously and continuously as witnessed by all those present at the time.
© Copyright 1996 FMK. All rights reserved.
This is used with the permission of the copyright holder.

1143. Wire glue...a possible help for using CATV line for amateur applications??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 02:56:43 UTC
From: Dave Smirkenberg <smirk50@rocketmail.com>
Message-ID: <4abc0e55-e669-4249-a1f5-6914d40973da@g11g2000yqe.googlegroups.com>
Source record: 10393

I bought a small jar of a carbon based adhesive called Wire glue on ebay last month. Thought it might be good for PC board projects where you have to solder in really tight spots.

Today while putzing in my attic I came across a roll of about 200 ft of 75 ohm CATV cable that I stashed there when I moved in back in 2002. Well, the reason I never used it for anything in the first place was the hassle involved in attaching reducing adapter like a UG/176-U to the aluminum foil shield. It hit me that this "wire glue" might be a decent way of doing so.

Has anyone had any experience with this stuff? If you are not familiar with the material all you have to do is search for "wire glue" on ebay. I'm curious as to the opinions of many of our esteemed group members.

Thanks,

Dave

1144. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 02:57:07 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <eh15s5ps5e2g19doa5t4pfvrdhs9cq4q6c@4ax.com>
Source record: 10394

On Sun, 11 Apr 2010 10:32:50 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>K&E, then later a 5" circular Pickett for use at the bench.
>Richard Clark, KB7QHC

Agreed. K&E was the best. Part of my collection:
<http://802.11junk.com/jeffl/pics/slide-rule/slides/slide-rule.html>
The yellow slide rule is an aluminum Pickett and Echel "Synchro
Scale". The lower K&E is mahogany laminate.

I never really liked the bamboo or mahogany slide rules. I don't
recall the problem, but when I eventually tried an all plastic K&E, I
declared it the winner. I also couldn't get use to the circular
variety, mostly because it didn't fit in my pocket.

<http://www.sliderule.ca>

I've never built a quad antenna, but my uninformed and never humble
opinion is that fiberglass rod or tubing looks like the best:
<http://www.mgs4u.com/fiberglass-cubical-quad-spreaders.htm>
<http://www.mgs4u.com/fiberglass-tube-rod.htm>
However, if the bamboo is free, then it's a very suitable 2nd best.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1145. Re: Saint Justin 9-27-95

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 03:08:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4bc28e96$0$640$8046368a@newsreader.iphouse.net>
Source record: 10395

On 4/11/2010 8:58 PM, linfarre@yahoo.com wrote:
>
> St. Justin says,
> "Human life has the power to decide on
> decisions available, choosing right over wrong, truth over
> untruth. These Words have been spoken before.
> Repetitiveness, as man knows, is the best instructor in
> the world."
>
> REVELATION DELIVERED THROUGH FRANCES M. KLUG
> ON SEPTEMBER 27,1995 AT 2:27 P.M.
>
> SAINT JUSTIN
>
> " I am Saint Justin. Mankind believes in
> Christmas, Easter, and when a New Year begins. These
> three things I mention, because in many ways they are
> celebrated by men, women and children, and in the
> celebration there is always much festivity, and much
> concern for the very young and for those close to them.
> These days I point out are small in number, and yet
> important to mankind because mankind makes them
> officially important.
>
> All of Us Here in the Heavens, when We speak,
> there is a tremendous desire that mankind begin to feel
> the importance of every day in life, because each day
> has an importance in it that is above and beyond
> celebration. It is important, because for every act, for
> every thought, for every deed, for every mood, of each
> day, a Soul of the individual will be accountable to
> God. To some, this statement will not register in its
> full impact, but it is important for mankind to begin to
> see each day as being a day of responsibility, and a day
> that will be accountable to God for every act that was
> performed. It is important for mankind to see human
> life as the privilege it is, because human life has a
> Goal beyond any other goal.
>
> Men, women and children are told to read scripture,
> or some form of prayers drawing their attention to God,
> or some particular Saint, or even to someone who they
> know who has died.
>

> Materialism is most times of the utmost importance
> in mankind's thinking or desire to obtain. Many
> grievous sins are committed against one's Soul, because
> of the manner in which mankind achieves materialistic
> values. Also, from little on, some children are taught
> that education is the most important thing to their
> welfare, because through education they will be able to
> strive for higher places; but what is left out many times,
> is any conversation regarding what the Real Goal of life
> should be, and that is Sainthood.
>
> At this time throughout the world, there are many
> forms of religious beliefs, most of them man-made,
> because through religion, many times, there can be much
> financial gain, so when an individual, or individuals,
> feel they have the knowledge, the ability, the personality,
> to instruct thousands of others on scripture, on believing
> in themselves, on the importance of learning to spread
> God's Words, it is sad to see so much diabolical
> practices thrive in this manner of so-called spiritual
> beliefs, practices, encouraging more and more and more
> to become involved.
>
> At the time Our Lord walked the earth, and much
> of what He spoke was not heard in distant places, the
> Words were passed on through crowds, and it was
> difficult for the exactness to be transmitted, sometimes
> because of the different dialects, sometimes because of
> the beliefs that the individuals had, sometimes because
> there was so much interference. That is what is
> happening today in your time. There is much
> misinterpretation, much personal manipulation, and many
> preaching and teaching, because they want attention and,
> of course, financial gain.
>
> This Miracle has been given to the world, most
> of which has been written, so that there can be no
> misinterpretation, no personal gratification, and so that
> all people reading the Words, no matter what religion
> they are, it is to instruct mankind on the Importance
> of their Soul.
>
> It is sad to say, many times, when The Father
> hands a Precious Gift to the world, It is abused. All
> of Us Here in the Heavens constantly do all We are
> able to do, to protect this Miracle in many ways, in
> many areas. Sometimes when We see someone, or more
> than one, not just speak out against this Gift of The
> Father's Love, not just mistreat It, but who diabolically
> misinterpret It, it is difficult, because Each Word handed

> to mankind is like a Diamond of great worth, and for
> these Diamonds to be abused physically, morally,
> ungraciously, it is a sadness, because All that is given
> is beyond human ability to give; and also, if all men
> who were instructed in sound religious factors, truths,
> had been doing what they agreed to do, this Miracle
> would not have been necessary, but satan has so many
> devious methods to use, and many times will go to the
> highest places, to either confuse with his hate, his
> jealousy, or infuse wrong interpretation with his hate
> and/or jealousy.
>
> I could speak hours on this subject, because it is
> a subject that mankind should not reject or resist thinking
> about. It is important for mankind to look to the value
> of what a Precious Gift human life is, and to see beyond
> this value, as having a particular place above all other
> creations The Father has given. Human life has abilities,
> mentality. Human life has the power to decide on
> decisions available, choosing right over wrong, truth over
> untruth. These Words have been spoken before.
> Repetitiveness, as man knows, is the best instructor in
> the world.
>
> As mankind learns to repeatedly learn more about
> The Father's Commandments, mankind can become a
> great Saint, because the more one learns, the more one
> applies the good in what they have learned, there are
> obviously great benefits. Remember this. So be it."
>
> Saint Joseph's Hill Of Hope
> Brea, California 92822 U.S.A.
> www.TheMiracleOfStJoseph.org
> All Revelations are delivered spontaneously
> and continuously as witnessed by all those
> present at the time.
> ï¿½ Copyright 1996 FMK. All rights reserved.
> This is used with the permission of the copyright holder.
>
>

A new bleeping bleeping bleeping religious bleeping nutcase arises with
messages just for antenna geeks.

How wonderful.

tom
K0TAR

1146. Re: Wire glue...a possible help for using CATV line for amateur applications??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 03:22:39 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <v345s5h4f4s82k8aeomdmd60bf2unfs0n5@4ax.com>
Source record: 10396

On Sun, 11 Apr 2010 19:56:43 -0700 (PDT), Dave Smirkenberg
<smirk50@rocketmail.com> wrote:

>Today while putzing in my attic I came across a roll of about 200 ft
>of 75 ohm CATV cable that I stashed there when I moved in back in
>2002. Well, the reason I never used it for anything in the first place
>was the hassle involved in attaching reducing adapter like a UG/176-U
>to the aluminum foil shield. It hit me that this "wire glue" might be
>a decent way of doing so.

If the cable is RG-59/u, consider leaving it in the attic until it
rots. If it's RG-6/u, it can be used for ham radio purposes. Instead
of the proposed UG-176/u to PL-259 adapter kludge, just install the
correct compression type F connector on the ends of the RG-6/u and use
adapters to go to PL-259 or whatever. You'll find that the 75 to 50
ohm mismatch loss is rather minimal.
<http://www.qsl.net/n9zia/wireless/75_ohm_hardline.html>

As for the wire glue, due to the lack of a suitable manufacturer and
part number that can be researched, my guess(tm) is that it's much
like "metallic epoxy", which is nothing more than aluminum or graphite
powder mixed into the epoxy. The particles are quite far apart from
each other, resulting in extremely poor conductivity. Since RF likes
to flow on the surface of conductors, such glues are going to have a
fairly high surface resistance, and are therefore useless for RF.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1147. Re: Saint Justin 9-27-95

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 14:08:02 UTC
From: Spamm Trappe <bit-bucket@config.com>
Message-ID: <slrnhs6ack.1n50.bit-bucket@shell.config.com>
Source record: 10397

On Sun, 11 Apr 2010 22:08:10 -0500, tom wrote:
> On 4/11/2010 8:58 PM, linfarre@yahoo.com wrote:
>>
>> St. Justin says,
<--- snip -->
>>
>
> A new bleeping bleeping bleeping religious bleeping nutcase arises with
> messages just for antenna geeks.
>
> How wonderful.

Yet some other bleeping bleeping bleeping nutcase believes it was
important to re-post THE ENIRE FREAKING ~300 LINE PIECE OF DRIVEL!

So wonderful...

1148. Re: Saint Justin 9-27-95

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 19:52:44 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hpvtllrvn1@news.eternal-september.org>
Source record: 10398

linfarre@yahoo.com Inscribed thus:

A load of blithering !
Do us all a favor and post in the religious newsgroups.

--
Best Regards:
Baron.

1149. Magnetic Loop Antenna Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 21:03:25 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <sULwn.133112$Ye4.65386@newsfe11.iad>
Source record: 10399

I am in the process of building a magnetic loop antenna. I have a roll of 1/2 inch
flexible copper tubing. I would like to increase the effective tubing size by silver
soldering a second loop of equal size to the first loop -- point for point. Would
it make any substantial difference if I just tacked the two together at a number
of points, say every 45 degrees or so, or would it be better to solder them
together through the entire circumference?

The loop will be run HF QRP, with a maximum power of five watts,

Thanks in advance for any advice on this matter.

Irv VE6BP

1150. Re: Magnetic Loop Antenna Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 21:31:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <Tt2dnUsZS5aGDF7WnZ2dnUVZ_rCdnZ2d@giganews.com>
Source record: 10400

Irv Finkleman wrote:
> I am in the process of building a magnetic loop antenna. I have a roll of
> 1/2 inch
> flexible copper tubing. I would like to increase the effective tubing size
> by silver
> soldering a second loop of equal size to the first loop -- point for point.
> Would
> it make any substantial difference if I just tacked the two together at a
> number
> of points, say every 45 degrees or so, or would it be better to solder them
> together through the entire circumference?
>
> The loop will be run HF QRP, with a maximum power of five watts,
>
> Thanks in advance for any advice on this matter.
>
> Irv VE6BP

If you're careful to keep them nearly exactly the same length (that is,
put them side by side rather than one inside the other), I think you'll
get by ok by soldering in a few places. I recommend including soldering
at the ends, or near where you make feed or loading component connections.

Roy Lewallen, W7EL

1151. Re: Wire glue...a possible help for using CATV line for amateur applications??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 21:41:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <as-dnaF8abrvDl7WnZ2dnUVZ_g2dnZ2d@giganews.com>
Source record: 10301

Dave Smirkenberg wrote:
> I bought a small jar of a carbon based adhesive called Wire glue on
> ebay last month. Thought it might be good for PC board projects where
> you have to solder in really tight spots.
>
> Today while putzing in my attic I came across a roll of about 200 ft
> of 75 ohm CATV cable that I stashed there when I moved in back in
> 2002. Well, the reason I never used it for anything in the first place
> was the hassle involved in attaching reducing adapter like a UG/176-U
> to the aluminum foil shield. It hit me that this "wire glue" might be
> a decent way of doing so.
>
> Has anyone had any experience with this stuff? If you are not familiar
> with the material all you have to do is search for "wire glue" on
> ebay. I'm curious as to the opinions of many of our esteemed group
> members.
>
> Thanks,
>
> Dave

Having used, and had grief from, the best quality silver and gold conductive epoxies, I'm highly skeptical of this stuff except in the very least demanding of applications. It appears to provide no physical strength to the joint, so any connection would have to be physically strong to begin with -- in which case you've probably already got decent electrical contact and just need to keep air and moisture out of the joint. I'd be surprised if flexing, temperature changes, and any other disturbances didn't cause the already marginal resistance to increase, possibly dramatically. It looks to me like attaching a reducing adapter is very likely to be much less of a hassle in the long run than fooling with this stuff.

Have you considered putting an F or BNC connector on it, then using an adapter as necessary?

Roy Lewallen, W7EL

1152. Re: Magnetic Loop Antenna Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 21:44:04 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <04811e46-2a3c-4793-a229-6f15cb055fd7@x3g2000yqd.googlegroups.com>
Source record: 10302

On 12 abr, 23:03, "Irv Finkleman" <fink...@shaw.ca> wrote:
> I am in the process of building a magnetic loop antenna. I have a roll of
> 1/2 inch
> flexible copper tubing. I would like to increase the effective tubing size
> by silver
> soldering a second loop of equal size to the first loop -- point for point.
> Would
> it make any substantial difference if I just tacked the two together at a
> number
> of points, say every 45 degrees or so, or would it be better to solder them
> together through the entire circumference?
>
> The loop will be run HF QRP, with a maximum power of five watts,
>
> Thanks in advance for any advice on this matter.
>
> Irv VE6BP

Hello Irv,

As Roy also said, when they have the same size (diameter, shape and
length), some points are sufficient (electrically soldering just the
ends is sufficient). Limit the number soldering points to what is
good for mechanical stability.

Use copper or plastic mounting hardware. Resistive materials (steel,
stainless, etc) that are in the field (close to the copper tubing)
reduce efficiency.

Best regards and let your waves hit the sky,

wim
PA3DJS
www.tetech.nl
remove abc first in case of PM.

1153. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 21:50:40 UTC
From: Libra <Libra.609500a@radiobanter.com>
Message-ID: <Libra.609500a@radiobanter.com>
Source record: 10303

Richard Clark;704001 Wrote:
>
> Many have.
>
> 73's
> Richard Clark, KB7QHC

Golly, I hope you didn't hurt yourself going through so much trouble to
be so informative.

I'm certain he now has a much better understanding of phasing and
impedance matching after that exhaustive explanation from such an
obvious bastion of knowledge & information.

Hello Wim,

I was getting the idea he wants to have two full wave loops in parallel
at the feedpoint, one ascending from the lower corner and one decending
from that point but oriented off by 90° in order to make an omni.

I've also wondered about that design. Have you tried this arrangement,
and if so, what feed point impedance did you have?

73

--
Libra

1154. Re: Saint Justin 9-27-95

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-12 23:21:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4bc3aad6$0$633$8046368a@newsreader.iphouse.net>
Source record: 10304

On 4/12/2010 9:08 AM, Spamm Trappe wrote:
> On Sun, 11 Apr 2010 22:08:10 -0500, tom wrote:
>> On 4/11/2010 8:58 PM, linfarre@yahoo.com wrote:
>>>
>>> St. Justin says,
> <--- snip -->
>>>
>>
>> A new bleeping bleeping bleeping religious bleeping nutcase arises with
>> messages just for antenna geeks.
>>
>> How wonderful.
>
> Yet some other bleeping bleeping bleeping nutcase believes it was
> important to re-post THE ENIRE FREAKING ~300 LINE PIECE OF DRIVEL!
>
> So wonderful...

Well, if I was you I'd PLONK me.

tom
K0TAR

1155. Re: Saint Justin 9-27-95

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 00:54:37 UTC
From: tom <news4792@taring.org>
Message-ID: <4bc3c0c4$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10305

On 4/12/2010 9:08 AM, Spamm Trappe wrote:
> On Sun, 11 Apr 2010 22:08:10 -0500, tom wrote:
>> On 4/11/2010 8:58 PM, linfarre@yahoo.com wrote:
>>>
>>> St. Justin says,
> <--- snip -->
>>>
>>
>> A new bleeping bleeping bleeping religious bleeping nutcase arises with
>> messages just for antenna geeks.
>>
>> How wonderful.
>
> Yet some other bleeping bleeping bleeping nutcase believes it was
> important to re-post THE ENIRE FREAKING ~300 LINE PIECE OF DRIVEL!
>
> So wonderful...

BTW Spamm, I was wondering, are you part of the famous von Trappe
family? I'm thinking that you might be, given that no one with any
cojones would hide behind a faked up name.

tom
K0TAR

1156. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 15:08:35 UTC
From: K5EST <walter.k5est@gmail.com>
Message-ID: <23f5d8c2-7569-4750-b086-47a7b595f442@j21g2000yqh.googlegroups.com>
Source record: 10306

On Apr 6, 6:47 pm, WA2SI <wa...@arrl.net> wrote:
> Hello everybody,
>
> I hope everyone had a very Happy Easter. I have a spare 2:1 current
> balun and would like to use it to feed a vertically oriented single-
> band full-wave loop. I began to wonder; Can one feed two vertically
> oriented full-wave loops perpendicular to each other with a common
> feed point? Any opinions? Thanks in advance. As always, take care
> es...
>
> Vy 73 de Bert
> WA2SI

I am taking your question as, 2 vertical loops, both hung from the same skyhook, one broadside north/south, and the other broadside east/west, and fed at the same point.

You get a more omni radiation pattern, but not full omni, there are still lobes. This is much like 2 crossed dipoles (for the same band) in an "X" configuration. Depending on height, you may not need the 2:1 balun. Check your impedance, a coax wound balun for a choke may be all that is necessary.

73....Walter - K5EST

1157. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 16:59:08 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <23fdc1c5-ad1a-46f3-9797-cc4764591c90@h27g2000yqm.googlegroups.com>
Source record: 10307

On Apr 12, 5:50 pm, Libra <Libra.6095...@radiobanter.com> wrote:
> Richard Clark;704001 Wrote:
>
>
>
> > Many have.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Golly, I hope you didn't hurt yourself going through so much trouble to
> be so informative.
>
> I'm certain he now has a much better understanding of phasing and
> impedance matching after that exhaustive explanation from such an
> obvious bastion of knowledge & information.
>
> ---------------------------------------
>
> Hello Wim,
>
> I was getting the idea he wants to have two full wave loops in parallel
> at the feedpoint, one ascending from the lower corner and one decending
> from that point but oriented off by 90° in order to make an omni.
>
> I've also wondered about that design. Have you tried this arrangement,
> and if so, what feed point impedance did you have?
>
> 73
>
> --
> Libra

Ive never seen them connected in parallel but I have seen a relay at
the feed point that allowed you to select N/S or E/W. I think that you
could connect the way the OP mentioned with no big problem as far as
impedance matching goes.

Jimmie

1158. Re: Isopole parts

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 17:08:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <15921cc8-a48c-4173-b44a-c2617e50c3bc@q23g2000yqd.googlegroups.com>
Source record: 10308

On Apr 8, 11:58 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 8 Apr 2010 20:52:20 -0700 (PDT), JIMMIE
>
> <JIMMIEDEE...@YAHOO.COM> wrote:
> >2m
>
> Should be doable.
>
> 73's
> Richard Clark, KB7QHC

Thanks, all I had to do a little tweaking on the matching coil to get a good match using my home brewed 5/8 with the bottom section but all is well.

AEA wasn't joking about wearing gloves and being careful of sharp edges, I got a nasty little cut when I dropped it and tried to catch it.

Jimmie

1159. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 17:36:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ela9s511n0icdig37a78k8ugui24e9hhti@4ax.com>
Source record: 10309

On Tue, 13 Apr 2010 09:59:08 -0700 (PDT), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>Ive never seen them connected in parallel

We have talked about them at length here. What was described is a
quadrifilar helix - without the helix.

As there are so many details of construction are missing, little more
can be said, and our original poster appears to have gotten bored with
the topic.

73's
Richard Clark, KB7QHC

1160. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 17:44:28 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hq2ahs$g81k$1@tr22n12.aset.psu.edu>
Source record: 10310

Jeff Liebermann wrote:

>
> I never really liked the bamboo or mahogany slide rules.

I heard they worked really well for log functions.

- 73 de Mike N3LI -

1161. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 18:23:00 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <ef54d88a-d643-4dd5-989c-04018e22fc2d@z6g2000yqz.googlegroups.com>
Source record: 10311

On 12 abr, 23:50, Libra <Libra.6095...@radiobanter.com> wrote:
> Richard Clark;704001 Wrote:
>
>
>
> > Many have.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Golly, I hope you didn't hurt yourself going through so much trouble to
> be so informative.
>
> I'm certain he now has a much better understanding of phasing and
> impedance matching after that exhaustive explanation from such an
> obvious bastion of knowledge & information.
>
> ---------------------------------------
>
> Hello Wim,
>
> I was getting the idea he wants to have two full wave loops in parallel
> at the feedpoint, one ascending from the lower corner and one decending
> from that point but oriented off by 90° in order to make an omni.
>
> I've also wondered about that design. Have you tried this arrangement,
> and if so, what feed point impedance did you have?
>
> 73
>
> --
> Libra
Hello Libra,

I expected some reply from the original poster to know whether we are thinking in the right direction or not.

When you put them 90 degr. to each other (for example E/W and one N/S), you will not get an omni-pattern. In that case you must make them both off-resonance to get 90 degr phase time shift in generated fields (or use a 90 degr. phase shifter and feed them separately).

I did not try this at HF. If I would make something, my first feeling is to use a relay or other form of switching. This enables me to select the loop with best signal and signal/noise ratio.

Best regards,

Wim
PA3DJS
www.tetech.nl
in case of using PM, remove abc first.

1162. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-13 18:35:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d1e9s59b0aado2uv2dqe7ras1bmm7v7uh6@4ax.com>
Source record: 10312

On Tue, 13 Apr 2010 11:23:00 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>When you put them 90 degr. to each other (for example E/W and one N/
>S), you will not get an omni-pattern. In that case you must make them
>both off-resonance to get 90 degr phase time shift in generated fields
>(or use a 90 degr. phase shifter and feed them separately).
>

Hi Wim,

You can do it with a goniometer. This antenna was first described 103
years ago by Bellini and Tosi.

73's
Richard Clark, KB7QHC

1163. Re: Bamboo as antenna parts and supports

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-14 02:46:20 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <12bas59eabd1b24b80cemjachve597ih89@4ax.com>
Source record: 10313

On Tue, 13 Apr 2010 13:44:28 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>Jeff Liebermann wrote:
>> I never really liked the bamboo or mahogany slide rules.

>I heard they worked really well for log functions.

Yes, and if you plant them in the ground, they grow square roots.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1164. WANTED: VINTAGE MOBILE HF Ham ANTENNAS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-15 20:20:08 UTC
From: Norm VE3CZI <rodemi@cogeco.ca>
Message-ID: <AyKxn.140029$9b5.73312@newsfe01.iad>
Source record: 10314
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.swap

Am looking for Vintage Mobile Antennas that were used in the 1950 - 1970's
Please advise availability, price and pictures.
73...Norm VE3CZI

1165. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 06:26:55 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <1d5222a3-4c20-4ef0-ad2a-3238b53b8eca@c36g2000yqm.googlegroups.com>
Source record: 10315

On Apr 8, 1:13 am, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 7 Apr 2010 20:09:56 -0700 (PDT), Tom Horne <horn...@gmail.com>
> wrote:
>
> >I am interested in having a rapid set up multi-band vertical for Field
> >Day and EMCOMM. If I use the Hy-Gain sixty four foot (64') push up
> >mast as the radiator and an ICOM AH-4 as the automatic antenna tuner
> >is this likely to be an effective approach to having a rapid set up
> >multi band vertical?
>
> Hi Tom,
>
> Yes.
>
> >Will I need radials?
>
> Yes.
>
> >Should they be elevated or
> >can they lie on the ground?
>
> Yes.
>
> >Since the total length of the radiator is
> >less than a 1/4 wave on eighty meters at say 3.6 MHz will that make
> >the antenna ineffective on eighty meters?
>
> No.
>
>
>
> >Second question
> 5th, actually.
> > would four of those sixty four foot masts make an
> >effective forty meter four square.
>
> Yes.
>
> > Yes I realize that it would cost
> >eight hundred dollars for the masts alone before the cost of
> >controller, remote, phasing coax, and control cable. Once again would
> >radials be required for forty meters.
>
> Yes.

>
> >I've only been back in radio for a few years after very long gap so
> >I'm starting over and finding the learning curve a little steeper than
> >I remember.
>
> You are still on the level wit the climb to come. There are a LOT of
> details to make those simple answers work.
>
> 73's
> Richard Clark, KB7QHC

Richard
Please share the rest of the story. If we lay out multi length
radials for the middle of each band, say four of them, and feed the
vertical with the auto tuner would we be able to make it work on
eighty, and forty? When we use a half wave end fed zep in the form of
a J pole on two meters we don't need a counterpoise. If I extend this
mast to a half wave on forty will I still need a counterpoise?
--
Tom Horne, W3TDH

1166. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 06:27:34 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <a0171222-c1f2-4c9b-bcb6-250a41d1da86@x3g2000yqd.googlegroups.com>
Source record: 10316

On Apr 8, 2:16 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Tom Horne wrote:
> > I am interested in having a rapid set up multi-band vertical for Field
> > Day and EMCOMM. If I use the Hy-Gain sixty four foot (64') push up
> > mast as the radiator and an ICOM AH-4 as the automatic antenna tuner
> > is this likely to be an effective approach to having a rapid set up
> > multi band vertical?
>
> Yes..
> You don't need that much height, though.. the loss in radiation
> effectiveness going from 1/4 wavelength (20m long) to 1/8 wavelength
> (10m) isn't all that big a deal. It's when you get down to the 1/20th
> wavelength and the feedpoint Z gets very wild that you have problems
> with loss in the matching network.
>
>   Will I need radials? Should they be elevated or
>
> > can they lie on the ground?
>
> Yes.. you do need radials. Laying on the ground is just fine. Get some
> very flexible stranded insulated wire (the kind with lots of fine
> strands is better.) and figure a way to rapidly throw it out and store
> without tangling. I've thought about spring return reels.
>
> 3 or 4 makes a huge difference over 1 or 2. after that, it's a bit of
> diminishing returns.. You'd be better off just doing what the people who
> do this for a living (rapid deploy HF comms) do.. jack up the Tx power.
>
> BTW, a better approach than a vertical might be a inverted V dipole from
> the top of your 60 foot pole.   MUCH better radiation effectiveness
> because of H polarization..
>
> Since the total length of the radiator is
>
> > less than a 1/4 wave on eighty meters at say 3.6 MHz will that make
> > the antenna ineffective on eighty meters?
>
> Nope.. it's the loss in the tuning network that's the thing to worry
> about.. you could make a lumped matching network to feed with your
> autotuner if you're worried..
>
>
>
> > Second question would four of those sixty four foot masts make an

> > effective forty meter four square. Yes I realize that it would cost
> > eight hundred dollars for the masts alone before the cost of
> > controller, remote, phasing coax, and control cable. Once again would
> > radials be required for forty meters.
>
> Radials are (almost) always required for verticals. even if you don't
> install them, your feedline shield will act as a radial with
> unpredictable and usually undesirable effects.
>
> Running a 4 square with autotuners at each element is VERY difficult (if
> not impossible).. the tuner changes the phase shift, and the interaction
> from the other antennas will screw up the auto adjustment algorithm.
>
>
>
> > I've only been back in radio for a few years after very long gap so
> > I'm starting over and finding the learning curve a little steeper than
> > I remember.
> > --
> > Tom Horne, W3TDH

Jim
I had no intention of running a four square with four auto tuners.
Perhaps I should have put that inquiry into a separate posting for the
sake of clarity. We built a four square for field day two years ago.
Because the masts that we had then were only thirty feet high a kind
of capacitance hat was built into the guy lines. We had very good
performance from that four square until a severe thunderstorm
destroyed it. I was wondering if having sixty four foot masts would
allow us to adjust the height to resonance on forty meters so that the
four masts themselves could serve as the elements of the four square.
Since a half wave at 7150 kHz is nearly sixty seven feet I would have
to add three feet worth of additional tubing in order to get a
resonant half wave antenna. I had thought that half wave verticals
did not require a counterpoise was I misinformed? If a counterpoise
is needed it wouldn't be too hard to throw out four radials for each
mast. I was just looking for a quick way to put up a four square and
these aluminum masts seemed like they might fill the bill.
--
Tom Horne

1167. Re: Saint Justin 9-27-95

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 15:20:19 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <hq9v7kgcp1@speranza.aioe.org>
Source record: 10317

<linfarre@yahoo.com> ha scritto nel messaggio
news:e4ac0b09-7050-4d59-bfc6-873f4a1ae018@l37g2000vbd.googlegroups.com...

>This Miracle has been given to the world

Well, now finally is clear from where comes the Miracle Antenna idea.

-.-. --.-

1168. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 15:30:19 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hq9vqb$fg5a$1@tr22n12.aset.psu.edu>
Source record: 10318

Tom Horne wrote:
> On Apr 8, 2:16 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> Tom Horne wrote:
>>> I am interested in having a rapid set up multi-band vertical for Field
>>> Day and EMCOMM. If I use the Hy-Gain sixty four foot (64') push up
>>> mast as the radiator and an ICOM AH-4 as the automatic antenna tuner
>>> is this likely to be an effective approach to having a rapid set up
>>> multi band vertical?
>> Yes..
>> You don't need that much height, though.. the loss in radiation
>> effectiveness going from 1/4 wavelength (20m long) to 1/8 wavelength
>> (10m) isn't all that big a deal. It's when you get down to the 1/20th
>> wavelength and the feedpoint Z gets very wild that you have problems
>> with loss in the matching network.
>>
>> Will I need radials? Should they be elevated or
>>
>>> can they lie on the ground?
>> Yes.. you do need radials. Laying on the ground is just fine. Get some
>> very flexible stranded insulated wire (the kind with lots of fine
>> strands is better.) and figure a way to rapidly throw it out and store
>> without tangling. I've thought about spring return reels.
>>
>> 3 or 4 makes a huge difference over 1 or 2. after that, it's a bit of
>> diminishing returns.. You'd be better off just doing what the people who
>> do this for a living (rapid deploy HF comms) do.. jack up the Tx power.
>>
>> BTW, a better approach than a vertical might be a inverted V dipole from
>> the top of your 60 foot pole. MUCH better radiation effectiveness
>> because of H polarization..
>>
>> Since the total length of the radiator is
>>
>>> less than a 1/4 wave on eighty meters at say 3.6 MHz will that make
>>> the antenna ineffective on eighty meters?
>> Nope.. it's the loss in the tuning network that's the thing to worry
>> about.. you could make a lumped matching network to feed with your
>> autotuner if you're worried..
>>
>>
>>
>>> Second question would four of those sixty four foot masts make an
>>> effective forty meter four square. Yes I realize that it would cost
>>> eight hundred dollars for the masts alone before the cost of

>>> controller, remote, phasing coax, and control cable. Once again would
>>> radials be required for forty meters.
>> Radials are (almost) always required for verticals. even if you don't
>> install them, your feedline shield will act as a radial with
>> unpredictable and usually undesirable effects.
>>
>> Running a 4 square with autotuners at each element is VERY difficult (if
>> not impossible).. the tuner changes the phase shift, and the interaction
>> from the other antennas will screw up the auto adjustment algorithm.
>>
>>
>>
>>> I've only been back in radio for a few years after very long gap so
>>> I'm starting over and finding the learning curve a little steeper than
>>> I remember.
>>> --
>>> Tom Horne, W3TDH
>
> Jim
> I had no intention of running a four square with four auto tuners.
> Perhaps I should have put that inquiry into a separate posting for the
> sake of clarity. We built a four square for field day two years ago.
> Because the masts that we had then were only thirty feet high a kind
> of capacitance hat was built into the guy lines. We had very good
> performance from that four square until a severe thunderstorm
> destroyed it. I was wondering if having sixty four foot masts would
> allow us to adjust the height to resonance on forty meters so that the
> four masts themselves could serve as the elements of the four square.
> Since a half wave at 7150 kHz is nearly sixty seven feet I would have
> to add three feet worth of additional tubing in order to get a
> resonant half wave antenna. I had thought that half wave verticals
> did not require a counterpoise was I misinformed? If a counterpoise
> is needed it wouldn't be too hard to throw out four radials for each
> mast. I was just looking for a quick way to put up a four square and
> these aluminum masts seemed like they might fill the bill.

Tom, is this a serious exercise here? This is just way too much trouble
for a 40 meter antenna.

Some antennas like the half wave verticals, don't require radials. But
I see a vacillating back and forth between high performance and well,
these verticals, which really aren't High performance.

As for several 64 foot masts, Why not go to one mast and put up a 40
meter beam beam? Add an Amp, and you will rule the air. Although I
wouldn't do that personally, because I would imagine that the idea of
emergency ops is getting set up and running ASAP.

It could be a matter of temperament I guess. You can get most of your
needed performance out of a simple dipole. But if you want to wring the
last drop of performance, I'd have to think the beam would take less

time to set up and perform better than a 4-square. You don't want to finish installing and tuning just at the time they send everyone home.

- 73 de Mike N3LI -

1169. Re: WANTED: VINTAGE MOBILE HF Ham ANTENNAS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 15:31:47 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hq9vt3$fg5a$2@tr22n12.aset.psu.edu>
Source record: 10319
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.swap

Norm VE3CZI wrote:
> Am looking for Vintage Mobile Antennas that were used in the 1950 - 1970's
> Please advise availability, price and pictures.

Hey Norm,

You gotta tell us what you are doing here, sounds like it might be
interesting..

- 73 de Mike N3LI -

1170. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 16:11:44 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hqa280$gc0u$1@tr22n12.aset.psu.edu>
Source record: 10320

Tom Horne wrote:

>
> Richard
> Please share the rest of the story. If we lay out multi length
> radials for the middle of each band, say four of them, and feed the
> vertical with the auto tuner would we be able to make it work on
> eighty, and forty?

You'll need to have some loads on the vertical also.

> When we use a half wave end fed zep in the form of
> a J pole on two meters we don't need a counterpoise. If I extend this
> mast to a half wave on forty will I still need a counterpoise?

That will be one interesting antenna.

Is there some reason that you are fixing on a vertical?

- 73 de Mike N3LI -

1171. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 17:19:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r16hs59vkq4h6jg2flmo4prsj110n34def@4ax.com>
Source record: 10321

On Thu, 15 Apr 2010 23:26:55 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>Richard
>Please share the rest of the story. If we lay out multi length
>radials for the middle of each band, say four of them, and feed the
>vertical with the auto tuner would we be able to make it work on
>eighty, and forty? When we use a half wave end fed zep in the form of
>a J pole on two meters we don't need a counterpoise. If I extend this
>mast to a half wave on forty will I still need a counterpoise?

Hi Tom,

Thanx for something more specific that we can get our teeth into.

If you lay out radials that are tuned, such as you suggest, then you
wouldn't need an autotuner. There is, of course, the state of tune in
the radiator that needs to be accounted for, and I suppose the
autotuner would be put to work in that regard.

If so, then you are putting too much effort into the tune of the
radials. On the third hand, it doesn't hurt in the overall effort.

If you are going to have an autotuner (is this at the base of the
radiator, or back in the shack?); then there is a simpler and probably
more efficient use of the radial wire.

Over the years, the topic of how many and how long of radials with a
horizontal has had so many variables that the discussion ran to
examining the trivial instead of being useful. The useful advice is
to lay down as many radials as you can, but with a couple to three
dozen being a comfortable upper limit instead of the classic 120.
Their length should be equal to the radiator's height.

This doesn't make for a "tuned" vertical (except, perhaps, on some
frequency that probably is not in a Ham band if the height of the
antenna is ad-hoc); but it will be as efficient as is practicable. You
will still have to tune it. You will still suffer transmission line
loss related to the SWR exhibited at the feedpoint. It can be
unmanageable if its dimension approaches half-wave. Some of these
negatives can be managed by tuning the feedpoint with matching and
this is why I asked where the autotuner was located.

You anticipate the half-wave in your last question. The classical
answer there is no, you won't need a standard ground treatment. But
if you don't have some thing there, then tuning may become a chore
because the radiator, whatever its length, is always HALF of the

system. The radials typically are thought of as the other half. If you don't have any, your transmission line will take up that function in one way or another, and often to your annoyance.

As for the JPole discussion. Many who crow about their being simple tunes and there being no problems with matching, some are simply experiencing the transmission line being brought both into the tune and the radiation. The second part of that equation lengthens the overall radiator and sends the signal skyward. Yes, it tuned up fine, but you then have a deaf antenna - suitable for the local repeater, but so is an elevated rubber ducky.

73's
Richard Clark, KB7QHC

1172. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 18:15:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9p9hs5ppv3fro2m8jck05bo3i18q6ijaaj@4ax.com>
Source record: 10322

On Fri, 16 Apr 2010 10:19:40 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>Over the years, the topic of how many and how long of radials with a
>horizontal has had so many variables that the discussion ran to
>examining the trivial instead of being useful.

Somehow, that didn't come out right.

The number and length of radials is, of course, confined to the
discussion of a vertical antenna.

The number of variables in this relates to frequency, match,
efficiency, loss (which at first blush the last two "seem" to be about
the same thing), and (incorrectly) launch angle.

Another point that occurred to me: The notion of a tuned radial, and
it laying on the ground is an exercise in futility. The proximity of
ground is going to seriously detune the radial which will mock your
effort. Tuned radials are more a property of elevated verticals. Some
commercial verticals which come with tuned radials, or where you will
be expected to supply them, have a tacit expectation of your also
mounting the antenna some appreciable distance above ground.

73's
Richard Clark, KB7QHC

1173. Re: HY-Gain Trap Orientation th5mk2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 19:57:53 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <42906f91-6354-4af6-b8d9-3c7863aa4006@r27g2000yqn.googlegroups.com>
Source record: 10323

On Apr 8, 6:00 pm, Chuck Forsberg WA7KGX N2469R <c...@omen.com> wrote:
> I am installing a used Hy-Gain th5mk2 tribander.
> A previous owner added screws on some of the elements at the
> boom to element clamp and between element sections.
> This is not mentioned in the manual.
>
> Unfortunately whoever added the screws forgot to make sure
> the trap assembly drain holes point down. They are up to
> 20 or so degrees from straight down. Is this good enough
> or would it be better to remove the screws so the traps can
> be adjusted with the drain holes down?

Previous probably lived in a desert without rain/snow. If twere mine,I would disassemble and set the traps so the holes are at the bottom when the antenna is installed.

Most probably the antenna was on a tilting tower and was assembled with the tower that way. Holes were down at that time! If you are going to use screws again, the correct method is to drill the outside tube, deburr it, assemble the way you want it, and then use an ice pick or similar to punch a starting hole in the inner tubing and then run the screw in. Much better holding power. If a pilot hole is drilled in both tubes, together, wind vibration will enlarge the hole and work the screw loose.

Paul, KD7HB

1174. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-16 23:16:24 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hqar48$5c2$1@news.jpl.nasa.gov>
Source record: 10324

Tom Horne wrote:

> Jim
> I had no intention of running a four square with four auto tuners.
> Perhaps I should have put that inquiry into a separate posting for the
> sake of clarity. We built a four square for field day two years ago.
> Because the masts that we had then were only thirty feet high a kind
> of capacitance hat was built into the guy lines. We had very good
> performance from that four square until a severe thunderstorm
> destroyed it. I was wondering if having sixty four foot masts would
> allow us to adjust the height to resonance on forty meters so that the
> four masts themselves could serve as the elements of the four square.
> Since a half wave at 7150 kHz is nearly sixty seven feet I would have
> to add three feet worth of additional tubing in order to get a
> resonant half wave antenna. I had thought that half wave verticals
> did not require a counterpoise was I misinformed? If a counterpoise
> is needed it wouldn't be too hard to throw out four radials for each
> mast. I was just looking for a quick way to put up a four square and
> these aluminum masts seemed like they might fill the bill.
> --
> Tom Horne

If you put the feedpoint in the middle of the antenna and run the coax up the middle of the bottom, and have a really good choke, it might work. (basically, an elevated half wave dipole) There was such an antenna scheme for a 4 square in one of the ARRL antenna compendiums (I think they were doing it for 160m, and had a matching network (mostly inductance) at the feedpoint to deal with the "electrically short" radiator.

Making it actually work is another story entirely. You've got to have a pretty good choke, or the feedline starts to be a big part of the system, and since it's laying on the ground, it's a pretty lossy part of the system. The bottom half of the antenna is closer to the ground than the top half, so there's those effects too.

SO, even if you sat at the bottom of the antenna with your antenna tuning meter and carefully adjusted the matching network at the feed to get 50 ohms, I don't know that when you set it all up, the phasing will be right.

It might be close enough.. but the odds of not getting as good a F/B as you want (e.g. null depth) are pretty good. The phasing isn't so critical for forward gain (you can be tens of degrees off and not lose much in forward gain, but that will completely kill your 10dB null)

But just feeding the end of a 1/2 wave wire sticking in the air is asking for difficulties. Your coax is nominally 50 ohm sort of impedance, and you'd be end feeding a dipole at a high Z point (a thousand ohms, maybe).

1175. W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 01:10:05 UTC
From: walt <walt@w2du.com>
Message-ID: <ff574e73-6c94-46ea-94e6-3c4a21a5e5fd@r27g2000yqn.googlegroups.com>
Source record: 10325

To order a copy of the 3rd edition of Reflections, authored by Walter Maxwell, W2DU, go to the W2DU website at www.w2du.com, then go to page 2 and click on the following:

Order Reflections III from CQ Online BookStore

Walt, W2DU

1176. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 02:01:44 UTC
From: walt <walt@w2du.com>
Message-ID: <5726bbf7-dad3-4888-aa62-3b3e979f406a@y17g2000yqd.googlegroups.com>
Source record: 10326

On Apr 16, 8:10 pm, walt <w...@w2du.com> wrote:
> To order a copy of the 3rd edition of Reflections, authored by Walter
> Maxwell, W2DU, go to the W2DU website atwww.w2du.com, then go to page
> 2 and click on the following:
>
>   Order Reflections III from CQ Online BookStore
>
> Walt, W2DU

Additional info: On page one of W2DU's web page, to order the 3rd
edition of Reflections III,click on: "Click here to order Reflections
III"

A significant discount is available if order is placed before 5/10/10.

Walt, W2DU

1177. paypal wholesale Basketball Shoes (paypal payment)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 08:58:24 UTC
From: fdeww <dfdfefdahjsdf@163.com>
Message-ID: <23ef133d-2344-4eae-93cb-5fd2cfc1b2db@v20g2000yqv.googlegroups.com>
Source record: 10327
Cross-posted to: rec.radio.amateur.antenna,rec.birds

paypal wholesale Basketball Shoes (paypal payment)
((http://www.brandtrade10.com))

1178. Re: WANTED: VINTAGE MOBILE HF Ham ANTENNAS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 11:54:03 UTC
From: kludge@panix.com
Message-ID: <hqc7gr$i9q$1@panix2.panix.com>
Source record: 10328
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.swap

Norm VE3CZI <rodemi@cogeco.ca> wrote:
>Am looking for Vintage Mobile Antennas that were used in the 1950 - 1970's
>Please advise availability, price and pictures.

Two points:

1. The ARRL Mobile Manual had a bunch of homebrew antenna projects, some built from parts and some built from military surplus bits and pieces. Back then, a _lot_ of hams were running homebrew antennae.

2. There are a lot of military surplus mobile antennae available from Fair Radio Sales, and again that stuff was a lot more popular back in the fifties and sixties than purpose-built ham antennae.
--scott

--
"C'est un Nagra. C'est suisse, et tres, tres precis."

1179. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 12:06:42 UTC
From: WA2SI <wa2si@arrl.net>
Message-ID: <3fbf66fd-d064-4766-932b-ec7a72caf63d@r27g2000yqn.googlegroups.com>
Source record: 10329

On Apr 13, 1:36 pm, Richard Clark <kb7...@comcast.net> wrote:
> As there are so many details of construction are missing, little more
> can be said, and our original poster appears to have gotten bored with
> the topic.
>
> 73's
> Richard Clark, KB7QHC

Hello agn, everybody:

My apologies to you all. No, I have not gotten bored with this topic.
My job has rotating schedules as well as mandatory overtime.
Unfortunately, when one gets "stuck" for o/t, it's usually for an
entire extra 8-1/2 tour. When I finally get home, (A nice hike, btw!)
I either attend to my familial obligations or just crash. I did manage
to work a 5R8 station on the bottom of 80 so all was not lost - hihi.

I was thinking of making use of some unused space on my 50' fiberglass
mast by mounting a 2:1 balun and having two 10m vertically polarized
delta loops sharing the same feed points, specifically the
aforementioned balun. Yes, the goal is a single band, quiet and
physically unobtrusive single-band omni-directional. (Or at least
somewhat omni-directional without being a cloudburner.) Visualize, if
you will, two wire Christmas tree shaped wire loops, 90 degrees from
one another, fed at the center of their bottom legs up abt 30'.

Some might say, "why not just mount a vertical?" Well, I have the 2:1
balun and I figured that the loop would be much quieter.

Thanks so much for all your responses and have a safe and wonderful
weekend. Take care es...

Vy 73 de Bert,
WA2SI

1180. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 14:53:15 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <6243feba-e95c-4e9e-ad34-28731e1cd841@y14g2000yqm.googlegroups.com>
Source record: 10330

On Apr 17, 8:06 am, WA2SI <wa...@arrl.net> wrote:
> On Apr 13, 1:36 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > As there are so many details of construction are missing, little more
> > can be said, and our original poster appears to have gotten bored with
> > the topic.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hello agn, everybody:
>
> My apologies to you all. No, I have not gotten bored with this topic.
> My job has rotating schedules as well as mandatory overtime.
> Unfortunately, when one gets "stuck" for o/t, it's usually for an
> entire extra 8-1/2 tour. When I finally get home, (A nice hike, btw!)
> I either attend to my familial obligations or just crash. I did manage
> to work a 5R8 station on the bottom of 80 so all was not lost - hihi.
>
> I was thinking of making use of some unused space on my 50' fiberglass
> mast by mounting a 2:1 balun and having two 10m vertically polarized
> delta loops sharing the same feed points, specifically the
> aforementioned balun. Yes, the goal is a single band, quiet and
> physically unobtrusive single-band omni-directional. (Or at least
> somewhat omni-directional without being a cloudburner.) Visualize, if
> you will, two wire Christmas tree shaped wire loops, 90 degrees from
> one another, fed at the center of their bottom legs up abt 30'.
>
> Some might say, "why not just mount a vertical?" Well, I have the 2:1
> balun and I figured that the loop would be much quieter.
>
> Thanks so much for all your responses and have a safe and wonderful
> weekend. Take care es...
>
> Vy 73 de Bert,
> WA2SI

I ran a single loop like you are talking about on 10M and had to use a
75 ohm 1/4 wl transformer to match the approximately 100 ohm impedance
of the loop.

I would think the two antennas mounted at right angles to each other
should be a pretty good match for 50 ohms.

Jimmie

1181. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 14:53:28 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <eb55c917-0f78-44de-b16f-35a623dcc755@11g2000yqr.googlegroups.com>
Source record: 10331

On Apr 17, 8:06 am, WA2SI <wa...@arrl.net> wrote:
> On Apr 13, 1:36 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > As there are so many details of construction are missing, little more
> > can be said, and our original poster appears to have gotten bored with
> > the topic.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hello agn, everybody:
>
> My apologies to you all. No, I have not gotten bored with this topic.
> My job has rotating schedules as well as mandatory overtime.
> Unfortunately, when one gets "stuck" for o/t, it's usually for an
> entire extra 8-1/2 tour. When I finally get home, (A nice hike, btw!)
> I either attend to my familial obligations or just crash. I did manage
> to work a 5R8 station on the bottom of 80 so all was not lost - hihi.
>
> I was thinking of making use of some unused space on my 50' fiberglass
> mast by mounting a 2:1 balun and having two 10m vertically polarized
> delta loops sharing the same feed points, specifically the
> aforementioned balun. Yes, the goal is a single band, quiet and
> physically unobtrusive single-band omni-directional. (Or at least
> somewhat omni-directional without being a cloudburner.) Visualize, if
> you will, two wire Christmas tree shaped wire loops, 90 degrees from
> one another, fed at the center of their bottom legs up abt 30'.
>
> Some might say, "why not just mount a vertical?" Well, I have the 2:1
> balun and I figured that the loop would be much quieter.
>
> Thanks so much for all your responses and have a safe and wonderful
> weekend. Take care es...
>
> Vy 73 de Bert,
> WA2SI

I ran a single loop like you are talking about on 10M and had to use a
75 ohm 1/4 wl transformer to match the approximately 100 ohm impedance
of the loop.

I would think the two antennas mounted at right angles to each other
should be a pretty good match for 50 ohms.

Jimmie

1182. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-17 15:53:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <orljs5t1h5u42596vir9rp60i6vbbimvfn@4ax.com>
Source record: 10332

On Sat, 17 Apr 2010 05:06:42 -0700 (PDT), WA2SI <wa2si@arrl.net>
wrote:

> Visualize, if
>you will, two wire Christmas tree shaped wire loops, 90 degrees from
>one another, fed at the center of their bottom legs up abt 30'.

Hi Bert,

This is the design of Bellini and Tosi of 105 years ago. They fed it
through a goniometer so they could steer the beam angle. At the time
they were unconcerned with load Z as you could tune the final and
drive to accomodate that.

>Some might say, "why not just mount a vertical?" Well, I have the 2:1
>balun and I figured that the loop would be much quieter.

I'm not sure how you have come up with, or plan to come up with a 2:1
BalUn - not very common, and construction details may ruin
expectations for performance.

As for "quieter," that is a very common myth = t'ain't so.

As for other details, you only roughly describe the length of wire
involved (in only one dimension) and you say nothing of frequency -
except by inference in the 80M band. Such details impact Z
considerably if you want someone to supply you with that
characteristic.

73's
Richard Clark, KB7QHC

1183. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 00:31:18 UTC
From: Tad Danley <tdanley@nospamatsuddenlink.net>
Message-ID: <4bca52d5$0$12436$bbae4d71@news.suddenlink.net>
Source record: 10333

walt wrote:
> To order a copy of the 3rd edition of Reflections, authored by Walter
> Maxwell, W2DU, go to the W2DU website at www.w2du.com, then go to page
> 2 and click on the following:
>
> Order Reflections III from CQ Online BookStore

Excellent! Congratulations and thank you, Walt!

73,

Tad Danley, K3TD
EM10dq

1184. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 00:59:56 UTC
From: tom <news4792@taring.org>
Message-ID: <4bca597c$0$50146$8046368a@newsreader.iphouse.net>
Source record: 10334

On 4/16/2010 8:10 PM, walt wrote:
> To order a copy of the 3rd edition of Reflections, authored by Walter
> Maxwell, W2DU, go to the W2DU website at www.w2du.com, then go to page
> 2 and click on the following:
>
> Order Reflections III from CQ Online BookStore
>
> Walt, W2DU
>

Ordered mine.

Didn't see any discounts, unless the discount was just included
transparently.

tom
K0TAR

1185. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 01:22:47 UTC
From: WA2SI <wa2si@arrl.net>
Message-ID: <f152d253-30c5-438b-ab09-b5d4ade13ed0@u32g2000vbc.googlegroups.com>
Source record: 10335

On Apr 17, 11:53 am, Richard Clark <kb7...@comcast.net> wrote:
> I'm not sure how you have come up with, or plan to come up with a 2:1
> BalUn - not very common, and construction details may ruin
> expectations for performance.

I already have the 2:1 BalUn on hand. It is a Balun Designs offering.
The link is supplied below.

http://www.balundesigns.com/servlet/the-2-dsh-1-Baluns/Categories

> As for "quieter," that is a very common myth = t'ain't so.

Drats! I suppose I'll just have to hope for the best.

> As for other details, you only roughly describe the length of wire
> involved (in only one dimension) and you say nothing of frequency -
> except by inference in the 80M band. Such details impact Z
> considerably if you want someone to supply you with that
> characteristic.

I want this to be a 10m semi-omnidirectional antenna. (Clover leaf
pattern I'd guess. Omni enough fo me.) My reference to 80m was just a
passing statement re. my schedule. Take care es...

Vy 73 de Bert
WA2SI

1186. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 03:31:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <spuks5p34ug00tvldf0vnje89c5nphpgfi@4ax.com>
Source record: 10336

On Sat, 17 Apr 2010 18:22:47 -0700 (PDT), WA2SI <wa2si@arrl.net>
wrote:

>I want this to be a 10m semi-omnidirectional antenna. (Clover leaf
>pattern I'd guess. Omni enough fo me.)

Hi Bert,

Sounds like more than 1 wavelength of wire in the loop(s) then - no
matter, except this has a significant effect on drive Z. Look at
Jimmie's comment.

If you want to try something truly exotic, a steerable beam a la
Bellini and Tosi, then google their names with goniometer (an item you
can homebrew with some slight effort). The Adcock antenna is a
variation on this them (but without the goniometer).

http://g1inf.blogspot.com/
offers enough information to launch this idea. You will note the
EXACT antenna shape you described.

73's
Richard Clark, KB7QHC

1187. CB amplifier ratouts go on on ebay. You cb fairies know it too! CRY MOTHERFUCKERS!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 03:42:36 UTC
From: nobody@mopeyzakween.com
Message-ID: <3e1a95dacebb0da9ed89ef50a8f26b8c@msgid.frell.theremailer.net>
Source record: 10337
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

www.mopeyzwifesuxdogcocx.com

1188. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 06:24:05 UTC
From: nm5k@wt.net
Message-ID: <2ef88307-76c2-4382-8860-6a3d3ce92e81@c21g2000yqk.googlegroups.com>
Source record: 10338

On Apr 17, 7:06 am, WA2SI <wa...@arrl.net> wrote:

> Yes, the goal is a single band, quiet and
> physically unobtrusive single-band omni-directional. (Or at least
> somewhat omni-directional without being a cloudburner.) Visualize, if
> you will, two wire Christmas tree shaped wire loops, 90 degrees from
> one another, fed at the center of their bottom legs up abt 30'.

If I'm understanding this, what you are proposing would actually be
horizontally polarized, not vertical.
I imagine the triangle shape distorts things, but in general if you
feed a loop at either the top or the bottom, it will be horizontal.
You want to feed from one of the sides for it to be vertical.
Which calls for a square for most people..
Actually, what you want to build is very common. Most refer
to them as an "eggbeater". The usual method of feeding the
elements is 90 degrees out of phase if I remember right.
That gives the most omnidirectional pattern.

>
> Some might say, "why not just mount a vertical?" Well, I have the 2:1
> balun and I figured that the loop would be much quieter.

As Richard mentioned, this is fiction. All antennas receive noise.
How much you receive depends on the polarity of the antenna, the
noise source, and the efficiency of the system. It's quite possible
for
the horizontal antenna to receive the most noise if the noise is
radiated from a horizontal source. It's possible for an antenna to be
very "quiet" if it's very inefficient. Actually, if I notice an
antenna that is
too "quiet" I start to wonder what the heck is wrong with it.. :/
Noisy is good. Maybe not the noise itself, but that you receive it
well is good. You don't want it any other way, unless maybe you
are a proponent of the Unwintennas which tend to be air cooled
dummy loads.. :(

A good elevated vertical is actually a very good 10m antenna.
It's good for DX, but it's also good for space wave coverage to
locals.

1189. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 16:03:23 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hqfagc$c2b$1@news.eternal-september.org>
Source record: 10339

"walt" <walt@w2du.com> wrote in message
news:ff574e73-6c94-46ea-94e6-3c4a21a5e5fd@r27g2000yqn.googlegroups.com...
> To order a copy of the 3rd edition of Reflections, authored by Walter
> Maxwell, W2DU, go to the W2DU website at www.w2du.com, then go to page
> 2 and click on the following:
>
> Order Reflections III from CQ Online BookStore
>
> Walt, W2DU
>
Done. Thanks for the heads up, and congrats to you Walt.
--Wayne
W5GIE

1190. Re: Cophasing Two Full-Wave Loops?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 16:04:10 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <53f214a7-76dd-458c-8392-e2e6b6faa78e@c36g2000yqm.googlegroups.com>
Source record: 10340

On 17 abr, 14:06, WA2SI <wa...@arrl.net> wrote:
> On Apr 13, 1:36 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > As there are so many details of construction are missing, little more
> > can be said, and our original poster appears to have gotten bored with
> > the topic.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hello agn, everybody:
>
> My apologies to you all. No, I have not gotten bored with this topic.
> My job has rotating schedules as well as mandatory overtime.
> Unfortunately, when one gets "stuck" for o/t, it's usually for an
> entire extra 8-1/2 tour. When I finally get home, (A nice hike, btw!)
> I either attend to my familial obligations or just crash. I did manage
> to work a 5R8 station on the bottom of 80 so all was not lost - hihi.
>
> I was thinking of making use of some unused space on my 50' fiberglass
> mast by mounting a 2:1 balun and having two 10m vertically polarized
> delta loops sharing the same feed points, specifically the
> aforementioned balun. Yes, the goal is a single band, quiet and
> physically unobtrusive single-band omni-directional. (Or at least
> somewhat omni-directional without being a cloudburner.) Visualize, if
> you will, two wire Christmas tree shaped wire loops, 90 degrees from
> one another, fed at the center of their bottom legs up abt 30'.
>
> Some might say, "why not just mount a vertical?" Well, I have the 2:1
> balun and I figured that the loop would be much quieter.
>
> Thanks so much for all your responses and have a safe and wonderful
> weekend. Take care es...
>
> Vy 73 de Bert,
> WA2SI

Hello Bert,

When it is quieter and isn't a dummy load, it is more or less a
cloudburner. The reason for more noise is mostly caused by less
elevation of the main lobe due to the interference from the ground
reflection. This is what you want for line-of-sight and DX.

The vertical is a good option for sky wave and line-of-sight. When you make it electrically a half wave, requirements for ground are very limited. The only disadvantage is the matching section as the impedance at half wave resonance is rather high (up to 1 kOhm for thin conductors). When you run high power, you have to evaluate your construction for corona discharge.

Maybe you can use parts from CB antennas.

Best regards,

Wim
PA3DJS
www.tetech.nl
in case of PM, please don't forget to remove abc

1191. Killer 6 meter wire antenna QRZ

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 19:39:03 UTC
From: Anne Onime <anonymous@rip.ax.lt>
Message-ID: <3d6d95d949ec421dc587052f84a649cc@rip.ax.lt>
Source record: 10341

http://forums.qrz.com/showthread.php?t=36738

1192. Killer 6 meter wire antenna QRZ

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 22:00:38 UTC
From: Anonymous <cripto@ecn.org>
Message-ID: <20100418220038.CFEB41A7AC0@www.ecn.org>
Source record: 10342

http://forums.qrz.com/showthread.php?t=36738

1193. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 22:48:03 UTC
From: Edwin Johnson <edwinljohnson@bellsouth.net>
Message-ID: <D_Lyn.13524$Db6.1619@newsfe05.iad>
Source record: 10343

On 2010-04-18, tom <news4792@taring.org> wrote:
> Ordered mine.
>
> Didn't see any discounts, unless the discount was just included
> transparently.

Free shipping if ordered before May 10 or some date like that. Ordered mine
also. Kudos to Walt for getting this out.

73 ...Edwin, KD5ZLB
--

_____
"Once you have flown, you will walk the earth with your eyes
turned skyward, for there you have been, there you long to
return."-da Vinci http://bellsouthpwp2.net/e/d/edwinljohnson

1194. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-18 23:08:47 UTC
From: tom <news4792@taring.org>
Message-ID: <4bcb90fd$0$636$8046368a@newsreader.iphouse.net>
Source record: 10344

On 4/18/2010 5:48 PM, Edwin Johnson wrote:
> On 2010-04-18, tom<news4792@taring.org> wrote:
>> Ordered mine.
>>
>> Didn't see any discounts, unless the discount was just included
>> transparently.
>
> Free shipping if ordered before May 10 or some date like that. Ordered mine
> also. Kudos to Walt for getting this out.
>
> 73 ...Edwin, KD5ZLB

That must be it, I checked my order confirmation and have free shipping.

tom
K0TAR

1195. what mopehole-lick lovez to stikk up da puppiez azz!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 02:07:44 UTC
From: Anonymous <nobody@remailer.paranoici.org>
Message-ID: <7f684ffe677778a1cc2f5ec828c6335b@remailer.paranoici.org>
Source record: 10345
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

http://tinypic.com/r/2hmmq0p/5

1196. TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 02:34:54 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <c99a50ef-8682-4349-b747-5b7232f287be@v14g2000yqb.googlegroups.com>
Source record: 10346

I'm considering building the bow-tie TV antenna at:

http://uhfhdtvantenna.blogspot.com/

It appears to cover the UHF range, but I also need reception on the lower 200MHz VHF range for the lower channels.

How can I combine the UHF bow-tie antenna with a folded dipole or other lower frequency element so the antenna covers the entire TV range from channel 2 to 62?

-Bill

1197. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 06:04:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8fsns5lsr6mv17lmpvnrgm1jd4o8k5neu3@4ax.com>
Source record: 10347

On Sun, 18 Apr 2010 19:34:54 -0700 (PDT), Bill Bowden
<wrongaddress@att.net> wrote:

>How can I combine the UHF bow-tie antenna with a folded dipole or
>other lower frequency element so the antenna covers the entire TV
>range from channel 2 to 62?
>
>-Bill

Hi Bill,

If you want to dance all the dances, you have to pay the piper.

Having one design that works should motivate you to scale a second one
to the lower bands. The piper's price is that the second one will be
that much larger than the first.

73's
Richard Clark, KB7QHC

1198. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 07:51:04 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>
Source record: 10348

On Sun, 18 Apr 2010 19:34:54 -0700 (PDT), Bill Bowden
<wrongaddress@att.net> wrote:

>I'm considering building the bow-tie TV antenna at:
>
>http://uhfhdtvantenna.blogspot.com/

Also see:
<http://www.digitalhome.ca/ota/superantenna/>
<http://www.digitalhome.ca/ota/superantenna/design.htm>

>It appears to cover the UHF range, but I also need reception on the
>lower 200MHz VHF range for the lower channels.
>
>How can I combine the UHF bow-tie antenna with a folded dipole or
>other lower frequency element so the antenna covers the entire TV
>range from channel 2 to 62?

With a diplexer. That's a high pass filter for the UHF frequencies,
and a low pass filter for the VHF frequencies. You can place the two
antennas anywhere, combine them at the diplexer where convenient, and
run a single coax cable to the TV.

<http://www.antennasdirect.com/antenna_combiner.html>
I'm sure there are more (but I'm having problems finding any).

You can also use an ordinary TV splitter to do the same thing.
However, you'll incur about a -1dB loss for each port.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1199. Re: WANTED: VINTAGE MOBILE HF Ham ANTENNAS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 14:55:40 UTC
From: Norm VE3CZI <rodemi@cogeco.ca>
Message-ID: <Z9_yn.60348$vC3.8214@newsfe04.iad>
Source record: 10349
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.swap

Appreciate all the replies received, direct and via the group.
I got my license in 1960 at age of 15. Everyone has a tendency to "collect" something..my interest in mobile antennas goes away back.
Operating HF Mobile is one of the greatest thrills I know of, including QRP!
The Magic of Radio still prevails !

Now that I'm retired, I can obtain some of these antennas and compare them with on the air evaluation..Not quite an Antenna shootout, but my own evaluation.

Doubt that I can sell them to Newer Hams when I'm ready to dispose of them, so will likely donate them to a local Radio Museum where the youth can see that many mobile antennas were not Screwdriver Antennas.

73...Norm VE3CZI

"Norm VE3CZI" <rodemi@cogeco.ca> wrote in message
news:AyKxn.140029$9b5.73312@newsfe01.iad...
> Am looking for Vintage Mobile Antennas that were used in the 1950 - 1970's
> Please advise availability, price and pictures.
> 73...Norm VE3CZI
>
>
>
>
>

1200. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 16:50:59 UTC
From: David <barett@blueyonder.co.uk>
Message-ID: <NR%yn.157855$Vh1.89574@newsfe15.ams2>
Source record: 10350

Hi all

I took down the antenna and I could not find any fault with it. I decided to move the antenna down the bottom of my garden @ 20ft off the ground and hay presto. Every thing is working 100%. All my hiss is gone. I can only think that it must have been caused by some thing very near to my house.

Thanks all

I'm now a happy chappy.

73
"David" <barett@blueyonder.co.uk> wrote in message
news:0l_tn.614812$DL1.413515@newsfe25.ams2...
>
> "Owen Duffy" <none@no.where> wrote in message
> news:Xns9D4FB706C596Dnonenowhere@61.9.191.5...
>> "David" <barett@blueyonder.co.uk> wrote in news:Wpitn.580013$DL1.346763
>> @newsfe25.ams2:
>>
>>> The one that I have used is the acetic acid cured silicone.
>>
>> Then it is corrosive on aluminium. The galvanic currents created may be
>> causing or contributing to your noise problem.
>>
>> I would be removing the stuff, difficult as it is to do, but if it is in
>> contact with metal, it is not suited to your application.
>>
>> Owen
>
> Ok Owen. I will remove it as soon as I get the time to bring it back down
> to ground level.
>
> Thanks
>
>

1201. Re: Cushcraft MA5B Noise floor?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 17:06:09 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hqi2h8$q9k$2@news.eternal-september.org>
Source record: 10201

David Inscribed thus:

> Hi all
>
> I took down the antenna and I could not find any fault with it. I
> decided to move the antenna down the bottom of my garden @ 20ft off
> the ground and hay presto. Every thing is working 100%. All my hiss is
> gone. I can only think that it must have been caused by some thing
> very near to my house.
>
> Thanks all
>
> I'm now a happy chappy.
>
> 73
> "David" <barett@blueyonder.co.uk> wrote in message
> news:0l_tn.614812$DL1.413515@newsfe25.ams2...
>>
>> "Owen Duffy" <none@no.where> wrote in message
>> news:Xns9D4FB706C596Dnonenowhere@61.9.191.5...
>>> "David" <barett@blueyonder.co.uk> wrote in
>>> news:Wpitn.580013$DL1.346763 @newsfe25.ams2:
>>>
>>>> The one that I have used is the acetic acid cured silicone.
>>>
>>> Then it is corrosive on aluminium. The galvanic currents created may
>>> be causing or contributing to your noise problem.
>>>
>>> I would be removing the stuff, difficult as it is to do, but if it
>>> is in contact with metal, it is not suited to your application.
>>>
>>> Owen
>>
>> Ok Owen. I will remove it as soon as I get the time to bring it back
>> down to ground level.
>>
>> Thanks

Its surprising how much noise and interference is generated by or in our
own home.

--
Best Regards:
Baron.

1202. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-19 20:56:42 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <hSgEuxMKOMzLFwKk@g3ohx.demon.co.uk>
Source record: 10202

In message <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>, Jeff Liebermann
<jeffl@cruzio.com> writes
>On Sun, 18 Apr 2010 19:34:54 -0700 (PDT), Bill Bowden
><wrongaddress@att.net> wrote:
>
>>I'm considering building the bow-tie TV antenna at:
>>
>>http://uhfhdtvantenna.blogspot.com/
>
>Also see:
><http://www.digitalhome.ca/ota/superantenna/>
><http://www.digitalhome.ca/ota/superantenna/design.htm>
>
>>It appears to cover the UHF range, but I also need reception on the
>>lower 200MHz VHF range for the lower channels.
>>
>>How can I combine the UHF bow-tie antenna with a folded dipole or
>>other lower frequency element so the antenna covers the entire TV
>>range from channel 2 to 62?
>
>With a diplexer. That's a high pass filter for the UHF frequencies,
>and a low pass filter for the VHF frequencies. You can place the two
>antennas anywhere, combine them at the diplexer where convenient, and
>run a single coax cable to the TV.
>
><http://www.antennasdirect.com/antenna_combiner.html>
>I'm sure there are more (but I'm having problems finding any).
>
>You can also use an ordinary TV splitter to do the same thing.
>However, you'll incur about a -1dB loss for each port.
>
Don't use an 'ordinary TV splitter' (wideband) to combine two antennas.
The results can be very unpredictable. [The loss, by the way, will be
typically 3.5 to 4dB, but that's not the problem.] Definitely use a
proper diplexer.
--
Ian

1203. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 00:00:02 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <72b54bbe-885e-4684-b970-60540745aff5@m38g2000vbr.googlegroups.com>
Source record: 10203

On Apr 18, 11:04 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 18 Apr 2010 19:34:54 -0700 (PDT), Bill Bowden
>
> <wrongaddr...@att.net> wrote:
> >How can I combine the UHF bow-tie antenna with a folded dipole or
> >other lower frequency element so the antenna covers the entire TV
> >range from channel 2 to 62?
>
> >-Bill
>
> Hi Bill,
>
> If you want to dance all the dances, you have to pay the piper.
>
> Having one design that works should motivate you to scale a second one
> to the lower bands. The piper's price is that the second one will be
> that much larger than the first.
>
> 73's
> Richard Clark, KB7QHC

The lower band is much narrower, so I figured a folded dipole would be easier to add, rather than another larger broadband bow-tie. And both the bow-tie and folded dipole impedances are around 300 ohms. But if I put the two in parallel the impedance goes to 150 ohms, which doesn't match the coax using one of those little transformers (300 to 75 ohm). So, I was just wondering how to keep the thing loaded for max power transfer? If I use high and low pass filters, does that keep the thing in balance?

-Bill

1204. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 06:37:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dmiqs51g3niv64088leag4v89locnp2a1u@4ax.com>
Source record: 10204

On Mon, 19 Apr 2010 17:00:02 -0700 (PDT), Bill Bowden
<wrongaddress@att.net> wrote:

>So, I was just wondering how to keep the thing loaded for max power
>transfer?

Hi Bill,

There's every chance that it doesn't matter.

A folded dipole is not in and of itself widebanded in the sense of
your needs, and matching Z is not the end-all-be-all. More problems
come from a lack of directivity, but in this era of DTV even ghosts
can be digitally compensated for.

Consider the virtues of a fan dipole. If you want to force a Z match
through folding, make it a folded fan dipole.

73's
Richard Clark, KB7QHC

1205. Re: gte kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 07:19:23 UTC
From: kb9rqz <Kd8ctl.Kb9rqz@yahoo.com>
Message-ID: <c1676cb4-0137-4998-ac61-d5adaf77ee52@i12g2000vba.googlegroups.com>
Source record: 10205
Cross-posted to: rec.radio.cb,alt.usenet.kooks,alt.tasteless,rec.radio.amateur.policy,rec.radio.amateur.antenna

On Apr 18, 9:07 pm, Anonymous <nob...@remailer.paranoici.org> wrote:
> http://tinypic.com/r/2hmmq0p/5

wel at least I know what it's like to lick my excrement off another
mans
genitals.

1206. Re: gte kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 07:21:30 UTC
From: kb9rqz <Kd8ctl.Kb9rqz@yahoo.com>
Message-ID: <672ff265-5eec-46b3-a6c5-4a9618c26873@t17g2000vbk.googlegroups.com>
Source record: 10206
Cross-posted to: alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna,rec.ponds,rec.radio.amateur.policy

On Apr 17, 10:42 pm, nob...@mopeyzakween.com wrote:
> www.mopeyzwifesuxdogcocx.com

wel at least I know what it's like to lick my excrement off another
mans
genitals.

1207. Re: WANTED: VINTAGE MOBILE HF Ham ANTENNAS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 13:23:55 UTC
From: John <jrefme@bellsouth.net>
Message-ID: <e136f15d-4a04-4bb0-bfb3-feb8f1689280@l24g2000vbn.googlegroups.com>
Source record: 10207
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.boatanchors,rec.radio.swap

On Apr 15, 4:20 pm, "Norm VE3CZI" <rod...@cogeco.ca> wrote:
> Am looking for Vintage Mobile Antennas that were used in the 1950 - 1970's
> Please advise availability, price and pictures.
> 73...Norm VE3CZI

I HAVE A WEBSTER BANDSPANNER MOBILE ANTENNA BUT HAVEN'T USE IT FOR
MANY YEARS.
LAST TIME I USED IT WAS ON 75 AND 40 MTRS MOBILE WITH HEATHKIT SB104A
AND HAD MANY
CONTACTS ON EAST COAST. HAVE NO IDEA WHAT WOULD BE A REASONABLE SALE
PRICE.
HAVE NO NEED FOR IT NOW AS I AM AN OLD CODGER IN BAD HEALTH AND COULD
USE THE MONEY
TO PAY FOR LAST FOUR OPERATIONS. DON'T EXPECT TO BE HERE A LOT LONGER
AS ALL OPERATIONS
WERE ON HEART AND PAD AND NOW BLEEDING IN STOMACH FROM BLEEDING VEINS.
HAVE BEEN A HAM FOR OVER FIFTY YEARS, AND NOW HAVE MY OLD CALLSIGN
BACK THREE YEARS
AGO. K4ZYF, JOHN EVERHART , GREENVILLE SC

1208. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 16:08:28 UTC
From: Frank <frank@spamfree.telus.net>
Message-ID: <0kkzn.2367$Z6.2248@edtnps82>
Source record: 10208

>> Free shipping if ordered before May 10 or some date like that. Ordered
>> mine
>> also. Kudos to Walt for getting this out.
>>
>> 73 ...Edwin, KD5ZLB
>
> That must be it, I checked my order confirmation and have free shipping.
>
> tom
> K0TAR

I even got free shipping to Canada.

Frank (VE6CB)

1209. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 16:14:32 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <qujrs5512bslnnistroi2o6g0obud2qsvc@4ax.com>
Source record: 10209

On Mon, 19 Apr 2010 21:56:42 +0100, Ian Jackson
<ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:

>In message <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>, Jeff Liebermann
><jeffl@cruzio.com> writes
>>You can also use an ordinary TV splitter to do the same thing.
>>However, you'll incur about a -1dB loss for each port.

>Don't use an 'ordinary TV splitter' (wideband) to combine two antennas.
>The results can be very unpredictable. [The loss, by the way, will be
>typically 3.5 to 4dB, but that's not the problem.] Definitely use a
>proper diplexer.

Gotcha. If the TV splitter were used with a transmitter, where the
common port is driving two loads, the power will divide equally
between the two loads, resulting in a 3dB loss (minus about 0.5 to
1.0dB internal loss), as you describe. However, in receive, in the
other direction, the splitter isolates the two antennas from each
other by about 20dB. All the power is delivered to the common port
(minus about 0.5 to 1.0dB internal loss). Admittedly, the losses in a
proper diplexer are perhaps 1dB less than a splitter, but for a
receive only TV system, that's acceptable.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1210. get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 16:31:46 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <c3b39b85-fac8-4fb6-bef1-59c9040088ab@v8g2000vbh.googlegroups.com>
Source record: 10210
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

On Apr 17, 11:42 pm, nob...@mopeyzakween.com wrote:
> www.mopeyzwifesuxdogcocx.com

1211. get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 16:32:02 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <30bbc981-a34c-482b-a174-4e46c32506ee@22g2000vbg.googlegroups.com>
Source record: 10211
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

On Apr 18, 10:07 pm, Anonymous <nob...@remailer.paranoici.org> wrote:
> http://tinypic.com/r/2hmmq0p/5

1212. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 16:45:47 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <PTMfuSM7odzLFwe+@g3ohx.demon.co.uk>
Source record: 10212

In message <qujrs5512bslnnistroi2o6g0obud2qsvc@4ax.com>, Jeff Liebermann
<jeffl@cruzio.com> writes
>On Mon, 19 Apr 2010 21:56:42 +0100, Ian Jackson
><ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>
>>In message <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>, Jeff Liebermann
>><jeffl@cruzio.com> writes
>>>You can also use an ordinary TV splitter to do the same thing.
>>>However, you'll incur about a -1dB loss for each port.
>
>>Don't use an 'ordinary TV splitter' (wideband) to combine two antennas.
>>The results can be very unpredictable. [The loss, by the way, will be
>>typically 3.5 to 4dB, but that's not the problem.] Definitely use a
>>proper diplexer.
>
>Gotcha. If the TV splitter were used with a transmitter, where the
>common port is driving two loads, the power will divide equally
>between the two loads, resulting in a 3dB loss (minus about 0.5 to
>1.0dB internal loss), as you describe. However, in receive, in the
>other direction, the splitter isolates the two antennas from each
>other by about 20dB. All the power is delivered to the common port
>(minus about 0.5 to 1.0dB internal loss). Admittedly, the losses in a
>proper diplexer are perhaps 1dB less than a splitter, but for a
>receive only TV system, that's acceptable.
>
There are some dual-band or dual-frequency antenna designs where the two
feeders are connected in parallel at a specific distance from the
antenna, or where the active elements have a common feed point. However,
this only can be done if the antenna system is specifically designed to
operate like this. For general DIY, to avoid a good chance of being
disappointed, it is far safer to use a proper diplexer.
--
Ian

1213. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 17:01:35 UTC
From: Jeff <Jeff@bertsysems.com>
Message-ID: <hqkmlf$k8i$1@speranza.aioe.org>
Source record: 10213

Ian Jackson wrote:
> In message <qujrs5512bslnnistroi2o6g0obud2qsvc@4ax.com>, Jeff Liebermann
> <jeffl@cruzio.com> writes
>> On Mon, 19 Apr 2010 21:56:42 +0100, Ian Jackson
>> <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>>
>>> In message <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>, Jeff Liebermann
>>> <jeffl@cruzio.com> writes
>>>> You can also use an ordinary TV splitter to do the same thing.
>>>> However, you'll incur about a -1dB loss for each port.
>>
>>> Don't use an 'ordinary TV splitter' (wideband) to combine two antennas.
>>> The results can be very unpredictable. [The loss, by the way, will be
>>> typically 3.5 to 4dB, but that's not the problem.] Definitely use a
>>> proper diplexer.
>>
>> Gotcha. If the TV splitter were used with a transmitter, where the
>> common port is driving two loads, the power will divide equally
>> between the two loads, resulting in a 3dB loss (minus about 0.5 to
>> 1.0dB internal loss), as you describe. However, in receive, in the
>> other direction, the splitter isolates the two antennas from each
>> other by about 20dB. All the power is delivered to the common port
>> (minus about 0.5 to 1.0dB internal loss). Admittedly, the losses in a
>> proper diplexer are perhaps 1dB less than a splitter, but for a
>> receive only TV system, that's acceptable.
>>

Not really a "Gotcha", many tv spitters are resistive with 3 or even 6dB
of real loss.

73
Jeff

1214. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 17:12:18 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <g4WdnbSohOPIfVDWnZ2dnUVZ_gWdnZ2d@giganews.com>
Source record: 10214

Bill Bowden wrote:
>
> The lower band is much narrower, so I figured a folded dipole would be
> easier to add, rather than another larger broadband bow-tie. And both
> the bow-tie and folded dipole impedances are around 300 ohms. But if I
> put the two in parallel the impedance goes to 150 ohms, which doesn't
> match the coax using one of those little transformers (300 to 75 ohm).
> So, I was just wondering how to keep the thing loaded for max power
> transfer? If I use high and low pass filters, does that keep the thing
> in balance?
>
> -Bill

The VHF band covers a 4:1 frequency range, split into about 1.6:1 range for the low VHF (channels 2 - 6) and 1.24:1 for the high VHF (channels 7 - 13). No simple antenna will have anything like a constant impedance over this range, so you're going to have a considerable mismatch on some channels no matter what you do. The good news, though, is that the mismatch loss won't exceed 3 dB until the SWR goes over 5:1. And unless you're in a really fringe area, you can probably tolerate quite a high loss. (At my QTH, I've had to add an attenuator pad to prevent signals from overloading the TV.)

A trick often used for VHF TV antennas is to size the antenna for the low VHF channels, but bend the element ends 30 degrees to form a broad vee shape. The antenna functions as an approximately 3/2 wave antenna with moderately good impedance at the high VHF channels, and the bending aligns the lobes to maintain a bidirectional rather than multi-lobed pattern at the higher channels. The bending has a minimal effect on the impedance and pattern on the lower channels. This trick works well for a 40/15 meter antenna, by the way.

Roy Lewallen, W7EL

1215. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 17:27:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <khors596dlcjfrapv0f1vuorfia5un2mvh@4ax.com>
Source record: 10215

On Tue, 20 Apr 2010 18:01:35 +0100, Jeff <Jeff@bertsysems.com> wrote:

>Not really a "Gotcha", many tv spitters are resistive with 3 or even 6dB
>of real loss.

Hi All,

As a sidebar, the design described is sometimes a precision splitter/combiner/attenuator. As odd as it may seem, such designs are very stable over considerable spans of frequency when premium components and good layout are taken into consideration. I would peg their loss higher with at least 10dB, however. For TV applications, that 3dB loss would be a minimum.

73's
Richard Clark, KB7QHC

1216. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 18:44:27 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <2SQBu1ALYfzLFw5y@g3ohx.demon.co.uk>
Source record: 10219

In message <hqkmlf$k8i$1@speranza.aioe.org>, Jeff <Jeff@bertsysems.com>
writes
>Ian Jackson wrote:
>> In message <qujrs5512bslnnistroi2o6g0obud2qsvc@4ax.com>, Jeff
>>Liebermann <jeffl@cruzio.com> writes
>>> On Mon, 19 Apr 2010 21:56:42 +0100, Ian Jackson
>>> <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>>>
>>>> In message <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>, Jeff Liebermann
>>>> <jeffl@cruzio.com> writes
>>>>> You can also use an ordinary TV splitter to do the same thing.
>>>>> However, you'll incur about a -1dB loss for each port.
>>>
>>>> Don't use an 'ordinary TV splitter' (wideband) to combine two antennas.
>>>> The results can be very unpredictable. [The loss, by the way, will be
>>>> typically 3.5 to 4dB, but that's not the problem.] Definitely use a
>>>> proper diplexer.
>>>
>>> Gotcha. If the TV splitter were used with a transmitter, where the
>>> common port is driving two loads, the power will divide equally
>>> between the two loads, resulting in a 3dB loss (minus about 0.5 to
>>> 1.0dB internal loss), as you describe. However, in receive, in the
>>> other direction, the splitter isolates the two antennas from each
>>> other by about 20dB. All the power is delivered to the common port
>>> (minus about 0.5 to 1.0dB internal loss). Admittedly, the losses in a
>>> proper diplexer are perhaps 1dB less than a splitter, but for a
>>> receive only TV system, that's acceptable.
>>>
>
>Not really a "Gotcha", many tv spitters are resistive with 3 or even
>6dB of real loss.
>
Only a 'transformer' splitter can have a through-loss of 3dB.

Actually, it is theoretically 'lossless'. The 3dB loss isn't a loss at
all. It's 3dB because the power is split into two equal paths. In
practice, there is some real through loss - typically 0.5dB at 50MHz,
rising to over 1.5dB at 900MHz, so the measured through-loss will be 3.5
- 4.5dB.

A two-way resistive splitter has usually consists of a star of nominally
25 ohm resistors (usually 24 or 27 ohms). Like the transformer splitter,
all three ports are correctly matched (when the other two are also
correctly terminated. The through-loss is a theoretical 6dB (as opposed
to the 3dB of the transformer splitter). 3dB is the power split, and 3dB

is lost in the resistors.

The practical loss is usually also 6db and, if you use the correct type of resistors, this is maintained to 900MHz. In fact, because of stray capacitive coupling across the resistors, the loss may actually decrease. Of course, the isolation between outputs is only 6dB (the same as the through-loss). The resistive splitter must be considered 'cheap and cheerful' compared with the transformer version. However, it does have its uses.

There are some 'economy' versions of the resistive splitter, which are simply 'Y' splitters, where there is a nominal 37.5 ohm resistor (typically 33 or 39 ohms) between the input and each output. The through-loss is lower, at around 4.5dB, but only the input is matched. There is no isolation between the outputs.
--
Ian

1217. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 19:09:54 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <mktrs5ptcbi5ku2tdvhp5djrpmp01kk3v3@4ax.com>
Source record: 10217

On Tue, 20 Apr 2010 17:45:47 +0100, Ian Jackson
<ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:

>In message <qujrs5512bslnnistroi2o6g0obud2qsvc@4ax.com>, Jeff Liebermann
><jeffl@cruzio.com> writes
>>On Mon, 19 Apr 2010 21:56:42 +0100, Ian Jackson
>><ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>>
>>>In message <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>, Jeff Liebermann
>>><jeffl@cruzio.com> writes
>>>>You can also use an ordinary TV splitter to do the same thing.
>>>>However, you'll incur about a -1dB loss for each port.
>>
>>>Don't use an 'ordinary TV splitter' (wideband) to combine two antennas.
>>>The results can be very unpredictable. [The loss, by the way, will be
>>>typically 3.5 to 4dB, but that's not the problem.] Definitely use a
>>>proper diplexer.
>>
>>Gotcha. If the TV splitter were used with a transmitter, where the
>>common port is driving two loads, the power will divide equally
>>between the two loads, resulting in a 3dB loss (minus about 0.5 to
>>1.0dB internal loss), as you describe. However, in receive, in the
>>other direction, the splitter isolates the two antennas from each
>>other by about 20dB. All the power is delivered to the common port
>>(minus about 0.5 to 1.0dB internal loss). Admittedly, the losses in a
>>proper diplexer are perhaps 1dB less than a splitter, but for a
>>receive only TV system, that's acceptable.

>There are some dual-band or dual-frequency antenna designs where the two
>feeders are connected in parallel at a specific distance from the
>antenna, or where the active elements have a common feed point. However,
>this only can be done if the antenna system is specifically designed to
>operate like this. For general DIY, to avoid a good chance of being
>disappointed, it is far safer to use a proper diplexer.

Just about all the VHF/UHF TV Yagi antennas are like that. Some
examples:
<http://www.hdtvprimer.com/ANTENNAS/comparing.html>
<http://www.hdtvprimer.com/SIMS/>

However, I'm talking about how the splitter/combiner operates.
Ignoring internal losses, going into the common port, the power
divides equally between the two output ports for a -3dB theoretical
loss per port. However, going into either port, does NOT divide the
power between the other antenna port and the common port. It all goes

to the common port, with no loss (other than internal losses). In receive, this loss is not your stated -3.5 to -4dB, but more like -1dB. The labeling on the typical splitter shows the -3.5dB loss per port, which is correct for a signal going into the common port (acting as a splitter). See specifications at:
<http://www.channelmasterstore.com/ProductDetails.asp?ProductCode=CM-3212&Show=TechSpecs>
It's NOT correct for the other direction (acting as a combiner), which is the manner I'm suggesting the OP combine two antennas.

However, there's an additional problem. Because the two antennas can both pickup some signal from a given station, there's no way to predict what will happen when the signals both meet at the splitter/combiner. Most likely the pattern and gain will be affected depending on the relative signal strengths. If this is a problem, then a diplexer should be used.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1218. Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 19:37:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d6ea0bf4-7bb4-4089-9c88-9d2d9e8d1387@s7g2000vbk.googlegroups.com>
Source record: 10216

What happens when two paralleled transmission lines are of different lengths? How does one analyze such a problem? For instance, what impedance is seen at the source when a 30 foot run of 450 ohm ladder-line is paralleled with a 20 foot run of the same line when the common load is 100+j200 ohms? Will EZNEC handle such a problem? What if the two different length paralleled transmission lines are not the same VF and/or not the same Z0? Does superposition work for such a problem?
--
tnx & 73, Cecil, w5dxp.com

1219. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 20:20:25 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <eNQ7p9AJygzLFwNS@g3ohx.demon.co.uk>
Source record: 10218

In message <mktrs5ptcbi5ku2tdvhp5djrpmp01kk3v3@4ax.com>, Jeff Liebermann
<jeffl@cruzio.com> writes
>On Tue, 20 Apr 2010 17:45:47 +0100, Ian Jackson
><ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>
>>In message <qujrs5512bslnnistroi2o6g0obud2qsvc@4ax.com>, Jeff Liebermann
>><jeffl@cruzio.com> writes
>>>On Mon, 19 Apr 2010 21:56:42 +0100, Ian Jackson
>>><ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>>>
>>>>In message <3q1os5hbdjnfmesi062b23kqcf14umrfj4@4ax.com>, Jeff Liebermann
>>>><jeffl@cruzio.com> writes
>>>>You can also use an ordinary TV splitter to do the same thing.
>>>>However, you'll incur about a -1dB loss for each port.
>>>
>>>Don't use an 'ordinary TV splitter' (wideband) to combine two antennas.
>>>The results can be very unpredictable. [The loss, by the way, will be
>>>typically 3.5 to 4dB, but that's not the problem.] Definitely use a
>>>proper diplexer.
>>>
>>>Gotcha. If the TV splitter were used with a transmitter, where the
>>>common port is driving two loads, the power will divide equally
>>>between the two loads, resulting in a 3dB loss (minus about 0.5 to
>>>1.0dB internal loss), as you describe. However, in receive, in the
>>>other direction, the splitter isolates the two antennas from each
>>>other by about 20dB. All the power is delivered to the common port
>>>(minus about 0.5 to 1.0dB internal loss). Admittedly, the losses in a
>>>proper diplexer are perhaps 1dB less than a splitter, but for a
>>>receive only TV system, that's acceptable.
>
>>There are some dual-band or dual-frequency antenna designs where the two
>>feeders are connected in parallel at a specific distance from the
>>antenna, or where the active elements have a common feed point. However,
>>this only can be done if the antenna system is specifically designed to
>>operate like this. For general DIY, to avoid a good chance of being
>>disappointed, it is far safer to use a proper diplexer.
>
>Just about all the VHF/UHF TV Yagi antennas are like that. Some
>examples:
><http://www.hdtvprimer.com/ANTENNAS/comparing.html>
><http://www.hdtvprimer.com/SIMS/>
>
>However, I'm talking about how the splitter/combiner operates.
>Ignoring internal losses, going into the common port, the power

>divides equally between the two output ports for a -3dB theoretical
>loss per port. However, going into either port, does NOT divide the
>power between the other antenna port and the common port. It all goes
>to the common port, with no loss (other than internal losses). In
>receive, this loss is not your stated -3.5 to -4dB, but more like
>-1dB. The labeling on the typical splitter shows the -3.5dB loss per
>port, which is correct for a signal going into the common port (acting
>as a splitter). See specifications at:
><http://www.channelmasterstore.com/ProductDetails.asp?ProductCode=CM-321
>2&Show=TechSpecs>
>It's NOT correct for the other direction (acting as a combiner), which
>is the manner I'm suggesting the OP combine two antennas.
>
This type of RF splitter/ combiner is completely bi-directional. The losses are exactly the same either way. The one exception is when combining, you only get no loss provided you feed identical signals (frequency, amplitude and phase) into the two inputs. As there will no voltage across the internal load resistor (which, in a 75 ohm device, is a nominal 150 ohms, effectively connected across the inputs), there will be no current through it, and hence no power loss.

However, for two unrelated RF inputs (say, two different TV signals), you will absolutely definitely get a 3dB loss (plus the additional losses). There is theoretically infinite (typically 20 to 35) isolation between the inputs. Feed a signal into I/P1, and no signal appears at I/P2 (if the output is correctly terminated). There must therefore be a voltage across the load resistor, and current through it. The power lost in this resistor is half the input power (-3dB's worth). The other half goes to the output (hence the 3dB loss).

>However, there's an additional problem. Because the two antennas can
>both pickup some signal from a given station, there's no way to
>predict what will happen when the signals both meet at the
>splitter/combiner. Most likely the pattern and gain will be affected
>depending on the relative signal strengths. If this is a problem,
>then a diplexer should be used.
>
Indeed. These are the 'unpredictable results' to which I was referring (but decided not to get bogged down in!).
--
Ian

1220. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-20 21:16:02 UTC
From: K7JEB <k7jeb.jim@gmail.com>
Message-ID: <8d17103e-b832-412f-80fa-3ede25588d85@i37g2000yqn.googlegroups.com>
Source record: 10220

> > Order Reflections III from CQ Online BookStore
>
> Excellent! Congratulations and thank you, Walt!

Good deal, Walt, thanks for the notice.... and, yeah, congrats on
the publication

Jim, K7JEB

1221. hot

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 07:56:46 UTC
From: balu <kshjsgdhdvhv@gmail.com>
Message-ID: <23989207-0878-4fad-aa5f-06085e99236c@m24g2000prc.googlegroups.com>
Source record: 10221

hot kiss 2
http://hotimagesandvideos.blogspot.com/2010/04/hot-kiss-2.html
hot lip kiss1
http://hotimagesandvideos.blogspot.com/2010/04/hot-lip-kiss1.html
hot hug
http://hotimagesandvideos.blogspot.com/2010/04/hot-hug.html
super hot kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-hot-kiss.html
one lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/one-lip-kiss.html
super navel kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-navel-kiss.html
hot train lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-train-lip-kiss.html
hot boobs kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-boobs-kiss.html

1222. Re: gte kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 14:02:51 UTC
From: A Paul Ing <bobandcarolesneighbortynk@gmail.com>
Message-ID: <43ef7d81-561e-430d-96a7-c6d928a996c0@s21g2000pri.googlegroups.com>
Source record: 10222
Cross-posted to: alt.usenet.kooks,rec.radio.cb,rec.radio.amateur.antenna,rec.ponds,rec.radio.amateur.policy

On Apr 20, 2:21 am, kb9rqz <Kd8ctl.Kb9...@yahoo.com> wrote:
> On Apr 17, 10:42 pm, nob...@mopeyzakween.com wrote:
>
> >www.mopeyzwifesuxdogcocx.com
>
> wel at least I know what it's like to lick my excrement off another
> mans
> genitals.

I bet if you know how to do that you learned it form the main mods
nthe rec ponds moderated group, as they are professional excrement
lickers.

1223. Re: Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 15:34:55 UTC
From: denny <k8do.doc@gmail.com>
Message-ID: <6f777aaf-c001-417b-aaa0-3345d94cad8c@v20g2000yqv.googlegroups.com>
Source record: 10223

Well, my first impulse is to actually hang the two lines and measure
the resultant impedance at the source end...
I am assuming the lines are spread apart so that they are not closely
coupled...
One approach to get you in the ballpark would be to model the 30
footer alone to get a source impedance, then model the 20 footer
likewise alone, then model the resultant of those two complex
impedance in parallel...
An interesting question...

denny / k8do

1224. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 17:02:12 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <66bus5pipsr9njivit3ik1m6rmnj5m2hc6@4ax.com>
Source record: 10224

On Tue, 20 Apr 2010 21:20:25 +0100, Ian Jackson
<ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:

>This type of RF splitter/ combiner is completely bi-directional. The
>losses are exactly the same either way. The one exception is when
>combining, you only get no loss provided you feed identical signals
>(frequency, amplitude and phase) into the two inputs. As there will no
>voltage across the internal load resistor (which, in a 75 ohm device, is
>a nominal 150 ohms, effectively connected across the inputs), there will
>be no current through it, and hence no power loss.

Argh. You're right, I'm wrong. The loss is symmetrical. My
apologies for offering a bad suggestion and worse explanation.

(Gone somewhere to sulk...)
--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1225. Re: Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 17:43:04 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <67d3e5a1-32f6-4af6-94e8-52c05e8d00b3@a39g2000prb.googlegroups.com>
Source record: 10225

On Apr 20, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
> What happens when two paralleled transmission lines are of different
> lengths? How does one analyze such a problem? For instance, what
> impedance is seen at the source when a 30 foot run of 450 ohm ladder-
> line is paralleled with a 20 foot run of the same line when the common
> load is 100+j200 ohms? Will EZNEC handle such a problem? What if the
> two different length paralleled transmission lines are not the same VF
> and/or not the same Z0? Does superposition work for such a problem?
> --
> tnx & 73, Cecil, w5dxp.com

I'm puzzled, Cecil. I wouldn't think a simple linear system like this would be difficult for you to analyze. (Or perhaps you do know how, and are only testing to see if others do also.) With respect to R.R.A.A., under what circumstances would such a configuration ever arise in practice? And...why would you think to use an antenna modeling program to analyze a linear circuits problem? Why not pick a tool appropriate to the task?

Cheers,
Tom

1226. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 18:02:51 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <G+QNlJBL3zzLFwdE@g3ohx.demon.co.uk>
Source record: 10226

In message <66bus5pipsr9njivit3ik1m6rmnj5m2hc6@4ax.com>, Jeff Liebermann
<jeffl@cruzio.com> writes
>On Tue, 20 Apr 2010 21:20:25 +0100, Ian Jackson
><ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>
>>This type of RF splitter/ combiner is completely bi-directional. The
>>losses are exactly the same either way. The one exception is when
>>combining, you only get no loss provided you feed identical signals
>>(frequency, amplitude and phase) into the two inputs. As there will no
>>voltage across the internal load resistor (which, in a 75 ohm device, is
>>a nominal 150 ohms, effectively connected across the inputs), there will
>>be no current through it, and hence no power loss.
>
>Argh. You're right, I'm wrong. The loss is symmetrical. My
>apologies for offering a bad suggestion and worse explanation.
>
>(Gone somewhere to sulk...)

Old age, Jeff. Old age!
It happens to us all - even me.
For example, in my description of the 'economy version of the resistive
splitter, I said "There is no isolation between the outputs". This is,
of course, not true. There will be a few dB isolation (but I can't be
bothered to do the figuring!).
--
Ian

1227. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 18:55:02 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <j5ius55qjk06e1ut8ug1i1ahe9d7j6grgf@4ax.com>
Source record: 10227

On Wed, 21 Apr 2010 19:02:51 +0100, Ian Jackson
<ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:

>Old age, Jeff. Old age!
>It happens to us all - even me.

Worse. I made the same exact mistake years ago in the NEC-LIST (July
2001). I never make the same mistake twice. Four or five times is
more my style. Thanks for the correction.

Not old age (62) but possibly a good excuse for a vacation.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1228. Re: Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-21 21:20:43 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f2c98678-6b07-4817-8b34-fdfae300a5e3@s9g2000yqa.googlegroups.com>
Source record: 10228

On Apr 21, 12:43 pm, K7ITM <k7...@msn.com> wrote:
> I'm puzzled, Cecil. I wouldn't think a simple linear system like this
> would be difficult for you to analyze. (Or perhaps you do know how,
> and are only testing to see if others do also.)

Nope, not a trick question. The thought occurred to me after a liter
of Merlot. It is akin to the analysis of a fan dipole except shorted
at both ends. If 30 feet is not the optimum length for the matching
section of a G5RV used on 30m, what if we paralleled the non-optimum
length section with the optimum length section? What happens then?

It appears that what happens is that we lower the resistance while
maintaining the reactance at a high level - not a good thing. File it
under " unfortunate wet dreams".
--
73, Cecil, w5dxp.com

1229. Cheap Wholesale Adidas Shoes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 05:38:49 UTC
From: DGSHOES <wen.pipi@yahoo.com>
Message-ID: <ce4a54bc-e675-40e1-8c47-3282fedae874@q31g2000prf.googlegroups.com>
Source record: 10229
Cross-posted to: rec.radio.amateur.antenna,rec.birds

Cheap Wholesale Gucci Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale GUCCI Boots
Cheap Wholesale Lacoste Shoes
Cheap Wholesale LV Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale LV Boots
Cheap Wholesale Prada Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Timberland Shoes
Cheap Wholesale D&G Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale D&G Boots
Cheap Wholesale Puma Shoes
Cheap Wholesale Puma AAA (paypal payment)
(http://www.supertradeonline06.com/)

Cheap Wholesale Bikkem Bergs Shoes (free shipping)
Cheap Wholesale Mauri Shoes Man
Cheap Wholesale Versace Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Versace Boots
Cheap Wholesale Paul Smith Shoes (free shipping)
Cheap Wholesale BOSS Shoes
Cheap Wholesale Burberry Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Dsquared shoes
Cheap Wholesale Dior Shoes (free shipping)
Cheap Wholesale Dior Boots
Cheap Wholesale ED Hardy Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale ED Hardy Boots
Cheap Wholesale ED Hardy Shoes Man (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Fendi Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Fendi Boots
Cheap Wholesale AFF Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Evisu Shoes (free shipping)
Cheap Wholesale 4US Shoes
Cheap Wholesale Sebago Shoes (paypal payment)
(http://www.supertradeonline06.com/)

Cheap Wholesale Supra Shoes
Cheap Wholesale Hight Converse Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Coach Boots
Cheap Wholesale Coach Shoes
Women Christian Louboutin (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Chanel Shoes
Cheap Wholesale Chanel Boots (free shipping)
Cheap Wholesale Bape Shoes
Cheap Wholesale Adidas Shoes (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Adicolor (free shipping)
Cheap Wholesale Adidas 35TH (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Adidas NBA
Cheap Wholesale Adidas Running (paypal payment)
(http://www.supertradeonline06.com/)
Cheap Wholesale Adidas Y3
Cheap Wholesale Soccer Shoes (paypal payment)
(http://www.supertradeonline06.com/)

1230. Re: Killer 6 meter wire antenna QRZ

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 13:43:33 UTC
From: dogies owner <iownn8@Use-Author-Supplied-Address.invalid>
Message-ID: <hqpjq5$f2q$1@tioat.net>
Source record: 10230
Cross-posted to: rec.radio.amateur.antenna,rec.radio.cb,rec.radio.amateur.policy

"Anne Onime" <anonymous@rip.ax.lt> wrote in message
news:3d6d95d949ec421dc587052f84a649cc@rip.ax.lt...
> http://forums.qrz.com/showthread.php?t=36738
>
LOL
http://groups.google.com/group/rec.radio.shortwave/browse_thread/thread/48783a2bbbcf18a4/ac354b1a53826aa3?hl=en&ie=UTF-8&q=doug+adair+419

1231. Re: CB amplifier ratouts go on on ebay. You cb fairies know it too! CRY MOTHERFUCKERS!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 13:47:44 UTC
From: dogies owner <iownn8@Use-Author-Supplied-Address.invalid>
Message-ID: <hqpk1v$f7g$1@tioat.net>
Source record: 10231
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

<nobody@mopeyzakween.com> wrote in message
news:3e1a95dacebb0da9ed89ef50a8f26b8c@msgid.frell.theremailer.net...
> www.mopeyzwifesuxdogcocx.com
>
LOL
http://groups.google.com/group/misc.transport.trucking/browse_thread/thread/838a5a36469710ed/f9d6d94bdd550c66?hl=en&ie=UTF-8&q=doug+adair+419

1232. Re: what mopehole-lick lovez to stikk up da puppiez azz!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 13:49:18 UTC
From: dogies owner <iownn8@Use-Author-Supplied-Address.invalid>
Message-ID: <hqpk4u$f7j$1@tioat.net>
Source record: 10232
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

"Anonymous" <nobody@remailer.paranoici.org> wrote in message
news:7f684ffe677778a1cc2f5ec828c6335b@remailer.paranoici.org...
> http://tinypic.com/r/2hmmq0p/5
>
LOL
http://groups.google.com/group/soc.subculture.bondage-bdsm/browse_thread/thread/64ff08d1e807de25/f1d54dfbbf9a25e9?hl=en&ie=UTF-8&q=doug+adair+419&_done=%2Fgroup%2Fsoc.subculture.bondage-bdsm%2Fbrowse_thread%2Fthread%2F64ff08d1e807de25%2Ff1d54dfbbf9a25e9%3Fhl%3Den%26ie%3DUTF-8%26q%3Ddoug%2Badair%2B419

1233. get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 17:38:26 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <17fc3bc7-5de7-4495-ad59-8946ca9bcc4e@f20g2000vbp.googlegroups.com>
Source record: 10233
Cross-posted to: rec.radio.amateur.antenna,rec.radio.cb,rec.radio.amateur.policy

On Apr 22, 9:43 am, "dogies owner" <iow...@Use-Author-Supplied-
Address.invalid> wrote:
> "Anne Onime" <anonym...@rip.ax.lt> wrote in message
>
> news:3d6d95d949ec421dc587052f84a649cc@rip.ax.lt...>http://forums.qrz.com/showthread.php?
t=36738
>
> LOLhttp://groups.google.com/group/rec.radio.shortwave/browse_thread/thre...

1234. Re: get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 17:39:21 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <c3966fe8-020f-41fe-b83a-e0f1051e131b@c1g2000vbc.googlegroups.com>
Source record: 10234
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

On Apr 20, 12:31 pm, kb9rqz <m...@kb9rqz.com> wrote:
> On Apr 17, 11:42 pm, nob...@mopeyzakween.com wrote:
>
>
>
> >www.mopeyzwifesuxdogcocx.com- Hide quoted text -
>
> - Show quoted text -

1235. Re: get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 17:39:58 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <af018770-f874-424e-b394-c7e44a19e715@c1g2000vbc.googlegroups.com>
Source record: 10235
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

On Apr 20, 12:32 pm, kb9rqz <m...@kb9rqz.com> wrote:
> On Apr 18, 10:07 pm, Anonymous <nob...@remailer.paranoici.org> wrote:
>
>
>
> >http://tinypic.com/r/2hmmq0p/5- Hide quoted text -
>
> - Show quoted text -

1236. Re: Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 20:35:19 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D634306435F6nonenowhere@61.9.191.5>
Source record: 10236

Cecil Moore <w5dxp@hotmail.com> wrote in news:d6ea0bf4-7bb4-4089-9c88-9d2d9e8d1387@s7g2000vbk.googlegroups.com:

> What happens when two paralleled transmission lines are of different
> lengths? How does one analyze such a problem? For instance, what
> impedance is seen at the source when a 30 foot run of 450 ohm ladder-
> line is paralleled with a 20 foot run of the same line when the common
> load is 100+j200 ohms? Will EZNEC handle such a problem? What if the
> two different length paralleled transmission lines are not the same VF
> and/or not the same Z0? Does superposition work for such a problem?

Here is an opportunity for you to do some leg work Cecil.

I have modelled in RFSIM99 a load of 100 ohms in series with 9.1ΩH at 3.5MHz with 30' of lossless 400 ohm line, vf=0.9, and 20' of lossless 450 ohm line, vf=0.8 as you describe. The input impedance is 767+j296.

Do you get the same result with a valid model in EZNEC?

Owen

1237. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-22 20:36:19 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9D628A6B5A522greederxprtnet@194.177.98.144>
Source record: 10237

Bill Bowden <wrongaddress@att.net> wrote in news:c99a50ef-8682-4349-b747-5b7232f287be@v14g2000yqb.googlegroups.com:

> I'm considering building the bow-tie TV antenna at:
>
> http://uhfhdtvantenna.blogspot.com/
>
> It appears to cover the UHF range, but I also need reception on the
> lower 200MHz VHF range for the lower channels.
>
> How can I combine the UHF bow-tie antenna with a folded dipole or
> other lower frequency element so the antenna covers the entire TV
> range from channel 2 to 62?
>
> -Bill

Bill,
Check the actual transmission frequencies that are used in your araa.
www.tvfool.com or antennaweb will list them for you. Durring
the switchover to DTV, many of the lower VHF channels were vacated
and the broadcasters relocated to the UHF band. They may still
identify themselves as their old channel number, tho. Anyway,
you may find that your design criteria are much simplified if
you discover that there are no broadcasts in the low VHF band.
And FWIW, I have had good luck with just two commercial bowties
on a stick. (see,
http://mysite.ncnetwork.net/resr92x4/Content/DTV_antenna.html)

It does well even at the high VHF band. Althought we were having
trouble with one channel in the low VHF untill it moved after the
DTV changeover.

Oh, and IIRC, the UHF only goes to channel 52 now.(?)

1238. Re: Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-23 00:34:51 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <6dcca41e-e4d9-4cd7-bde3-8345d4dd0b0f@n20g2000prh.googlegroups.com>
Source record: 10238

On Apr 22, 1:35 pm, Owen Duffy <n...@no.where> wrote:
> Cecil Moore <w5...@hotmail.com> wrote in news:d6ea0bf4-7bb4-4089-9c88-
> 9d2d9e8d1...@s7g2000vbk.googlegroups.com:
>
> > What happens when two paralleled transmission lines are of different
> > lengths? How does one analyze such a problem? For instance, what
> > impedance is seen at the source when a 30 foot run of 450 ohm ladder-
> > line is paralleled with a 20 foot run of the same line when the common
> > load is 100+j200 ohms? Will EZNEC handle such a problem? What if the
> > two different length paralleled transmission lines are not the same VF
> > and/or not the same Z0? Does superposition work for such a problem?
>
> Here is an opportunity for you to do some leg work Cecil.
>
> I have modelled in RFSIM99 a load of 100 ohms in series with 9.1µH at
> 3.5MHz with 30' of lossless 400 ohm line, vf=0.9, and 20' of lossless 450
> ohm line, vf=0.8 as you describe. The input impedance is 767+j296.
>
> Do you get the same result with a valid model in EZNEC?
>
> Owen

Remarkably, Owen, I get exactly the same result using LTSpice.

Spice and RFSim99 are the two that came to mind when I wrote about more appropriate modeling tools yesterday... It might be fun to find the general solution to the set of linear equations relating the forward and reverse voltage and current at each end of each line and in the load, for a given excitation, to end up with a relatively simple (?) formula for translating the load impedance to the impedance seen at the input end of the lines, and maybe that already exists in a text or reference book somewhere, but there are a few too many equations in the set to get me interested in doing it by hand.

It's also interesting that in both this example and in another different one I tried yesterday, I found that, at some frequency (16.993MHz for Owen's example), the impedance at the input goes to infinity. That is to say, there is no current in the load: the load is at a point along the loop of two lines that is at a zero-voltage point of the standing wave. It shouldn't be a surprise that this happens, but you might not think about it when just blindly connecting two lines of different lengths "in parallel," and end up getting bitten by it.

Cheers,
Tom

1239. Re: Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-23 01:43:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D63773BF1FD0nonenowhere@61.9.191.5>
Source record: 10239

K7ITM <k7itm@msn.com> wrote in news:6dcca41e-e4d9-4cd7-bde3-8345d4dd0b0f@n20g2000prh.googlegroups.com:

...
> Remarkably, Owen, I get exactly the same result using LTSpice.
...

Well Tom, perhaps it is that "great minds think alike".

Cecil's question on eHam and then here specifically asked if EZNEC can solved it, but mused that it needed information about the reflection at (presumably a source side) ATU. Of course, the source side circuitry is irrelevant to a steady state solution of the input impedance that we both calculated.

I am not sure that it has any specific application, but the rat race hybrid is an expanded problem of the same type.

As far as I can see, NEC must have the ability to solve networks of elements that can be represented as NT cards, just that the GW elements that you use to hook it all together are subject to mutual coupling (which is appropriate if it were a real feedline / antenna scenario).

It took me less time to build and check the RFSIM99 model than it took Cecil to write his post. It would take only a little longer in NEC.

Owen

1240. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-23 02:51:23 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <c5adnfiowM60lkzWnZ2dnUVZ_jKdnZ2d@bright.net>
Source record: 10240

Dear Bill (no call sign): Others may have pointed out that most TV stations in U.S.A. are on UHF from channels 14 to 51, with a minority on VHF. A student project was to design an antenna to cover 14-51 with useful results.

A simple two-dipoles-in-front-of-reflector antenna is being sold where the dipoles include a fat, short part and a thin, long part so as to cover UHF and the 7-12 VHF bands.

73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"Bill Bowden" <wrongaddress@att.net> wrote in message
news:c99a50ef-8682-4349-b747-5b7232f287be@v14g2000yqb.googlegroups.com...
> I'm considering building the bow-tie TV antenna at:
>
> http://uhfhdtvantenna.blogspot.com/
>
> It appears to cover the UHF range, but I also need reception on the
> lower 200MHz VHF range for the lower channels.
>
> How can I combine the UHF bow-tie antenna with a folded dipole or
> other lower frequency element so the antenna covers the entire TV
> range from channel 2 to 62?
>
> -Bill

1241. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-23 04:44:36 UTC
From: Bill Bowden <wrongaddress@att.net>
Message-ID: <2b84e977-6a50-4b53-9273-f1d470f5cb75@11g2000yqr.googlegroups.com>
Source record: 10241

On Apr 22, 1:36 pm, Gordon <go...@alltomyself.com> wrote:
> Bill Bowden <wrongaddr...@att.net> wrote in news:c99a50ef-8682-4349-b747-
> 5b7232f28...@v14g2000yqb.googlegroups.com:
>
> > I'm considering building the bow-tie TV antenna at:
>
> >http://uhfhdtvantenna.blogspot.com/
>
> > It appears to cover the UHF range, but I also need reception on the
> > lower 200MHz VHF range for the lower channels.
>
> > How can I combine the UHF bow-tie antenna with a folded dipole or
> > other lower frequency element so the antenna covers the entire TV
> > range from channel 2 to 62?
>
> > -Bill
>
> Bill,
> Check the actual transmission frequencies that are used in your araa.www.tvfool.comor
antennaweb will list them for you. Durring
> the switchover to DTV, many of the lower VHF channels were vacated
> and the broadcasters relocated to the UHF band. They may still
> identify themselves as their old channel number, tho. Anyway,
> you may find that your design criteria are much simplified if
> you discover that there are no broadcasts in the low VHF band.
> And FWIW, I have had good luck with just two commercial bowties
> on a stick. (see,http://mysite.ncnetwork.net/resr92x4/Content/DTV_antenna.html)
>
> It does well even at the high VHF band. Althought we were having
> trouble with one channel in the low VHF untill it moved after the
> DTV changeover.
>
> Oh, and IIRC, the UHF only goes to channel 52 now.(?)

The link to tvfool.comor doesn't work, but I found a listing for the
Los Angeles area at http://yourfreedtv.com/Hollywood/

Most of the stations are good using an old antenna, but channel 24
drops out and I don't get 23 at all. Looks like the range is RF
channels 23 to 60, whatever frequencies they are. I can't get channels
23 or 24 which correspond to RF channels 23-26, and look like the
lower end of the band. It's interesting that channel 2 which used to
be the low end of the VHF band is now RF channel 60 near the high end
of the UHF band.

-Bill

1242. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-23 04:52:55 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <fs92t51qmrht5v913md0cjkcmtqv60ga44@4ax.com>
Source record: 10242

On Thu, 22 Apr 2010 21:44:36 -0700 (PDT), Bill Bowden
<wrongaddress@att.net> wrote:

>The link to tvfool.comor doesn't work,

Try again:
<http://www.tvfool.com>
It works for me.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1243. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-23 07:47:20 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9D6380C71788greederxprtnet@194.177.98.144>
Source record: 10243

Bill Bowden <wrongaddress@att.net> wrote in news:2b84e977-6a50-4b53-9273-f1d470f5cb75@11g2000yqr.googlegroups.com:

> The link to tvfool.comor doesn't work, but I found a listing for the

Sorry, www.tvfool.com. I left out a very important space after the
URL and the rest of the sentance.

1244. Re: Paralleling Transmission Lines

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-23 13:40:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f1cc267c-f68d-40b1-a104-46c7b16f14a8@y14g2000yqm.googlegroups.com>
Source record: 10244

On Apr 22, 8:43 pm, Owen Duffy <n...@no.where> wrote:
> Cecil's question on eHam and then here specifically asked if EZNEC can
> solved it, but mused that it needed information about the reflection at
> (presumably a source side) ATU. Of course, the source side circuitry is
> irrelevant to a steady state solution of the input impedance that we both
> calculated.

It appears that you didn't understand the purpose of my original
posting. Days before, I had already run the EZNEC impedance results
but was questioning the validity of those impedance values. Tuner
settings are certainly not irrelevant when calculating system
efficiency which was my main goal. The musing was whether the results
of two different tuner settings could be superposed.

> It took me less time to build and check the RFSIM99 model than it took
> Cecil to write his post. It would take only a little longer in NEC.

Days before my original posting using EZNEC, I had already paralleled
a 20 foot section of ladder-line with the standard 30 foot section on
a G5RV but I had no quick and easy way of independently verifying
EZNEC's impedance results. It was only after a lot of effort that I
still had questions. Thanks for the information - if not for jumping
to false conclusions based on ignorance.
--
73, Cecil, w5dxp.com

1245. 2 letter calls a dead loss/incompetent administration

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-24 01:28:28 UTC
From: Greg <bluehyhena@hotmail.com>
Message-ID: <f63d8ced-785f-4668-924d-4b0047d4a3e2@c36g2000yqm.googlegroups.com>
Source record: 10245

Its a dead loss. The WIA's guidelines on callsigns are not very clear.

If the callsign is available you should have the right to apply for it, just like when the ACMA administered the callsigns. These callsigns are clearly not allocated on the first come first serve basis, but on some other arbitrary set of rules that nobody knows.

If you look at the history of the 2 letter callsigns allocated you see a clear preference towards clubs and its officials, one off individuals are low down in the preference ranks. The callsigns are not being administered in way thats fair to the broader amateur community.

I now several people who have applied in consistent manner multiple time. One person actually lodged several applications within 1 hour of the callsigns been listed. He lives in the same post office zone and the applications were mailed with the same day. You can understand his skepticism.

It would have been far better if the callsigns administration was in the hands of some independent body not related to ham radio. A simpler fairer impartial system would have to use a automated secure online immediate transaction system., just like they sell tickets. In the past it too 30 mins for the ACMA to allocate a call why the WIA takes weeks is beyond me.

What i have experience so far, is that I have little faith in WIA allocating these 2 letter calls. I wonder if the process is open to legal independent scrutiny? Does the ACMA audit the process I wonder?

1246. Re: 2 letter calls a dead loss/incompetent administration

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-24 01:57:09 UTC
From: tom <news4792@taring.org>
Message-ID: <4bd24fef$0$50146$8046368a@newsreader.iphouse.net>
Source record: 10246

On 4/23/2010 8:28 PM, Greg wrote:
> Its a dead loss. The WIA's guidelines on callsigns are not very clear.
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
<SNIP>
> What i have experience so far, is that I have little faith in WIA
> allocating these 2 letter calls. I wonder if the process is open to
> legal independent scrutiny? Does the ACMA audit the process I wonder?

Now that Art has gone missing (for now), we may have been delivered a
replacement.

tom
K0TAR

1247. Re: 2 letter calls a dead loss/incompetent administration

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-24 12:15:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e1518838-1765-4fac-a51a-970c1ac23fe4@k36g2000yqn.googlegroups.com>
Source record: 10247

On Apr 24, 1:57 am, tom <news4...@taring.org> wrote:
> On 4/23/2010 8:28 PM, Greg wrote:> Its a dead loss. The WIA's guidelines on callsigns are not very clear.
>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
> <SNIP>
>
> > What i have experience so far, is that I have little faith in WIA
> > allocating these 2 letter calls. I wonder if the process is open to
> > legal independent scrutiny? Does the ACMA audit the process I wonder?
>
> Now that Art has gone missing (for now), we may have been delivered a
> replacement.
>
> tom
> K0TAR

he's just an aussie... must have figured he would try this group after
the appropriate ones ignored him.

1248. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-24 14:28:18 UTC
From: Sven Lundbech <oz7s@hotmail.com>
Message-ID: <4bd30060$0$36581$edfadb0f@dtext01.news.tele.dk>
Source record: 10248

"walt" <walt@w2du.com> skrev i en meddelelse
news:ff574e73-6c94-46ea-94e6-3c4a21a5e5fd@r27g2000yqn.googlegroups.com...
> To order a copy of the 3rd edition of Reflections, authored by Walter
> Maxwell, W2DU, go to the W2DU website at www.w2du.com, then go to page
> 2 and click on the following:
>
> Order Reflections III from CQ Online BookStore
>
> Walt, W2DU
>
Dear Walt,

Ever since reading your 1973 QST articles, being a second-year student at the Polytechnics/Technical University of Copenhagen, I have referred to your ground-breaking work for removing the myths and misunderstandings of the (un)importance of the swr over and over again. Somewhere I still have the ageing photocopies of all the articles. But having the opportunity to get it all and more in one piece in Reflections III is really greast. I have ordered my copy right away.

Later on, both in my professional life after receiving my MSc(EE) as a radio engineer and during my 19 years as Technical Editor of 'OZ' (the Danisk QST) I have had to weed out misconceptions about swr and transmission lines. My early understanding from your work was a great help. Thanks!

All the best,

vy 73
OZ7S Sven

1249. Re: 2 letter calls a dead loss/incompetent administration

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-24 15:28:49 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hqv2nj$d5q$1@news.eternal-september.org>
Source record: 10249

"Greg" <bluehyhena@hotmail.com> wrote in message
news:f63d8ced-785f-4668-924d-4b0047d4a3e2@c36g2000yqm.googlegroups.com...
> Its a dead loss. The WIA's guidelines on callsigns are not very clear.
>
> If the callsign is available you should have the right to apply for
> it, just like when the ACMA administered the callsigns. These
> callsigns are clearly not allocated on the first come first serve
> basis, but on some other arbitrary set of rules that nobody knows.
>
<snip>
Or one could just take whatever callsign that was issued by the FCC, and
live with it.
--Wayne
<W5GIE...obviously that's what I did :)>

1250. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 07:40:12 UTC
From: W0BTU <mikewate@gmail.com>
Message-ID: <fe0f7542-c757-4da3-b7b3-0405605fc941@j21g2000yqh.googlegroups.com>
Source record: 10250

On Apr 16, 8:10 pm, walt <w...@w2du.com> wrote:
> To order a copy of the 3rd edition of Reflections, authored by Walter
> Maxwell, W2DU, go to the W2DU website atwww.w2du.com, then go to page
> 2 and click on the following:
>
>   Order Reflections III from CQ Online BookStore
>
> Walt, W2DU

I've seen people talking about it in the other forums, and I looked at the three sample excerpts at w2du.com. That's all I know about it. It sounds interesting, but I need to at least see a table of contents (index would be nice, too) before I think about ordering it. Is that possible?

TIA.

73 Mike

1251. Re: The N8WWM archives

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 15:03:35 UTC
From: tood <tood@momsbasement.com>
Message-ID: <hr1mcaucs3@speranza.aioe.org>
Source record: 10151
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.policy

Poor fugly criminal n8wwm.

"WB2DBH" <wb2dbh@hotmail.com> wrote in message
news:47dc7332$0$4965$4c368faf@roadrunner.com...
> YAWN....
>
>
>
>
> "dougay patrol" <slapadougay@slapslap.com> wrote in message
> news:47dc27b8@news.x-privat.org...
>> Liten to Douglas the fool on the air:
>>
>> http://media.putfile.com/dougayactsafooloncb
>>
>> http://media.putfile.com/dougay-whines-again
>>
>> http://media.putfile.com/dougay-whines
>>
>
>

1252. Re: IT'S TAX TIME AGAIN KC8QJP TAX SERVICE!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 15:13:47 UTC
From: melvin <melvin55@yahoo.com>
Message-ID: <hr9a0r$c2h$2@speranza.aioe.org>
Source record: 10168

"George Orwell" <nobody@mixmaster.it> wrote in message
news:d7218b4f0889a9f8c8d0d5648ad10ac5@mixmaster.it...
>I AM KC8QJP CRISCO KATHY,TAX SEASON IS ALMOST UPON US. I CAN GET YOU THE
>BEST
> RETURN. IT MIGHT BE A LITTLE BIT ILLEGAL.BUT WHAT THE HECK,THE
> GOVERMENT TAKES TO MUCH OF OUR MONEY. BE SURE AND BRING A BIG CAN OF
> CRISCO WITH YOU. I WORK BEST ON MY KNEES WHILE SOMEONE SLATHERS MY FAT
> ASS WITH CRISCO. BRING A BIG CAN, I HAVE A VERY LARGE ASS.
>
> CALL 419-698-2075 AND ASK FOR KATHY
>
> OR STOP BY WITH THE CRISCO!
>
> 322 Burger
> Toledo, OH 43605
>
>
.
.
.
.
.
.
.
CRIMINAL!!!

1253. tes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 18:46:27 UTC
From: kc8qjp <kc8qjp@yahoo.com>
Message-ID: <hr22mchjs3@speranza.aioe.org>
Source record: 10152

ticle

1254. Re: IT'S TAX TIME AGAIN KC8QJP TAX SERVICE!!!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 18:49:56 UTC
From: kc8qjp <kc8qjp@yahoo.com>
Message-ID: <hr9a0s$c2h$3@speranza.aioe.org>
Source record: 10169

this is a forge from n8wwm douglASS adair

"George Orwell" <nobody@mixmaster.it> wrote in message
news:d7218b4f0889a9f8c8d0d5648ad10ac5@mixmaster.it...
>I AM KC8QJP CRISCO KATHY,TAX SEASON IS ALMOST UPON US. I CAN GET YOU THE
>BEST
> RETURN. IT MIGHT BE A LITTLE BIT ILLEGAL.BUT WHAT THE HECK,THE
> GOVERMENT TAKES TO MUCH OF OUR MONEY. BE SURE AND BRING A BIG CAN OF
> CRISCO WITH YOU. I WORK BEST ON MY KNEES WHILE SOMEONE SLATHERS MY FAT
> ASS WITH CRISCO. BRING A BIG CAN, I HAVE A VERY LARGE ASS.
>
> CALL 419-698-2075 AND ASK FOR KATHY
>
> OR STOP BY WITH THE CRISCO!
>
> 322 Burger
> Toledo, OH 43605
>
>
> Il mittente di questo messaggio|The sender address of this
> non corrisponde ad un utente |message is not related to a real
> reale ma all'indirizzo fittizio|person but to a fake address of an
> di un sistema anonimizzatore |anonymous system
> Per maggiori informazioni |For more info
> https://www.mixmaster.it
>

1255. SWR on Diamond X-200A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 19:16:52 UTC
From: Chuck Forsberg WA7KGX N2469R <caf@omen.com>
Message-ID: <8-KdncYwcbi5CEnWnZ2dnUVZ_h6dnZ2d@giganews.com>
Source record: 10153

I installed a Diamond X-200A antenna just above a Thunderbird TH5MK2 tribander. Due to a short mast, the Diamond is virtually sitting on top of the Thunderbird.

The lead-in consists of some 20 feet of 9914f and 50 feet of 9913, connected with UHF connectors.

The measured SWR minimum is at 147.7 MHz and 1.2:1 at the far end of the coax. The MFJ 259B reads 1.9:1 at 144 mHz. Presumably the SWR is a bit higher at the antenna connector.

If I use a longer mast to raise the Diamond above the tribander, can I expect the resonant point to move to the specified 146 MHz and the SWR at 144 to go down? How much separation is needed?

1256. Re: SWR on Diamond X-200A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 20:22:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D6640DC9B745nonenowhere@61.9.191.5>
Source record: 10154

Chuck Forsberg WA7KGX N2469R <caf@omen.com> wrote in
news:8-KdncYwcbi5CEnWnZ2dnUVZ_h6dnZ2d@giganews.com:

> I installed a Diamond X-200A antenna just above a Thunderbird TH5MK2
> tribander. Due to a short mast, the Diamond is virtually sitting on
> top of the Thunderbird.
>
> The lead-in consists of some 20 feet of 9914f and 50 feet of 9913,
> connected with UHF connectors.

Ok, from TLLC (http://www.vk1od.net/calc/tl/tllc.php) you have about
1.1dB of line loss if everything is in good condition.

>
> The measured SWR minimum is at 147.7 MHz and 1.2:1 at the far end of
> the coax. The MFJ 259B reads 1.9:1 at 144 mHz. Presumably the SWR is
> a bit higher at the antenna connector.

I assume all readings were made with the same instrument.

Your load end VSWR at minimum is close to 1.3, which is typical of those
type of things. The frequency of the minimum does seem a bit high.

>
> If I use a longer mast to raise the Diamond above the tribander, can I
> expect the resonant point to move to the specified 146 MHz and the SWR
> at 144 to go down? How much separation is needed?

I am a bit surprised that it is that far off, and wouldn't expect a lot
of change in raising it... but you only know if you try it.

Have you used / measured it in other scenarios?

Have you measured the VSWR characteristic using a conventional
reflectometer style instrument at modest power? Does it agree with the
'259B?

Owen

1257. Re: SWR on Diamond X-200A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 22:29:20 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <611ac5f1-c612-4723-a272-7a0249ca2078@v14g2000yqb.googlegroups.com>
Source record: 10155

On Apr 25, 3:16 pm, Chuck Forsberg WA7KGX N2469R <c...@omen.com>
wrote:
> I installed a Diamond X-200A antenna just above a Thunderbird TH5MK2
> tribander. Due to a short mast, the Diamond is virtually sitting on top
> of the Thunderbird.
>
> The lead-in consists of some 20 feet of 9914f and 50 feet of 9913,
> connected with UHF connectors.
>
> The measured SWR minimum is at 147.7 MHz and 1.2:1 at the far end of the
> coax. The MFJ 259B reads 1.9:1 at 144 mHz. Presumably the SWR is a bit
> higher at the antenna connector.
>
> If I use a longer mast to raise the Diamond above the tribander, can I
> expect the resonant point to move to the specified 146 MHz and the SWR at
> 144 to go down? How much separation is needed?

The 9913 is infamous for getting water inside of it. This is usally
indicated bu an unusually low and broad banded VSWR reading. There
should be some good info on the internet about "stacking antennas" I
think some of those who loiter on this NG have written some papers on
it, I seem to remember Owen but I may be wrong.

Jimmie

1258. Re: SWR on Diamond X-200A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 22:30:53 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <c3b5392d-e691-45c0-ad6a-10ad3eb346f9@s9g2000yqa.googlegroups.com>
Source record: 10156

On Apr 25, 4:22 pm, Owen Duffy <n...@no.where> wrote:
> Chuck Forsberg WA7KGX N2469R <c...@omen.com> wrote
innews:8-KdncYwcbi5CEnWnZ2dnUVZ_h6dnZ2d@giganews.com:
>
> > I installed a Diamond X-200A antenna just above a Thunderbird TH5MK2
> > tribander. Due to a short mast, the Diamond is virtually sitting on
> > top of the Thunderbird.
>
> > The lead-in consists of some 20 feet of 9914f and 50 feet of 9913,
> > connected with UHF connectors.
>
> Ok, from TLLC (http://www.vk1od.net/calc/tl/tllc.php) you have about
> 1.1dB of line loss if everything is in good condition.
>
>
>
> > The measured SWR minimum is at 147.7 MHz and 1.2:1 at the far end of
> > the coax. The MFJ 259B reads 1.9:1 at 144 mHz. Presumably the SWR is
> > a bit higher at the antenna connector.
>
> I assume all readings were made with the same instrument.
>
> Your load end VSWR at minimum is close to 1.3, which is typical of those
> type of things. The frequency of the minimum does seem a bit high.
>
>
>
> > If I use a longer mast to raise the Diamond above the tribander, can I
> > expect the resonant point to move to the specified 146 MHz and the SWR
> > at 144 to go down? How much separation is needed?
>
> I am a bit surprised that it is that far off, and wouldn't expect a lot
> of change in raising it... but you only know if you try it.
>
> Have you used / measured it in other scenarios?
>
> Have you measured the VSWR characteristic using a conventional
> reflectometer style instrument at modest power? Does it agree with the
> '259B?
>
> Owen

Owen, didn't you write a paper on stacking antennas.

Jimmie

1259. Re: SWR on Diamond X-200A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 22:34:14 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <82e0b961-bf06-4d52-9347-6d6ac669487b@u34g2000yqu.googlegroups.com>
Source record: 10157

On Apr 25, 6:30 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 25, 4:22 pm, Owen Duffy <n...@no.where> wrote:
>
>
>
> > Chuck Forsberg WA7KGX N2469R <c...@omen.com> wrote
innews:8-KdncYwcbi5CEnWnZ2dnUVZ_h6dnZ2d@giganews.com:
>
> > > I installed a Diamond X-200A antenna just above a Thunderbird TH5MK2
> > > tribander. Due to a short mast, the Diamond is virtually sitting on
> > > top of the Thunderbird.
>
> > > The lead-in consists of some 20 feet of 9914f and 50 feet of 9913,
> > > connected with UHF connectors.
>
> > Ok, from TLLC (http://www.vk1od.net/calc/tl/tllc.php) you have about
> > 1.1dB of line loss if everything is in good condition.
>
> > > The measured SWR minimum is at 147.7 MHz and 1.2:1 at the far end of
> > > the coax. The MFJ 259B reads 1.9:1 at 144 mHz. Presumably the SWR is
> > > a bit higher at the antenna connector.
>
> > I assume all readings were made with the same instrument.
>
> > Your load end VSWR at minimum is close to 1.3, which is typical of those
> > type of things. The frequency of the minimum does seem a bit high.
>
> > > If I use a longer mast to raise the Diamond above the tribander, can I
> > > expect the resonant point to move to the specified 146 MHz and the SWR
> > > at 144 to go down? How much separation is needed?
>
> > I am a bit surprised that it is that far off, and wouldn't expect a lot
> > of change in raising it... but you only know if you try it.
>
> > Have you used / measured it in other scenarios?
>
> > Have you measured the VSWR characteristic using a conventional
> > reflectometer style instrument at modest power? Does it agree with the
> > '259B?
>
> > Owen
>
> Owen, didn't you write a paper on stacking antennas.
>

> Jimmie

Perhaps I was thinking about Ian White.

Jimmie

1260. Re: SWR on Diamond X-200A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-25 22:51:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D665A2F0916nonenowhere@61.9.191.5>
Source record: 10158

JIMMIE <JIMMIEDEE123@YAHOO.COM> wrote in
news:c3b5392d-e691-45c0-ad6a-10ad3eb346f9@s9g2000yqa.googlegroups.com:

...
>
> Owen, didn't you write a paper on stacking antennas.
>
> Jimmie

Jimmie, I did write a paper on optimum stacking distance for DL6WU long Yagis, but that is quite a different situation to that in which Chuck finds himself.

Your comment about the coax is valid, and all elements should be checked.

I might also add Chuck, that some folk have described minimum VSWR being shifted, and attributed it to faulty ceramic caps in the network at the base of the antenna.

But first, does it behave properly when mounted in the clear. If so, it probably isn't faulty, but its environment the likely cause.

Owen

1261. This link is just for faggot assed RadioGuy, the Ohio truckstop maniac!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-26 07:18:11 UTC
From: Anonymous <nobody@remailer.paranoici.org>
Message-ID: <8f7225b397be238f177fdfc5f1e7520e@remailer.paranoici.org>
Source record: 10159
Cross-posted to: rec.radio.cb,rec.radio.amateur.antenna

http://nimbusters.org/forum/read.php?board=8&id=146272

1262. Re: SWR on Diamond X-200A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-26 07:27:32 UTC
From: Chuck Forsberg WA7KGX N2469R <caf@omen.com>
Message-ID: <8-KdncEwcbj53UjWnZ2dnUVZ_h4AAAAA@giganews.com>
Source record: 10160

On Sun, 25 Apr 2010 15:29:20 -0700, JIMMIE wrote:

> On Apr 25, 3:16 pm, Chuck Forsberg WA7KGX N2469R <c...@omen.com> wrote:
>> I installed a Diamond X-200A antenna just above a Thunderbird TH5MK2
>> tribander. Due to a short mast, the Diamond is virtually sitting on
>> top of the Thunderbird.
>>
>> The lead-in consists of some 20 feet of 9914f and 50 feet of 9913,
>> connected with UHF connectors.
>>
>> The measured SWR minimum is at 147.7 MHz and 1.2:1 at the far end of
>> the coax. The MFJ 259B reads 1.9:1 at 144 mHz. Presumably the SWR is
>> a bit higher at the antenna connector.
>>
>> If I use a longer mast to raise the Diamond above the tribander, can I
>> expect the resonant point to move to the specified 146 MHz and the SWR
>> at 144 to go down? How much separation is needed?
>
> The 9913 is infamous for getting water inside of it. This is usally
> indicated bu an unusually low and broad banded VSWR reading. There
> should be some good info on the internet about "stacking antennas" I
> think some of those who loiter on this NG have written some papers on
> it, I seem to remember Owen but I may be wrong.
>
> Jimmie

I checked the 9913 and discarded some of it where there had been a hint
of water ingress. In this instance, the SWR is a bit higher than Diamond
shows in its chart. The SWR minimum at first glance is no broader than
spec - it's just at the high end of the band instead of the middle.

Later this week I should know if separating it further from the Thunderbird
will change things.

1263. Re: tes <-- CONTACT!!! Bearing 6 oclock!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-26 14:27:18 UTC
From: "Man-wai Chang to The Door (33600bps)" <toylet.toylet@gmail.com>
Message-ID: <hr4860$5kv$1@news.eternal-september.org>
Source record: 10161

On 4/26/2010 02:46, kc8qjp wrote:
> ticle
>
>

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.33.2
^ ^ 22:32:01 up 22 days 14:24 2 users load average: 1.19 1.17 1.11
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1264. Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-27 18:22:59 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b001e8af-223e-46a3-9df0-f507a856153b@i40g2000yqd.googlegroups.com>
Source record: 10162

Tom Rauch W8JI has added to his home page a discussion about diversity
antennas
As a known authority on antennas he presents interesting insights
regarding my
diversity antenna where I show computer results of different polarity
gains.
His knowledge of antennas is much greater than mine, so if any have
shown an interest in my antenna design it would be worth while to read
Tom's aproach as to what exactly is happening and why
Regards
Art Unwin KB9MZ

1265. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-27 23:20:56 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <v9set599gc79aami6u4tdceuc52g2vnc83@4ax.com>
Source record: 10163

On Tue, 27 Apr 2010 11:22:59 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:

>Tom Rauch W8JI has added to his home page a discussion about diversity
>antennas

A link might be helpful:
<http://www.w8ji.com/polarization_and_diversity.htm>

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1266. Re: TV Antenna design, UHF + VHF?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 00:01:33 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <cb33e96e-9fc5-4ff3-9633-609a69ed8e1e@23g2000pre.googlegroups.com>
Source record: 10164

On Apr 18, 7:34 pm, Bill Bowden <wrongaddr...@att.net> wrote:
> I'm considering building the bow-tie TV antenna at:
>
> http://uhfhdtvantenna.blogspot.com/
>
> It appears to cover the UHF range, but I also need reception on the
> lower 200MHz VHF range for the lower channels.
>
> How can I combine the UHF bow-tie antenna with a folded dipole or
> other lower frequency element so the antenna covers the entire TV
> range from channel 2 to 62?
>
> -Bill

Radio Shack part number 15-2586, a combiner/splitter for UHF and VHF signals. I have one and I ran some tests on it and it works well -- low insertion loss (< 1 dB) for the UHF signals at the UHF port and about 15 dB rejection for the undesired VHF signals at the UHF port. I didn't take any readings at the VHF port but it worked well in-circuit, so it's worth a try.

Good luck with your antennas.

"Sal"

1267. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 01:40:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lu3ft5tn06tf0pg0r9n4fpm7mbs3hghkua@4ax.com>
Source record: 10165

On Tue, 27 Apr 2010 16:20:56 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>On Tue, 27 Apr 2010 11:22:59 -0700 (PDT), Art Unwin
><arthurunwin@gmail.com> wrote:
>
>>Tom Rauch W8JI has added to his home page a discussion about diversity
>>antennas
>
>A link might be helpful:
><http://www.w8ji.com/polarization_and_diversity.htm>

That page is a ramble.

Example: Can someone tell me which line number offers the meaning for
Diversity? I am not interested in interpretations of Tom, nor
abstractions culled together from disjoint statements. I want to know
where (literally, not figuratively) Tom defines what Diversity is.

73's
Richard Clark, KB7QHC

1268. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 04:04:15 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <eobft5dje7qdckqqh1oo42givkbinojk73@4ax.com>
Source record: 10166

On Tue, 27 Apr 2010 18:40:22 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Tue, 27 Apr 2010 16:20:56 -0700, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>
>>On Tue, 27 Apr 2010 11:22:59 -0700 (PDT), Art Unwin
>><arthurunwin@gmail.com> wrote:
>>
>>>Tom Rauch W8JI has added to his home page a discussion about diversity
>>>antennas
>>
>>A link might be helpful:
>><http://www.w8ji.com/polarization_and_diversity.htm>
>
>That page is a ramble.

I don't think it was intended to be much more than a discussion of a
specific type of single antenna diversity reception plus something
about stereo-like diversity.

>Example: Can someone tell me which line number offers the meaning for
>Diversity?

A link to the Wikipedia page would probably have been sufficient:
<http://en.wikipedia.org/wiki/Diversity_scheme>
The problem is that NONE of the diversity schemes mentioned in the
Wikipedia article apply to the single antenna example under
discussion. In my never humble opinion, there's no way to provide any
form of diversity reception improvement with a single antenna, unless
one also has two feeds, going to two different receivers, and ending
in either a decision switch, or some form of intelligent combiner.

>I am not interested in interpretations of Tom, nor
>abstractions culled together from disjoint statements.

How about my definition? No matter which scheme is used, a diversity
reception scheme must demonstrate an improvement in availability, BER,
or SNR over a single antenna, or it's not really diversity.

>I want to know
>where (literally, not figuratively) Tom defines what Diversity is.

He doesn't.

I'm rather confused as to his "stereo diversity" which I guess uses
the listeners ears and brain as the decision switch or decoder. I

think he might be referring to a direct conversion receiver where one channel is quadrature leading and the other is quadrature lagging, resulting in a stereo-like effect.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

1269. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 05:37:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7feft5df9itlt4mgqkdm547bndmqiqhm4a@4ax.com>
Source record: 10167

On Tue, 27 Apr 2010 21:04:15 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>>Example: Can someone tell me which line number offers the meaning for
>>Diversity?
>
>A link to the Wikipedia page would probably have been sufficient:
><http://en.wikipedia.org/wiki/Diversity_scheme>
>The problem is that NONE of the diversity schemes mentioned in the
>Wikipedia article apply to the single antenna example under
>discussion.

So, this is an example of a "straw man" argument (not yours, Tom's): a
solution to a problem that is undefined. There are, thus, many
solutions that none can refute and why Tom's is the sine qua non is
built on a foundation of sand.

>In my never humble opinion, there's no way to provide any
>form of diversity reception improvement with a single antenna, unless
>one also has two feeds, going to two different receivers, and ending
>in either a decision switch, or some form of intelligent combiner.

Well, to Tom's credit, there is ample discussion of that - but that
discussion does not answer the question, which means there is no way
to test for validity.

>>I am not interested in interpretations of Tom, nor
>>abstractions culled together from disjoint statements.
>
>How about my definition?

Sorry, Jeff, but unless you are the author of the Wikipedia reference,
I cannot answer your question.

>No matter which scheme is used, a diversity
>reception scheme must demonstrate an improvement in availability, BER,
>or SNR over a single antenna, or it's not really diversity.

I presume the statement above is your definition. Reducing S+N/N
satisfies what you call diversity and provides an example of a
self-referential definition in that you appeal to with "SNR." Self
referential definitions are logical nulls. In other words, does
increasing capture area qualify as diversity for a single antenna? If
so, diversity means less noise or a better signal in comparison. What
is diverse about ordinary directivity? What is the profit in having
two words describe the same thing?

Even with an informal presumption of the meaning of diversity, we can both agree that diversity is not also directivity.

Or perhaps it is that, and with one characteristic more. This returns us to the question with some refinement: what is diversity in the face of directivity? I have a hunch directivity is a distraction, but that returns us to the original question.

>>I want to know
>>where (literally, not figuratively) Tom defines what Diversity is.
>
>He doesn't.

I didn't think so and I was asking because I didn't consider it worth the effort to search for something so obscured by the baggage of peripheral discussion.

>I'm rather confused as to his "stereo diversity" which I guess uses
>the listeners ears and brain as the decision switch or decoder. I
>think he might be referring to a direct conversion receiver where one
>channel is quadrature leading and the other is quadrature lagging,
>resulting in a stereo-like effect.

I will admit this was my interpretation too. Strange how you have to sift the diamonds out of the horse-shit. I had worked in this field and built quadrature detectors 40 years ago to the same ends as you describe. Analog TV color detection had been doing it for at least 20 years before that. I suppose there is a metaphor of diversity there, but it came with the subject of quadrature detection as a solution, not as a recent invention.

The quad detector is a direct conversion receiver as you say.

For other readers:
The signal is split through two channels each mixed with the same base-band source, with one feed of the source shifted 90 degrees for one channel. I suppose here we could drop the input splitter and simply feed in two antenna drives. The separate mixer outputs feed separate headphone elements (the classic application way back then) and the brain perceives the signal as existing in a literal 2D (binaural) space. The consequence of this perception is a heightened ability to discriminate one signal from the rest within the bandpass of reception. The bandpass is perceived as a physical left-to-right space and because the classic application was through headphones, this space was also between the ears. For the modern reader, this was like having a spectrum analyzer in your head.

This is the classic situation of being able to listen to one conversation in a crowded room full of speakers (the cocktail party problem) without becoming overwhelmed by overlapping dialog. A simple test is when you tune to the signal of interest, any off-frequency signals are perceived as inhabiting this 2D space at a literal off-center. As no two transmissions occupy the exact same frequency (Tom explicitly mentions errors as small as a quarter Hertz), then

they lose being at the center of attention. The brain supplies a huge computational engine that computers have yet to match.

The topic of Quad detection is cool in its own right, but I don't see how tarting it up with the discussion of Diversity (especially when the term is one of dim provenance) really adds anything. Quad detection read more like window dressing than the clincher to the topic at hand.

73's
Richard Clark, KB7QHC

1270. Re: tes <-- CONTACT!!! Bearing 6 oclock!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 12:35:10 UTC
From: kc8qjp <kc8qjp@yahoo.com>
Message-ID: <hrepnp$s62$2@speranza.aioe.org>
Source record: 10200

http://www.radiobanter.com/showthread.php?t=137274

1271. Re: The N8WWM archives

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 12:38:55 UTC
From: kc8qjp <kc8qjp@yahoo.com>
Message-ID: <hrepj2rrl3@speranza.aioe.org>
Source record: 10199
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

http://www.radiobanter.com/showthread.php?t=137274

1272. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 17:32:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c2sgt51tkmvnrvekjg8cerot6rhquq0rnq@4ax.com>
Source record: 10170

On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4wge@arrl.net> wrote:

>how useful is the discussion to the average reader of r.r.a.a.?

Hi Bill,

Well, diversity antenna work is quite useful to the average reader - I suppose (they haven't actually clamored for the discussion or embroiled themselves in the topic, but you did couch this in terms of "readers").

Unfortunately, if we divorced the two authors who fail to offer what Diversity means, apart from what is already accepted in convention, then we remove the entertainment value and "readership" would likely decline.

A paradox.

73's
Richard Clark, KB7QHC

1273. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 18:45:19 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hr9vnv$h816$1@tr22n12.aset.psu.edu>
Source record: 10171

Richard Clark wrote:
> On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4wge@arrl.net> wrote:
>
>> how useful is the discussion to the average reader of r.r.a.a.?
>
> Hi Bill,
>
> Well, diversity antenna work is quite useful to the average reader - I
> suppose (they haven't actually clamored for the discussion or
> embroiled themselves in the topic, but you did couch this in terms of
> "readers").

Sure, at least in a practical sense. I make use of diversity receivers in wireless microphone work.

While these are used at UHF frequencies rather than HF, our problems are more multipath, maybe picket fencing a bit.

So while I know better than to get into the definitions of diversity antennas, given my meager abilities, my guess is that if one antenna worked better than two - or merely worked at all, we'd be using just one.

Tom's pseudo stereo looks suspiciously like a wetware version of my wireless systems,only that they vote, whereas his signal levels are too low for that, so he does it in his head.

> Unfortunately, if we divorced the two authors who fail to offer what
> Diversity means, apart from what is already accepted in convention,
> then we remove the entertainment value and "readership" would likely
> decline.

That is for certain.

> A paradox.

One of my favorite words.

1274. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 18:46:14 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hr9vpm$h816$2@tr22n12.aset.psu.edu>
Source record: 10172

Bill wrote:
> On Apr 27, 7:22 pm, Art Unwin <arthurun...@gmail.com> wrote:
>> Tom Rauch W8JI has added to his home page a discussion about diversity
>> antennas
>> As a known authority on antennas he presents interesting insights
>> regarding my
>> diversity antenna where I show computer results of different polarity
>> gains.
>> His knowledge of antennas is much greater than mine, so if any have
>> shown an interest in my antenna design it would be worth while to read
>> Tom's aproach as to what exactly is happening and why
>> Regards
>> Art Unwin KB9MZ
>
> Sly old Art Unwin alludes to his antenna design and initiates a long
> technical thread which talks about anything but an Unwin antenna. And
> how useful is the discussion to the average reader of r.r.a.a.?

Not only useful, but more practical to boot.

- 73 de Mike N3LI -

1275. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 18:53:09 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hra06l$h818$1@tr22n12.aset.psu.edu>
Source record: 10173

Jeff Liebermann wrote:

> A link to the Wikipedia page would probably have been sufficient:
> <http://en.wikipedia.org/wiki/Diversity_scheme>
> The problem is that NONE of the diversity schemes mentioned in the
> Wikipedia article apply to the single antenna example under
> discussion. In my never humble opinion, there's no way to provide any
> form of diversity reception improvement with a single antenna, unless
> one also has two feeds, going to two different receivers, and ending
> in either a decision switch, or some form of intelligent combiner.

Trying to wrap my mind around this...

I wouldn't know how splitting the signal to two receivers would work.
The issue arises at the antenna doesn't it?

Indeed, if a single wire antenna would work for diversity reception,
wouldn't it then follow that you would not have to use diversity
reception? The signal would already be there for you.

Seems like a simple test could answer this one.

- 73 de Mike N3LI -

1276. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 19:59:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <21da5f0c-b94a-4a71-a9e2-273eb1b79768@k19g2000yqm.googlegroups.com>
Source record: 10174

On Apr 28, 1:53 pm, Michael Coslo <m...@psu.edu> wrote:
> Jeff Liebermann wrote:
> > A link to the Wikipedia page would probably have been sufficient:
> > <http://en.wikipedia.org/wiki/Diversity_scheme>
> > The problem is that NONE of the diversity schemes mentioned in the
> > Wikipedia article apply to the single antenna example under
> > discussion. In my never humble opinion, there's no way to provide any
> > form of diversity reception improvement with a single antenna, unless
> > one also has two feeds, going to two different receivers, and ending
> > in either a decision switch, or some form of intelligent combiner.
>
> Trying to wrap my mind around this...
>
> I wouldn't know how splitting the signal to two receivers would work.
> The issue arises at the antenna doesn't it?
>
> Indeed, if a single wire antenna would work for diversity reception,
> wouldn't it then follow that you would not have to use diversity
> reception? The signal would already be there for you.
>
> Seems like a simple test could answer this one.
>
>   - 73 de Mike N3LI -

I think the first place to start is to what the actual antenna pattern
represents in terms of polarity.
For instance, we have two vectors outside the earths boundary thus you
must have two vectors inside the arbitrary boundary. Obviously the
gravity vector will be at right angles to the earths surface. The
other vector representing the rotation of the earth will naturally be
an circular pattern which is the "saucer" pattern portion of the
overall pattern, which is what hams mainly use. Thus we have to make
the first determination as being what each portion of the pattern
represents in terms of polarity, the centre being straight plume field
and the bottom circular field which is a rotational vector. Since they
are in vector form we can see them as a stream of particles where the
two vectors will be additive. It is only then that the problem of
different or the same phase factors can be ascertained. Definitions
applied can be approach later. Personally, I view the gravity vector
as linear with the other providing a wobberly helical vector i.e
circular. but varying angles to the earths surface. Other thinkers
will surely disagree, if only to fight over near field over far field!

1277. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 20:42:19 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <75f5e013-841a-438b-b6bb-40f48b534ecf@d42g2000yqn.googlegroups.com>
Source record: 10175

On Apr 28, 3:59 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Apr 28, 1:53 pm, Michael Coslo <m...@psu.edu> wrote:
>
>
>
> > Jeff Liebermann wrote:
> > > A link to the Wikipedia page would probably have been sufficient:
> > > <http://en.wikipedia.org/wiki/Diversity_scheme>
> > > The problem is that NONE of the diversity schemes mentioned in the
> > > Wikipedia article apply to the single antenna example under
> > > discussion. In my never humble opinion, there's no way to provide any
> > > form of diversity reception improvement with a single antenna, unless
> > > one also has two feeds, going to two different receivers, and ending
> > > in either a decision switch, or some form of intelligent combiner.
>
> > Trying to wrap my mind around this...
>
> > I wouldn't know how splitting the signal to two receivers would work.
> > The issue arises at the antenna doesn't it?
>
> > Indeed, if a single wire antenna would work for diversity reception,
> > wouldn't it then follow that you would not have to use diversity
> > reception? The signal would already be there for you.
>
> > Seems like a simple test could answer this one.
>
> >   - 73 de Mike N3LI -
>
> I think the first place to start is to what the actual antenna pattern
> represents in terms of polarity.
> For instance, we have two vectors outside the earths boundary thus you
> must have two vectors inside the arbitrary boundary. Obviously the
> gravity vector will be at right angles to the earths surface. The
> other vector representing the rotation of the earth will naturally be
> an circular pattern which is the "saucer" pattern portion of the
> overall pattern, which is what hams mainly use. Thus we have to make
> the first determination as being what each portion of the pattern
> represents in terms of polarity, the centre being straight plume field
> and the bottom circular field which is a rotational vector. Since they
> are in vector form we can see them as a stream of particles where the
> two vectors will be additive. It is only then that the problem of
> different or the same phase factors can be ascertained. Definitions
> applied can be approach later. Personally, I view the gravity vector
> as linear with the other providing a wobberly helical vector i.e

> circular. but varying angles to the earths surface. Other thinkers
> will surely disagree, if only to fight over near field over far field!

I have no doubt that gravity effects radio waves in the same manner
that it has been proven to effect light. The effects are going to be
such that unless your signal is passing by a black hole of no
practical concern.

Have a great day Art.

Jimmie

1278. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 20:48:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p77ht51o4fg3a6unk1kdl5r2vbnru1a1h8@4ax.com>
Source record: 10176

On Wed, 28 Apr 2010 14:53:09 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>I wouldn't know how splitting the signal to two receivers would work.
>The issue arises at the antenna doesn't it?

Ah! The nut of the problem.

To my knowledge, diversity forces you to find the signal elsewhere,
not in the same spot because it isn't there anymore, or at least not
in the same polarization. This last diversity (polarization) is but
one of many. It may be solved at the antenna that features multiple
polarization capability - here Tom's ramble throws EZNEC against the
wall to see what sticks, and he introduces new issues that distract.

There is space diversity, time diversity, phase diversity, frequency
diversity (and there are more if we consider more modulations) and all
we get is the all encompassing "diversity" being hung out to dry.

The distractions that I see discussed are problems of combining
signal, not in finding signal. Interesting problem there, but hardly
something noted to being an issue with an antenna. Someone will
correct my misapprehension in this thread if there is one.

73's
Richard Clark, KB7QHC

1279. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 22:51:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <219c691c-8496-4477-a32c-162c2e6835c5@i10g2000yqh.googlegroups.com>
Source record: 10177

On Apr 28, 6:45 pm, Michael Coslo <m...@psu.edu> wrote:
> Richard Clark wrote:
> > On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4...@arrl.net> wrote:
>
> >> how useful is the discussion to the average reader of r.r.a.a.?
>
> > Hi Bill,
>
> > Well, diversity antenna work is quite useful to the average reader - I
> > suppose (they haven't actually clamored for the discussion or
> > embroiled themselves in the topic, but you did couch this in terms of
> > "readers").
>
> Sure, at least in a practical sense. I make use of diversity receivers
> in wireless microphone work.
>
> While these are used at UHF frequencies rather than HF, our problems are
> more multipath, maybe picket fencing a bit.
>
> So while I know better than to get into the definitions of diversity
> antennas, given my meager abilities, my guess is that if one antenna
> worked better than two - or merely worked at all, we'd be using just one.
>
> Tom's pseudo stereo looks suspiciously like a wetware version of my
> wireless systems,only that they vote, whereas his signal levels are too
> low for that, so he does it in his head.
>
> > Unfortunately, if we divorced the two authors who fail to offer what
> > Diversity means, apart from what is already accepted in convention,
> > then we remove the entertainment value and "readership" would likely
> > decline.
>
> That is for certain.
>
> > A paradox.
>
> One of my favorite words.

if the pseudo stereo is derived from 2 different antennas then you
have diversity reception where the separate antennas provide different
signals that may fade at different times due to polarization changes
or incident angle changes... that is what tom was driving at as a
useful diversity system, albeit at the expense of more complex
receiver hardware.

when you take a single rf signal and split it through different receive processors to shift the phase, or do different sidebands, or just run through different high/low pass audio filters, you don't really have diversity, you have some kind of a processing system that makes it easier for your brain or some other decoder to sort out the signal from the noise. I played with some simple ones years ago and they can provide interesting effects that can make sorting out signals in pileups easier, or maybe pulling signals out of the noise a bit easier, but none of them will really prevent the multipath, arrival angle, or polarization fading. that is where tom was trying to point out that any way you combine the rf from two antennas into one you lose the advantages of the diversity of the antennas.

1280. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-28 23:48:33 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9024a888-645d-4b47-b4a8-d367b7612c82@k41g2000yqb.googlegroups.com>
Source record: 10178

On Apr 28, 3:42 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 28, 3:59 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Apr 28, 1:53 pm, Michael Coslo <m...@psu.edu> wrote:
>
> > > Jeff Liebermann wrote:
> > > > A link to the Wikipedia page would probably have been sufficient:
> > > > <http://en.wikipedia.org/wiki/Diversity_scheme>
> > > > The problem is that NONE of the diversity schemes mentioned in the
> > > > Wikipedia article apply to the single antenna example under
> > > > discussion. In my never humble opinion, there's no way to provide any
> > > > form of diversity reception improvement with a single antenna, unless
> > > > one also has two feeds, going to two different receivers, and ending
> > > > in either a decision switch, or some form of intelligent combiner.
>
> > > Trying to wrap my mind around this...
>
> > > I wouldn't know how splitting the signal to two receivers would work.
> > > The issue arises at the antenna doesn't it?
>
> > > Indeed, if a single wire antenna would work for diversity reception,
> > > wouldn't it then follow that you would not have to use diversity
> > > reception? The signal would already be there for you.
>
> > > Seems like a simple test could answer this one.
>
> > >   - 73 de Mike N3LI -
>
> > I think the first place to start is to what the actual antenna pattern
> > represents in terms of polarity.
> > For instance, we have two vectors outside the earths boundary thus you
> > must have two vectors inside the arbitrary boundary. Obviously the
> > gravity vector will be at right angles to the earths surface. The
> > other vector representing the rotation of the earth will naturally be
> > an circular pattern which is the "saucer" pattern portion of the
> > overall pattern, which is what hams mainly use. Thus we have to make
> > the first determination as being what each portion of the pattern
> > represents in terms of polarity, the centre being straight plume field
> > and the bottom circular field which is a rotational vector. Since they
> > are in vector form we can see them as a stream of particles where the
> > two vectors will be additive. It is only then that the problem of
> > different or the same phase factors can be ascertained. Definitions

> > applied can be approach later. Personally, I view the gravity vector
> > as linear with the other providing a wobberly helical vector i.e
> > circular. but varying angles to the earths surface. Other thinkers
> > will surely disagree, if only to fight over near field over far field!
>
> I have no doubt that gravity effects radio waves in the same manner
> that it has been proven to effect light. The effects are going to be
> such that unless your signal is passing by a black hole of no
> practical concern.
>
> Have a great day Art.
>
> Jimmie

Totally wrong!
The vector inside the boundary opposes gravity!
The particle has a straight line trajectory and does not fall back to earth during that trajectory.The rotary vector supplies spin to the other vector force
just as the dimples in an golf ball or the rifling of a firearm barrel. These same vectors are represented
by time varying electrical current (straight line) as well as displacement current which generates a vortex by its circular motion. When the current flow is completely outside the surface of the radiator skin depth disappears as does resistance. So the radiator has a skin of tightly bonded particles upon which the straight line trajectory is imposed. Remember, earth gravity has zero effect on propagation inside a arbitrary boundary otherwise straight line projection could not exist.

1281. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 00:17:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q4jht5dihjitbp93mv9uj3umthkm9r9gf1@4ax.com>
Source record: 10179

On Wed, 28 Apr 2010 15:51:35 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>that any way you combine the rf from two antennas into one you
>lose the advantages of the diversity of the antennas.

I saw that bold statement as well, and then it was treated to a fog of
support.

At some point, the RF from two antennas must combine by the time it
hits our ears. That, or diversity reception means two people
listening to two sources and then matching notes - which means the RF
from the two antennas combine on the final page draft.

So, let me put this forward.
Two antennas
feeding two separate RF chain amplifiers
both chains mixed from a single LO
two separate mixers into IF chain amplifiers
--- somewhere they have to combine ----
two IFs into two detectors
two detectors into two separate audio chain amps
each audio chain driving a speaker element.

I have (gasp!) interpolated, interpreted, simply guessed, guessed
wrong, guessed right, about this single LO. Maybe it was in the
detector at the end of the IF chain. Whatever.

So, with this duality extending from antenna(s) to speaker(s), is the
prohibition against combining the RF from two antennas merely a
syllogism?

OK, backing up that chain to the concept of two separate RF chain
amplifiers. Lets just call it one RF chain amplifier or no RF
amplifiers and straight to a mixer. Is the prohibition at the
combining of RF from two antennas located at the mixer input? No
parallel connection?

This is getting ugly because it is not about diversity, and it is not
about antennas.

73's
Richard Clark, KB7QHC

1282. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 02:19:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4bd8ecbb$0$50149$8046368a@newsreader.iphouse.net>
Source record: 10180

On 4/28/2010 6:48 PM, Art Unwin wrote:
> On Apr 28, 3:42 pm, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>> On Apr 28, 3:59 pm, Art Unwin<arthurun...@gmail.com> wrote:
>>
>>
>>
>>> On Apr 28, 1:53 pm, Michael Coslo<m...@psu.edu> wrote:
>>
>>>> Jeff Liebermann wrote:
>>>>> A link to the Wikipedia page would probably have been sufficient:
>>>>> <http://en.wikipedia.org/wiki/Diversity_scheme>
>>>>> The problem is that NONE of the diversity schemes mentioned in the
>>>>> Wikipedia article apply to the single antenna example under
>>>>> discussion. In my never humble opinion, there's no way to provide any
>>>>> form of diversity reception improvement with a single antenna, unless
>>>>> one also has two feeds, going to two different receivers, and ending
>>>>> in either a decision switch, or some form of intelligent combiner.
>>
>>>> Trying to wrap my mind around this...
>>
>>>> I wouldn't know how splitting the signal to two receivers would work.
>>>> The issue arises at the antenna doesn't it?
>>
>>>> Indeed, if a single wire antenna would work for diversity reception,
>>>> wouldn't it then follow that you would not have to use diversity
>>>> reception? The signal would already be there for you.
>>
>>>> Seems like a simple test could answer this one.
>>
>>>> - 73 de Mike N3LI -
>>
>>> I think the first place to start is to what the actual antenna pattern
>>> represents in terms of polarity.
>>> For instance, we have two vectors outside the earths boundary thus you
>>> must have two vectors inside the arbitrary boundary. Obviously the
>>> gravity vector will be at right angles to the earths surface. The
>>> other vector representing the rotation of the earth will naturally be
>>> an circular pattern which is the "saucer" pattern portion of the
>>> overall pattern, which is what hams mainly use. Thus we have to make
>>> the first determination as being what each portion of the pattern
>>> represents in terms of polarity, the centre being straight plume field
>>> and the bottom circular field which is a rotational vector. Since they
>>> are in vector form we can see them as a stream of particles where the
>>> two vectors will be additive. It is only then that the problem of

>>> different or the same phase factors can be ascertained. Definitions
>>> applied can be approach later. Personally, I view the gravity vector
>>> as linear with the other providing a wobberly helical vector i.e
>>> circular. but varying angles to the earths surface. Other thinkers
>>> will surely disagree, if only to fight over near field over far field!
>>
>> I have no doubt that gravity effects radio waves in the same manner
>> that it has been proven to effect light. The effects are going to be
>> such that unless your signal is passing by a black hole of no
>> practical concern.
>>
>> Have a great day Art.
>>
>> Jimmie
>
> Totally wrong!
> The vector inside the boundary opposes gravity!
> The particle has a straight line trajectory and does not fall back to
> earth during that trajectory.The rotary vector supplies spin to the
> other vector force
> just as the dimples in an golf ball or the rifling of a firearm
> barrel. These same vectors are represented
> by time varying electrical current (straight line) as well as
> displacement current which generates a vortex by its circular motion.
> When the current flow is completely outside the surface of the
> radiator skin depth disappears as does resistance. So the radiator has
> a skin of tightly bonded particles upon which the straight line
> trajectory is imposed. Remember, earth gravity has zero effect on
> propagation inside a arbitrary boundary otherwise straight line
> projection could not exist.

Welcome back, Art!

And I'm quite serious.

Obviously you are no longer taking your medications or maybe they just
let you out.

Please keep it up. I, for one, have missed your lack of connection to
reality. It is very amusing.

tom
K0TAR

1283. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 02:22:30 UTC
From: tom <news4792@taring.org>
Message-ID: <4bd8ed62$0$50149$8046368a@newsreader.iphouse.net>
Source record: 10181

On 4/28/2010 12:11 PM, Bill wrote:
> On Apr 27, 7:22 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> Tom Rauch W8JI has added to his home page a discussion about diversity
>> antennas
>> As a known authority on antennas he presents interesting insights
>> regarding my
>> diversity antenna where I show computer results of different polarity
>> gains.
>> His knowledge of antennas is much greater than mine, so if any have
>> shown an interest in my antenna design it would be worth while to read
>> Tom's aproach as to what exactly is happening and why
>> Regards
>> Art Unwin KB9MZ
>
> Sly old Art Unwin alludes to his antenna design and initiates a long
> technical thread which talks about anything but an Unwin antenna. And
> how useful is the discussion to the average reader of r.r.a.a.?

It's the amusing part. Totally useless technically, but often comprises
nearly 100% of the traffic on this group for days or weeks.

tom
K0TAR

1284. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 02:38:46 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2986c390-773e-4f43-8506-159fb101e7c6@k29g2000yqh.googlegroups.com>
Source record: 10182

On Apr 28, 5:51 pm, K1TTT <k1...@arrl.net> wrote:
> On Apr 28, 6:45 pm, Michael Coslo <m...@psu.edu> wrote:
>
>
>
> > Richard Clark wrote:
> > > On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4...@arrl.net> wrote:
>
> > >> how useful is the discussion to the average reader of r.r.a.a.?
>
> > > Hi Bill,
>
> > > Well, diversity antenna work is quite useful to the average reader - I
> > > suppose (they haven't actually clamored for the discussion or
> > > embroiled themselves in the topic, but you did couch this in terms of
> > > "readers").
>
> > Sure, at least in a practical sense. I make use of diversity receivers
> > in wireless microphone work.
>
> > While these are used at UHF frequencies rather than HF, our problems are
> > more multipath, maybe picket fencing a bit.
>
> > So while I know better than to get into the definitions of diversity
> > antennas, given my meager abilities, my guess is that if one antenna
> > worked better than two - or merely worked at all, we'd be using just one.
>
> > Tom's pseudo stereo looks suspiciously like a wetware version of my
> > wireless systems,only that they vote, whereas his signal levels are too
> > low for that, so he does it in his head.
>
> > > Unfortunately, if we divorced the two authors who fail to offer what
> > > Diversity means, apart from what is already accepted in convention,
> > > then we remove the entertainment value and "readership" would likely
> > > decline.
>
> > That is for certain.
>
> > > A paradox.
>
> > One of my favorite words.
>
> if the pseudo stereo is derived from 2 different antennas then you
> have diversity reception where the separate antennas provide different

> signals that may fade at different times due to polarization changes
> or incident angle changes... that is what tom was driving at as a
> useful diversity system, albeit at the expense of more complex
> receiver hardware.
>
> when you take a single rf signal and split it through different
> receive processors to shift the phase, or do different sidebands, or
> just run through different high/low pass audio filters, you don't
> really have diversity, you have some kind of a processing system that
> makes it easier for your brain or some other decoder to sort out the
> signal from the noise. I played with some simple ones years ago and
> they can provide interesting effects that can make sorting out signals
> in pileups easier, or maybe pulling signals out of the noise a bit
> easier, but none of them will really prevent the multipath, arrival
> angle, or polarization fading. that is where tom was trying to point
> out that any way you combine the rf from two antennas into one you
> lose the advantages of the diversity of the antennas.

Tom
From my viewpoint which may well be unconventional,
may I point out that both elements as well as the array as a whole is
resonant and in equilibrium.
Thus in reality, you have two separate antennas that are additive and
go to the same receiver.
The receiver uses the addition of the two current flows or two
separate flows thus picking up both linear and non linear signals. So
I would suggest that the antenna is therefore sensitive to both .
phases(ie in phase and out of phase fields).
Ww8ji is of the opinion that the program is in error by virtue of the
statement it makes since it is unable to print the truth but doesn't
provide evidence of same.I believe he is looking at an array that is
not in equilibrium to arrive at his viewpoint.
Both elements pick up the same message with one having a delay in
time due to phase change regardles of what created it, deflection or
other wise. This is no different to viewing both elements as
mechanically vibrating and because the array as a whole is in
equilibrium both will vibrate in unison
Regards
Art

1285. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 03:52:25 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <58de4685-866e-4a5e-8ad3-27d3ff3a05c1@e1g2000yqe.googlegroups.com>
Source record: 10183

On Apr 28, 9:19 pm, tom <news4...@taring.org> wrote:
> On 4/28/2010 6:48 PM, Art Unwin wrote:
>
>
>
> > On Apr 28, 3:42 pm, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
> >> On Apr 28, 3:59 pm, Art Unwin<arthurun...@gmail.com> wrote:
>
> >>> On Apr 28, 1:53 pm, Michael Coslo<m...@psu.edu> wrote:
>
> >>>> Jeff Liebermann wrote:
> >>>>> A link to the Wikipedia page would probably have been sufficient:
> >>>>> <http://en.wikipedia.org/wiki/Diversity_scheme>
> >>>>> The problem is that NONE of the diversity schemes mentioned in the
> >>>>> Wikipedia article apply to the single antenna example under
> >>>>> discussion. In my never humble opinion, there's no way to provide any
> >>>>> form of diversity reception improvement with a single antenna, unless
> >>>>> one also has two feeds, going to two different receivers, and ending
> >>>>> in either a decision switch, or some form of intelligent combiner.
>
> >>>> Trying to wrap my mind around this...
>
> >>>> I wouldn't know how splitting the signal to two receivers would work.
> >>>> The issue arises at the antenna doesn't it?
>
> >>>> Indeed, if a single wire antenna would work for diversity reception,
> >>>> wouldn't it then follow that you would not have to use diversity
> >>>> reception? The signal would already be there for you.
>
> >>>> Seems like a simple test could answer this one.
>
> >>>>   - 73 de Mike N3LI -
>
> >>> I think the first place to start is to what the actual antenna pattern
> >>> represents in terms of polarity.
> >>> For instance, we have two vectors outside the earths boundary thus you
> >>> must have two vectors inside the arbitrary boundary. Obviously the
> >>> gravity vector will be at right angles to the earths surface. The
> >>> other vector representing the rotation of the earth will naturally be
> >>> an circular pattern which is the "saucer" pattern portion of the
> >>> overall pattern, which is what hams mainly use. Thus we have to make
> >>> the first determination as being what each portion of the pattern
> >>> represents in terms of polarity, the centre being straight plume field
> >>> and the bottom circular field which is a rotational vector. Since they

> >>> are in vector form we can see them as a stream of particles where the
> >>> two vectors will be additive. It is only then that the problem of
> >>> different or the same phase factors can be ascertained. Definitions
> >>> applied can be approach later. Personally, I view the gravity vector
> >>> as linear with the other providing a wobberly helical vector i.e
> >>> circular. but varying angles to the earths surface. Other thinkers
> >>> will surely disagree, if only to fight over near field over far field!
>
> >> I have no doubt that gravity effects radio waves in the same manner
> >> that it has been proven to effect light. The effects are going to be
> >> such that unless your signal is passing by a black hole of no
> >> practical concern.
>
> >> Have a great day Art.
>
> >> Jimmie
>
> > Totally wrong!
> > The vector inside the boundary opposes gravity!
> > The particle has a straight line trajectory and does not fall back to
> > earth during that trajectory.The rotary vector supplies spin to the
> > other vector force
> > just as the dimples in an golf ball or the rifling of a firearm
> > barrel. These same vectors are represented
> > by time varying electrical current (straight line) as well as
> > displacement current which generates a vortex by its circular motion.
> > When the current flow is completely outside the surface of the
> > radiator skin depth disappears as does resistance. So the radiator has
> > a skin of tightly bonded particles upon which the straight line
> > trajectory is imposed. Remember, earth gravity has zero effect on
> > propagation inside a arbitrary boundary otherwise straight line
> > projection could not exist.
>
> Welcome back, Art!
>
> And I'm quite serious.
>
> Obviously you are no longer taking your medications or maybe they just
> let you out.
>
> Please keep it up. I, for one, have missed your lack of connection to
> reality. It is very amusing.
>
> tom
> K0TAR

Perception is not the same as reality. A mixer in a radio is different
than what is required when seeking diversity. The first is the mixing
of two different frequencies where diversity requires the mixing of
two frequencies of the same except one has a delay. The output of the

latter is three traces where the two separate bone vibration of the ears can separate the two and where your middle ear can provide the summation. Your brain supplies the jumper of your choice. Without discovery you can abide with perception and not with change. With discoveries you must accept change. If all is known then one doesn't have to accept change and can exist without a brain by being a follower and not a leader.

1286. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 03:56:45 UTC
From: tom <news4792@taring.org>
Message-ID: <4bd9037a$0$635$8046368a@newsreader.iphouse.net>
Source record: 10184

On 4/28/2010 10:52 PM, Art Unwin wrote:
>> Please keep it up. I, for one, have missed your lack of connection to
>> reality. It is very amusing.
>>
>> tom
>> K0TAR
>
> Perception is not the same as reality. A mixer in a radio is different
> than what is required when seeking diversity. The first is the mixing
> of two different frequencies where diversity requires the mixing of
> two frequencies of the same except one has a delay. The output of the
> latter is three traces where the two separate bone vibration of the
> ears can separate the two and where your middle ear can provide the
> summation. Your brain supplies the jumper of your choice. Without
> discovery you can abide with perception and not with change. With
> discoveries you must accept change. If all is known then one doesn't
> have to accept change and can exist without a brain by being a
> follower and not a leader.

Thanks!

tom
K0TAR

1287. Declining river towns of the U.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 04:36:06 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4028d9f3-217f-4fa6-9faa-7b2f5b6af070@d39g2000yqa.googlegroups.com>
Source record: 10185

The wife and I journied down to the drain portion of Illinois to visit
some of the older towns. One town alongside a river had a good side to
it but down town alongside the river seemed somewhat run down.
A walk down what originally was main street
was a collection of buildings some occupied and some not. Looked thru
the window of one and there were various pictures of the past, men
with bowler hats and women with long black dresses depicting the hard
times of the past which forewarned of its future.
On the wall at the side of the montage was a thermometer like diagram
showing the various water levels the river rose with one of which was
caused by the earthquake at Madrid Illinois and where the uppermost
point looked like the middle of the second floor. The next shop window
was empty as was the inside except for an easle holding up a picture
of George W Bush with the caption
Biggest disaster ever!
A wonderful example of English humour.

1288. Re: Declining river towns of the U.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 14:59:55 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <65029fe4-2515-438f-82f0-6d887575737a@e1g2000yqe.googlegroups.com>
Source record: 10186

On Apr 29, 12:36 am, Art Unwin <arthurun...@gmail.com> wrote:
> The wife and I journied down to the drain portion of Illinois to visit
> some of the older towns. One town alongside a river had a good side to
> it but down town alongside the river seemed somewhat run down.
> A walk down what originally was main street
> was a collection of buildings some occupied and some not. Looked thru
> the window of one and there were various pictures of the past, men
> with bowler hats and women with long black dresses depicting the hard
> times of the past which forewarned of its future.
> On the wall at the side of the montage was a thermometer like diagram
> showing the various water levels the river rose with one of which was
> caused by the earthquake at Madrid Illinois and where the uppermost
> point looked like the middle of the second floor. The next shop window
> was empty as was the inside except for an easle holding up a picture
> of George W Bush with the caption
> Biggest disaster ever!
> A wonderful example of English humour.

English humor is usually a little dryer than that.

Jimmie

1289. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 16:30:14 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hrcc6n$f03q$1@tr22n12.aset.psu.edu>
Source record: 10187

K1TTT wrote:
> On Apr 28, 6:45 pm, Michael Coslo <m...@psu.edu> wrote:
>> Richard Clark wrote:
>>> On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4...@arrl.net> wrote:
>>>> how useful is the discussion to the average reader of r.r.a.a.?
>>> Hi Bill,
>>> Well, diversity antenna work is quite useful to the average reader - I
>>> suppose (they haven't actually clamored for the discussion or
>>> embroiled themselves in the topic, but you did couch this in terms of
>>> "readers").
>> Sure, at least in a practical sense. I make use of diversity receivers
>> in wireless microphone work.
>>
>> While these are used at UHF frequencies rather than HF, our problems are
>> more multipath, maybe picket fencing a bit.
>>
>> So while I know better than to get into the definitions of diversity
>> antennas, given my meager abilities, my guess is that if one antenna
>> worked better than two - or merely worked at all, we'd be using just one.
>>
>> Tom's pseudo stereo looks suspiciously like a wetware version of my
>> wireless systems,only that they vote, whereas his signal levels are too
>> low for that, so he does it in his head.
>>
>>> Unfortunately, if we divorced the two authors who fail to offer what
>>> Diversity means, apart from what is already accepted in convention,
>>> then we remove the entertainment value and "readership" would likely
>>> decline.
>> That is for certain.
>>
>>> A paradox.
>> One of my favorite words.
>
> if the pseudo stereo is derived from 2 different antennas then you
> have diversity reception where the separate antennas provide different
> signals that may fade at different times due to polarization changes
> or incident angle changes... that is what tom was driving at as a
> useful diversity system, albeit at the expense of more complex
> receiver hardware.

Yeah, I think I agree with Tom's practical experience/experiment. I
certainly do not think that one antenna is going to do this diversity,
because if it would, it means that there is no need for any of the
diversity systems we know about today, with double antennas, voting

and/or dual receivers.

Richard's concerns are for the definition, which I think in Art's case, is probably important.

> when you take a single rf signal and split it through different
> receive processors to shift the phase, or do different sidebands, or
> just run through different high/low pass audio filters, you don't
> really have diversity, you have some kind of a processing system that
> makes it easier for your brain or some other decoder to sort out the
> signal from the noise. I played with some simple ones years ago

side foray here. Did you try binaural receivers? I've heard of them, never had a chance to listen to one.

> and
> they can provide interesting effects that can make sorting out signals
> in pileups easier, or maybe pulling signals out of the noise a bit
> easier, but none of them will really prevent the multipath, arrival
> angle, or polarization fading. that is where tom was trying to point
> out that any way you combine the rf from two antennas into one you
> lose the advantages of the diversity of the antennas.

I agree. One of the important factors as far as I know is that the antennas have to be in two different spots, and although I haven't measured, (I will now that I'm really interested) I'll bet that the best performance comes at a distance that is well related to the wavelength. Which is to say the picket fencing I hear on a mobile two meter signal might allow me to determine his velocity by knowing the frequency of the picket, the frequency of the transmission, with a likely but small error via Doppler shift.

But aside from that little foray, I have no doubt that the effects that call for diversity antennas/receivers also call for some physical separation of separate antennas.

- 73 de Mike N3LI -

1290. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 16:53:07 UTC
From: nm5k@wt.net
Message-ID: <fd88a613-64c6-4d2c-9943-37a03933e343@q30g2000yqd.googlegroups.com>
Source record: 10188

On Apr 16, 6:16 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:

>
> But just feeding the end of a 1/2 wave wire sticking in the air is
> asking for difficulties. Your coax is nominally 50 ohm sort of
> impedance, and you'd be end feeding a dipole at a high Z point (a
> thousand ohms, maybe).

Feeding it would be fairly easy.. But.. Just because it's a half
wave will not mean that there will be low ground losses if
ground mounted.
You would see less ground loss than a ground mount quarter
wave, but it could still be an issue. Note that most broadcasters
who run half waves, also use a set of half wave radials.
I'd probably rather use 32 ft masts supporting self supporting
32 ft radiators, and use a few sloping radials as radials, and
also to double as guy wires.
That will work fairly well with as few as three radials. More
to be optimum, but this is field day.. :/

1291. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 18:03:37 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hrchlp$jg0$1@news.jpl.nasa.gov>
Source record: 10190

nm5k@wt.net wrote:
> On Apr 16, 6:16 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
>> But just feeding the end of a 1/2 wave wire sticking in the air is
>> asking for difficulties. Your coax is nominally 50 ohm sort of
>> impedance, and you'd be end feeding a dipole at a high Z point (a
>> thousand ohms, maybe).
>
> Feeding it would be fairly easy.. But.. Just because it's a half
> wave will not mean that there will be low ground losses if
> ground mounted.
> You would see less ground loss than a ground mount quarter
> wave, but it could still be an issue. Note that most broadcasters
> who run half waves, also use a set of half wave radials.
> I'd probably rather use 32 ft masts supporting self supporting
> 32 ft radiators, and use a few sloping radials as radials, and
> also to double as guy wires.
> That will work fairly well with as few as three radials. More
> to be optimum, but this is field day.. :/
>

And would strongly resemble the radiators at WWV...

If you do this, you'd put the AH4 at the join point too. For FD, you might want to have the bottom 8-10 feet of the guy/radial be an insulator, so that nobody touches the HV part of the antenna.

1292. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 18:49:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <MJadnagdvfJGSUTWnZ2dnUVZ_rudnZ2d@giganews.com>
Source record: 10189

Michael Coslo wrote:
> K1TTT wrote:
>
>> and
>> they can provide interesting effects that can make sorting out signals
>> in pileups easier, or maybe pulling signals out of the noise a bit
>> easier, but none of them will really prevent the multipath, arrival
>> angle, or polarization fading. that is where tom was trying to point
>> out that any way you combine the rf from two antennas into one you
>> lose the advantages of the diversity of the antennas.
>
> I agree. One of the important factors as far as I know is that the
> antennas have to be in two different spots, and although I haven't
> measured, (I will now that I'm really interested) I'll bet that the best
> performance comes at a distance that is well related to the wavelength.
> Which is to say the picket fencing I hear on a mobile two meter signal
> might allow me to determine his velocity by knowing the frequency of the
> picket, the frequency of the transmission, with a likely but small error
> via Doppler shift.
>
> But aside from that little foray, I have no doubt that the effects that
> call for diversity antennas/receivers also call for some physical
> separation of separate antennas.
>
> - 73 de Mike N3LI -

For diversity, something which you can take advantage of has to be different between signals from two antennas. They can be at the same physical location but, for example, have different polarization (polarization diversity). Or they can be physically separate (space diversity). However, a key necessity is that the signals from the two can't be phase coherent if you're combining them. That means you have to separately detect the two signals with receivers that aren't phase coherent -- you can't use a single LO for both -- then combine the signals after detection. If you do try to connect the antennas together or convert/detect them with the same LO, you'll simply have a single phased array antenna system.

If you're not combining them, but listening to one or the other but not both at the same time based on some sort of voting system, you can detect/convert them any way you want, including using the same LO.

Roy Lewallen, W7EL

1293. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 19:21:24 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hrcm7k$s4r$1@news.jpl.nasa.gov>
Source record: 10191

Michael Coslo wrote:

> I agree. One of the important factors as far as I know is that the
> antennas have to be in two different spots, and although I haven't
> measured, (I will now that I'm really interested) I'll bet that the best
> performance comes at a distance that is well related to the wavelength.
> Which is to say the picket fencing I hear on a mobile two meter signal
> might allow me to determine his velocity by knowing the frequency of the
> picket, the frequency of the transmission, with a likely but small error
> via Doppler shift.
>
> But aside from that little foray, I have no doubt that the effects that
> call for diversity antennas/receivers also call for some physical
> separation of separate antennas.

Actually, the antennas can be co-located, they just have to have
different patterns. There are some researchers in France who did a lot
of work using an active whip next to an active loop.

A pair of crossed dipoles would probably also work, which would have the
advantage that you could use one of them to transmit with.

1294. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 20:07:03 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <c50c6a07-a28c-472f-9f29-c5b989ada45a@k41g2000yqb.googlegroups.com>
Source record: 10192

On Apr 29, 12:30 pm, Michael Coslo <m...@psu.edu> wrote:
> K1TTT wrote:
> > On Apr 28, 6:45 pm, Michael Coslo <m...@psu.edu> wrote:
> >> Richard Clark wrote:
> >>> On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4...@arrl.net> wrote:
> >>>> how useful is the discussion to the average reader of r.r.a.a.?
> >>> Hi Bill,
> >>> Well, diversity antenna work is quite useful to the average reader - I
> >>> suppose (they haven't actually clamored for the discussion or
> >>> embroiled themselves in the topic, but you did couch this in terms of
> >>> "readers").
> >> Sure, at least in a practical sense. I make use of diversity receivers
> >> in wireless microphone work.
>
> >> While these are used at UHF frequencies rather than HF, our problems are
> >> more multipath, maybe picket fencing a bit.
>
> >> So while I know better than to get into the definitions of diversity
> >> antennas, given my meager abilities, my guess is that if one antenna
> >> worked better than two - or merely worked at all, we'd be using just one.
>
> >> Tom's pseudo stereo looks suspiciously like a wetware version of my
> >> wireless systems,only that they vote, whereas his signal levels are too
> >> low for that, so he does it in his head.
>
> >>> Unfortunately, if we divorced the two authors who fail to offer what
> >>> Diversity means, apart from what is already accepted in convention,
> >>> then we remove the entertainment value and "readership" would likely
> >>> decline.
> >> That is for certain.
>
> >>> A paradox.
> >> One of my favorite words.
>
> > > if the pseudo stereo is derived from 2 different antennas then you
> > > have diversity reception where the separate antennas provide different
> > > signals that may fade at different times due to polarization changes
> > > or incident angle changes... that is what tom was driving at as a
> > > useful diversity system, albeit at the expense of more complex
> > > receiver hardware.
>
> Yeah, I think I agree with Tom's practical experience/experiment. I
> certainly do not think that one antenna is going to do this diversity,
> because if it would, it means that there is no need for any of the

> diversity systems we know about today, with double antennas, voting
> and/or dual receivers.
>
> Richard's concerns are for the definition, which I think in Art's case,
> is probably important.
>
>   > when you take a single rf signal and split it through different
>
> > receive processors to shift the phase, or do different sidebands, or
> > just run through different high/low pass audio filters, you don't
> > really have diversity, you have some kind of a processing system that
> > makes it easier for your brain or some other decoder to sort out the
> > signal from the noise. I played with some simple ones years ago
>
> side foray here. Did you try binaural receivers? I've heard of them,
> never had a chance to listen to one.
>
> > and
> > they can provide interesting effects that can make sorting out signals
> > in pileups easier, or maybe pulling signals out of the noise a bit
> > easier, but none of them will really prevent the multipath, arrival
> > angle, or polarization fading. that is where tom was trying to point
> > out that any way you combine the rf from two antennas into one you
> > lose the advantages of the diversity of the antennas.
>
> I agree. One of the important factors as far as I know is that the
> antennas have to be in two different spots, and although I haven't
> measured, (I will now that I'm really interested) I'll bet that the best
> performance comes at a distance that is well related to the wavelength.
> Which is to say the picket fencing I hear on a mobile two meter signal
> might allow me to determine his velocity by knowing the frequency of the
> picket, the frequency of the transmission, with a likely but small error
> via Doppler shift.
>
> But aside from that little foray, I have no doubt that the effects that
> call for diversity antennas/receivers also call for some physical
> separation of separate antennas.
>
>   - 73 de Mike N3LI -

When I was an ET in the Air Force I had a TDY assignment attached to a
project with Hughes. They were attempting to to implement in software
what Tom was doing in wetware. The purpose was to send high speed(at
the time) radar data over HF SSB . The project was a success but the
final implementation was very different from "stereo diversity"
basically because they could not program a computer to do what the
brain can do very easily.

Jimmie

1295. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 20:14:19 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hrcpar$2c2$1@news.jpl.nasa.gov>
Source record: 10193

JIMMIE wrote:

>> But aside from that little foray, I have no doubt that the effects that
>> call for diversity antennas/receivers also call for some physical
>> separation of separate antennas.
>>
>> - 73 de Mike N3LI -
>
> When I was an ET in the Air Force I had a TDY assignment attached to a
> project with Hughes. They were attempting to to implement in software
> what Tom was doing in wetware. The purpose was to send high speed(at
> the time) radar data over HF SSB . The project was a success but the
> final implementation was very different from "stereo diversity"
> basically because they could not program a computer to do what the
> brain can do very easily.
>
these days, though, it's pretty straightforward.. The whiz-bang MIMO
stuff you see in 802.11n, for instance is one flavor of diversity. Two
antennas at each end gives you 4 possible paths (A:1, A:2, B:1, B:2)
each of which will have different fading and interference properties.

1296. Re: ICOM AH-4 into Hy-Gain 64 foot Aluminum Mast

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-29 21:29:13 UTC
From: nm5k@wt.net
Message-ID: <aa0406f5-257d-4404-a330-e4e037542eee@o8g2000yqo.googlegroups.com>
Source record: 10194

On Apr 29, 1:03 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> n...@wt.net wrote:
> > On Apr 16, 6:16 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> >> But just feeding the end of a 1/2 wave wire sticking in the air is
> >> asking for difficulties. Your coax is nominally 50 ohm sort of
> >> impedance, and you'd be end feeding a dipole at a high Z point (a
> >> thousand ohms, maybe).
>
> > Feeding it would be fairly easy.. But.. Just because it's a half
> > wave will not mean that there will be low ground losses if
> > ground mounted.
> > You would see less ground loss than a ground mount quarter
> > wave, but it could still be an issue. Note that most broadcasters
> > who run half waves, also use a set of half wave radials.
> > I'd probably rather use 32 ft masts supporting self supporting
> > 32 ft radiators, and use a few sloping radials as radials, and
> > also to double as guy wires.
> > That will work fairly well with as few as three radials. More
> > to be optimum, but this is field day..   :/
>
> And would strongly resemble the radiators at WWV...
>
> If you do this, you'd put the AH4 at the join point too. For FD, you
> might want to have the bottom 8-10 feet of the guy/radial be an
> insulator, so that nobody touches the HV part of the antenna.

It would be above ground level with a 32 ft mast. So that would
be no problem. I've used that antenna here at the house, except
I had the 32 ft radiator on a 36 ft mast. I used four radials and
sloped them down and tied off to trees, fences, whatever..
I would not use the AH4 tuner. No need.. The antenna would
be resonant. It would work pretty well on longer paths at night.
The same antenna can also be used for 17m if you add a
matching coil to use it as a 5/8 wave. I had a 24 volt relay
rigged up at the feed point of mine, and could switch from the
shack.

1297. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 03:19:05 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <hrdi77$f07s$1@tr22n12.aset.psu.edu>
Source record: 10195

Jim Lux wrote:
> Michael Coslo wrote:

>> But aside from that little foray, I have no doubt that the effects
>> that call for diversity antennas/receivers also call for some physical
>> separation of separate antennas.
>
> Actually, the antennas can be co-located, they just have to have
> different patterns. There are some researchers in France who did a lot
> of work using an active whip next to an active loop.
>
> A pair of crossed dipoles would probably also work, which would have the
> advantage that you could use one of them to transmit with.

Okay, but I'd have to modify (my statement) that as there would have to be some difference in the antennas, even if co located. Some sort of difference that would make one antenna receive some particular signal better than another one. The crossed dipoles are an good example.

As Roy pointed out, it depends on the parameter in question.

- 73 de Mike N3LI -

1298. What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 09:14:28 UTC
From: Peter <pm@hotmail.com>
Message-ID: <GL-dnRxMUdPrAkfWnZ2dnUVZ7oydnZ2d@westnet.com.au>
Source record: 10196

I'm preparing an article for a local radio club magazine about the nature of radio and electromagnetic radiation in general. While this is a non mathematical and general descriptive treatment of the subject it is a challenge to make it clear and consistent.
I know this group has some expertise on this subject and would appreciate any constructive comment and suggestions regarding the attached article.

http://members.optushome.com.au/vk6ysf/vk6ysf/radio.htm

Thank you for your time.

Regards Peter VK6YSF

1299. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 12:12:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <179de490-df4c-412f-b41f-55b933899236@37g2000yqm.googlegroups.com>
Source record: 10197
Body handling: HTML body converted to readable text

On Apr 30, 4:14 am, "Peter" wrote:
> I know this group has some expertise on this subject and would appreciate
> any constructive comment and suggestions regarding the attached article.

The two-dimensional Fig. 2-2 graph is confusing in that it could be
inferred that the E and H fields are 90 degrees out of phase in time
and are never zero at the same time. The E and H fields are in phase
in time as demonstrated by Fig. 2-4.
--
73, Cecil, w5dxp.com

1300. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 14:00:05 UTC
From: greenpjs@neo.rr.com
Message-ID: <hbolt5psr7fg6a9q6tkbb8pjftflhqpon9@4ax.com>
Source record: 10198
Body handling: HTML body converted to readable text

On Fri, 30 Apr 2010 05:12:38 -0700 (PDT), Cecil Moore
wrote:

>On Apr 30, 4:14ï¿½am, "Peter" wrote:
>> I know this group has some expertise on this subject and would appreciate
>> any constructive comment and suggestions regarding the attached article.
>
>The two-dimensional Fig. 2-2 graph is confusing in that it could be
>inferred that the E and H fields are 90 degrees out of phase in time
>and are never zero at the same time. The E and H fields are in phase
>in time as demonstrated by Fig. 2-4.
Hmmm. I'm no expert, but I thought they were 90 degrees out of phase.
It's the rapidly changing H field that creates the E field and vica
versa. If you look closely, Fig 2-4 also shows them 90 degrees out of
phase.

To the OP, heat is not electromagnetic radiation. Light and x-rays
are. You can heat something by pointing em radiation at it and
something that is hot gives off infra-red em radiation, but heat
itself is not em radiation.

Pat

1301. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 16:05:00 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5ed3ce65-10bc-48db-a238-0861de39db3b@d39g2000yqa.googlegroups.com>
Source record: 10101
Body handling: HTML body converted to readable text

On Apr 30, 9:00 am, green...@neo.rr.com wrote:
> On Fri, 30 Apr 2010 05:12:38 -0700 (PDT), Cecil Moore
>
> wrote:
> >On Apr 30, 4:14 am, "Peter" wrote:
> >> I know this group has some expertise on this subject and would appreciate
> >> any constructive comment and suggestions regarding the attached article.
>
> >The two-dimensional Fig. 2-2 graph is confusing in that it could be
> >inferred that the E and H fields are 90 degrees out of phase in time
> >and are never zero at the same time. The E and H fields are in phase
> >in time as demonstrated by Fig. 2-4.
>
> Hmmm. I'm no expert, but I thought they were 90 degrees out of phase.
> It's the rapidly changing H field that creates the E field and vica
> versa. If you look closely, Fig 2-4 also shows them 90 degrees out of
> phase.
>
> To the OP, heat is not electromagnetic radiation. Light and x-rays
> are. You can heat something by pointing em radiation at it and
> something that is hot gives off infra-red em radiation, but heat
> itself is not em radiation.
>
> Pat

It is accepted that radiation is "an acceleration that generates or
transfers a charge ". This is an empty statement if one cannot explain
the mechanics of the operation.Certainly you have to determine what
you have in hand to provide this action, and at the present time there
is no agreement whether it is a wave flow of a constituent, what ever
that may be, or a particle.
Therefore one has to determine exactly what we are going to accelerate
and how we are going to avoid the effects of gravity since radiation
does not follow the action of a descending lob.
This as yet has not been determined, so we cannot begin to
understand! For me I see a wave as being an adjective and a particle
as a noun.
But a word of warning,physicists do not follow the same rules of the
general public, so if you have a day or two to spare get a physicist
to explain exactly what a 'wave' is and how does it fit with the
required straight line accelerating trajectory that opposes gravity!
You just cannot explain "radio" until you determine what you are
accelerating and how.

Sorry about that
Regards
Art

1302. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 17:59:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hk5mt5hei3ith2bitdm7nlhgesafl1h7v9@4ax.com>
Source record: 10102

On Fri, 30 Apr 2010 17:14:28 +0800, "Peter" <pm@hotmail.com> wrote:

>While this is a non
>mathematical and general descriptive treatment of the subject it is a
>challenge to make it clear and consistent.

Hi Peter,

Yes, your treatment does tend to veer towards the exotic topics.

Stick to the basics. You have a wonderful resource that you point to in the Navy training manuals. As a former instructor for the Navy's Electronic Technician A and C schools, I can attest this material manages the balance between technical and theoretical.

You may notice that the first manual introduces the concept of photons, but no where goes into "duality." And for good reason, it doesn't matter one whit. When you raise this concept, the weaker participants of your audience would then think about solar particles in competition with solar radiation (light, largely). They would probably miss the vast difference in propagation speed.

Solar radiation, of course, travels at the speed of light. This is why it is called radiation. Solar particles (the erroneous dual to the photon) travels at less than 1% of the speed of light. If any of your audience were to simply consider their final's tubes, within that glass enclosure, electrons travel at 90% of the speed of light. Dribble a little air into that vacuum tube, and the speed of any electron would plummet to inches per hour.

So, what value is there in opening that can of worms?

73's
Richard Clark, KB7QHC

1303. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 19:52:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c694d916-0d39-4457-af74-d13094f6a4c8@y36g2000yqm.googlegroups.com>
Source record: 10103
Body handling: HTML body converted to readable text

On Apr 30, 12:59 pm, Richard Clark wrote:
> On Fri, 30 Apr 2010 17:14:28 +0800, "Peter" wrote:
> >While this is a non
> >mathematical and general descriptive treatment of the subject it is a
> >challenge to make it clear and consistent.
>
> Hi Peter,
>
> Yes, your treatment does tend to veer towards the exotic topics.
>
> Stick to the basics. You have a wonderful resource that you point to
> in the Navy training manuals. As a former instructor for the Navy's
> Electronic Technician A and C schools, I can attest this material
> manages the balance between technical and theoretical.
>
> You may notice that the first manual introduces the concept of
> photons, but no where goes into "duality." And for good reason, it
> doesn't matter one whit. When you raise this concept, the weaker
> participants of your audience would then think about solar particles
> in competition with solar radiation (light, largely). They would
> probably miss the vast difference in propagation speed.
>
> Solar radiation, of course, travels at the speed of light. This is
> why it is called radiation. Solar particles (the erroneous dual to
> the photon) travels at less than 1% of the speed of light. If any of
> your audience were to simply consider their final's tubes, within that
> glass enclosure, electrons travel at 90% of the speed of light.
> Dribble a little air into that vacuum tube, and the speed of any
> electron would plummet to inches per hour.
>
> So, what value is there in opening that can of worms?
>
> 73's
> Richard Clark, KB7QHC

Obviously a problem here! Quantum mechanics states radio rotates
around particles and classical physics revolves about waves. If
radiation is an acceleration of charge then it is pivotable that one
decides what is being accelerated in the first place!
If Einstein is correct that the speed of light is not to be exceeded
then one has to decide whether a wave is lighter than the smallest
particle possible.
Waves do have length a physicist would say where as a particle can be

a point! How we get straight line trajectory while gravity is present is easily solved. Pysicists have now removed gravity from the Standard Model to get over that problem.The Navy on the other hand ignores the duallity question.

1304. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 21:06:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <6cOdnbHFxe_R20bWnZ2dnUVZ_i2dnZ2d@giganews.com>
Source record: 10104
Body handling: HTML body converted to readable text

greenpjs@neo.rr.com wrote:
> On Fri, 30 Apr 2010 05:12:38 -0700 (PDT), Cecil Moore
> wrote:
>
>> On Apr 30, 4:14 am, "Peter" wrote:
>>> I know this group has some expertise on this subject and would appreciate
>>> any constructive comment and suggestions regarding the attached article.
>> The two-dimensional Fig. 2-2 graph is confusing in that it could be
>> inferred that the E and H fields are 90 degrees out of phase in time
>> and are never zero at the same time. The E and H fields are in phase
>> in time as demonstrated by Fig. 2-4.
> Hmmm. I'm no expert, but I thought they were 90 degrees out of phase.
> It's the rapidly changing H field that creates the E field and vica
> versa. If you look closely, Fig 2-4 also shows them 90 degrees out of
> phase.
> . . .

The time phase angle between E and H is determined by the medium the wave is propagating through. The (complex) ratio of E to H is called the intrinsic impedance of the medium, and for lossless media, it's always a purely real number (about 377 ohms for air or free space), meaning that E and H are in phase. Only when propagating through a lossy medium are E and H not in time phase, and then the maximum phase difference is always less than 45 degrees.

In any version of EZNEC including the demo, you can see the value of the intrinsic impedance of nearly any medium. Select a real ground type, click Ground Descrip in the main window, and enter the conductivity and dielectric constant of the medium. (To simulate free space, enter a very small number for ground conductivity, and 1 for the dielectric constant.) Then open the Utilities menu and select Ground Info. Among other things, it shows the intrinsic impedance of the ground medium in polar form. The angle of the impedance is the time phase angle between E and H of a wave propagating in the medium.

Roy Lewallen, W7EL

1305. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 22:05:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D6B525CEA3E6nonenowhere@61.9.191.5>
Source record: 10105

Roy Lewallen <w7el@eznec.com> wrote in
news:6cOdnbHFxe_R20bWnZ2dnUVZ_i2dnZ2d@giganews.com:

> The time phase angle between E and H is determined by the medium the
> wave is propagating through. The (complex) ratio of E to H is called
> the intrinsic impedance of the medium, and for lossless media, it's
> always a purely real number (about 377 ohms for air or free space),
> meaning that E and H are in phase. Only when propagating through a
> lossy medium are E and H not in time phase, and then the maximum phase
> difference is always less than 45 degrees.

If I understand this correctly, a field arrangement with E and H in time and space quadrature is not propagating energy, but rather energy exchange.

In very close to an antenna, the time phase relationship of E and H may be close to quadrature due to the inductive or reactive field close to the conductors, but that changes eventually to 'in-phase' in the far radiation field in free space (as the induction field components decay more quickly with distance than the radiation field components).

If that is the case, the complex value of E/H varies from very close to the far field. I have seen plots of E/H vs distance that treated E/H as a real number, but I suspect that it is more complex when all of the components of E and H are included.

Thoughts?

Owen

1306. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 23:20:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <860462ab-21b1-4471-bcaf-f218392e084c@p2g2000yqh.googlegroups.com>
Source record: 10106

On Apr 29, 4:30 pm, Michael Coslo <m...@psu.edu> wrote:
> K1TTT wrote:
> > On Apr 28, 6:45 pm, Michael Coslo <m...@psu.edu> wrote:
> >> Richard Clark wrote:
> >>> On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4...@arrl.net> wrote:
> >>>> how useful is the discussion to the average reader of r.r.a.a.?
> >>> Hi Bill,
> >>> Well, diversity antenna work is quite useful to the average reader - I
> >>> suppose (they haven't actually clamored for the discussion or
> >>> embroiled themselves in the topic, but you did couch this in terms of
> >>> "readers").
> >> Sure, at least in a practical sense. I make use of diversity receivers
> >> in wireless microphone work.
>
> >> While these are used at UHF frequencies rather than HF, our problems are
> >> more multipath, maybe picket fencing a bit.
>
> >> So while I know better than to get into the definitions of diversity
> >> antennas, given my meager abilities, my guess is that if one antenna
> >> worked better than two - or merely worked at all, we'd be using just one.
>
> >> Tom's pseudo stereo looks suspiciously like a wetware version of my
> >> wireless systems,only that they vote, whereas his signal levels are too
> >> low for that, so he does it in his head.
>
> >>> Unfortunately, if we divorced the two authors who fail to offer what
> >>> Diversity means, apart from what is already accepted in convention,
> >>> then we remove the entertainment value and "readership" would likely
> >>> decline.
> >> That is for certain.
>
> >>> A paradox.
> >> One of my favorite words.
>
> > if the pseudo stereo is derived from 2 different antennas then you
> > have diversity reception where the separate antennas provide different
> > signals that may fade at different times due to polarization changes
> > or incident angle changes... that is what tom was driving at as a
> > useful diversity system, albeit at the expense of more complex
> > receiver hardware.
>
> Yeah, I think I agree with Tom's practical experience/experiment. I
> certainly do not think that one antenna is going to do this diversity,
> because if it would, it means that there is no need for any of the

> diversity systems we know about today, with double antennas, voting
> and/or dual receivers.
>
> Richard's concerns are for the definition, which I think in Art's case,
> is probably important.
>
>   > when you take a single rf signal and split it through different
>
> > receive processors to shift the phase, or do different sidebands, or
> > just run through different high/low pass audio filters, you don't
> > really have diversity, you have some kind of a processing system that
> > makes it easier for your brain or some other decoder to sort out the
> > signal from the noise. I played with some simple ones years ago
>
> side foray here. Did you try binaural receivers? I've heard of them,
> never had a chance to listen to one.
>
i tried a few combinations of audio high pass/low pass and different
ssb in each ear. there are some interesting effects you can get that
way that give you spatial effects as you tune across the band. you
can get the feeling that the signals come in one ear and out the other
as you tune across them... interesting once you get used to it on cw,
but probably not much use on other modes.

1307. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 23:45:04 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f9bdea18-ccc2-4919-9ae0-6ae4eab9b3e5@g21g2000yqk.googlegroups.com>
Source record: 10107

On Apr 30, 5:05 pm, Owen Duffy <n...@no.where> wrote:
> Roy Lewallen <w...@eznec.com> wrote
innews:6cOdnbHFxe_R20bWnZ2dnUVZ_i2dnZ2d@giganews.com:
>
> > The time phase angle between E and H is determined by the medium the
> > wave is propagating through. The (complex) ratio of E to H is called
> > the intrinsic impedance of the medium, and for lossless media, it's
> > always a purely real number (about 377 ohms for air or free space),
> > meaning that E and H are in phase. Only when propagating through a
> > lossy medium are E and H not in time phase, and then the maximum phase
> > difference is always less than 45 degrees.
>
> If I understand this correctly, a field arrangement with E and H in time
> and space quadrature is not propagating energy, but rather energy
> exchange.
>
> In very close to an antenna, the time phase relationship of E and H may
> be close to quadrature due to the inductive or reactive field close to
> the conductors, but that changes eventually to 'in-phase' in the far
> radiation field in free space (as the induction field components decay
> more quickly with distance than the radiation field components).
>
> If that is the case, the complex value of E/H varies from very close to
> the far field. I have seen plots of E/H vs distance that treated E/H as a
> real number, but I suspect that it is more complex when all of the
> components of E and H are included.
>
> Thoughts?
>
> Owen

Owen
By observation the E and H fields can be seen as a tank circuit where
all vectors are accounted for so that
one follows the notion that energy cannot be created or destroyed plus
the other laws of Newton.
When we stray from that scenario we get into new theories or
imaginations The moment we stray from boundary laws one is coersed
into thinking like somebody of a lesser nature than past masters who
determine phenomina from observation that is matched by known
principles. How on earth can we relate to near fields and far fields
if we haven't decided what the media concists of. My approach was to
stick with the laws of Maxwell which dictates static and dynamic
fields where all forces are accounted for, which shows that gravity

can only be negated by the use of Newton's laws. Thus my foundations were not built on a layer of sand but what is accepted via Maxwell's laws. In other words, the laws of Maxwell points to the presence of particles when dealing with fields and displacements by virtue of the units used. There are lots of things that exhibit properties of other materials and thus by observation can be compared to other things in action, but they should never be considered as one and the same unless they are matched in their entirety. Particles and waves
have lurched beyond science by considering them to be one and the same purely by action and not by substance.
If one is going to discuss energy exchange as with inductance and capacitance to determine relative phase angles , fields etc one cannot stray from the tank circuit
observations.
Regards
Art

1308. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-04-30 23:51:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l6rmt5d8ej5p0gie0174tjsmi4o87550ep@4ax.com>
Source record: 10108

On Fri, 30 Apr 2010 16:20:48 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>i tried a few combinations of audio high pass/low pass and different
>ssb in each ear. there are some interesting effects you can get that
>way that give you spatial effects as you tune across the band. you
>can get the feeling that the signals come in one ear and out the other
>as you tune across them... interesting once you get used to it on cw,
>but probably not much use on other modes.
>

RTTY might have a ping-pong game on acid effect.

73's
Richard Clark, KB7QHC

1309. Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 00:25:39 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <7yKCn.22426$pv.3622@news-server.bigpond.net.au>
Source record: 10109

I was wondering if anyone had any experience of the Meandering Antenna or Meandering Dipole, I have found an article in Pat Hawkers book but the drawings are a bit hard to understand.
I have limited space and was considering building one for 7.1 mhz

Thanks
John

1310. Food for thought

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 00:56:48 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a3779c17-3160-41ff-974b-961a8b9045e5@q32g2000yqb.googlegroups.com>
Source record: 10110

Faraday knew what ever reached a receiver
had to be in either voltage or current form
The Farady cage works by the separation of charges which cancel and
thus the only thing left is voltage and current which is what the
receiver requires.
Since it is established that we can separate charges or fields the
only other thing that can be done using the same logic is to ADD the
charges or fields via a collision. Thus voltage and current does not
come into play and where collision produces what..." light."!
Note: Faraday used the notion of a charge carrying particle where the
charge was evidenced by the capacitive and inductive field content
which some would say is exactly that which left the transmitting
antenna but in reverse.Since a static field can be made dynamic such
that Maxwell's law applies the idea of particles still stands.
When the fields collide they must meld into one and not shatter
otherwise you have produced a mechanism that increases the speed of
light which is a proven by various observations. All of the above is a
natural progression from gaussian laws of statics in a arbitrary
border which is then made dynamic. No new laws required just the use
of accepted laws from the masters on whose shoulders we stand.
I welcome pointers as to where any of the above strays from the laws
of the masters
upon which classical physics is based.
All the above is logic that any student can align with that explains
radio from first principles that are known.

1311. Food for thought

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 00:57:39 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <43642b87-93a0-4510-be00-c897f9fbad3b@q32g2000yqb.googlegroups.com>
Source record: 10111

Faraday knew what ever reached a receiver
had to be in either voltage or current form
The Farady cage works by the separation of charges which cancel and
thus the only thing left is voltage and current which is what the
receiver requires.
Since it is established that we can separate charges or fields the
only other thing that can be done using the same logic is to ADD the
charges or fields via a collision. Thus voltage and current does not
come into play and where collision produces what..." light."!
Note: Faraday used the notion of a charge carrying particle where the
charge was evidenced by the capacitive and inductive field content
which some would say is exactly that which left the transmitting
antenna but in reverse.Since a static field can be made dynamic such
that Maxwell's law applies the idea of particles still stands.
When the fields collide they must meld into one and not shatter
otherwise you have produced a mechanism that increases the speed of
light which is a proven by various observations. All of the above is a
natural progression from gaussian laws of statics in a arbitrary
border which is then made dynamic. No new laws required just the use
of accepted laws from the masters on whose shoulders we stand.
I welcome pointers as to where any of the above strays from the laws
of the masters
upon which classical physics is based.
All the above is logic that any student can align with that explains
radio from first principles that are known.

1312. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 01:02:27 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <677a48ad-a2b0-40ae-82c9-d0da54ae4090@r34g2000yqj.googlegroups.com>
Source record: 10112

On Apr 30, 7:25 pm, "VK2KC" <vk2kcj...@gmail.com> wrote:
> I was wondering if anyone had any experience of the Meandering Antenna or
> Meandering Dipole, I have found an article in Pat Hawkers book but the
> drawings are a bit hard to understand.
> I have limited space and was considering building one for 7.1 mhz
>
> Thanks
> John

John, the laws of Maxwell contain only distributed loads thus actual
loads have to go thru the canceling process leaving only the
disturbance at the bends unaccounted for.
Cheers
Art

1313. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 02:22:58 UTC
From: tom <news4792@taring.org>
Message-ID: <4bdb907e$0$633$8046368a@newsreader.iphouse.net>
Source record: 10113

> It is accepted that radiation is "an acceleration that generates or
> transfers a charge ". This is an empty statement if one cannot explain
> the mechanics of the operation.Certainly you have to determine what
> you have in hand to provide this action, and at the present time there
> is no agreement whether it is a wave flow of a constituent, what ever
> that may be, or a particle.
> Therefore one has to determine exactly what we are going to accelerate
> and how we are going to avoid the effects of gravity since radiation
> does not follow the action of a descending lob.
> This as yet has not been determined, so we cannot begin to
> understand! For me I see a wave as being an adjective and a particle
> as a noun.
> But a word of warning,physicists do not follow the same rules of the
> general public, so if you have a day or two to spare get a physicist
> to explain exactly what a 'wave' is and how does it fit with the
> required straight line accelerating trajectory that opposes gravity!
> You just cannot explain "radio" until you determine what you are
> accelerating and how.
> Sorry about that
> Regards
> Art
>

You are really good, Art. How do you keep it up?

You make new and fresh nonsense up with very many of your posts. Not
every one, but you do have to carry on your themes after all.

Still, it's quite an effort you put into it. How do you continue to
make almost no sense? That's really tough. I mean, even random chance
would say you occasionally have to be realistic.

tom
K0TAR

1314. Re: Declining river towns of the U.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 02:47:29 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <fc002c94-f650-4423-a99e-a2e90f9f6bd8@y18g2000prn.googlegroups.com>
Source record: 10114

On Apr 28, 9:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
> The wife and I journied down to the drain portion of Illinois to visit
> some of the older towns. One town alongside a river had a good side to
> it but down town alongside the river seemed somewhat run down.
> A walk down what originally was main street
> was a collection of buildings some occupied and some not. Looked thru
> the window of one and there were various pictures of the past, men
> with bowler hats and women with long black dresses depicting the hard
> times of the past which forewarned of its future.
> On the wall at the side of the montage was a thermometer like diagram
> showing the various water levels the river rose with one of which was
> caused by the earthquake at Madrid Illinois and where the uppermost
> point looked like the middle of the second floor. The next shop window
> was empty as was the inside except for an easle holding up a picture
> of George W Bush with the caption
> Biggest disaster ever!
> A wonderful example of English humour.

I think Google will tell you that the earthquake you refer to was at
Madrid in Missouri, not Illinois.

Paul

1315. Re: Food for thought

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 03:04:24 UTC
From: tom <news4792@taring.org>
Message-ID: <4bdb9a33$0$50149$8046368a@newsreader.iphouse.net>
Source record: 10115

On 4/30/2010 7:56 PM, Art Unwin wrote:
> Faraday knew what ever reached a receiver
> had to be in either voltage or current form
> The Farady cage works by the separation of charges which cancel and
> thus the only thing left is voltage and current which is what the
> receiver requires.
> Since it is established that we can separate charges or fields the
> only other thing that can be done using the same logic is to ADD the
> charges or fields via a collision. Thus voltage and current does not
> come into play and where collision produces what..." light."!
> Note: Faraday used the notion of a charge carrying particle where the
> charge was evidenced by the capacitive and inductive field content
> which some would say is exactly that which left the transmitting
> antenna but in reverse.Since a static field can be made dynamic such
> that Maxwell's law applies the idea of particles still stands.
> When the fields collide they must meld into one and not shatter
> otherwise you have produced a mechanism that increases the speed of
> light which is a proven by various observations. All of the above is a
> natural progression from gaussian laws of statics in a arbitrary
> border which is then made dynamic. No new laws required just the use
> of accepted laws from the masters on whose shoulders we stand.
> I welcome pointers as to where any of the above strays from the laws
> of the masters
> upon which classical physics is based.
> All the above is logic that any student can align with that explains
> radio from first principles that are known.

Nice move Artie me boy. You bifurcated the thread before it even began.

tom
K0TAR

1316. Re: Declining river towns of the U.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 03:04:31 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <abee188e-a6a3-4dc8-8ed6-1f6313c6586e@u3g2000prl.googlegroups.com>
Source record: 10116

On Apr 28, 9:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
> The wife and I journied down to the drain portion of Illinois to visit
> some of the older towns. One town alongside a river had a good side to
> it but down town alongside the river seemed somewhat run down.
> A walk down what originally was main street
> was a collection of buildings some occupied and some not. Looked thru
> the window of one and there were various pictures of the past, men
> with bowler hats and women with long black dresses depicting the hard
> times of the past which forewarned of its future.
> On the wall at the side of the montage was a thermometer like diagram
> showing the various water levels the river rose with one of which was
> caused by the earthquake at Madrid Illinois and where the uppermost
> point looked like the middle of the second floor. The next shop window
> was empty as was the inside except for an easle holding up a picture
> of George W Bush with the caption
> Biggest disaster ever!
> A wonderful example of English humour.

I clicked on the message because of the subject. I limited my input
because of the author.

1317. Re: Food for thought

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 03:04:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4bdb9a46$0$50149$8046368a@newsreader.iphouse.net>
Source record: 10117

On 4/30/2010 7:57 PM, Art Unwin wrote:
> Faraday knew what ever reached a receiver
> had to be in either voltage or current form
> The Farady cage works by the separation of charges which cancel and
> thus the only thing left is voltage and current which is what the
> receiver requires.
> Since it is established that we can separate charges or fields the
> only other thing that can be done using the same logic is to ADD the
> charges or fields via a collision. Thus voltage and current does not
> come into play and where collision produces what..." light."!
> Note: Faraday used the notion of a charge carrying particle where the
> charge was evidenced by the capacitive and inductive field content
> which some would say is exactly that which left the transmitting
> antenna but in reverse.Since a static field can be made dynamic such
> that Maxwell's law applies the idea of particles still stands.
> When the fields collide they must meld into one and not shatter
> otherwise you have produced a mechanism that increases the speed of
> light which is a proven by various observations. All of the above is a
> natural progression from gaussian laws of statics in a arbitrary
> border which is then made dynamic. No new laws required just the use
> of accepted laws from the masters on whose shoulders we stand.
> I welcome pointers as to where any of the above strays from the laws
> of the masters
> upon which classical physics is based.
> All the above is logic that any student can align with that explains
> radio from first principles that are known.

Nice move Artie me boy. You bifurcated the thread before it even began.

tom
K0TAR

1318. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 03:17:35 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2b346948-17a6-4193-b9c5-19209b7d46a4@k29g2000yqh.googlegroups.com>
Source record: 10118

On Apr 30, 9:22 pm, tom <news4...@taring.org> wrote:
> > It is accepted that radiation is "an acceleration that generates or
> > transfers a charge ". This is an empty statement if one cannot explain
> > the mechanics of the operation.Certainly you have to determine what
> > you have in hand to provide this action, and at the present time there
> > is no agreement whether it is a wave flow of a constituent, what ever
> > that may be, or a particle.
> > Therefore one has to determine exactly what we are going to accelerate
> > and how we are going to avoid the effects of gravity since radiation
> > does not follow the action of a descending lob.
> > This as yet has not been determined, so we cannot begin to
> > understand! For me I see a wave as being an adjective and a particle
> > as a noun.
> > But a word of warning,physicists do not follow the same rules of the
> > general public, so if you have a day or two to spare get a physicist
> > to explain exactly what a 'wave' is and how does it fit with the
> > required straight line accelerating trajectory that opposes gravity!
> > You just cannot explain "radio" until you determine what you are
> > accelerating and how.
> > Sorry about that
> > Regards
> > Art
>
> You are really good, Art. How do you keep it up?
>
> You make new and fresh nonsense up with very many of your posts. Not
> every one, but you do have to carry on your themes after all.
>
> Still, it's quite an effort you put into it. How do you continue to
> make almost no sense? That's really tough. I mean, even random chance
> would say you occasionally have to be realistic.
>
> tom
> K0TAR

As an engineer can't afford to act on theories alone
only those that have already be established.
In other words I can act on a full picture made of jigsaw parts but
not a partial picture. Therefore one must deal with fully melded and
interacting parts that are consistant to reality. Thus I adhere to
classical physics and factual observances or laws without straying
from the path I have chosen from interconnecting parts.
Quantum theory is based on probabilities and associated math. Any body
who has been to the race track knows that this form of thinking has

its fallacies thus probabilities has moved towards string theory. I stick to classical physics as they have a history of success with the laws that they have established but unfortunately physicists have corrupted the language of observances. For instance we had a discussion on Leptons, colour etc. Physicists recognise that colour as the rest of the world knows it as a means of separation of its observed actions instead of labelling it lepton1 or lepton 2.Same goes for hadrons, they actually could be a single type particle but physicists label them by the action that they exhibit on observance. Why do you think that the idea of a mad scientist hangs on to this day. They did similar things with respect to waves which in their world has nothing to do with water, tides e.t.c.
So for me there is merit in sticking to points raised by classical physics since they are tried and true
under examination and have not exploded by categerizing particles by a particular observation.
After all, both a dog and a cat have a tail they can wag but the real world can have the same observation of different entitiesand vica versa.
What I desire the most is for somebody to challenge my statements based on documented observations and laws bearing in mind that the written word comes after factual examination and not before.As yet nobody has pointed out a fallacy that is in conflict with presently known laws, and I mean nobody. If there is a conflict then I will discard all. But remember, I do not make computer programs on radiators but they all confirm the presence of particles and equilibrium and I have had no way of manipulating that to conform to my thinking. They show that maximum radiation is obtained when material resistance drops to zero and radiation rises to a maximum via current flow outside the member to elevate particles at rest on the surface. I couldn't possibly string some thing like that as a joke or by not taking my medicine.

1319. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 03:37:58 UTC
From: tom <news4792@taring.org>
Message-ID: <4bdba218$0$633$8046368a@newsreader.iphouse.net>
Source record: 10119

On 4/30/2010 10:17 PM, Art Unwin wrote:
> On Apr 30, 9:22 pm, tom<news4...@taring.org> wrote:
>>> It is accepted that radiation is "an acceleration that generates or
>>> transfers a charge ". This is an empty statement if one cannot explain
>>> the mechanics of the operation.Certainly you have to determine what
>>> you have in hand to provide this action, and at the present time there
>>> is no agreement whether it is a wave flow of a constituent, what ever
>>> that may be, or a particle.
>>> Therefore one has to determine exactly what we are going to accelerate
>>> and how we are going to avoid the effects of gravity since radiation
>>> does not follow the action of a descending lob.
>>> This as yet has not been determined, so we cannot begin to
>>> understand! For me I see a wave as being an adjective and a particle
>>> as a noun.
>>> But a word of warning,physicists do not follow the same rules of the
>>> general public, so if you have a day or two to spare get a physicist
>>> to explain exactly what a 'wave' is and how does it fit with the
>>> required straight line accelerating trajectory that opposes gravity!
>>> You just cannot explain "radio" until you determine what you are
>>> accelerating and how.
>>> Sorry about that
>>> Regards
>>> Art
>>
>> You are really good, Art. How do you keep it up?
>>
>> You make new and fresh nonsense up with very many of your posts. Not
>> every one, but you do have to carry on your themes after all.
>>
>> Still, it's quite an effort you put into it. How do you continue to
>> make almost no sense? That's really tough. I mean, even random chance
>> would say you occasionally have to be realistic.
>>
>> tom
>> K0TAR
>
> As an engineer can't afford to act on theories alone
> only those that have already be established.
> In other words I can act on a full picture made of jigsaw parts but
> not a partial picture. Therefore one must deal with fully melded and
> interacting parts that are consistant to reality. Thus I adhere to
> classical physics and factual observances or laws without straying
> from the path I have chosen from interconnecting parts.
> Quantum theory is based on probabilities and associated math. Any body

> who has been to the race track knows that this form of thinking has
> its fallacies thus probabilities has moved towards string theory. I
> stick to classical physics as they have a history of success with the
> laws that they have established but unfortunately physicists have
> corrupted the language of observances. For instance we had a
> discussion on Leptons, colour etc. Physicists recognise that colour as
> the rest of the world knows it as a means of separation of its
> observed actions instead of labelling it lepton1 or lepton 2.Same goes
> for hadrons, they actually could be a single type particle but
> physicists label them by the action that they exhibit on observance.
> Why do you think that the idea of a mad scientist hangs on to this
> day. They did similar things with respect to waves which in their
> world has nothing to do with water, tides e.t.c.
> So for me there is merit in sticking to points raised by classical
> physics since they are tried and true
> under examination and have not exploded by categerizing particles by a
> particular observation.
> After all, both a dog and a cat have a tail they can wag but the real
> world can have the same observation of different entitiesand vica
> versa.
> What I desire the most is for somebody to challenge my statements
> based on documented observations and laws bearing in mind that the
> written word comes after factual examination and not before.

<snip>

I couldn't possibly string some thing like that as a joke or
> by not taking my medicine.

Ok, I'm sure that you are the expert on that subject.

Who could argue how sane you always seem to be.

tom
K0TAR

1320. Re: Declining river towns of the U.S.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 04:08:14 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d6a53fc4-0f67-4e3e-8b62-9a36bca5fb50@i9g2000yqi.googlegroups.com>
Source record: 10120

On Apr 30, 9:47 pm, "pdr...@coinet.com" <co_far...@yahoo.com> wrote:
> On Apr 28, 9:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > The wife and I journied down to the drain portion of Illinois to visit
> > some of the older towns. One town alongside a river had a good side to
> > it but down town alongside the river seemed somewhat run down.
> > A walk down what originally was main street
> > was a collection of buildings some occupied and some not. Looked thru
> > the window of one and there were various pictures of the past, men
> > with bowler hats and women with long black dresses depicting the hard
> > times of the past which forewarned of its future.
> > On the wall at the side of the montage was a thermometer like diagram
> > showing the various water levels the river rose with one of which was
> > caused by the earthquake at Madrid Illinois and where the uppermost
> > point looked like the middle of the second floor. The next shop window
> > was empty as was the inside except for an easle holding up a picture
> > of George W Bush with the caption
> > Biggest disaster ever!
> > A wonderful example of English humour.
>
> I think Google will tell you that the earthquake you refer to was at
> Madrid in Missouri, not Illinois.
>
> Paul

Very true. However the Ohio river and the Mississippi river join not
far away from the earthquake epi centre that it forced both the rivers
to flow backwards making new channels, placing vessels in areas where
present day waters do not flow and of course flooding every where. I
checked out the map and the actual river town was in Kentucky no less
because the "dual carriage way" I traveled on wandered over the border
for a few miles.
Cheers and beers.
By the way Bush was an addict
for M and M's as he was sure that it really was a "W" that was
intended!

1321. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 05:34:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <reent5hicogvemucgmktqea03f8sc9p7b0@4ax.com>
Source record: 10121

On Sat, 01 May 2010 00:25:39 GMT, "VK2KC" <vk2kcjohn@gmail.com> wrote:

>I was wondering if anyone had any experience of the Meandering Antenna or
>Meandering Dipole, I have found an article in Pat Hawkers book but the
>drawings are a bit hard to understand.
>I have limited space and was considering building one for 7.1 mhz

Hi John,

It is deceptively simple, and excruciatingly difficult to both build,
or to describe. That is the wonder of "meander." Just by the English
alone, it should inform you that how do you duplicate the meander of a
drunk's walk? It's like trying to gracefully do a toe-to-heel amble
20 meters along a 12 meter long sidewalk. Imagine trying to follow
turn and distance instructions at the same time while the constabulary
are grading your performance.

There is no defined path length to the drunk's stagger, and there is
no defined length to a 7.1MHz Meander dipole. If it doesn't tune up
after you build it, then you did it wrong. In other words, it's an
academic joke.

Can't get much clearer than that.

73's
Richard Clark, KB7QHC

1322. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1272693601@panix.com>
Source record: 10122
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

1323. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 06:22:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D6BA696E489Bnonenowhere@61.9.191.5>
Source record: 10123

Richard Clark <kb7qhc@comcast.net> wrote in
news:reent5hicogvemucgmktqea03f8sc9p7b0@4ax.com:

...
> Can't get much clearer than that.

I recall one of my RF neighbours (VK2BBC) telling stations he was using a
BTMD. That certainly (in those days) sparked a bit of interest, some new
type of fabulous antenna? What was it?

The acronym was for Bent Twisted Mangled Dipole.

Same concept, different implementation!

Owen

1324. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 06:49:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <_6ednekIuNSTUkbWnZ2dnUVZ_s6dnZ2d@giganews.com>
Source record: 10124

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in
> news:6cOdnbHFxe_R20bWnZ2dnUVZ_i2dnZ2d@giganews.com:
>
>> The time phase angle between E and H is determined by the medium the
>> wave is propagating through. The (complex) ratio of E to H is called
>> the intrinsic impedance of the medium, and for lossless media, it's
>> always a purely real number (about 377 ohms for air or free space),
>> meaning that E and H are in phase. Only when propagating through a
>> lossy medium are E and H not in time phase, and then the maximum phase
>> difference is always less than 45 degrees.
>
> If I understand this correctly, a field arrangement with E and H in time
> and space quadrature is not propagating energy, but rather energy
> exchange.

I believe that's correct, but there's no medium in which that would take
place -- with a plane wave at least.

> In very close to an antenna, the time phase relationship of E and H may
> be close to quadrature due to the inductive or reactive field close to
> the conductors, but that changes eventually to 'in-phase' in the far
> radiation field in free space (as the induction field components decay
> more quickly with distance than the radiation field components).
>
> If that is the case, the complex value of E/H varies from very close to
> the far field. I have seen plots of E/H vs distance that treated E/H as a
> real number, but I suspect that it is more complex when all of the
> components of E and H are included.
>
> Thoughts?

Yes, E/H varies a great deal in both magnitude and phase in the near
field. The intrinsic Z describes only the E/H ratio of a plane wave
propagating in the far field. This can be easily investigated with NEC,
EZNEC, or any modeling program that provides near field results.

Incidentally, the physical orientation of E and H, and I believe their
time phase, can be quite different when bounded by conductors as in a
waveguide.

Roy Lewallen, W7EL

1325. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 07:44:50 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4bdbdbf5$0$17089$65785112@news.neostrada.pl>
Source record: 10125

U&#65533;ytkownik "Peter" <pm@hotmail.com> napisa&#65533; w wiadomo&#65533;ci news:GL-dnRxMUdPrAkfWnZ2dnUVZ7oydnZ2d@westnet.com.au...
> I'm preparing an article for a local radio club magazine about the nature
> of radio and electromagnetic radiation in general. While this is a non
> mathematical and general descriptive treatment of the subject it is a
> challenge to make it clear and consistent.
> I know this group has some expertise on this subject and would appreciate
> any constructive comment and suggestions regarding the attached article.
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/radio.htm
>
> Thank you for your time.

You wrote:
"I begin to appreciate a comment made by a fellow radio amateur and technician that antenna theory was 15% science and 85% black magic! "

But in your paper is 85% of science.

Next you wrote:
"Figure 2-3 is a simple picture of an E field detaching itself from an antenna. (The H field will not be considered, although it is present.) In view A the voltage is maximum and the electric field has maximum intensity.
"

That is all. Radio waves are simply the alternate electric field. You should add only that in the and of the dipole the voltage is doubled (at least).

At the end you wrote:
"For myself, I like the humbling fact that despite building our modern technology and economy to large degree on the manipulation of electro magnetic radiation; when it comes to understanding exactly what in fact it is, there still remains some uncertainty and mystery!"

Not always it was a mistery. In the radio history the radio waves were always the electric waves.
Maxwell's hypothezis (EM) was a proposition for the transverse waves (to explain the light polarization).

Now we can produce polarized or not polarized electric waves (by proper arranged polarity).
Polarized light is emmited from dipoles. In nature no monopoles.
S*

1326. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 13:10:56 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <0dedf918-8350-4fa3-848e-811ef787f186@y36g2000yqm.googlegroups.com>
Source record: 10126

On 1 mayo, 02:25, "VK2KC" <vk2kcj...@gmail.com> wrote:
> I was wondering if anyone had any experience of the Meandering Antenna or
> Meandering Dipole, I have found an article in Pat Hawkers book but the
> drawings are a bit hard to understand.
> I have limited space and was considering building one for 7.1 mhz
>
> Thanks
> John

Hello,

I assume that you talk about meandering like the zig/zag pattern on a viper or the pattern of a sidewinder. At other frequencies, yes I do have.

Meandering increases the inductance per unit of length, so the propagating wave slows down. This results in a reduction of resonant length.

The zig/zag wire pieces do, however, not contribute to the far field radiation. Given the same feed current, the meandered dipole radiates less then the full HW one, so the radiation resistance goes down. When your dipole length is about half of the full size length, feed point impedance goes down with almost factor 4.

When you experience good VSWR in a center fed short meandered dipole, you can be sure to have losses.

Best regards,

Wim
PA3DJS
www.tetech.nl
remove abc first in case of PM

1327. Re: Food for thought

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 13:19:16 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <f2843edd-5446-47c4-bf71-444b8d51bc56@o8g2000yqo.googlegroups.com>
Source record: 10127

False assumption to start with Art.
- 'Doc

1328. Re: Food for thought

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 15:04:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rrfot5lj05g94qji04vvs48eajnjgpppaf@4ax.com>
Source record: 10128

On Fri, 30 Apr 2010 <a food poisoned gomer> regurgitated:

>> charge was evidenced by the capacitive and inductive field content
>> which some would say is exactly that which left the transmitting
>> antenna but in reverse.

This solves the problem of SWR:
Power should slowly back out of the transmitter
to pretend it was going into a receiver
and confuse the mismatch.

1329. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 16:23:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e715ebaa-6681-4618-947c-edf6cd17987a@s2g2000yqa.googlegroups.com>
Source record: 10129
Body handling: HTML body converted to readable text

On Apr 30, 4:14 am, "Peter" wrote:
> I'm preparing an article for a local radio club magazine about the nature of
> radio and electromagnetic radiation in general. While this is a non
> mathematical and general descriptive treatment of the subject it is a
> challenge to make it clear and consistent.
> I know this group has some expertise on this subject and would appreciate
> any constructive comment and suggestions regarding the attached article.
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/radio.htm
>
> Thank you for your time.
>
> Regards Peter VK6YSF

Peter, the moment you deviate from the ARRL version of intersecting
fields and refer to waves is when you are going to lose your audience.
Maxwell specifically refers only to two properties inductive and
capacitive both of which can be seen as fields.
ARRL then states that these two fields interact at right angles to
each other which is an interaction of current flow ACROSS a capacitor
which is created by the displacement current. Note that waves are not
even being mentioned. This is exactly the mechanism of a particle in a
crt where the particle collides with a screen and the point it
interacts with the screen is governed by two vectors. The only
difference between radio and the crt beam is that
tho both beams are particles , rotating modulation is only imprinted
on the particles occillations or "spin" to form a information carrier
for radio purposes. It is still a closed tank circuit which is the
propelling engine at the end of all transmitters, except in the
radiation cases the closed circuit crosses over itself by passing
sideways thru a capacitor created in the form of a eddy current
created by the reactionary displacement current flow
The idea of using the "wave" term is a carry over from the old days
where the aether was viewed as a viscous soup which has now been
discarded and replaced by a cloud of free electrons swerling around
looking for a diamagnetic place to rest and where the volume of
electrons is more than the available places to rest. Why a diamagnetic
place to rest? Because diamagnetic means that there is no residual
magnetic content within the resting place medium.
So Peter, your audience can align visually with the idea of a crt
and a beam created by a combination of capacitance and inductance
which provides a straight line trajectory which is a central part of
radio, and gets away from a viscous

water wave movement that does nothing to infer a straight line projection or the energy sinosoidal interaction created by a tank circuit or indeed a pendulum.

1330. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 17:55:04 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <5ea5b3f4-d59e-4b15-82df-850cb5e7ffab@t21g2000yqg.googlegroups.com>
Source record: 10130
Body handling: HTML body converted to readable text

On Apr 30, 5:14 am, "Peter" wrote:
> I'm preparing an article for a local radio club magazine about the nature of
> radio and electromagnetic radiation in general. While this is a non
> mathematical and general descriptive treatment of the subject it is a
> challenge to make it clear and consistent.
> I know this group has some expertise on this subject and would appreciate
> any constructive comment and suggestions regarding the attached article.
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/radio.htm
>
> Thank you for your time.
>
> Regards Peter VK6YSF

Albert Einstein is frequently quoted saying: "The wireless telegraph
is not difficult to understand. The ordinary telegraph is like a very
long cat. You pull
the tail in New York, and it meows in Los Angeles. The wireless is the
same,
only without the cat."

1331. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 18:42:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bdc7618$0$17094$65785112@news.neostrada.pl>
Source record: 10131
Body handling: HTML body converted to readable text

Uzytkownik napisal w wiadomosci
news:5ea5b3f4-d59e-4b15-82df-850cb5e7ffab@t21g2000yqg.googlegroups.com...
On Apr 30, 5:14 am, "Peter" wrote:
>> I'm preparing an article for a local radio club magazine about the nature
>> of
> radio and electromagnetic radiation in general. While this is a non
> mathematical and general descriptive treatment of the subject it is a
> challenge to make it clear and consistent.
> I know this group has some expertise on this subject and would appreciate
> any constructive comment and suggestions regarding the attached article.
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/radio.htm
>
> Thank you for your time.
>
> Regards Peter VK6YSF

>Albert Einstein is frequently quoted saying: "The wireless telegraph
is not difficult to understand. The ordinary telegraph is like a very
long cat. You pull the tail in New York, and it meows in Los Angeles.

Here is the drawing of the cat:
http://library.thinkquest.org/18160/electriceasy.htm

>The wireless is the same, only without the cat."

There is a small difference. If instant of the cat (wire) is an insulator
(aether) in it flows the displacement current. The current is strong when
the capacitance and the frequency is big. It is easy to achive the huge
frequency but for this you must use the modulation.
S*

1332. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 19:00:26 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <dbe8e3d7-3ca8-4210-a7ba-d1c33c8193d7@a21g2000yqn.googlegroups.com>
Source record: 10132

On Apr 30, 6:51 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 30 Apr 2010 16:20:48 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >i tried a few combinations of audio high pass/low pass and different
> >ssb in each ear. there are some interesting effects you can get that
> >way that give you spatial effects as you tune across the band. you
> >can get the feeling that the signals come in one ear and out the other
> >as you tune across them... interesting once you get used to it on cw,
> >but probably not much use on other modes.
>
> RTTY might have a ping-pong game on acid effect.
>
> 73's
> Richard Clark, KB7QHC

Qrz forum has a new posting that states the USN
changed their antennas on the west coast to those tipped from the
horizontal for superior results. This is 60 years ago before the
advent of antenna computers. I would like to think that they saw the
advantages of using two vectors as opposed to just the single one for
gravity, which in a way confirms the diversity antenna shown on the
unwinantennas page which is sensitive to multi polarities. Ofcourse
many on this net will disagree in order to avoid change.
Cheers

1333. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 19:37:35 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <f4dfa7de-2eac-46ca-ac17-a15045e054e7@24g2000yqy.googlegroups.com>
Source record: 10133

On May 1, 9:10 am, Wimpie <wimabc...@tetech.nl> wrote:

> I assume that you talk about meandering like the zig/zag pattern on a
> viper or the pattern of a sidewinder. At other frequencies, yes I do
> have.

There was this ham who came home drunk and spent 20 minutes beating
his dipole to death.

1334. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-01 22:50:45 UTC
From: nm5k@wt.net
Message-ID: <87829b22-1dab-4518-99ab-7b37069787a6@37g2000yqm.googlegroups.com>
Source record: 10134

On May 1, 2:37 pm, Bill <k4...@arrl.net> wrote:
> On May 1, 9:10 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > I assume that you talk about meandering like the zig/zag pattern on a
> > viper or the pattern of a sidewinder. At other frequencies, yes I do
> > have.
>
> There was this ham who came home drunk and spent 20 minutes beating
> his dipole to death.

What a Meanderthal... :/

1335. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 01:03:37 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <68f1a794-eac2-4cbe-8cb2-6bd559fc0602@r11g2000yqa.googlegroups.com>
Source record: 10135

On May 1, 8:10 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 1 mayo, 02:25, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > I was wondering if anyone had any experience of the Meandering Antenna or
> > Meandering Dipole, I have found an article in Pat Hawkers book but the
> > drawings are a bit hard to understand.
> > I have limited space and was considering building one for 7.1 mhz
>
> > Thanks
> > John
>
> Hello,
>
> I assume that you talk about meandering like the zig/zag pattern on a
> viper or the pattern of a sidewinder. At other frequencies, yes I do
> have.
>
> Meandering increases the inductance per unit of length, so the
> propagating wave slows down. This results in a reduction of resonant
> length.
>
> The zig/zag wire pieces do, however, not contribute to the far field
??????

This is news to me! Can you give me a reference ?
This clearly suggests that a twin wire formed in a closed circuit
helix cannot radiate in the far field when it clearly can regardless
of slow wave. If the dipole is clearly in equilibrium it cannot fail
to radiate but then everything depends on the presented aparture and
what medium it is operating under, such as a submarine at some depth
in sea water versus fresh water. I have found that such arrangements
start out at over 100 ohms and then gradually dampen down to 50 ohms
when you start to exceed twice the full wave length and it comprises
of a fully connected electrical wire circuit

A fine example of a meander circuit would be a fractal arranged in
full circuit form
Regards
Art

> radiation. Given the same feed current, the meandered dipole radiates
> less then the full HW one, so the radiation resistance goes down.
> When your dipole length is about half of the full size length, feed
> point impedance goes down with almost factor 4.
>

> When you experience good VSWR in a center fed short meandered dipole,
> you can be sure to have losses.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl
> remove abc first in case of PM

1336. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 02:49:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4bdce82c$0$50151$8046368a@newsreader.iphouse.net>
Source record: 10136

On 5/1/2010 8:03 PM, Art Unwin wrote:
> On May 1, 8:10 am, Wimpie<wimabc...@tetech.nl> wrote:
<snip>
>>
>> Meandering increases the inductance per unit of length, so the
>> propagating wave slows down. This results in a reduction of resonant
>> length.
>>
>> The zig/zag wire pieces do, however, not contribute to the far field
> ??????
>
> This is news to me! Can you give me a reference ?
> This clearly suggests that a twin wire formed in a closed circuit
> helix cannot radiate in the far field when it clearly can regardless
> of slow wave. If the dipole is clearly in equilibrium it cannot fail
> to radiate but then everything depends on the presented aparture and
> what medium it is operating under, such as a submarine at some depth
> in sea water versus fresh water. I have found that such arrangements
> start out at over 100 ohms and then gradually dampen down to 50 ohms
> when you start to exceed twice the full wave length and it comprises
> of a fully connected electrical wire circuit
>
> A fine example of a meander circuit would be a fractal arranged in
> full circuit form
> Regards
> Art

Another fine example of yourself, Art.

Yes, of course it's news to you. Your physics is from a different universe.

Nothing you typed has anything to do with the thread. As usual. It's
just a continuation of your dysreality monologue.

tom
K0TAR

1337. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 09:56:36 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7e080c58-d44e-4fab-ad2b-f5d19bcedb55@o14g2000yqb.googlegroups.com>
Source record: 10137

On 2 mayo, 03:03, Art Unwin <arthurun...@gmail.com> wrote:
> On May 1, 8:10 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > On 1 mayo, 02:25, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > > I was wondering if anyone had any experience of the Meandering Antenna or
> > > Meandering Dipole, I have found an article in Pat Hawkers book but the
> > > drawings are a bit hard to understand.
> > > I have limited space and was considering building one for 7.1 mhz
>
> > > Thanks
> > > John
>
> > Hello,
>
> > I assume that you talk about meandering like the zig/zag pattern on a
> > viper or the pattern of a sidewinder. At other frequencies, yes I do
> > have.
>
> > Meandering increases the inductance per unit of length, so the
> > propagating wave slows down. This results in a reduction of resonant
> > length.
>
> > The zig/zag wire pieces do, however, not contribute to the far field
>
> ??????
>
> This is news to me! Can you give me a reference ?
> This clearly suggests that a twin wire formed in a closed circuit
> helix cannot radiate in the far field when it clearly can regardless
> of slow wave. If the dipole is clearly in equilibrium it cannot fail
> to radiate but then everything depends on the presented aparture and
> what medium it is operating under, such as a submarine at some depth
> in sea water versus fresh water. I have found that such arrangements
> start out at over 100 ohms and then gradually dampen down to 50 ohms
> when you start to exceed twice the full wave length and it comprises
> of a fully connected electrical wire circuit
>
> A fine example of a meander circuit would be a fractal arranged in
> full circuit form
> Regards
> Art
>
> > radiation. Given the same feed current, the meandered dipole radiates

> > less then the full HW one, so the radiation resistance goes down.
> > When your dipole length is about half of the full size length, feed
> > point impedance goes down with almost factor 4.
>
> > When you experience good VSWR in a center fed short meandered dipole,
> > you can be sure to have losses.
>
> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
> > remove abc first in case of PM

Hello Art,

The zig/zag or square wave pattern is frequently used in planar structures (PCB antennas or metal on plastic/paper).

Regarding your request for references, look at UHF (800-900 MHz) RFID tags/transponders (TI, Alian, Rafsec, Feig, Deister, Sams, etc). They use meandering to shorten the overall length of half wave resonating structures. The radiaton pattern still matches that of a dipole, so negligible radiation in axial direction. As you are a ham also, it is not too difficult to prove this yourself.

To get some axial sensitivity, the width of the structure should no longer be << overall length of structure.

Best regards,
Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

1338. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 16:21:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <e77bdac1-ec60-4d8a-bbb6-6d0a7653b12a@e1g2000yqe.googlegroups.com>
Source record: 10138

On May 2, 5:56 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 2 mayo, 03:03, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 1, 8:10 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > On 1 mayo, 02:25, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > > > I was wondering if anyone had any experience of the Meandering Antenna or
> > > > Meandering Dipole, I have found an article in Pat Hawkers book but the
> > > > drawings are a bit hard to understand.
> > > > I have limited space and was considering building one for 7.1 mhz
>
> > > > Thanks
> > > > John
>
> > > Hello,
>
> > > I assume that you talk about meandering like the zig/zag pattern on a
> > > viper or the pattern of a sidewinder. At other frequencies, yes I do
> > > have.
>
> > > Meandering increases the inductance per unit of length, so the
> > > propagating wave slows down. This results in a reduction of resonant
> > > length.
>
> > > The zig/zag wire pieces do, however, not contribute to the far field
>
> > ??????
>
> > This is news to me! Can you give me a reference ?
> > This clearly suggests that a twin wire formed in a closed circuit
> > helix cannot radiate in the far field when it clearly can regardless
> > of slow wave. If the dipole is clearly in equilibrium it cannot fail
> > to radiate but then everything depends on the presented aparture and
> > what medium it is operating under, such as a submarine at some depth
> > in sea water versus fresh water. I have found that such arrangements
> > start out at over 100 ohms and then gradually dampen down to 50 ohms
> > when you start to exceed twice the full wave length and it comprises
> > of a fully connected electrical wire circuit
>
> > A fine example of a meander circuit would be a fractal arranged in
> > full circuit form

> > Regards
> > Art
>
> > > radiation. Given the same feed current, the meandered dipole radiates
> > > less then the full HW one, so the radiation resistance goes down.
> > > When your dipole length is about half of the full size length, feed
> > > point impedance goes down with almost factor 4.
>
> > > When you experience good VSWR in a center fed short meandered dipole,
> > > you can be sure to have losses.
>
> > > Best regards,
>
> > > Wim
> > > PA3DJSwww.tetech.nl
> > > remove abc first in case of PM
>
> Hello Art,
>
> The zig/zag or square wave pattern is frequently used in planar
> structures (PCB antennas or metal on plastic/paper).
>
> Regarding your request for references, look at UHF (800-900 MHz) RFID
> tags/transponders (TI, Alian, Rafsec, Feig, Deister, Sams, etc). They
> use meandering to shorten the overall length of half wave resonating
> structures. The radiaton pattern still matches that of a dipole, so
> negligible radiation in axial direction. As you are a ham also, it is
> not too difficult to prove this yourself.
>
> To get some axial sensitivity, the width of the structure should no
> longer be << overall length of structure.
>
> Best regards,
> Wim
> PA3DJSwww.tetech.nl
> without abc, PM will reach me.

Meander antennas are waht happens when you try to put a 80M antenna in
a 20M backyard.

Jimmie

1339. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 16:33:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v4art55dv5f6j5ei83t8t8rgvj5qa3p4a8@4ax.com>
Source record: 10139

```
>> > > The zig/zag wire pieces do, however, not contribute to the far field
.
.
.
>> > ??????
>> > This is news to me!
.
.
.
>> > > radiation. Given the same feed current, the meandered dipole radiates
>> > > less then the full HW one, so the radiation resistance goes down.
.
.
.
>Meander antennas are waht happens when you try to put a 80M antenna in
>a 20M backyard.
.
.
.
or 160M into a shoebox (connect the dots)
.
.
,

73's
Richard Clark, KB7QHC
```

1340. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 16:49:35 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <094e5a1f-e9e1-4996-82f0-5d1d71b73158@k41g2000yqb.googlegroups.com>
Source record: 10140

On May 2, 5:56 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 2 mayo, 03:03, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 1, 8:10 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > On 1 mayo, 02:25, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > > > I was wondering if anyone had any experience of the Meandering Antenna or
> > > > Meandering Dipole, I have found an article in Pat Hawkers book but the
> > > > drawings are a bit hard to understand.
> > > > I have limited space and was considering building one for 7.1 mhz
>
> > > > Thanks
> > > > John
>
> > > Hello,
>
> > > I assume that you talk about meandering like the zig/zag pattern on a
> > > viper or the pattern of a sidewinder. At other frequencies, yes I do
> > > have.
>
> > > Meandering increases the inductance per unit of length, so the
> > > propagating wave slows down. This results in a reduction of resonant
> > > length.
>
> > > The zig/zag wire pieces do, however, not contribute to the far field
>
> > ??????
>
> > This is news to me! Can you give me a reference ?
> > This clearly suggests that a twin wire formed in a closed circuit
> > helix cannot radiate in the far field when it clearly can regardless
> > of slow wave. If the dipole is clearly in equilibrium it cannot fail
> > to radiate but then everything depends on the presented aparture and
> > what medium it is operating under, such as a submarine at some depth
> > in sea water versus fresh water. I have found that such arrangements
> > start out at over 100 ohms and then gradually dampen down to 50 ohms
> > when you start to exceed twice the full wave length and it comprises
> > of a fully connected electrical wire circuit
>
> > A fine example of a meander circuit would be a fractal arranged in
> > full circuit form

> > Regards
> > Art
>
> > > radiation. Given the same feed current, the meandered dipole radiates
> > > less then the full HW one, so the radiation resistance goes down.
> > > When your dipole length is about half of the full size length, feed
> > > point impedance goes down with almost factor 4.
>
> > > When you experience good VSWR in a center fed short meandered dipole,
> > > you can be sure to have losses.
>
> > > Best regards,
>
> > > Wim
> > > PA3DJSwww.tetech.nl
> > > remove abc first in case of PM
>
> Hello Art,
>
> The zig/zag or square wave pattern is frequently used in planar
> structures (PCB antennas or metal on plastic/paper).
>
> Regarding your request for references, look at UHF (800-900 MHz) RFID
> tags/transponders (TI, Alian, Rafsec, Feig, Deister, Sams, etc). They
> use meandering to shorten the overall length of half wave resonating
> structures. The radiaton pattern still matches that of a dipole, so
> negligible radiation in axial direction. As you are a ham also, it is
> not too difficult to prove this yourself.
>
> To get some axial sensitivity, the width of the structure should no
> longer be << overall length of structure.
>
> Best regards,
> Wim
> PA3DJSwww.tetech.nl
> without abc, PM will reach me.

Meander antennas are waht happens when you try to put a 80M antenna in
a 20M backyard.

Jimmie

1341. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 18:30:31 UTC
From: richardharrison@webtv.net
Message-ID: <1950-4BDDC4C7-543@storefull-3173.bay.webtv.net>
Source record: 10141

Peter wrote:
"----- it is a challenge to make it clear and consistent."

For me. no one does a better job than Dr. Frederick Emmons Terman who wrote on page 1 of "Electronics and Radio Engineering":
"Electrical energy that has escaped into free space is in the form of electromagnetic waves. These waves, which are commonly called radio waves, travel with the velocity of light and donsist of magnetic and electric hields that are at right angles to each other and also at right angles to the direction of travel."

The rest is in the book which should be consulted for a complete definition.

Best regards, Richard Harrison, KB5WZ5

1342. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-02 19:41:14 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bddd55f$0$17083$65785112@news.neostrada.pl>
Source record: 10142

Uzytkownik "Richard Harrison" <richardharrison@webtv.net> napisal w
wiadomosci news:1950-4BDDC4C7-543@storefull-3173.bay.webtv.net...
> Peter wrote:
> "----- it is a challenge to make it clear and consistent."
>
> For me. no one does a better job than Dr. Frederick Emmons Terman who
> wrote on page 1 of "Electronics and Radio Engineering":
> "Electrical energy that has escaped into free space is in the form of
> electromagnetic waves. These waves, which are commonly called radio
> waves, travel with the velocity of light and donsist of magnetic and
> electric hields that are at right angles to each other and also at right
> angles to the direction of travel."
>
> The rest is in the book which should be consulted for a complete
> definition.

Maxwell proposed EM to explain the polarization of light.
Now the radio waves are or are not polarized.

Wiki wrote: " FM radio
The term "circular polarization" is often used erroneously to describe mixed
polarity signals used mostly in FM radio (87.5 to 108.0 MHz), where a
vertical and a horizontal component are propagated simultaneously by a
single or a combined array. This has the effect of producing greater
penetration into buildings and difficult reception areas than a signal with
just one plane of polarization. This would be an instance where the
polarization would more appropriately be called random polarization (or
simply unpolarized). See Stokes parameters."

Why "erroneously"?

Are the radio waves different than light?

S*

>
> Best regards, Richard Harrison, KB5WZ5
>

1343. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 01:08:51 UTC
From: richardharrison@webtv.net
Message-ID: <1949-4BDE2223-1416@storefull-3173.bay.webtv.net>
Source record: 10143

Sz. Bialek wrote:
"Are the radio waves different than light?"

Yes, as light waves are much higher in frequency than radio waves but, in most ways they are identical. As an example, cross-polarized receptors for both light and radio waves suffer greatly in receptivity.

Best regards, Richard Harrison, KB5WZI

1344. Balanced antenna, unbalanced test set-up?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 01:33:22 UTC
From: John KD5YI <mycalldotjocjodotjocjo@xoxy.net>
Message-ID: <hrl952$fd6$1@speranza.aioe.org>
Source record: 10144

I would like to test the impedance characteristics of a rectangular
full-wave loop antenna. My test equipment is 50 ohms unbalanced.
Frequency is 450 MHz. What are my choices to achieve the conversion from
balanced to unbalanced and which might be the best (affordable) choice
for my test purposes?

Cheers,
John, KD5YI

1345. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 01:39:48 UTC
From: richardharrison@webtv.net
Message-ID: <7750-4BDE2964-545@storefull-3172.bay.webtv.net>
Source record: 10145

Wim, PA3DJS wrote:
"The zig/zag pieces do, however, not contribute to the far field
radiation."

My take is slightly different. The complete antenna can be considered as
made up of infinitely small pieces, each of which contributes to a
wector sum at a distant point in the far field depending on the current
in the tiny segment and its position.

Best regards, Richard Harrison, KB5WZI

1346. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 01:56:20 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <83qDn.22715$pv.20593@news-server.bigpond.net.au>
Source record: 10146

Hello all,
I do appreciate the input, seems like its not such a good idea!

Just to clarify the actual construction details, the configuration would be in a dipole.

The 1/4 lambda wire would be wound on a form which has slots cut into the periphery of an insulator to accommodate the wire and the form would be 300mm (12") in diameter, the wire would be wound from top to bottom of the form until all the wire is wound on the form. I envisage a 75mm (3") gap between each slot, maybe more depending on the distance between the circular insulators, around 1500mm (5 ft).

Hopefully you can picture what I was going to build!

John
VK2KC

There would be two of these and
"Richard Harrison" <richardharrison@webtv.net> wrote in message
news:7750-4BDE2964-545@storefull-3172.bay.webtv.net...
> Wim, PA3DJS wrote:
> "The zig/zag pieces do, however, not contribute to the far field
> radiation."
>
> My take is slightly different. The complete antenna can be considered as
> made up of infinitely small pieces, each of which contributes to a
> wector sum at a distant point in the far field depending on the current
> in the tiny segment and its position.
>
> Best regards, Richard Harrison, KB5WZI
>
>

1347. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 02:18:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <96udnf1v_Zrtr0PWnZ2dnUVZ_jOdnZ2d@giganews.com>
Source record: 10147

Richard Harrison wrote:
> Wim, PA3DJS wrote:
> "The zig/zag pieces do, however, not contribute to the far field
> radiation."
>
> My take is slightly different. The complete antenna can be considered as
> made up of infinitely small pieces, each of which contributes to a
> wector sum at a distant point in the far field depending on the current
> in the tiny segment and its position.
>
> Best regards, Richard Harrison, KB5WZI

And that's exactly how antenna modeling programs calculate the field --
except that the antenna is broken into a finite number of pieces rather
than an infinite number. As long as the current doesn't change much over
the length of one piece (or "segment" as called in antenna modeling),
the result is very accurate.

Roy Lewallen, W7EL

1348. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 02:44:30 UTC
From: richardharrison@webtv.net
Message-ID: <7750-4BDE388E-553@storefull-3172.bay.webtv.net>
Source record: 10148

Jeff Liebermann wrote:
"In my never humble opinion, there`s no way to provide any form of diversity reception improvement with a single antenna, unless one also uses two feeds, going to different receivers, and ending in either a decision awitch or an intelligent combiner."

That is my experience too. Space diversity requires 2 or more antennas and receivers. One antenna can serve separate receivers which are connected to cross-polarized feeds using a single reflector for polarization diversity.
Or, multiple receivers can be used on a single receiving antenna, but transmission of more than one copy of the desired signal is required, This is how frequency diversity is usually achieved. Two copies of the same program may be modulated on the same carrier if it is shown that the medium treats the sidebands differently so that when one is treated badly the other may be solid. I`ve seen this done with selection of upper or lower sideband from a double sideband transmission.

Best regards, Richard harrison, KB5WZI

1349. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 04:30:58 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <q1ist5tdfinm0o2mivaod7hlatqjhn9rs4@4ax.com>
Source record: 10149

On Sun, 2 May 2010 21:44:30 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>Jeff Liebermann wrote:
>"In my never humble opinion, there`s no way to provide any form of
>diversity reception improvement with a single antenna, unless one also
>uses two feeds, going to different receivers, and ending in either a
>decision awitch or an intelligent combiner."
>
>That is my experience too. Space diversity requires 2 or more antennas
>and receivers. One antenna can serve separate receivers which are
>connected to cross-polarized feeds using a single reflector for
>polarization diversity.
>Or, multiple receivers can be used on a single receiving antenna, but
>transmission of more than one copy of the desired signal is required,
>This is how frequency diversity is usually achieved. Two copies of the
>same program may be modulated on the same carrier if it is shown that
>the medium treats the sidebands differently so that when one is treated
>badly the other may be solid. I`ve seen this done with selection of
>upper or lower sideband from a double sideband transmission.
>
>Best regards, Richard harrison, KB5WZI

Thanks. It's an unusual experience when someone actually agrees with me.

Part of the problem is that HF and microwave diversity have different purposes and therefore different methods. I'll try to describe some of these (until the epoxy dries and is safe to handle).

For example, the common Wi-Fi 2.4Ghz access point, uses diversity to mitigate the effects of frequency selective fading. With two antennas, one receiver, and a PIN diode switch, the access point normally has one MAIN antenna selected. However, when the error rate climbs to the point where the MAIN antenna is hearing garbage, the PIN switch selects the AUX antenna in the hope of an improvement. With frequency selective fading, the MAIN antenna could easily be sitting at a location, where the direct and incident paths from the client radio are 180 degrees otto phase, and therefore would cancel. By switching to the AUX antenna, the assumption is that it is not located in a place where the signals cancel.
<http://www.cisco.com/en/US/tech/tk722/tk809/technologies_tech_note09186a008019f646.shtml>
<http://www.commsdesign.com/design_corner/showArticle.jhtml?articleID=16501888>
<http://www.commsdesign.com/design_corner/showArticle.jhtml?articleID=16500279>

For VHF/UHF, a form of diversity that is very commonly used is a receiver voting system. These are heavily used by municipal services to cover wide areas with HT's. The HT can easily hear a single central dispatch transmitter, but the return TX power is limited, requiring multiple receivers at difference geographic locations to cover a city or county. For such systems, remote receivers are located at various locations. The backhaul returns the audio and data to a central location, where a voting system equalizes the backhaul delays, determines the best SNR, and provides the dispatcher with the best possible receiver audio or data. There are various patented schemes to make the SNR selection. While not normally considered a diversity reception system, I consider it to be a form of diversity.
<http://www.repeater-builder.com/tech-info/votingcomparators.html>

For HF, the problem is fading caused by atmospheric and ionospheric phenomenon. There are several types of fades (flat, frequency selective, multipath, Faraday rotation polarization change, absorptive, fast, slow, etc). Some of these are detailed in:
<http://en.wikipedia.org/wiki/Fading>
The assumption is that for most (not all) types of HF fading, geographic separation of the antennas will result in one of the two antennas being in a location where the fade is minimal. In order to utilize this advantage, some manner of voting system needs to be implemented to decide which antenna is best. This is usually done with two receivers, but can be done with a single receiver and an antenna switch, if one is willing to tolerate some data loss when the receiver is switched to the wrong antenna.
<http://www.navy-radio.com/rcvr-div.htm>
(Also search for "dual diversity HF reception")

Locating the two HF antennas at a single location has some benefits when dealing with polarization diversity, but is generally a loser when dealing with most of the others, where both antennas (and both polarizations) are likely to simultaneously experience the same fade mechanism. For such contrivances, I suspect it might be equally effective to setup the HF antenna for circular polarization.

Ok... the epoxy is sorta dry.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1350. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 07:25:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bde7a62$0$19178$65785112@news.neostrada.pl>
Source record: 10150

Uzytkownik "Richard Harrison" <richardharrison@webtv.net> napisal w
wiadomosci news:1949-4BDE2223-1416@storefull-3173.bay.webtv.net...
> Sz. Bialek wrote:
> "Are the radio waves different than light?"
>
> Yes, as light waves are much higher in frequency than radio waves but,
> in most ways they are identical. As an example, cross-polarized
> receptors for both light and radio waves suffer greatly in receptivity.

So in most ways yes.
Radio waves from the dipole are polarized. Does it mean that light is
emitted by a dipoles?

We can shield the one end of the dipole. Are such waves polarized?

Why the dipoles exhibit the directional pattern?

Are the ansfers in "Electronics and Radio Engineering"?
S*

1351. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 07:35:22 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bde7cbf$0$17083$65785112@news.neostrada.pl>
Source record: 10051

"Roy Lewallen" <w7el@eznec.com> wrote
news:96udnf1v_Zrtr0PWnZ2dnUVZ_jOdnZ2d@giganews.com...
> Richard Harrison wrote:
>> Wim, PA3DJS wrote:
>> "The zig/zag pieces do, however, not contribute to the far field
>> radiation."
>>
>> My take is slightly different. The complete antenna can be considered as
>> made up of infinitely small pieces, each of which contributes to a
>> wector sum at a distant point in the far field depending on the current
>> in the tiny segment and its position.
>>
>> Best regards, Richard Harrison, KB5WZI
>
> And that's exactly how antenna modeling programs calculate the field --
> except that the antenna is broken into a finite number of pieces rather
> than an infinite number. As long as the current doesn't change much over
> the length of one piece (or "segment" as called in antenna modeling), the
> result is very accurate.

In antennas are the standing waves. In a long wire antenna are many nodes.
Does anybody calculate the contribution from the nodes only?
S*

1352. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 10:21:07 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <6a048e66-94ea-4280-ab86-0c01d29b539d@e2g2000yqn.googlegroups.com>
Source record: 10052

On 3 mayo, 03:39, richardharri...@webtv.net (Richard Harrison) wrote:
> Wim, PA3DJS wrote:
>
> "The zig/zag pieces do, however, not contribute to the far field
> radiation."
>
> My take is slightly different. The complete antenna can be considered as
> made up of infinitely small pieces, each of which contributes to a
> wector sum at a distant point in the far field depending on the current
> in the tiny segment and its position.
>
> Best regards, Richard Harrison, KB5WZI

Hello Richard,

Agree with the basic principle of (far) field calculation. Regarding
meandering or helical wound:

The longitudinal components reinforce each other, but the lateral
components (zig/zag parts), change direction each time. Therefore the
resultant field (vector sum) is negligible with respect to the field
from the longitudinal components.

Best regards,

Wim
PA3DJS
www.tetech.nl
remove abc first in case of PM

1353. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 11:27:04 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <5d9a58bb-84a5-461c-b186-5826e394d506@37g2000yqm.googlegroups.com>
Source record: 10053

On May 2, 9:39 pm, richardharri...@webtv.net (Richard Harrison) wrote:
> Wim, PA3DJS wrote:
>
> "The zig/zag pieces do, however, not contribute to the far field
> radiation."
>
> My take is slightly different. The complete antenna can be considered as
> made up of infinitely small pieces, each of which contributes to a
> wector sum at a distant point in the far field depending on the current
> in the tiny segment and its position.
>
> Best regards, Richard Harrison, KB5WZI

Yep, that's why 160M antennas that fit in a shoebox don't work.

Jimmie

1354. Re: Balanced antenna, unbalanced test set-up?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 13:18:00 UTC
From: danny <k6mhe@k6mhe.net>
Message-ID: <hrmie803139@news2.newsguy.com>
Source record: 10054

On Sun, 02 May 2010 20:33:22 -0500, John KD5YI wrote:

> I would like to test the impedance characteristics of a rectangular
> full-wave loop antenna. My test equipment is 50 ohms unbalanced.
> Frequency is 450 MHz. What are my choices to achieve the conversion from
> balanced to unbalanced and which might be the best (affordable) choice
> for my test purposes?
>
> Cheers,
> John, KD5YI

Agilent Application Note AN 346-2 should provide the information you're
looking for

You can get a copy of AN 346-2 for yourself here:

http://cp.literature.agilent.com/litweb/pdf/5091-4480E.pdf

Hope that helps.

73,

Danny, K6MHE

1355. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 14:36:03 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hrmn0j$eo5c$1@tr22n12.aset.psu.edu>
Source record: 10055

Richard Clark wrote:
>>>>> The zig/zag wire pieces do, however, not contribute to the far field
> .
> .
> .
>>>> ??????
>>>> This is news to me!
> .
> .
> .
>>>>> radiation. Given the same feed current, the meandered dipole radiates
>>>>> less then the full HW one, so the radiation resistance goes down.
> .
> .
> .
>> Meander antennas are waht happens when you try to put a 80M antenna in
>> a 20M backyard.
> .
> .
> .
> or 160M into a shoebox (connect the dots)

Twas a primitive antenna, a brutish thing, and went extinct long ago.
Meanderthals we called them.

- 73 de Mike N3LI -

1356. Re: Meandering Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 14:42:58 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hrmndi$eo5e$1@tr22n12.aset.psu.edu>
Source record: 10056

VK2KC wrote:
> Hello all,
> I do appreciate the input, seems like its not such a good idea!

It's not the best idea, but don't think it's not a good idea. If you use a broad definition of meander, you can have drooping ends, of one time I made an antenna that was sort of "Z" shaped.

It's making antenna for the space you have available.

> Just to clarify the actual construction details, the configuration would be
> in a dipole.
>
> The 1/4 lambda wire would be wound on a form which has slots cut into the
> periphery of an insulator to accommodate the wire and the form would be
> 300mm (12") in diameter, the wire would be wound from top to bottom of the
> form until all the wire is wound on the form. I envisage a 75mm (3") gap
> between each slot, maybe more depending on the distance between the circular
> insulators, around 1500mm (5 ft).

Sounds like a form of slinky antenna to me. You wouldn't end up with a quarter wavelength on each side, it would be less due to inductance.

What frequency are you looking at here?

>
- 73 de Mike N3LI -

1357. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 15:30:26 UTC
From: richardharrison@webtv.net
Message-ID: <7749-4BDEEC12-1766@storefull-3172.bay.webtv.net>
Source record: 10057

Pat wrote:
"To the OP, heat is not electromagnetic radiation."

Physics books disagree with Pat. Henry Semat, Ph.D. wrote on page 327 of "Fundamentals of Physics":
"The transfer of heat by the process of radiation need not involve the use of material media. An outstanding example is radiation of energy from the sun to the earth: by far the greatest part of space between these two bodies is a very good vacuum. The fadiant energy consists of electromagnetic waves which travel with the speed of light, about 186,000 miles per second."

Best regards, Richard Harrison, KB5WZI

1358. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 17:03:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a2utt552clrosdinbdmgp9p1lfptfvnba2@4ax.com>
Source record: 10058

On Mon, 3 May 2010 10:30:26 -0500, richardharrison@webtv.net (Richard Harrison) wrote:

>"To the OP, heat is not electromagnetic radiation."
>
>Physics books disagree with Pat.

Hi Richard,

The discussion of heat is more a metaphysical concept because it is confused by our senses.

Entropy demands that everything inexorably cools by dissipating its energy (heat) into the void of cold space. Hence, everything radiates (and yet we spend very little time writing about it, except for Art). A good deal of this entropic radiation is like waiting an infinite time for a circuit with infinite-1 Q to stop ringing.

The sun burns bright in the cosmos, but the greater part of the cosmos is unheated by the sun even though all of the cosmos is illuminated (radiated) by the sun.

Direct observation 1: Put two plates out in the noon sun but undisturbed by the motion of air. One plate of metal, the other of glass. Which gets hotter? Same amount of radiation from a known heat source, but clearly different results in heat.

Direct observation 2: Shine (radiate) an IR LED onto the back of your hand, or onto your forehead (an excellent heat detector). What do you feel? At some IR wavelengths, your head is as translucent as an architectural glass brick.

73's
Richard Clark, KB7QHC

1359. Re: Balanced antenna, unbalanced test set-up?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 18:09:10 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <5c129b83-c4a0-4afb-b3b7-9383b2b022b1@a21g2000yqn.googlegroups.com>
Source record: 10059

On 3 mayo, 03:33, John KD5YI <mycalldotjocjodotjo...@xoxy.net> wrote:
> I would like to test the impedance characteristics of a rectangular
> full-wave loop antenna. My test equipment is 50 ohms unbalanced.
> Frequency is 450 MHz. What are my choices to achieve the conversion from
> balanced to unbalanced and which might be the best (affordable) choice
> for my test purposes?
>
> Cheers,
> John, KD5YI

Hello John,

There are many options for your frequency range.

Try to get some ferrite rings that tight fit around the coaxial cable and that have high impedance around your frequency. When you have specs (from the ferrite you use) this is the easiest one that doesn't require any tuning.

connect the feed cable to a solid ground at 0.23 lambda from its end (where the loop is). The low common mode Z at the short results in a high common mode Z at the end (where the loop is). two strips of about 0.22 lambda can also serve as a floating ground.

you can make a bazooka type choke (about quarter wave sleeve around the cable). Best is to have lots of air between the sleeve and the coaxial cable. This one requires some experimentation as the actual length depends on the dielectric around the cable also.

When your loop impedance turns-out to be high, your balun must be better as the common mode voltage component increases with high impedance balanced antennas. I see you are working on a full wave loop, this one is not high Z (below 200 Ohms).

Good luck with the loop measurements,

Wim
PA3DJS
www.tetech.nl
remove abc first in case of PM

1360. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 19:13:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <52e7cc63-c7c5-4887-9a67-af3f6f5f6dd6@n15g2000yqf.googlegroups.com>
Source record: 10060

On May 1, 7:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Apr 30, 6:51 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > On Fri, 30 Apr 2010 16:20:48 -0700 (PDT), K1TTT <k1...@arrl.net>
> > wrote:
>
> > >i tried a few combinations of audio high pass/low pass and different
> > >ssb in each ear. there are some interesting effects you can get that
> > >way that give you spatial effects as you tune across the band. you
> > >can get the feeling that the signals come in one ear and out the other
> > >as you tune across them... interesting once you get used to it on cw,
> > >but probably not much use on other modes.
>
> > RTTY might have a ping-pong game on acid effect.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Qrz forum has a new posting that states the USN
> changed their antennas on the west coast to those tipped from the
> horizontal for superior results. This is 60 years ago before the
> advent of antenna computers. I would like to think that they saw the
> advantages of using two vectors as opposed to just the single one for
> gravity, which in a way confirms the diversity antenna shown on the
> unwinantennas page which is sensitive to multi polarities. Ofcourse
> many on this net will disagree in order to avoid change.
> Cheers

well, why don't you just go there and spew your bafflegab about how
you can prove that they were right to do that!

1361. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 19:16:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <EfCdne20e-yuvELWnZ2dnUVZ_jSdnZ2d@giganews.com>
Source record: 10061

Richard Clark wrote:
>
> Hi Richard,
>
> The discussion of heat is more a metaphysical concept because it is
> confused by our senses.
>
> Entropy demands that everything inexorably cools by dissipating its
> energy (heat) into the void of cold space. Hence, everything radiates
> (and yet we spend very little time writing about it, except for Art).
> A good deal of this entropic radiation is like waiting an infinite
> time for a circuit with infinite-1 Q to stop ringing.
>
> The sun burns bright in the cosmos, but the greater part of the cosmos
> is unheated by the sun even though all of the cosmos is illuminated
> (radiated) by the sun.
>
> Direct observation 1: Put two plates out in the noon sun but
> undisturbed by the motion of air. One plate of metal, the other of
> glass. Which gets hotter? Same amount of radiation from a known heat
> source, but clearly different results in heat. . .

This illustrates a classical confusion between heat and temperature, probably aggravated by our use of "hot" as a description of temperature rather than heat. Heat is energy. Absorption or transfer of heat results in a change in temperature. "Hot" (high temperature) objects radiate more heat than cold objects. The more heat an object, such as a plate, absorbs, the higher its temperature. Once this basic distinction is clear, a lot of the mystery disappears.

There are, of course, other mechanisms of heat transfer other than radiation, namely convection and conduction. But heat transfer has the same effect on temperature regardless of the mechanism.

When doing experiments with the sun's rays, you sometimes get non-intuitive results, because there's a lot of energy (heat) at wavelengths we can't see, particularly at the ultraviolet end. The reflective or absorptive properties of an object aren't necessarily the same at infrared or ultraviolet wavelengths as they are at visible wavelengths. For an example, you can't see the difference in my skin when coated with sun block or not. But there's sure a difference in energy (heat) absorption!

Roy Lewallen, W7EL

1362. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 19:42:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tt8ut5dgar8v1tjnsahoma3im5506gcs4k@4ax.com>
Source record: 10062

someone once wrote:

>> Qrz forum has a new posting that states the USN
>> changed their antennas on the west coast to those tipped from the
>> horizontal for superior results. This is 60 years ago before the
>> advent of antenna computers.

Having been in the navy on both coasts, years ago before the advent of
antenna computers, (alert: reality intrudes here) nothing is vertical
or horizontal aboard a ship.

We had absolutely no antennas that were "tipped from the horizontal" -
whatever that means.

73's
Richard Clark, KB7QHC

1363. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 19:47:48 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hrn994$lv6$1@news.jpl.nasa.gov>
Source record: 10063

Roy Lewallen wrote:
ut clearly different results in heat. . .
>
> This illustrates a classical confusion between heat and temperature,
> probably aggravated by our use of "hot" as a description of temperature
> rather than heat. Heat is energy. Absorption or transfer of heat results
> in a change in temperature. "Hot" (high temperature) objects radiate
> more heat than cold objects. The more heat an object, such as a plate,
> absorbs, the higher its temperature. Once this basic distinction is
> clear, a lot of the mystery disappears.
>
> There are, of course, other mechanisms of heat transfer other than
> radiation, namely convection and conduction. But heat transfer has the
> same effect on temperature regardless of the mechanism.
>
> When doing experiments with the sun's rays, you sometimes get
> non-intuitive results, because there's a lot of energy (heat) at
> wavelengths we can't see, particularly at the ultraviolet end. The
> reflective or absorptive properties of an object aren't necessarily the
> same at infrared or ultraviolet wavelengths as they are at visible
> wavelengths. For an example, you can't see the difference in my skin
> when coated with sun block or not. But there's sure a difference in
> energy (heat) absorption!
>
> Roy Lewallen, W7EL

There are also complications about temperature when referring to solids,
liquids, and gases. The "temperature" of even a weekly ionized plasma
is quite high (e.g. 11000 K per eV), but that more to do with the
velocity of the ions and the mean free path. There's not much mass
there, so the "heat" is small. That is, even though the ionosphere is
"hot" in a temperature sense, it's not very "hot" in a sensible transfer
of heat sense.

BTW, I think the sunburn is not from thermal absorption, but from
photons with enough energy to make the reaction go. The total energy
in the UV of sunlight is MUCH lower than the total energy in the visible
range. The power spectrum of sunlight is pretty close to the spectral
sensitivity of your eyes (which evolved that way to match, I would think).

At least one reference says that sunburn is a direct reaction to DNA
damage from UV photons. Melanin protects because it absorbs the UV and
turns it into heat.

http://www.scientificamerican.com/article.cfm?id=what-happens-when-you-get

1364. Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 20:27:34 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <096b807a-0b52-43d0-ab57-2a010684b4d3@e1g2000yqe.googlegroups.com>
Source record: 10064

Hi

Which is the name of a feeding system in that the driven element of a Yagi (for example) is split in two parts, and two pieces of isolated wire are introduced in both sections of the split driven element? (to find it in the Web)

Thank you very much in advance.

Miguel

1365. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 21:29:18 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <frNbwyLuA03LFwvr@g3ohx.demon.co.uk>
Source record: 10065

In message
<096b807a-0b52-43d0-ab57-2a010684b4d3@e1g2000yqe.googlegroups.com>,
lu6etj <lu6etj@gmail.com> writes
>Hi
>
>Which is the name of a feeding system in that the driven element of a
>Yagi (for example) is split in two parts, and two pieces of isolated
>wire are introduced in both sections of the split driven element? (to
>find it in the Web)
>
>Thank you very much in advance.
>
>Miguel

Delta match?
http://www.ycars.org/EFRA/Module%20C/AntMatch.htm
http://www.qsl.net/pa3hbb/DeltaM1.htm
--
Ian

1366. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 21:45:17 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <f0dd20fd-8141-4ee3-a656-25ed5e344f14@r34g2000yqj.googlegroups.com>
Source record: 10066

On 3 mayo, 18:29, Ian Jackson <ianREMOVETHISjack...@g3ohx.demon.co.uk>
wrote:
> In message
> <096b807a-0b52-43d0-ab57-2a010684b...@e1g2000yqe.googlegroups.com>,
> lu6etj <lu6...@gmail.com> writes
>
> >Hi
>
> >Which is the name of a feeding system in that the driven element of a
> >Yagi (for example) is split in two parts, and two pieces of isolated
> >wire are introduced in both sections of the split driven element? (to
> >find it in the Web)
>
> >Thank you very much in advance.
>
> >Miguel
>
> Delta match?http://www.ycars.org/EFRA/Module%20C/AntMatch.htmhttp://www.qsl.net/pa3hbb/D
eltaM1.htm
> --
> Ian

No, no :>) both wires are introduced in each driven element tubes, at
similar mode as a coaxial cable stripped of braid is introduced in a
gamma rod.

1367. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 22:29:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <LrGdnQUhh6L300LWnZ2dnUVZ_tidnZ2d@giganews.com>
Source record: 10067

Jim Lux wrote:
>
> There are also complications about temperature when referring to solids,
> liquids, and gases. The "temperature" of even a weekly ionized plasma
> is quite high (e.g. 11000 K per eV), but that more to do with the
> velocity of the ions and the mean free path. There's not much mass
> there, so the "heat" is small. That is, even though the ionosphere is
> "hot" in a temperature sense, it's not very "hot" in a sensible transfer
> of heat sense.
>
>
> BTW, I think the sunburn is not from thermal absorption, but from
> photons with enough energy to make the reaction go. The total energy
> in the UV of sunlight is MUCH lower than the total energy in the visible
> range. The power spectrum of sunlight is pretty close to the spectral
> sensitivity of your eyes (which evolved that way to match, I would think).

A good graph of sunlight power density vs wavelength can be found at
http://en.wikipedia.org/wiki/File:Solar_Spectrum.png. Comparing areas of
various graph sections shows that the UV part of the spectrum contains
maybe 1/5 the amount of energy as the visible part -- plenty enough to
embrittle plastics and fabrics and sunburn skin. But the infrared energy
-- invisible to our eyes -- looks to be at least equal to the visible
energy.

> At least one reference says that sunburn is a direct reaction to DNA
> damage from UV photons. Melanin protects because it absorbs the UV and
> turns it into heat.
>
> http://www.scientificamerican.com/article.cfm?id=what-happens-when-you-get
>

Some people like to view electromagnetic waves as photons. I find waves
easier to understand, but each to his own.

My explanation was simplified. There's also latent heat or heat of
change of state. For example, if you apply heat to ice, it'll warm up to
0C, but stay at that temperature in spite of the heat input until it
melts. The heat (energy) goes into converting the ice to water instead
of raising the temperature. After it all melts, continued heat
application will of course raise the temperature of the water.(*) Until
it reaches the boiling point, that is. Then the same thing happens again
-- it stays at 100C until it all boils. If you confine the resulting
steam, adding heat will raise both its temperature and pressure after
the water is all converted.

(*) That's why people experienced in cold weather outdoor activities never eat unmelted snow for water when there's any danger of hypothermia -- it takes about twice as much heat just to melt 0C snow into 0C water as it does to raise the temperature of 0C water to body temperature. In other words, you use up 3 times the energy eating 0C snow as you do drinking 0C water.

Roy Lewallen, W7EL

1368. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 22:35:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <2didnbrd8rY50kLWnZ2dnUVZ_gSdnZ2d@giganews.com>
Source record: 10068

lu6etj wrote:
>
> No, no :>) both wires are introduced in each driven element tubes, at
> similar mode as a coaxial cable stripped of braid is introduced in a
> gamma rod.

It's not obvious how you'd be able to effect an impedance match with this method. To be able to match an arbitrary impedance, you need to be able to adjust two things which are at least partially independent. For example, a gamma rod length and series capacitance. With this scheme, you've got the length of the wires inserted in the tubes. What else can you adjust? Wire diameter will give you some variability, but not an awful lot, and it isn't easy to vary.

Roy Lewallen, W7EL

1369. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-03 23:51:26 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <45c51d51-ee9c-413c-9efb-9801920cd1b4@e1g2000yqe.googlegroups.com>
Source record: 10069

On 3 mayo, 19:35, Roy Lewallen <w...@eznec.com> wrote:
> lu6etj wrote:
>
> > No, no :>) both wires are introduced in each driven element tubes, at
> > similar mode as a coaxial cable stripped of braid is introduced in a
> > gamma rod.
>
> It's not obvious how you'd be able to effect an impedance match with
> this method. To be able to match an arbitrary impedance, you need to be
> able to adjust two things which are at least partially independent. For
> example, a gamma rod length and series capacitance. With this scheme,
> you've got the length of the wires inserted in the tubes. What else can
> you adjust? Wire diameter will give you some variability, but not an
> awful lot, and it isn't easy to vary.
>
> Roy Lewallen, W7EL

Thanks Roy (and Ian). Well... I thought the same thing that you and
that it is the reason of my question. Several times I heard of it and
for that reason I wanted to look for information in the Net to find
some possible explanation. I remember that years ago I neither
understood very well how the double bazooka worked :>)

MIguel Ghezzi LU 6ETJ

1370. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 01:28:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hrnt7prsr1@news.jpl.nasa.gov>
Source record: 10070

Roy Lewallen wrote:
> Jim Lux wrote:
>>
>> There are also complications about temperature when referring to
>> solids, liquids, and gases. The "temperature" of even a weekly
>> ionized plasma is quite high (e.g. 11000 K per eV), but that more to
>> do with the velocity of the ions and the mean free path. There's not
>> much mass there, so the "heat" is small. That is, even though the
>> ionosphere is "hot" in a temperature sense, it's not very "hot" in a
>> sensible transfer of heat sense.
>>
>>
>> BTW, I think the sunburn is not from thermal absorption, but from
>> photons with enough energy to make the reaction go. The total energy
>> in the UV of sunlight is MUCH lower than the total energy in the
>> visible range. The power spectrum of sunlight is pretty close to the
>> spectral sensitivity of your eyes (which evolved that way to match, I
>> would think).
>
> A good graph of sunlight power density vs wavelength can be found at
> http://en.wikipedia.org/wiki/File:Solar_Spectrum.png. Comparing areas of
> various graph sections shows that the UV part of the spectrum contains
> maybe 1/5 the amount of energy as the visible part -- plenty enough to
> embrittle plastics and fabrics and sunburn skin. But the infrared energy
> -- invisible to our eyes -- looks to be at least equal to the visible
> energy.
>

The plastics degradation is definitely an "athermal" effect (because
adding carbon black to the plastic inhibits it, but doesn't change the
absorbed power very much.

But..
note that the scale is in wavelength and the energy is "per nm" (because
that's how spectrophotometers work). the photons have less energy at
lower wavelength. (or, you could plot it in frequency, and then look at
the watts/Hz to integrate)

If you look at power spectral density (e.g. watts/hz) it actually peaks
up around 1000 nm (near IR). The Wien displacement law says that 5250K
peaks up at about 550 nm, but the power spectral density at 550nm (545
THz) is about 2/3 that at the peak.
By the time you get to 350nm (857 THz), the energy per hz is about 10%
of what it is at the peak (at 950nm)

Running a quick numerical integration... (multiplying the power spectral density every 50 nm by the frequency range).. I get 0.166 for all wavelengths shorter than 320nm, 2.09 for 320-670, and 3.6 for 670-4000 nm (there's a missing integration constant, so the numbers have some scale factor, but the relative amounts should match..)
for the band around 400nm, I get .26 and for the band at 550 about 0.34 and for around 650 about .32... Yes, it peaks at 550 nm as expected.

1371. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 06:37:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <suevt5hvr5f4on0djuoqciumpue32f7hv1@4ax.com>
Source record: 10071

On Mon, 03 May 2010 18:28:25 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Roy Lewallen wrote:
>> Jim Lux wrote:

Hi Jim,

Much of what you write looks like stream-of-consciousness writing.
Did/do you have a point?

>The plastics degradation is definitely an "athermal" effect (because
>adding carbon black to the plastic inhibits it, but doesn't change the
>absorbed power very much.

UV radiation has migrated awary from electron/atom issues to
molecular/ionic bond issues. Calling it "athermal" seems to be
returning the discussion to the metaphysical.

>But..
>note that the scale is in wavelength and the energy is "per nm" (because
>that's how spectrophotometers work). the photons have less energy at
>lower wavelength. (or, you could plot it in frequency, and then look at
>the watts/Hz to integrate)

What is the significance of changing from wavelength to frequency?
(But?)

>If you look at power spectral density (e.g. watts/hz) it actually peaks
>up around 1000 nm (near IR). The Wien displacement law says that 5250K
>peaks up at about 550 nm, but the power spectral density at 550nm (545
>THz) is about 2/3 that at the peak.
>By the time you get to 350nm (857 THz), the energy per hz is about 10%
>of what it is at the peak (at 950nm)
>
>Running a quick numerical integration... (multiplying the power spectral
>density every 50 nm by the frequency range).. I get 0.166 for all
>wavelengths shorter than 320nm, 2.09 for 320-670, and 3.6 for 670-4000 nm
>(there's a missing integration constant, so the numbers have some scale
>factor, but the relative amounts should match..)
>for the band around 400nm, I get .26 and for the band at 550 about 0.34
>and for around 650 about .32... Yes, it peaks at 550 nm as expected.

Without going into the math, it seems like you disputed a figure you
then discover "as expected." What was the dispute? What wasn't
expected and then came as a surprise?

73's
Richard Clark, KB7QHC

1372. Re: Balanced antenna, unbalanced test set-up?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 14:01:36 UTC
From: John KD5YI <mycalldotjocjodotjocjo@xoxy.net>
Message-ID: <hrp9bvjac1@speranza.aioe.org>
Source record: 10072

On 5/3/2010 1:09 PM, Wimpie wrote:
> On 3 mayo, 03:33, John KD5YI<mycalldotjocjodotjo...@xoxy.net> wrote:
>> I would like to test the impedance characteristics of a rectangular
>> full-wave loop antenna. My test equipment is 50 ohms unbalanced.
>> Frequency is 450 MHz. What are my choices to achieve the conversion from
>> balanced to unbalanced and which might be the best (affordable) choice
>> for my test purposes?
>>
>> Cheers,
>> John, KD5YI
>
> Hello John,
>
> There are many options for your frequency range.
>
> Try to get some ferrite rings that tight fit around the coaxial cable
> and that have high impedance around your frequency. When you have
> specs (from the ferrite you use) this is the easiest one that doesn't
> require any tuning.
>
> connect the feed cable to a solid ground at 0.23 lambda from its end
> (where the loop is). The low common mode Z at the short results in a
> high common mode Z at the end (where the loop is). two strips of
> about 0.22 lambda can also serve as a floating ground.
>
> you can make a bazooka type choke (about quarter wave sleeve around
> the cable). Best is to have lots of air between the sleeve and the
> coaxial cable. This one requires some experimentation as the actual
> length depends on the dielectric around the cable also.
>
> When your loop impedance turns-out to be high, your balun must be
> better as the common mode voltage component increases with high
> impedance balanced antennas. I see you are working on a full wave
> loop, this one is not high Z (below 200 Ohms).
>
> Good luck with the loop measurements,
>
>
> Wim
> PA3DJS
> www.tetech.nl
> remove abc first in case of PM

Thanks, Wim. Good suggestions. I'll give them a try.

Cheers,
John, KD5YI

1373. Re: Balanced antenna, unbalanced test set-up?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 14:02:20 UTC
From: John KD5YI <mycalldotjocjodotjocjo@xoxy.net>
Message-ID: <hrp9dcjac2@speranza.aioe.org>
Source record: 10073

On 5/3/2010 8:18 AM, danny wrote:
> On Sun, 02 May 2010 20:33:22 -0500, John KD5YI wrote:
>
>> I would like to test the impedance characteristics of a rectangular
>> full-wave loop antenna. My test equipment is 50 ohms unbalanced.
>> Frequency is 450 MHz. What are my choices to achieve the conversion from
>> balanced to unbalanced and which might be the best (affordable) choice
>> for my test purposes?
>>
>> Cheers,
>> John, KD5YI
>
> Agilent Application Note AN 346-2 should provide the information you're
> looking for
>
>
> You can get a copy of AN 346-2 for yourself here:
>
> http://cp.literature.agilent.com/litweb/pdf/5091-4480E.pdf
>
> Hope that helps.
>
> 73,
>
> Danny, K6MHE

I appreciate the link, Danny. I'll study the article.

Cheers,
John, KD5YI

1374. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 16:13:08 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hrph2k$v5t$1@news.jpl.nasa.gov>
Source record: 10074

Richard Clark wrote:
> On Mon, 03 May 2010 18:28:25 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> Roy Lewallen wrote:
>>> Jim Lux wrote:
>
> Hi Jim,
>
> Much of what you write looks like stream-of-consciousness writing.
> Did/do you have a point?
>
>> The plastics degradation is definitely an "athermal" effect (because
>> adding carbon black to the plastic inhibits it, but doesn't change the
>> absorbed power very much.
>
> UV radiation has migrated awary from electron/atom issues to
> molecular/ionic bond issues. Calling it "athermal" seems to be
> returning the discussion to the metaphysical.

All in a thread about temperature and heat..
That was actually in response to Roy's original comment
"When doing experiments with the sun's rays, you sometimes get
non-intuitive results, because there's a lot of energy (heat) at
wavelengths we can't see, particularly at the ultraviolet end."
and my response that there actually isn't much energy in the UV end.

Roy commented about sunburn, and I pointed out that the mechanism in
sunburn isn't thermal (and this is important to folks who worry about
RF exposure limits and regulatory compliance.. thermal effects have one
biological result, athermal effects are another..)

My comment was that sunburn (and Roy's example of plastic degradation)
are due to the energy of UV photons actually causing a chemical
reaction, as opposed to making something happen because of heat.

>
>> But..
>> note that the scale is in wavelength and the energy is "per nm" (because
>> that's how spectrophotometers work). the photons have less energy at
>> lower wavelength. (or, you could plot it in frequency, and then look at
>> the watts/Hz to integrate)
>
> What is the significance of changing from wavelength to frequency?
> (But?)

Roy's comment was about the amount of energy in the non-visible bands (presumably in response to my comment that human eye sensitivity tends to match that of the solar spectrum/ 5250K blackbody), and he cited the very commonly seen graph in W/nm, with a scale linear in nm.

My point is that in the RF world, we tend look at power spectral density in terms of W/Hz, so when you are looking at the graphs (with a linear scale of wavelength or frequency, as appppropriate), a visual estimate of the "integrated area under the curve" can be misleading. If you plot the same data, but in W/Hz, and with a scale linear in frequency, you get a very different looking graph.

Try it.. the equation is of the general form
power density (per hertz) =
constant1*frequency^3/(exp(constant2*frequency/T)-1)

power density (per unit wavelength) =
constant1/lambda^5 * 1/(exp(constant2/(lambda*T))-1)

1375. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 18:58:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <j72dndIxxN3W833WnZ2dnUVZ_oidnZ2d@giganews.com>
Source record: 10075

Thanks, Jim for the correction. I had failed to notice that the graph scale was normalized to wavelength. I stand corrected.

Roy Lewallen, W7EL

1376. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 19:08:28 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hrprbditr1@news.jpl.nasa.gov>
Source record: 10077

Roy Lewallen wrote:
> Thanks, Jim for the correction. I had failed to notice that the graph
> scale was normalized to wavelength. I stand corrected.
>
> Roy Lewallen, W7EL

To be honest, I'm not sure which one is appropriate to integrate. In theory, if you're integrating between two limits you'd use the expression that matches how the limits are specified..

That is, if you wanted to get the energy between 350 and 600 nm, then you'd use the energy/nm

OTOH, if you wanted to integrate between 470 THz and 800THz, you'd use energy/Hz.

they "should" come out with the same answer (especially in the limit of actual integration with respect to d(nu) or d(lambda)).

It's probably only when you do a rough and ready numerical integration (or do it by eye off the graph) that it makes a difference.

Actually, it's kind of interesting that you brought it up, because, like you, I'd always seen the W/nm with a linear scale in nm graphs...

1377. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 19:30:30 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hrpsjj$q7m$1@news.eternal-september.org>
Source record: 10076

Roy Lewallen Inscribed thus:

> lu6etj wrote:
>>
>> No, no :>) both wires are introduced in each driven element tubes, at
>> similar mode as a coaxial cable stripped of braid is introduced in a
>> gamma rod.
>
> It's not obvious how you'd be able to effect an impedance match with
> this method. To be able to match an arbitrary impedance, you need to
> be able to adjust two things which are at least partially independent.
> For example, a gamma rod length and series capacitance. With this
> scheme, you've got the length of the wires inserted in the tubes. What
> else can you adjust? Wire diameter will give you some variability, but
> not an awful lot, and it isn't easy to vary.
>
> Roy Lewallen, W7EL

Does "Folded Dipole" sound right...

--
Best Regards:
Baron.

1378. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 20:58:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D6F46E93A5CCnonenowhere@61.9.191.5>
Source record: 10078

lu6etj <lu6etj@gmail.com> wrote in
news:f0dd20fd-8141-4ee3-a656-25ed5e344f14@r34g2000yqj.googlegroups.com:

> On 3 mayo, 18:29, Ian Jackson <ianREMOVETHISjack...@g3ohx.demon.co.uk>
> wrote:
>> In message
>> <096b807a-0b52-43d0-ab57-2a010684b...@e1g2000yqe.googlegroups.com>,
>> lu6etj <lu6...@gmail.com> writes
>>
...
> No, no :>) both wires are introduced in each driven element tubes, at
> similar mode as a coaxial cable stripped of braid is introduced in a
> gamma rod.

I have not seen it done, and can't imagine wide application.

The technique presumably is to insert a (lossy) capacitive reactance in
series with the feedpoint, and such that the reactance decreases with
freqeuency, thus exacerbating the natural feedpoint impedance change.

Owen

1379. Active Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 21:40:50 UTC
From: Just Curious <cloporte@gl.ca>
Message-ID: <hrq498$3r7$1@speranza.aioe.org>
Source record: 10079

Hi, would anybody know (or like to know?) the "secrets" hiding in the pvc tube antennas like Dressler ARA-500, 900, 1500, 2000 LF-Engineering H800, etc. What kind of element is used as antenna, also the config of the preamp. and the semis used? Their overall efficiency? I know my questions are many fold but still I'd like to know. Thanks to All. Just Curious.

1380. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 22:19:21 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <FOidnU9NqpqAAH3WnZ2dnUVZ_i2dnZ2d@earthlink.com>
Source record: 10080

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D6F46E93A5CCnonenowhere@61.9.191.5...
> lu6etj <lu6etj@gmail.com> wrote in
> news:f0dd20fd-8141-4ee3-a656-25ed5e344f14@r34g2000yqj.googlegroups.com:
>
>> On 3 mayo, 18:29, Ian Jackson <ianREMOVETHISjack...@g3ohx.demon.co.uk>
>> wrote:
>>> In message
>>> <096b807a-0b52-43d0-ab57-2a010684b...@e1g2000yqe.googlegroups.com>,
>>> lu6etj <lu6...@gmail.com> writes
>>>
> ...
>> No, no :>) both wires are introduced in each driven element tubes, at
>> similar mode as a coaxial cable stripped of braid is introduced in a
>> gamma rod.
>
> I have not seen it done, and can't imagine wide application.
>
> The technique presumably is to insert a (lossy) capacitive reactance in
> series with the feedpoint, and such that the reactance decreases with
> freqeuency, thus exacerbating the natural feedpoint impedance change.
>
> Owen

I think it was Mosley that used it in their Classic 33 beam. I don't recall
exectally how it was made, but the driven element was in two insulated
pieces. Then a piece of coax (it may have been just the center part with
the braid stripped off) was placed in the driven element. Part ran inside
one element side and the other part ran the other way I don't think there
is any direct connection to the driven element.

1381. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 23:20:41 UTC
From: tom <news4792@taring.org>
Message-ID: <4be0abc7$0$638$8046368a@newsreader.iphouse.net>
Source record: 10081

On 5/4/2010 3:58 PM, Owen Duffy wrote:
> The technique presumably is to insert a (lossy) capacitive reactance in
> series with the feedpoint, and such that the reactance decreases with
> freqeuency, thus exacerbating the natural feedpoint impedance change.
>
> Owen

I am curious about your statement. You say "insert a (lossy) capacitive reactance in series". Why would a braidless piece of coax inserted in a tube have significantly different loss than the intact coax of that length?

I've made matches made that way for decades that ran at full or near full legal limit on 6m. I'm pretty sure that any significant loss would have shown up as dripping plastic. The matches when taken apart after years of use show no sign of heating.

tom
K0TAR

1382. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 23:39:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D6F624B1365Enonenowhere@61.9.191.5>
Source record: 10082

tom <news4792@taring.org> wrote in
news:4be0abc7$0$638$8046368a@newsreader.iphouse.net:

> On 5/4/2010 3:58 PM, Owen Duffy wrote:
>> The technique presumably is to insert a (lossy) capacitive reactance
>> in series with the feedpoint, and such that the reactance decreases
>> with freqeuency, thus exacerbating the natural feedpoint impedance
>> change.
>>
>> Owen
>
> I am curious about your statement. You say "insert a (lossy)
> capacitive reactance in series". Why would a braidless piece of coax
> inserted in a tube have significantly different loss than the intact
> coax of that length?
>
> I've made matches made that way for decades that ran at full or near
> full legal limit on 6m. I'm pretty sure that any significant loss
> would have shown up as dripping plastic. The matches when taken apart
> after years of use show no sign of heating.

Tom,

My use of "lossy" was to remind readers that capacitive reactance
obtained by using such a transmission line element is a relatively lossy
'capacitor'. For example. an o/c stub of RG213 for a reactance of -10
ohms at 144MHz has a resistance of about 0.1 ohms, or a Q of about 100.
That is not a huge loss, but quality capacitors achieve much higher Q
than that.

So, I don't know why one might use such a thing in a driven element,
introducing say 0.2 ohms of resistance which consumes about 0.4% of the
power if it was a R=50 feedpoint, when a similar reactance could be
obtained by a slight shortening. The purpose is probably not for
frequency compensation, it works the wrong way.

Is the loss significant, not really in this case, and it won't melt the
PE, but TL derived capacitors are relatively lower Q.

Owen

1383. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-04 23:49:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r1b1u5l63li31o0gdgd4af4se4d8tl2a9j@4ax.com>
Source record: 10083

On Tue, 04 May 2010 12:08:28 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>That is, if you wanted to get the energy between 350 and 600 nm, then
>you'd use the energy/nm
>
>OTOH, if you wanted to integrate between 470 THz and 800THz, you'd use
>energy/Hz.

The units would cancel unless that is your intent - but I am still
stymied by what is being sought by these elaborations.

>
>they "should" come out with the same answer (especially in the limit of
>actual integration with respect to d(nu) or d(lambda)).

Hence my question about the significance of changing domains when
either integration must, ultimately, come to the same thing in power.
None of this is currently being expressed in energy (a term being
commingled with power), which for optoelectronics would be eV.

This would raise a curious representation of a third domain with
re-rigging the wavelength/frequency scale into the appropriate energy
scale of eV vs. power. The solar radiation spectrum would thus span
(left to right) 5eV to 0.5eV.

Where is this leading?

73's
Richard Clark, KB7QHC

1384. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 01:16:26 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <87350cc3-ec90-4c0d-8705-dab9a71c0a47@j36g2000prj.googlegroups.com>
Source record: 10084
Body handling: HTML body converted to readable text

On Apr 30, 2:14 am, "Peter" wrote:
> I'm preparing an article for a local radio club magazine about the nature of
> radio and electromagnetic radiation in general. While this is a non
> mathematical and general descriptive treatment of the subject it is a
> challenge to make it clear and consistent.
> I know this group has some expertise on this subject and would appreciate
> any constructive comment and suggestions regarding the attached article.
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/radio.htm
>
> Thank you for your time.
>
> Regards Peter VK6YSF

For what it's worth...

I've often found it useful to consider alternate ways to think about
things. In this thread, there have been some comments about electric
fields, magnetic fields and electromagnetic fields. So, I ask: how
do we measure fields? As far as I know, it's by their interaction
with matter: we observe how an electromagnetic field accelerates
electrons, for example. Do we have any way other than by observing
how a (E, M, or EM) field interacts with matter to measure a field?
If not, does a field _necessarily_ have any physical reality, any
reality beyond a mathematical model to explain what we observe?

I suppose some here won't be ready to contemplate this in any depth,
though others may find it enlightening.

One might say that radio is the practical use of the observed physical
effect that accelerating charges in one place leads to free charges at
distant points being accelerated, in a manner we're able to describe
pretty accurately, so far as we know now, with our models.

Cheers,
Tom

1385. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 01:17:50 UTC
From: tom <news4792@taring.org>
Message-ID: <4be0c741$0$635$8046368a@newsreader.iphouse.net>
Source record: 10085

On 5/4/2010 6:39 PM, Owen Duffy wrote:
>
> Tom,
>
> My use of "lossy" was to remind readers that capacitive reactance
> obtained by using such a transmission line element is a relatively lossy
> 'capacitor'. For example. an o/c stub of RG213 for a reactance of -10
> ohms at 144MHz has a resistance of about 0.1 ohms, or a Q of about 100.
> That is not a huge loss, but quality capacitors achieve much higher Q
> than that.
>
> So, I don't know why one might use such a thing in a driven element,
> introducing say 0.2 ohms of resistance which consumes about 0.4% of the
> power if it was a R=50 feedpoint, when a similar reactance could be
> obtained by a slight shortening. The purpose is probably not for
> frequency compensation, it works the wrong way.
>
> Is the loss significant, not really in this case, and it won't melt the
> PE, but TL derived capacitors are relatively lower Q.
>
> Owen

I'll take the .4%. I'll take 4%. It's a bulletproof easy way to make a
gamma match. I've never had one fail, and I've made quite a few.

And you need to define where you think lossy starts, because nothing
that we can afford to use isn't, and true room temperature
superconductors still aren't available.

tom
K0TAR

1386. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 01:43:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4be0cd3c$0$50152$8046368a@newsreader.iphouse.net>
Source record: 10086

On 5/4/2010 8:17 PM, tom wrote:
> On 5/4/2010 6:39 PM, Owen Duffy wrote:
>>
>> Tom,
>>
>> My use of "lossy" was to remind readers that capacitive reactance
>> obtained by using such a transmission line element is a relatively lossy
>> 'capacitor'. For example. an o/c stub of RG213 for a reactance of -10
>> ohms at 144MHz has a resistance of about 0.1 ohms, or a Q of about 100.
>> That is not a huge loss, but quality capacitors achieve much higher Q
>> than that.
>>
>> So, I don't know why one might use such a thing in a driven element,
>> introducing say 0.2 ohms of resistance which consumes about 0.4% of the
>> power if it was a R=50 feedpoint, when a similar reactance could be
>> obtained by a slight shortening. The purpose is probably not for
>> frequency compensation, it works the wrong way.

And I forgot to address this.

Because .4% is meaningless and the change to a slightly less lossy feed
method would contribute nothing useful for the effort.

Because the effort with your method is that I would have to trim an
element clip by clip instead of simply sliding things at the match.

tom
K0TAR

1387. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 02:04:47 UTC
From: tom <news4792@taring.org>
Message-ID: <4be0d23d$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10087

On 5/4/2010 6:39 PM, Owen Duffy wrote:
> tom<news4792@taring.org> wrote in
> news:4be0abc7$0$638$8046368a@newsreader.iphouse.net:
>
>> On 5/4/2010 3:58 PM, Owen Duffy wrote:
>>> The technique presumably is to insert a (lossy) capacitive reactance
>>> in series with the feedpoint, and such that the reactance decreases
>>> with freqeuency, thus exacerbating the natural feedpoint impedance
>>> change.
>>>
>>> Owen
>>
>> I am curious about your statement. You say "insert a (lossy)
>> capacitive reactance in series". Why would a braidless piece of coax
>> inserted in a tube have significantly different loss than the intact
>> coax of that length?
>>
>> I've made matches made that way for decades that ran at full or near
>> full legal limit on 6m. I'm pretty sure that any significant loss
>> would have shown up as dripping plastic. The matches when taken apart
>> after years of use show no sign of heating.
>
> Tom,
>
> My use of "lossy" was to remind readers that capacitive reactance
> obtained by using such a transmission line element is a relatively lossy
> 'capacitor'. For example. an o/c stub of RG213 for a reactance of -10
> ohms at 144MHz has a resistance of about 0.1 ohms, or a Q of about 100.
> That is not a huge loss, but quality capacitors achieve much higher Q
> than that.
>
> So, I don't know why one might use such a thing in a driven element,
> introducing say 0.2 ohms of resistance which consumes about 0.4% of the
> power if it was a R=50 feedpoint, when a similar reactance could be
> obtained by a slight shortening. The purpose is probably not for
> frequency compensation, it works the wrong way.
>
> Is the loss significant, not really in this case, and it won't melt the
> PE, but TL derived capacitors are relatively lower Q.
>
> Owen

Sorry, but I thought of another comment. :)

Length for length, a 50 ohm feed yagi has already lost much more than .4% when compared to a well designed yagi on the same boom in the 20 to 25 ohm range.

I'm speaking of .6 to .8 lambda and up yagis.

tom
K0TAR

1388. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 02:30:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rfk1u5pvmlbcmufhjp3cpkgpuah9jk4r63@4ax.com>
Source record: 10088

On Tue, 4 May 2010 18:16:26 -0700 (PDT), K7ITM <k7itm@msn.com> wrote:

>For what it's worth... Do we have any way other than by observing
>how a (E, M, or EM) field interacts with matter to measure a field?

Hi Tom,

You ask if we have "any way other... [than where a field] interacts with matter." In a side thread, there is the discussion of heat. Heat is a quasi-particle which means it does not exist as a physical entity, but it acts like one (shades of photon duality). Heat is wholly without matter, but in the whole absence of matter there is no such thing as heat.

As to the remainder of the quote "to measure." This demands physicality and your statement is self-negating in its plea.

If we rewind to the beginning of the plea, "observing" is a physical interference described by Heisenberg. The bookends of your plea are, then, doubly negating. That or (and here the thread returns to metaphysics once again) interactions go unwitnessed - which is an existential negation.

Expecting any reports from the Cat in the Box? Perhaps through an entangled cat?

73's
Richard Clark, KB7QHC

1389. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 03:47:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <sZudnQjU8ebRd33WnZ2dnUVZ_vGdnZ2d@giganews.com>
Source record: 10089

K7ITM wrote:
>
> For what it's worth...
>
> I've often found it useful to consider alternate ways to think about
> things. In this thread, there have been some comments about electric
> fields, magnetic fields and electromagnetic fields. So, I ask: how
> do we measure fields? As far as I know, it's by their interaction
> with matter: we observe how an electromagnetic field accelerates
> electrons, for example. Do we have any way other than by observing
> how a (E, M, or EM) field interacts with matter to measure a field?
> If not, does a field _necessarily_ have any physical reality, any
> reality beyond a mathematical model to explain what we observe?
>
>. . .

On the first day of the first class of Electromagnetic Fields, I asked the professor (Carl T.A. Johnk, author of _Engineering Electromagnetic Fields and Waves_), "What is an electromagnetic field?" His answer: "It's a mathematical model we use to help us understand phenomena we can observe and measure." And I see that in the second paragraph of his book he writes "A field is taken to mean a mathematical function of space and time." I've been satisfied with that definition.

Roy Lewallen, W7EL

1390. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 08:52:12 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be131c0$0$2605$65785112@news.neostrada.pl>
Source record: 10090

4 "Roy Lewallen" <w7el@eznec.com> wrote
news:sZudnQjU8ebRd33WnZ2dnUVZ_vGdnZ2d@giganews.com...
> K7ITM wrote:
>>
>> For what it's worth...
>>
>> I've often found it useful to consider alternate ways to think about
>> things. In this thread, there have been some comments about electric
>> fields, magnetic fields and electromagnetic fields. So, I ask: how
>> do we measure fields? As far as I know, it's by their interaction
>> with matter: we observe how an electromagnetic field accelerates
>> electrons, for example. Do we have any way other than by observing
>> how a (E, M, or EM) field interacts with matter to measure a field?
>> If not, does a field _necessarily_ have any physical reality, any
>> reality beyond a mathematical model to explain what we observe?
>> . . .
>
> On the first day of the first class of Electromagnetic Fields, I asked the
> professor (Carl T.A. Johnk, author of _Engineering Electromagnetic Fields
> and Waves_), "What is an electromagnetic field?" His answer: "It's a
> mathematical model we use to help us understand phenomena we can observe
> and measure." And I see that in the second paragraph of his book he writes
> "A field is taken to mean a mathematical function of space and time." I've
> been satisfied with that definition.

Wiki wrote: "The field can be viewed as the combination of an electric field
and a magnetic field. The electric field is produced by stationary charges,
and the magnetic field by moving charges (currents); "

But what produce very slow charge?

Next Wiki weote: "From a classical perspective, the electromagnetic field
can be regarded as a smooth, continuous field, propagated in a wavelike
manner ;"

It is important to know that Maxwell's waves are rotational (oscillating
magnetic whirl).

Alternate electric field also propagate in a wavelike manner. But here to
and fro (no rotations).

The fundamental question: Are radio waves a simple electric waves or the
very sophisticated Maxwell's waves?
S*

1391. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 19:07:28 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <f220b1d5-bae7-48b4-b0f6-5fdb7d2bb46c@j15g2000vbq.googlegroups.com>
Source record: 10091

On 4 mayo, 20:39, Owen Duffy <n...@no.where> wrote:
> tom <news4...@taring.org> wrote innews:4be0abc7$0$638$8046368a@newsreader.iphouse.net:
>
>
>
>
>
> > On 5/4/2010 3:58 PM, Owen Duffy wrote:
> >> The technique presumably is to insert a (lossy) capacitive reactance
> >> in series with the feedpoint, and such that the reactance decreases
> >> with freqeuency, thus exacerbating the natural feedpoint impedance
> >> change.
>
> >> Owen
>
> > I am curious about your statement. You say "insert a (lossy)
> > capacitive reactance in series". Why would a braidless piece of coax
> > inserted in a tube have significantly different loss than the intact
> > coax of that length?
>
> > I've made matches made that way for decades that ran at full or near
> > full legal limit on 6m. I'm pretty sure that any significant loss
> > would have shown up as dripping plastic. The matches when taken apart
> > after years of use show no sign of heating.
>
> Tom,
>
> My use of "lossy" was to remind readers that capacitive reactance
> obtained by using such a transmission line element is a relatively lossy
> 'capacitor'. For example. an o/c stub of RG213 for a reactance of -10
> ohms at 144MHz has a resistance of about 0.1 ohms, or a Q of about 100.
> That is not a huge loss, but quality capacitors achieve much higher Q
> than that.
>
> So, I don't know why one might use such a thing in a driven element,
> introducing say 0.2 ohms of resistance which consumes about 0.4% of the
> power if it was a R=50 feedpoint, when a similar reactance could be
> obtained by a slight shortening. The purpose is probably not for
> frequency compensation, it works the wrong way.
>
> Is the loss significant, not really in this case, and it won't melt the
> PE, but TL derived capacitors are relatively lower Q.
>
> Owen- Ocultar texto de la cita -

>
> - Mostrar texto de la cita -

Could it simply be a capacitive coupling method without any matching property ?

1392. Re: Active Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 20:11:05 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <Mo2dnQ0fU9dHTXzWnZ2dnUVZ_o2dnZ2d@giganews.com>
Source record: 10092

Just Curious wrote:
> Hi, would anybody know (or like to know?) the "secrets" hiding in the pvc
> tube antennas like Dressler ARA-500, 900, 1500, 2000 LF-Engineering H800,
> etc. What kind of element is used as antenna, also the config of the preamp.
> and the semis used? Their overall efficiency? I know my questions are many
> fold but still I'd like to know. Thanks to All. Just Curious.
>

No secrets, just a short and probably simple antenna and low noise amplifier. The antenna is likely to be a simple monopole which would be no longer than about wavelength at the highest frequency to ensure low angle omnidirectional response. There's no practical way I know of to define the efficiency of an active antenna. Other than amplifier noise figure, what would separate a good active antenna from a bad one would be the dynamic range of the amplifier -- poorly designed ones would be prone to overload and spurious signal generation from strong signals.

Roy Lewallen, W7EL

1393. Re: Active Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 21:17:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <K9udnW_FpPXlfXzWnZ2dnUVZ_qKdnZ2d@giganews.com>
Source record: 10093

Correction:

Roy Lewallen wrote:
>
> No secrets, just a short and probably simple antenna and low noise
> amplifier. The antenna is likely to be a simple monopole which would be
> no longer than about wavelength at the highest frequency. . .

That should be "no longer than about a half wavelength at the highest frequency. . ."

Roy Lewallen, W7EL

1394. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 22:45:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9a2ac8d8-74af-4528-86a4-8d2190f51d75@k41g2000yqb.googlegroups.com>
Source record: 10094

On May 3, 7:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Radio waves from the dipole are polarized. Does it mean that light is
> emitted by a dipoles?

sure, why not? but polarized waves can be emitted from other things
also.

>
> We can shield the one end of the dipole.

no you can't.

>
> Why the dipoles exhibit the directional pattern?

because they do, its well measured and accurately described in the
equations.

1395. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-05 22:52:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e1318bb4-37a1-4207-be69-0a31e27d63d2@b7g2000yqk.googlegroups.com>
Source record: 10095

On May 5, 8:52 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

> Wiki wrote: "The field can be viewed as the combination of an electric field
> and a magnetic field. The electric field is produced by stationary charges,
> and the magnetic field by moving charges (currents); "

an electric field can also be created by a changing magnetic field...
and a magnetic field by a changing electric field... no charges
needed.

>
> But what produce very slow charge?

a charge is a charge, it can neither be created nor destroyed.... well
except maybe by matter-anti-matter annihilation. charged particles
can move at any speed from 0 to c, nothing special about speeds.

>
> Next Wiki weote: "From a classical perspective, the electromagnetic field
> can be regarded as a smooth, continuous field, propagated in a wavelike
> manner ;"
>
> It is important to know that Maxwell's waves are rotational (oscillating
> magnetic whirl).

no they aren't... at least not all of them. maxwells equations are
just as well satisfied by linearly polarized (magnetic AND electric
field) waves.

>
> Alternate electric field also propagate in a wavelike manner. But here to
> and fro (no rotations).

if the magnetic field is rotating then the electric field also
rotates. they always go together.

>
> The fundamental question: Are radio waves a simple electric waves or the
> very sophisticated Maxwell's waves?

ALL radio waves can be described by maxwell's equations, both simple
linear polarized ones and circularly polarized ones.

1396. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 00:58:58 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <13e7ecfd-0895-477b-ad9f-5ed9bdcd8d55@o8g2000yqo.googlegroups.com>
Source record: 10096

> > The fundamental question: Are radio waves a simple electric waves or the
> > very sophisticated Maxwell's waves?
>
> ALL radio waves can be described by maxwell's equations, both simple
> linear polarized ones and circularly polarized ones.

The fundamental question is really how can we describe this "wave".? A
wave of what "water",
A wave of "water" traveling towards a beach.
Is it water we are really trying to describe or what?
Water has a "skin" on its surface , a skin that encasulates it like a
bag , container or a boundary!
Nothing is clear when describing a "wave" with respect to physics, as
it is just a "F" word to substitute an unexplainable in a psuedo
description
There is no agreement what so ever as to what a "wave" is so there
cannot exist a description of what radio "IS", "IS"!. Physicists
acknowledge that radio is some thing that is unexplanable leaving just
hams to fill in the unexplainable about radio and to deny the
explanations made by others.
What we do have is a string of mathematical equations all of which
interlock which are a result
of observation and seamingly reasonable deductions. Maxwell deduced b
y examination of units used that a portion of his formula was also a
mathematical explanation of elevation and acceleration but no
description of what! A physicists
named Gauss who provided a lot of Maxwells tools
used Newtons laws to establish boundary laws where it can be seen that
mathematically a clump of static particles in equilibrium could be
made
dynamic by adding a time varying field while retaining equilibrium
meshes with Maxwells equations on radiation. So who on earth descided
to interject "waves" into the discussion and why?
And what experiment was performed that dictated its inclusion in the
subject of radio or radiation that has put a screaming halt to a
sustainable explanation of same for more than a hundred years
where other dreams have come to fruition by utelizing the human brain.
Is it the ham population
that is responsible for the lack of advances in the advancement of
science by denying the inclusion of particles as the basic matter
involved in elevation and acceleration (displacement) as implied by
Maxwell's equations, preferring instead to use 'water' and 'waves' to
describe the science to the non initiated.

1397. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 08:00:38 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be2772b$0$19181$65785112@news.neostrada.pl>
Source record: 10097

"K1TTT" <k1ttt@arrl.net> wrote
news:9a2ac8d8-74af-4528-86a4-8d2190f51d75@k41g2000yqb.googlegroups.com...
On May 3, 7:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Radio waves from the dipole are polarized. Does it mean that light is
> emitted by a dipoles?

sure, why not? but polarized waves can be emitted from other things
also.

>
> We can shield the one end of the dipole.

no you can't.

A whip antennas on a car is not such?
>
> Why the dipoles exhibit the directional pattern?

because they do, its well measured and accurately described in the
equations.

Are the measured and the calculated from the equations in agreement?

S*

1398. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 08:25:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be27d0c$0$19182$65785112@news.neostrada.pl>
Source record: 10098

"K1TTT" <k1ttt@arrl.net>wrote
news:e1318bb4-37a1-4207-be69-0a31e27d63d2@b7g2000yqk.googlegroups.com...
On May 5, 8:52 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

>> Wiki wrote: "The field can be viewed as the combination of an electric
>> field
> and a magnetic field. The electric field is produced by stationary
> charges,
> and the magnetic field by moving charges (currents); "

>an electric field can also be created by a changing magnetic field...
and a magnetic field by a changing electric field... no charges
needed.

In Maxwell's displacement current were charges (electricity).
In the space no charged bodies.
>
>> But what produce very slow charge?

>a charge is a charge, it can neither be created nor destroyed.... well
except maybe by matter-anti-matter annihilation. charged particles
can move at any speed from 0 to c, nothing special about speeds.

Charged particles can move at any speed from 0 to c and always produce the
electric field. Why not?
>
>> Next Wiki weote: "From a classical perspective, the electromagnetic field
> can be regarded as a smooth, continuous field, propagated in a wavelike
> manner ;"
>
>> It is important to know that Maxwell's waves are rotational (oscillating
> magnetic whirl).

>no they aren't... at least not all of them. maxwells equations are
just as well satisfied by linearly polarized (magnetic AND electric
field) waves.

Maxwell's waves are transversal. It means that something oscillate around
the axis of rotation.
Linear polarization means thet the rotating oscillations are in the one
plane.
>
>> Alternate electric field also propagate in a wavelike manner. But here to
> and fro (no rotations).

>if the magnetic field is rotating then the electric field also
rotates. they always go together.

In Maxwell's Hypothesis.
>
> The fundamental question: Are radio waves a simple electric waves or the
> very sophisticated Maxwell's waves?

>ALL radio waves can be described by maxwell's equations, both simple
linear polarized ones and circularly polarized ones.

Wiki wrote: " FM radio
The term "circular polarization" is often used erroneously to describe mixed
polarity signals used mostly in FM radio (87.5 to 108.0 MHz), where a
vertical and a horizontal component are propagated simultaneously by a
single or a combined array."

It seems that radio waves are the electric waves.
If yes, the light is also longitudinal.
S*

1399. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 08:45:33 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be281b1$0$2584$65785112@news.neostrada.pl>
Source record: 10099

"Art Unwin" <arthurunwin@gmail.com> wrote
news:13e7ecfd-0895-477b-ad9f-5ed9bdcd8d55@o8g2000yqo.googlegroups.com...
>
>> > The fundamental question: Are radio waves a simple electric waves or
>> > the
>> > very sophisticated Maxwell's waves?
>>
>> ALL radio waves can be described by maxwell's equations, both simple
>> linear polarized ones and circularly polarized ones.
>
> The fundamental question is really how can we describe this "wave".? A
> wave of what "water",
> A wave of "water" traveling towards a beach.
> Is it water we are really trying to describe or what?
> Water has a "skin" on its surface , a skin that encasulates it like a
> bag , container or a boundary!

Water waves are described by Stokes:
http://en.wikipedia.org/wiki/Stokes_drift

> Nothing is clear when describing a "wave" with respect to physics, as
> it is just a "F" word to substitute an unexplainable in a psuedo
> description
> There is no agreement what so ever as to what a "wave" is so there
> cannot exist a description of what radio "IS", "IS"!. Physicists
> acknowledge that radio is some thing that is unexplanable leaving just
> hams to fill in the unexplainable about radio and to deny the
> explanations made by others.
> What we do have is a string of mathematical equations all of which
> interlock which are a result
> of observation and seamingly reasonable deductions. Maxwell deduced b
> y examination of units used that a portion of his formula was also a
> mathematical explanation of elevation and acceleration but no
> description of what!

Maxwell did it. Maxwell described it in English. The equations wrote
Heaviside.

>A physicists
> named Gauss who provided a lot of Maxwells tools
> used Newtons laws to establish boundary laws where it can be seen that
> mathematically a clump of static particles in equilibrium could be
> made
> dynamic by adding a time varying field while retaining equilibrium
> meshes with Maxwells equations on radiation. So who on earth descided

> to interject "waves" into the discussion and why?

The dynamic particles are waves. The Gauss time varying field is the
longitudinal wave.

> And what experiment was performed that dictated its inclusion in the
> subject of radio or radiation that has put a screaming halt to a
> sustainable explanation of same for more than a hundred years
> where other dreams have come to fruition by utelizing the human brain.
> Is it the ham population
> that is responsible for the lack of advances in the advancement of
> science by denying the inclusion of particles as the basic matter
> involved in elevation and acceleration (displacement) as implied by
> Maxwell's equations, preferring instead to use 'water' and 'waves' to
> describe the science to the non initiated.

The water and waves are usefull in schools. Everybody can see.
Light, radio waves and sound waves are analogous in the all details.
Sound waves and radio waves are not visible but many experiment was done.
S*

1400. Re: Active Antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 15:49:38 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <dbf78c9b-9d1a-458e-b0f9-5e91d5a36dae@o8g2000yqo.googlegroups.com>
Source record: 10100

On May 5, 10:17 pm, Roy Lewallen <w...@eznec.com> wrote:
> Correction:
>
> Roy Lewallen wrote:
>
> > No secrets, just a short and probably simple antenna and low noise
> > amplifier. The antenna is likely to be a simple monopole which would be
> > no longer than about wavelength at the highest frequency. . .
>
> That should be "no longer than about a half wavelength at the highest
> frequency. . ."
>
> Roy Lewallen, W7EL

From memory the ARA-500 (50-500MHz) used a fat printed circuit biconical style dipole with a broadband balun feeding something like a BFT66 bipolar transistor RF amplifier with ferrite transformer derived negative feedback (Similar to a broadband pre-amplifier design originally published in the German 'VHF Communications' magazine sometime in the 1970's). The later versions used FETs or broadband amplifier MIMIC's of various types and a strange helically wound antenna element constructed from foil tape.

As long as you can achieve reasonable impedance matching to the active device across the required frequency range, and an amplifier noise figure which is better than the atmospheric noise level which can be received on the physically small antenna element, then it should work as well as (or in some cases better than) a full sized antenna. However this is a tall order, as strong signal handling is the main issue with low noise amplifiers, especially when used in a broadband configuration in the presence of strong local signals (usually broadcast stations).

A good design of balanced HF active antenna (100KHz to 50MHz) can be found on the link at the bottom of this web page.

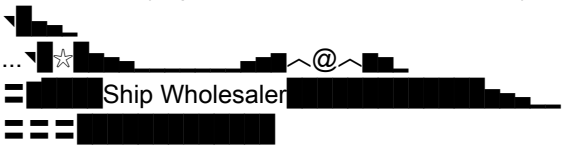
http://sites.google.com/site/datongarchive/ad270-ad370

UKM

1401. The businessman sold GUCCI T-Shirt to all people

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 16:04:51 UTC
From: huang <hhl678@sohu.com>
Message-ID: <5cb88249-4bdc-46d8-b424-da3426d8a5ab@k29g2000yqh.googlegroups.com>
Source record: 10001

Are you searching for good quality and low price products?our company
want to be you reliable supplier in china,we offer brand
shoes,bags,jeans,clothes,we accept a variety of payment
methods .Convenient for you the more you order the better price for
you! if you interested in our goods,pls don't hestate to contact me
Our website (http://www.24hoursneakers.com/)



Crystal rock T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
TAPOUT T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
affliction T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
laguna beach jeans T-Shirt(http://www.24hoursneakers.com/)
(PayPal Payment)
ARMANI T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
GUCCI T-Shirt(http://www.24hoursneakers.com/) (PayPal Payment)
LV T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
D&G T-Shirt(http://www.24hoursneakers.com/) (PayPal Payment)
VERSACE T-Shirt(http://www.24hoursneakers.com/) (PayPal Payment)
PRADA T-Shirt(http://www.24hoursneakers.com/) (PayPal Payment)
G-STAR T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
Burberry T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
COOGI T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
Christ audiger T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
True Religion T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
ED Hardy T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
POLO T-Shirt(http://www.24hoursneakers.com/) (PayPal
Payment)
Lacoste T-Shirt(http://www.24hoursneakers.com/) (PayPal Payment)

1402. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 22:03:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9b3e742f-3f95-4362-9d6f-25ab5658d374@n15g2000yqf.googlegroups.com>
Source record: 10002

On May 6, 8:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

you mangled the replies so badly that i couldn't even follow what you were saying. light and radio waves are the same thing, as are gamma, infra red, x-ray, etc... all the exact same phenomena explained very well by maxwell's equations. scientists for 100 years have been unable to come up with anything better, you aren't going to by your misguided assertions that have no mathematics or experimental evidence behind them.

sound waves and water waves are VERY different things. while some of the equations take the same form because they share sinusoidal repetition properties, the underlying physics is VERY different. you have to abandon the analogies you learned in elementary school and learn the proper physics to understand why electromagnetic waves are not like sound or water... start with this, why can you polarize light or radio waves but not sound waves?

1403. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 22:05:12 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <785d429a-a671-43a4-94a8-c158a1069442@o11g2000yqj.googlegroups.com>
Source record: 10003

On May 6, 8:00 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
 wrotenews:9a2ac8d8-74af-4528-86a4-8d2190f51d75@k41g2000yqb.googlegroups.com...
> On May 3, 7:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > Radio waves from the dipole are polarized. Does it mean that light is
> > emitted by a dipoles?
>
> sure, why not? but polarized waves can be emitted from other things
> also.
>
>
>
> > We can shield the one end of the dipole.
>
> no you can't.
>
> A whip antennas on a car is not such?

no, the other half of the dipole is the body of the car itself.

>
>
>
> > Why the dipoles exhibit the directional pattern?
>
> because they do, its well measured and accurately described in the
> equations.
>
> Are the measured and the calculated from the equations in agreement?

yes, to within many, many decimal places... if they did not agree to
within the limits of measurement then someone would have had to make a
new theory to explain the difference.

1404. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 22:07:24 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4b15c73a-d260-40f3-802c-d831df2e13c0@q32g2000yqb.googlegroups.com>
Source record: 10004

On May 6, 12:58 am, Art Unwin <arthurun...@gmail.com> wrote:
> > > The fundamental question: Are radio waves a simple electric waves or the
> > > very sophisticated Maxwell's waves?
>
> > ALL radio waves can be described by maxwell's equations, both simple
> > linear polarized ones and circularly polarized ones.
>
> The fundamental question is really how can we describe this "wave".? A
> wave of what "water",
> A wave of "water" traveling towards a beach.
> Is it water we are really trying to describe or what?
> Water has a "skin" on its surface , a skin that encasulates it like a
> bag , container or a boundary!
> Nothing is clear when describing a "wave" with respect to physics, as
> it is just a "F" word to substitute an unexplainable in a psuedo
> description
> There is no agreement what so ever as to what a "wave" is so there
> cannot exist a description of what radio "IS", "IS"!. Physicists
> acknowledge that radio is some thing that is unexplanable leaving just
> hams to fill in the unexplainable about radio and to deny the
> explanations made by others.
> What we do have is a string of mathematical equations all of which
> interlock which are a result
> of observation and seamingly reasonable deductions. Maxwell deduced b
> y examination of units used that a portion of his formula was also a
> mathematical explanation of elevation and acceleration but no
> description of what! A physicists
> named Gauss who provided a lot of Maxwells tools
> used Newtons laws to establish boundary laws where it can be seen that
> mathematically a clump of static particles in equilibrium could be
> made
> dynamic by adding a time varying field while retaining equilibrium
> meshes with Maxwells equations on radiation. So who on earth descided
> to interject "waves" into the discussion and why?
> And what experiment was performed that dictated its inclusion in the
> subject of radio or radiation that has put a screaming halt to a
> sustainable explanation of same for more than a hundred years
> where other dreams have come to fruition by utelizing the human brain.
> Is it the ham population
> that is responsible for the lack of advances in the advancement of
> science by denying the inclusion of particles as the basic matter
> involved in elevation and acceleration (displacement) as implied by
> Maxwell's equations, preferring instead to use 'water' and 'waves' to
> describe the science to the non initiated.

maxwell's equations do not describe particle motion, they describe electric and magnetic fields and electromagnetic waves. as i just tried to point out to mr. b, the elementary school analogy of water waves to explain electromagnetic waves must be abandoned before you can truly understand em waves.

1405. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-06 22:20:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D7154C9A6D62nonenowhere@61.9.191.5>
Source record: 10005

lu6etj <lu6etj@gmail.com> wrote in
news:f220b1d5-bae7-48b4-b0f6-5fdb7d2bb46c@j15g2000vbq.googlegroups.com:
> Could it simply be a capacitive coupling method without any matching
> property ?

That depends what you mean by "without any matching property".

If the o/c stub is less than an electrical quarter wave (as it seems from the description, it must introduce some series capacitive reactance, and loss resistance, the longer it is, the higher the loss resistance.

It is not at all obvious why they would do what you described (and for Tom's benefit, I am not talking about a gamma match).

Owen

1406. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 00:15:37 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <217db7fa-e27d-4a12-bb5b-71a5935fdc53@l31g2000yqm.googlegroups.com>
Source record: 10006

On May 6, 5:07 pm, K1TTT <k1...@arrl.net> wrote:
> On May 6, 12:58 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > > > The fundamental question: Are radio waves a simple electric waves or the
> > > > very sophisticated Maxwell's waves?
>
> > > ALL radio waves can be described by maxwell's equations, both simple
> > > linear polarized ones and circularly polarized ones.
>
> > The fundamental question is really how can we describe this "wave".? A
> > wave of what "water",
> > A wave of "water" traveling towards a beach.
> > Is it water we are really trying to describe or what?
> > Water has a "skin" on its surface , a skin that encasulates it like a
> > bag , container or a boundary!
> > Nothing is clear when describing a "wave" with respect to physics, as
> > it is just a "F" word to substitute an unexplainable in a psuedo
> > description
> > There is no agreement what so ever as to what a "wave" is so there
> > cannot exist a description of what radio "IS", "IS"!. Physicists
> > acknowledge that radio is some thing that is unexplanable leaving just
> > hams to fill in the unexplainable about radio and to deny the
> > explanations made by others.
> > What we do have is a string of mathematical equations all of which
> > interlock which are a result
> > of observation and seamingly reasonable deductions. Maxwell deduced b
> > y examination of units used that a portion of his formula was also a
> > mathematical explanation of elevation and acceleration but no
> > description of what! A physicists
> > named Gauss who provided a lot of Maxwells tools
> > used Newtons laws to establish boundary laws where it can be seen that
> > mathematically a clump of static particles in equilibrium could be
> > made
> > dynamic by adding a time varying field while retaining equilibrium
> > meshes with Maxwells equations on radiation. So who on earth descided
> > to interject "waves" into the discussion and why?
> > And what experiment was performed that dictated its inclusion in the
> > subject of radio or radiation that has put a screaming halt to a
> > sustainable explanation of same for more than a hundred years
> > where other dreams have come to fruition by utelizing the human brain.
> > Is it the ham population
> > that is responsible for the lack of advances in the advancement of

> > science by denying the inclusion of particles as the basic matter
> > involved in elevation and acceleration (displacement) as implied by
> > Maxwell's equations, preferring instead to use 'water' and 'waves' to
> > describe the science to the non initiated.
>
> maxwell's equations do not describe particle motion, they describe
> electric and magnetic fields and electromagnetic waves. as i just
> tried to point out to mr. b, the elementary school analogy of water
> waves to explain electromagnetic waves must be abandoned before you
> can truly understand em waves.

I am happy about that but it doesn't help me to understand em waves or where they are involved with Maxwell. It is inbuilt in physics that we are accelerating a charge where acceleration demands mass. But there is no continuation of explanation beyond that point. Every theory since classical has broken down and we are now in the superstring theory while at the same time trying to collide the smallest particle on earth which determines the speed of light. You definitely can not involve acceleration without mass, and gravity can only be canceled by a reactionary vecto r being involved and you cannot have a straight line trajectory without two vectors representing gravity and its associated spin. Frankly, we should start again using the basics of Newton as used by Maxwell and then backtracking to the time of Einstein by supplying the relationship of static and dynamic fields so that frausteration did not drive us away from former progress in physics over the centuries to invent particles without mass, anti particles and acceleration of string which can take on the shape of a wave.
What startles me is the acceptance of computer programs based on Maxwell which clearly show that the radiating member must have zero resistance for maximum radiation. That radiation resistance implies that of an encapsulating substance which is elevated and accelerated by the action of displacement current in a similar manner to scrap metal sorting yards. Now I read that present particle science is retracting to the idea of a single particle being the source of the standard model and where the existing environment is creating the observences at any point in time based on the existance of matter in all cases. It is time we reverted back to the demands of equilibrium where an "equal" sign addition to any equation demands that the addition of all used in that equation must equal zero. Which is a staple of all that is used by the human race over the centuries. Not one of many theorems on radio have come to fruition with the use of integra ated solutions to satisfy the whole. All we have are totally disconnected imaginations spawned by using mathematical tricks of doubtful merit with imaginary inventions to fill in the inevitable gaps.
We only have one tool that is solidly connected to equations of maxwell and that is the computer programs with optimizer that adheres solely to the stated equation together with adherence to equilibrium. What better place exists to delve further into the Masters thoughts

rather than the manufacture of another theorem?

1407. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 01:41:18 UTC
From: tom <news4792@taring.org>
Message-ID: <4be36fbc$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10007

On 5/6/2010 7:15 PM, Art Unwin wrote:
>
> I am happy about that but it doesn't help me to understand em waves or
> where they are involved with Maxwell. It is inbuilt in physics that we
> are accelerating a charge where acceleration demands
> mass. But there is no continuation of explanation beyond that point.
> Every theory since classical has broken down and we are now in the
> superstring theory while at the same time trying to collide the
> smallest particle on earth which determines the speed of light. You
> definitely can not involve acceleration without mass, and gravity can
> only be canceled by a reactionary vecto r being involved and you
> cannot have a straight line trajectory without two vectors
> representing gravity and its associated spin. Frankly, we should
> start again using the basics of Newton as used by Maxwell
> and then backtracking to the time of Einstein by supplying the
> relationship of static and dynamic fields so that frausteration did
> not drive us away from former progress in physics over the centuries
> to invent particles without mass, anti particles and acceleration of
> string which can take on the shape of a wave.
> What startles me is the acceptance of computer programs based on
> Maxwell which clearly show that the radiating member must have zero
> resistance for maximum radiation. That radiation resistance implies
> that of an encapsulating
> substance which is elevated and accelerated by the action of
> displacement current in a similar manner to scrap metal sorting yards.
> Now I read that present particle science is retracting to the idea of
> a single particle being the source of the standard model and where the
> existing environment is creating the observences at any point in time
> based on the existance of matter in all cases. It is time we reverted
> back to the demands of equilibrium where an "equal" sign
> addition to any equation demands that the addition
> of all used in that equation must equal zero. Which is a staple of all
> that is used by the human race over the centuries. Not one of many
> theorems on radio have come to fruition with the use of integra ated
> solutions to satisfy the whole. All we have are totally disconnected
> imaginations spawned by using mathematical tricks of doubtful merit
> with imaginary inventions to fill in the inevitable gaps.
> We only have one tool that is solidly connected to equations of
> maxwell and that is the computer programs with optimizer that adheres
> solely to the stated equation together with adherence to equilibrium.
> What better place exists to delve further into the Masters thoughts
> rather than the manufacture of another theorem?

Time to start taking your meds again.

tom
K0TAR

1408. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 01:42:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4be3701a$0$50145$8046368a@newsreader.iphouse.net>
Source record: 10008

On 5/6/2010 3:25 AM, Szczepan Bialek wrote:
>
> Charged particles can move at any speed from 0 to c and always produce the
> electric field. Why not?

Incorrect. A particle has mass, and cannot attain light speed.

tom
K0TAR

1409. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 02:25:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4be379fb$0$637$8046368a@newsreader.iphouse.net>
Source record: 10009

On 5/6/2010 8:42 PM, tom wrote:
> On 5/6/2010 3:25 AM, Szczepan Bialek wrote:
>>
>> Charged particles can move at any speed from 0 to c and always produce
>> the
>> electric field. Why not?
>
> Incorrect. A particle has mass, and cannot attain light speed.
>
> tom
> K0TAR
>

Should have said "charged particle" rather than "particle".

tom
K0TAR

1410. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1273212300@panix.com>
Source record: 10010
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

1411. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 07:49:02 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be3c5f3$0$2606$65785112@news.neostrada.pl>
Source record: 10011

"K1TTT" <k1ttt@arrl.net> wrote
news:785d429a-a671-43a4-94a8-c158a1069442@o11g2000yqj.googlegroups.com...
On May 6, 8:00 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
> wrotenews:9a2ac8d8-74af-4528-86a4-8d2190f51d75@k41g2000yqb.googlegroups.com...
>> On May 3, 7:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> > Radio waves from the dipole are polarized. Does it mean that light is
> > emitted by a dipoles?
>
>> sure, why not? but polarized waves can be emitted from other things
> also.
>
>> > We can shield the one end of the dipole.
>
>> no you can't.
>
>> A whip antennas on a car is not such?

>no, the other half of the dipole is the body of the car itself.

Have you ever seen the dipole which one end is without a cap and the other
with the huge cap (the body of the car?
The body is rather a mirror for the monopole.
>
>> > Why the dipoles exhibit the directional pattern?
>
>> because they do, its well measured and accurately described in the
> equations.
>
>> Are the measured and the calculated from the equations in agreement?

>yes, to within many, many decimal places... if they did not agree to
within the limits of measurement then someone would have had to make a
new theory to explain the difference.

No such need. For the radio waves apply all knowledge for the acoustic
waves.
The monopole works like the Kundt's tube. The dipole like the two.
The directional pattern is the same for two loudspeakers like for the
dipole.
S*

1412. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 08:26:36 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be3cec2$0$2598$65785112@news.neostrada.pl>
Source record: 10012

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:9b3e742f-3f95-4362-9d6f-25ab5658d374@n15g2000yqf.googlegroups.com...
On May 6, 8:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

>you mangled the replies so badly that i couldn't even follow what you
were saying. light and radio waves are the same thing, as are gamma,
infra red, x-ray, etc... all the exact same phenomena explained very
well by maxwell's equations. scientists for 100 years have been
unable to come up with anything better, you aren't going to by your
misguided assertions that have no mathematics or experimental evidence
behind them.

Maxwell's electricity is incompressible.
Todays electron gas is compressible. Behind them is mathematics (plasma
physics) and experimental evidence.

>sound waves and water waves are VERY different things. while some of
the equations take the same form because they share sinusoidal
repetition properties,

Sinusoidal means harmonics. Real waves are not harmonics. They are rather
the chain of the solitons.

> the underlying physics is VERY different. you
have to abandon the analogies you learned in elementary school and
learn the proper physics to understand why electromagnetic waves are
not like sound or water.

Sound and water waves are the real waves and such have always the two
components (longitudinal and transversal).
Maxwell' em waves are pure transversal. Maxwell wrote that it is a
proposition.

>.. start with this, why can you polarize light or radio waves but not sound
>waves?

I did it. Radio waves and sound waves have the same directional patterns for
the same numbers, configurations (and phases).
The two waves emitted from the dipole (ACOUSTIC OR ELECTRIC) are
"polarized". You can experimentally determine the plane in which the dipole
is.

The same is with more sources.
S*

1413. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 08:35:14 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be3d0c6$0$17096$65785112@news.neostrada.pl>
Source record: 10013

"tom" <news4792@taring.org> wrote
news:4be379fb$0$637$8046368a@newsreader.iphouse.net...
> On 5/6/2010 8:42 PM, tom wrote:
>> On 5/6/2010 3:25 AM, Szczepan Bialek wrote:
>>>
>>> Charged particles can move at any speed from 0 to c and always produce
>>> the
>>> electric field. Why not?
>>
>> Incorrect. A particle has mass, and cannot attain light speed.
>>
>> tom
>> K0TAR
>>
>
> Should have said "charged particle" rather than "particle".

What do you think. Is the electron a charged particle?

Maxwell assumed that the electricity is massles and incompressible.
He would be right if the electron is a charged particle.
S*

1414. Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 16:31:48 UTC
From: James186282 <pillow@mail.com>
Message-ID: <uP6dnZ8Ir97Y3XnWnZ2dnUVZ_sqdnZ2d@mchsi.com>
Source record: 10014

I've been trying to understand the basics of HT radio antennas. The first part that puzzles me is the "ground" side of an antenna. Or if I can use a Dipole as an example one side of the dipole. Or if we use a groundplane the radials. With an HT are we just "doing without"? Or is this just my dumbness in action?

My second question is in asking how effective is the typical rubber duck antenna versus say a truly resonant antenna or even a 5/8th wave which tries (if I understand it) to squish the pattern down from a sphere to a doughnut so its hears and talks better out then "up and down"

In my mind I would simply like an antenna that was effective but flexable. Length is not "critical" as I plan to hang it up high on an LB harness. The idea is a rough and tumble antenna that can work in the woods on a Search and Rescue mission but will give me the very best range out (not so much up/dn)

Has anyone done any serious work with HT antennas? Is there anyone clued into how to match these properly? And has anyone looking into using spring steel (Such as Measuring tape) for the antenna as the Military uses in many of their radios?

Thanks for any thoughts on this de Jay W0VNE

1415. Re: 2 letter calls a dead loss/incompetent administration

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 16:34:05 UTC
From: James186282 <pillow@mail.com>
Message-ID: <uP6dnZ4Ir95T3XnWnZ2dnUVZ_soAAAAA@mchsi.com>
Source record: 10015

I think it compounded by the "CLUBS" that have one member and that these are "collected" I think clubs should be happy with a 2x3 let "real" people who will be active and operate on regular basis have the choice calls.

Just my two cents worth.... - jay W0VNE

Greg wrote:
> Its a dead loss. The WIA's guidelines on callsigns are not very clear.
>
> If the callsign is available you should have the right to apply for
> it, just like when the ACMA administered the callsigns. These
> callsigns are clearly not allocated on the first come first serve
> basis, but on some other arbitrary set of rules that nobody knows.
>
> If you look at the history of the 2 letter callsigns allocated you see
> a clear preference towards clubs and its officials, one off
> individuals are low down in the preference ranks. The callsigns are
> not being administered in way thats fair to the broader amateur
> community.
>
> I now several people who have applied in consistent manner multiple
> time. One person actually lodged several applications within 1 hour
> of the callsigns been listed. He lives in the same post office zone
> and the applications were mailed with the same day. You can understand
> his skepticism.
>
> It would have been far better if the callsigns administration was in
> the hands of some independent body not related to ham radio. A
> simpler fairer impartial system would have to use a automated secure
> online immediate transaction system., just like they sell tickets. In
> the past it too 30 mins for the ACMA to allocate a call why the WIA
> takes weeks is beyond me.
>
> What i have experience so far, is that I have little faith in WIA
> allocating these 2 letter calls. I wonder if the process is open to
> legal independent scrutiny? Does the ACMA audit the process I wonder?

1416. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 17:23:32 UTC
From: nm5k@wt.net
Message-ID: <9aa18a21-3827-484b-9309-3a135ae2c426@l31g2000yqm.googlegroups.com>
Source record: 10016

On May 7, 11:31 am, James186282 <pil...@mail.com> wrote:
> I've been trying to understand the basics of HT radio antennas. The
> first part that puzzles me is the "ground" side of an antenna. Or if I
> can use a Dipole as an example one side of the dipole. Or if we use a
> groundplane the radials. With an HT are we just "doing without"? Or is
> this just my dumbness in action?
>
> My second question is in asking how effective is the typical rubber duck
> antenna versus say a truly resonant antenna or even a 5/8th wave which
> tries (if I understand it) to squish the pattern down from a sphere to a
> doughnut so its hears and talks better out then "up and down"
>
> In my mind I would simply like an antenna that was effective but
> flexable. Length is not "critical" as I plan to hang it up high on an
> LB harness. The idea is a rough and tumble antenna that can work in the
> woods on a Search and Rescue mission but will give me the very best
> range out (not so much up/dn)
>
> Has anyone done any serious work with HT antennas? Is there anyone
> clued into how to match these properly? And has anyone looking into
> using spring steel (Such as Measuring tape) for the antenna as the
> Military uses in many of their radios?
>
> Thanks for any thoughts on this de Jay W0VNE

With an HT, the radio and the person holding it are the lower half
of the antenna if using a 1/4 wave or 5/8 wave. And yes, a full
length antenna will trounce most rubber ducks.
A good antenna for HT's is the half wave. But I've seen the 5/8's
do pretty well even considering the problems.
A 1/4 wave is a good cheap antenna. IE: get an adapter that
converts the rubber duck connector to a SO-239. Then stick
a 1/4 wave whip in the center pin hole. Quicky 1/4 wave that will eat
most all rubber ducks. And using external ground planes, verticals
works well too.

1417. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 18:13:51 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <gph8u5pmbt154hp35c5kju6vb9h4fhm1e7@4ax.com>
Source record: 10017

On Fri, 07 May 2010 16:31:48 +0000, James186282 <pillow@mail.com>
wrote:

>The
>first part that puzzles me is the "ground" side of an antenna. Or if I
>can use a Dipole as an example one side of the dipole. Or if we use a
>groundplane the radials. With an HT are we just "doing without"?

The case of the HT and your hand are acting as the counterpoise (other
half of the antenna). There have been some efforts to improve on the
HT antenna by adding a wire counterpoise:
<http://www.hamuniverse.com/htantennamod.html>
It goes under the trade name of "Tiger Tail". There are some boring
You Tube videos describing the construction.

>My second question is in asking how effective is the typical rubber duck
>antenna versus say a truly resonant antenna or even a 5/8th wave which
>tries (if I understand it) to squish the pattern down from a sphere to a
>doughnut so its hears and talks better out then "up and down"

If you start with a monopole, shortening the antenna in half with a
loading coil will result in half the gain or -3dB loss. 1/4th the
length is 1/4th the gain or -6dB loss. Etc. Shortening the antenna
doesn't change the pattern much. You still end up with roughly a
torus (donut) pattern. The torus is far from perfect and probably
resembles more of a sphere. Therefore, you don't have to worry much
about the loss of signal in the axial directions.

A 5/8 wave antenna is the longest length (and therefore highest gain)
antenna that can be built before the antenna pattern starts to
resemble a cloverleaf (with deep nulls). The gain is about 1.5dB more
than a dipole. That's a fabulous 19% increase, which is kinda
marginal considering the added length.

All this assumes that some effort has been made to match the proposed
antenna to 50 ohms.

>In my mind I would simply like an antenna that was effective but
>flexable.

Flexible as in like rubber? Or flexible as in versatile?

>Length is not "critical" as I plan to hang it up high on an
>LB harness. The idea is a rough and tumble antenna that can work in the
>woods on a Search and Rescue mission but will give me the very best
>range out (not so much up/dn)

Large antennas in the brush is a bad idea. It will tangle with the brush and the brush always wins. Your requirements are probably the same as any emergency responder. It has to be unobtrusive (not get in the way) but still effective. Smashing through the brush with a 5/8 wave 2m antenna is not my idea of unobtrusive.

My suggestion is to have two antennas. One is the traditional 6" rubber ducky antenna that comes with most HT's. It's not great, but it's small enough not to get in the way. In your back pack, carry a length of RG-58/u with the last 19" of braid pulled back over the outer jacket. This forms a "coaxial antenna", where the exposed 19" of center conductor is the driven element, and the folded back braid is the counterpoise. The impedance is officially 70 ohms, but the mismatch loss to 50 ohms is minimal. The trick is that this antenna is attached with a long length of coax cable, that can be thrown into the trees, or hoisted on a pole, to get added elevation.

If you have a harness, it might be possible to sew an antenna into the webbing. While not the best for gain and non-directionality, it is very convenient not to have an antenna sticking you in the armpit.

>Has anyone done any serious work with HT antennas?

Ummm... the cell phone and public safety radio sector has done considerable work on optimizing the antenna. The cell phone horde has decided that non-projecting antennas are more important than convenience. They've also decided that it's acceptable to place the antenna at the BASE of the cell phone (as in the Motorola RAZR). Convenience is more important than performance. The public safety and land mobile sector has correctly decided to solve the problem at the other end of the link. They're leaving the antennas at about 3-6" in length, and concentrating on improving performance by adding sites, better base antennas, voting systems, etc. Why mess with 1,000 HT's when you can get better results by improving one mountaintop site?

There are also external speaker microphones for HT's that have antennas in the microphone (thus insuring that your brain gets the maximum RF exposure).
<http://www.dhgate.com/kmc-26-microphone-speaker-mic-for-kenwood/p-ff808081220be3b101220d87650c1504.html>

>Is there anyone
>clued into how to match these properly?

Sure. The 5/8 wave uses a transformer or tapped inductor to step up the 50 ohms to about 1000 ohms. Shorter than 1/4 wave antennas use a loading coil (series inductor). 70 ohm coax antennas and 35 ohm monopoles are close enough to 50 ohms for VSWR not to be an issue. The added bulk and RF losses of the matching system, has to be balanced against the antenna mismatch loss. It's often better to tolerate the mismatch loss.

>And has anyone looking into
>using spring steel (Such as Measuring tape) for the antenna as the

>Military uses in many of their radios?

<http://theleggios.net/wb2hol/projects/rdf/tape_bm.htm>
<http://www.open-circuit.co.uk/tape.php>
The problem is that spring steel (as found on a tape measure) is not exactly a good RF conductor. The military HF dipole antennas I played with were stainless steel, which has better surface conductivity.
<http://www.qsl.net/n2ckh/HA4000.htm>
The problem with tape measure antennas at VHF and UHF is accuracy. The cut length of the antenna needs to be fairly accurate to work at UHF. For example, the difference in length of a UHF 1/4 wave radiator is:
440 MHz = 170.5 mm
450 MHz = 166.7 mm
To get it somewhere in the band, you need to adjust the tape measure to within plus or minus 1.9mm. That's not easy (or practical). There's also no antenna tuner to compensate for errors. That's why field adjustable antennas are not very popular at UHF frequencies.

Instead of floundering around with generalities, could you kindly disclose what problem you're trying to solve and what equipment you have to work with? Perhaps the answers will be more specific.

>Thanks for any thoughts on this de Jay W0VNE

Hint: Making a better HT antenna is easy. Making one that is better but also smaller, more efficient, and ergonomic, is not so easy.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1418. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 18:19:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e6da182e-f997-4ab9-9c6f-3ddd87894802@b18g2000yqb.googlegroups.com>
Source record: 10018

On May 7, 11:31 am, James186282 <pil...@mail.com> wrote:
> I've been trying to understand the basics of HT radio antennas.

http://adjunct.diodon349.com/Radio/ht_tiger_tails_and_other_good_info.htm

http://www.pgh-net.com/ae3c/tiger-tail.html
--
73, Cecil, w5dxp.com

1419. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 20:46:50 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <72a5a0a9-eaae-4f7b-9be5-73634bf3d429@o8g2000yqo.googlegroups.com>
Source record: 10019

On 7 mayo, 18:31, James186282 <pil...@mail.com> wrote:
> I've been trying to understand the basics of HT radio antennas. The
> first part that puzzles me is the "ground" side of an antenna. Or if I
> can use a Dipole as an example one side of the dipole. Or if we use a
> groundplane the radials. With an HT are we just "doing without"? Or is
> this just my dumbness in action?
>
> My second question is in asking how effective is the typical rubber duck
> antenna versus say a truly resonant antenna or even a 5/8th wave which
> tries (if I understand it) to squish the pattern down from a sphere to a
> doughnut so its hears and talks better out then "up and down"
>
> In my mind I would simply like an antenna that was effective but
> flexable. Length is not "critical" as I plan to hang it up high on an
> LB harness. The idea is a rough and tumble antenna that can work in the
> woods on a Search and Rescue mission but will give me the very best
> range out (not so much up/dn)
>
> Has anyone done any serious work with HT antennas? Is there anyone
> clued into how to match these properly? And has anyone looking into
> using spring steel (Such as Measuring tape) for the antenna as the
> Military uses in many of their radios?
>
> Thanks for any thoughts on this de Jay W0VNE

Hello James,

As you know, every mA that goes into the antenna, has to come from the shield from the coaxial cable, or the jack on your HT. From there, the current is pulled out of your hand (assuming VHF). Your had acts as the counterpoise.

The lower the radiation resistance, the more current goes into the antenna given same power. To reduce the current, and losses, in your hand, a half wave resonating antenna is my preferred option. The only "problem" with the HW antenna is that you need a descent match because of that high radiation resistance (several hundreds to kOhms depending on length/thickness ratio).

As others said, the sleeve dipole is an attractive option when you can erect it into a tree. Because of the plastic sheet that is between the shield and the folded back shield, the length must be less then a quarter wave to have good choking function. To get the antenna in resonance, the "radiator" section has to be bit longer. Note that the folded back braid does radiate as much as the upper part.

The 5/8 lambda antenna only has its gain advantage when the image antenna is present. As there is no image (as you don't have an infinite ground plane), the HW antenna will perform better then the 5/8 lambda antenna.

I support Jeff's strategy, have a small easy to handle one for normal use, and the good very flexible one for when it is really necessary.

Best regards,

Wim
PA3DJS
www.tetech.nl
in case of PM, please remove abc first.

1420. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 22:23:35 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <jrv8u51c8u9fbv630qa5gq0inq7d6bmaki@4ax.com>
Source record: 10020

On Fri, 7 May 2010 13:46:50 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>I support Jeff's strategy, have a small easy to handle one for normal
>use, and the good very flexible one for when it is really necessary.

Thanks. I'm at home with a cold, flu, or allergy and am stuffed full
of pharmaceuticals. This tends to stimulate my imagination and
creativity. Any tendencies towards insanity is strictly chemically
induced.

Many years ago (1970's), I was into back packing, camping, and
trespassing on government property. In order to be fully prepared, I
had my VHF HT (Motorola HT 200, HT220 or worse) and a selection of
antennas. For local communications (warning if the authorities are
coming), the HT's would usually have the stock Motorola rubber ducky
antenna. However, I wanted to carry something with more gain for long
range communications. It had to be small, light, portable, foldable,
cheap, and have lots of gain. The result was a rope yagi.
<http://www.bigskyspaces.com/w7gj/longyagi.htm>
<http://www.racine.ra.it/ariravenna/EME%20BIF/IW4BIF_eng.htm>
(etc...)
I have photos of mine somewhere, but the above are better built. Mine
was only about 20ft long. The elements were #14 AWG bare copper
electrical ground wire. The rope was white nylon braid. The driven
element was 1/4" aluminum tubing with a T-match. Usable bandwidth was
horrible with something like 200KHz for <2:1 at 146 MHz.

Roll forward a few years and decided that inflatables were the next
big thing. Instead of a mess of rope and wire, I would carry a pair
of vinyl tubes supporting the yagi elements. The vinyl tube of choice
was a roll of polyethylene tubing:
<http://www.uline.com/BL_2105/Black-Heavy-Duty-Poly-Tubing>
This was inflated with an air mattress electric or foot pump. Tubular
sleeves were glued to the poly boom for the elements. Otherwise, it's
similar to the rope and wire yagi, but smaller and lighter.

After a few more years, my sanity failed to re-appear. I was looking
at a friends service van and noticed that the ladder looked like a
suitable candidate for a yagi. Fiberglass (insulating) frame with
aluminum rungs. A bit of modeling and some measurements with a
network analyzer showed that the ladder might work. The rungs were
22" long, which is a bit long for 146MHz. Some series capacitance and
a gamma match got it to tune. Note that a Yagi antenna does NOT need
to be a dipole, and will work as a monopole if you can tolerate having
the gain peak off center. No photos because I never got beyond the

tinkering stage. Still, for emergency use, borrowing one of the
served agencies ladders for an antenna might prove entertaining.

More recently, I got back to the inflatable idea. Instead of an
inflatable antenna, I decided the world needed an inflatable tower or
mast. The idea is that the higher the VHF antenna, the better it
works. Never mind gain. It's not really a new idea as the military
has been using it for a time:
<http://towers.ltaprojects.com/LTA_Towers/LTA_Tower_Home.html>
Note the ham and CERT versions. The videos are worth watching.
<http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=250617992381>
$1200 for the 25 ft version. Ouch.

Using the same poly tubing, I constructed a 20 ft unguyed vertical
mast, which promptly buckled and blew over in the slightest breeze.
Adding guy wires at the top helped, but the slightest buckling, would
precipitate a collapse. To prevent buckling, I increased the air
pressure until I blew out the side. 50 PSI max for 4 mil tubing.
Adding more guy wires will work, but now it's becoming complexicated.
Instead, I added four radial arms of smaller tubing as a base and tied
the multiple guy ropes to the ends. The inflation pressure provided
the necessary tension. That worked.

[Begin math warning] The load that can be carried by a vertical
column of air (in a poly tube) is equal to the air pressure times the
area of the cylinder. The tubing is sold by the flat width, which is
half the circumference. Therefore, a 6" tube has a circumference of
12". The radius would be:
r = C/(2*Pi) = 12 / (2*3.14) = 1.9 inches radius
The cross sectional area is therefore:
A = Pi * r^2 = 3.14 * 1.9^2 = 11.5 sq in
If I inflate the tube to 10 PSI, the maximum load is:
MaxLoad = 11.5 sq-in * 10 lbs/sq-in = 115 lbs
Unfortunately, with 115 lbs of antenna at the top, there no safety
factor. My guess(tm) is about 5:1 would be about right, thus limiting
the max load for this derangement to about 24 lbs (including the coax
cable).
[End math]

What this means is that you're not going to drag this monster on Field
Day and use it to raise an HF beam, rotate, and heavy coax cable.
However, it might handle a simple VHF omni and thin coax.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1421. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 22:40:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <g9-dnUhKe5lhC3nWnZ2dnUVZ_sKdnZ2d@giganews.com>
Source record: 10021

Jeff Liebermann wrote:
> On Fri, 07 May 2010 16:31:48 +0000, James186282 <pillow@mail.com>
> wrote:
>
>> My second question is in asking how effective is the typical rubber duck
>> antenna versus say a truly resonant antenna or even a 5/8th wave which
>> tries (if I understand it) to squish the pattern down from a sphere to a
>> doughnut so its hears and talks better out then "up and down"
>
> If you start with a monopole, shortening the antenna in half with a
> loading coil will result in half the gain or -3dB loss. 1/4th the
> length is 1/4th the gain or -6dB loss. Etc. Shortening the antenna
> doesn't change the pattern much. You still end up with roughly a
> torus (donut) pattern. The torus is far from perfect and probably
> resembles more of a sphere. Therefore, you don't have to worry much
> about the loss of signal in the axial directions.

This isn't at all true generally. Shortening an antenna doesn't by itself reduce the gain significantly -- less than 1/2 dB going from a half wavelength dipole to an infinitesimally short one, due to change in current distribution. Shorter antennas are typically less efficient than longer ones due to loss in the matching components, whether those components are in the form of a loading coil or some external matching network, and ground loss if significant current flows through the ground. And the amount of loss varies a great deal depending on the components and other factors. Because of this, no firm number can be attached to the change in efficiency or field strength with length, and even approximate numbers should be viewed with suspicion.

> A 5/8 wave antenna is the longest length (and therefore highest gain)
> antenna that can be built before the antenna pattern starts to
> resemble a cloverleaf (with deep nulls). The gain is about 1.5dB more
> than a dipole. That's a fabulous 19% increase, which is kinda
> marginal considering the added length.

The gain of a 5/8 wavelength radiator over a quarter wavelength under ideal conditions is about 2.8 dB, not 1.5. The pattern is already beginning to resemble a cloverleaf at this length, with a high-angle lobe. But the high lobes aren't yet quite big enough to significantly reduce the power in the main lobe, resulting in the gain. But this is under ideal conditions, with perfect ground reflection. In an HT environment, all bets are off. I personally use a half wavelength whip on an HT, because its high end impedance minimizes current to the HT and my body, leaving the whip itself to do most of the radiating.

>. . .

Roy Lewallen, W7EL

1422. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 22:54:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <dvudnSo30qTfB3nWnZ2dnUVZ_uSdnZ2d@giganews.com>
Source record: 10022

James186282 wrote:
> I've been trying to understand the basics of HT radio antennas. The
> first part that puzzles me is the "ground" side of an antenna. Or if I
> can use a Dipole as an example one side of the dipole. Or if we use a
> groundplane the radials. With an HT are we just "doing without"? Or is
> this just my dumbness in action?

Antennas are a lot easier to understand if you forget about "ground"
unless you're talking about a direct connection to the earth. Calling
one side of an antenna "ground" doesn't impart special qualities;
current flowing on any conductor creates a field, and it doesn't matter
if it's on a "ground" side of an antenna or any other part of it. Some
structures like a "ground plane" elevated radial system are designed to
carry current yet radiate very little, so they're reasonably called
"counterpoises".

> My second question is in asking how effective is the typical rubber duck
> antenna versus say a truly resonant antenna or even a 5/8th wave which
> tries (if I understand it) to squish the pattern down from a sphere to a
> doughnut so its hears and talks better out then "up and down"

A rubber ducky has, for practical purposes, exactly the same pattern as
a quarter wavelength antenna. Longer antennas have different patterns.
But remember, your HT and body are just as much a part of the radiating
antenna system as the "antenna". If you put, say, a half wave whip onto
your HT, your body and HT are more effectively removed from the system
(although they'll still radiate some due to coupled current). That will
likely make more of a difference to the pattern than the difference
caused by whip length.

> In my mind I would simply like an antenna that was effective but
> flexable. Length is not "critical" as I plan to hang it up high on an
> LB harness. The idea is a rough and tumble antenna that can work in the
> woods on a Search and Rescue mission but will give me the very best
> range out (not so much up/dn)

> Has anyone done any serious work with HT antennas? Is there anyone
> clued into how to match these properly? And has anyone looking into
> using spring steel (Such as Measuring tape) for the antenna as the
> Military uses in many of their radios?

I'd think military implementations deserve a good look, since they have
similar requirements to yours. Any solution will be a trade-off, so you
have to decide what you're willing to trade for what you'll get.

I recommend you get the _ARRL Antenna Compendium, Vol. 4_ and read "An Investigation of 2-Meter HT Antenna Performance" by Ken Pierpoint KF0OW and Ed Brummer W4RTZ. It's the only experimental work I know of on the topic which has been published in the civilian press. The results aren't totally unambiguous, but it's a good study.

Roy Lewallen, W7EL

1423. Re: Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-07 23:12:51 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <b2b753fa-051d-4fd6-b493-6c0b66496426@r34g2000yqj.googlegroups.com>
Source record: 10023

On May 7, 2:05 am, r...@panix.com (rec.radio.info Admin) wrote:
> Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
> Archive-name: radio/ham-radio/recruitment
> Revision: 1.2 2009/11/25 14:41:01
> Posting-Frequency: posted monthly
> URL:http://www.faqs.org/faqs/radio/personal-intro/
>
> Changes followed by "|".
>
> The rec.radio.info newsgroup, first established in 1993, has been
> recently revived by an active moderation team. We are currently seeking
> suitable information, FAQ, and bulletin articles from the entire
> rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
> newsgroup.
>
> We are seeking a replacement maintainer for the following information
> bulletin formerly posted to rec.radio.amateur.* (and currently archived
> athttp://www.faqs.org/faqs/radio/personal-intro/):
>

That document has not been updated since 1998.

These auto-faq postings are pointless and tedious.

1424. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 03:02:51 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <rv4Fn.204$gv4.77@newsfe09.iad>
Source record: 10024

There are others on the group who can get into the technical side of things -- I just thought I'd tell you what I'd use in the bush, or anywhere else for that matter. Make up a twin lead J-pole -- its flexible and you can hang it from almost anything. If you Google J-pole you'll find a hundred different designs, but electrically they are all the same thing. The twin-lead version can be hung anywhere from a string, and then rolls up and fits in your pocket when you're done. If you want you can hang it on a stick or twig tied to your backpack! A very easy to make, versatile, and effective antenna! It's the only one you'll ever really need!

Irv VE6BP

"James186282" <pillow@mail.com> wrote in message news:uP6dnZ8Ir97Y3XnWnZ2dnUVZ_sqdnZ2d@mchsi.com...
> In my mind I would simply like an antenna that was effective but flexable.
> Length is not "critical" as I plan to hang it up high on an LB harness.
> The idea is a rough and tumble antenna that can work in the woods on a
> Search and Rescue mission but will give me the very best range out (not so
> much up/dn)

1425. Re: 2 letter calls a dead loss/incompetent administration

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 03:05:02 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <tx4Fn.205$gv4.86@newsfe09.iad>
Source record: 10025

What's all the fuss about? I've got mine! :-)

Irv VE6BP

"Greg" <bluehyhena@hotmail.com> wrote in message
news:f63d8ced-785f-4668-924d-4b0047d4a3e2@c36g2000yqm.googlegroups.com...
> Its a dead loss. The WIA's guidelines on callsigns are not very clear.
>
> If the callsign is available you should have the right to apply for
> it, just like when the ACMA administered the callsigns. These
> callsigns are clearly not allocated on the first come first serve
> basis, but on some other arbitrary set of rules that nobody knows.
>
> If you look at the history of the 2 letter callsigns allocated you see
> a clear preference towards clubs and its officials, one off
> individuals are low down in the preference ranks. The callsigns are
> not being administered in way thats fair to the broader amateur
> community.
>
> I now several people who have applied in consistent manner multiple
> time. One person actually lodged several applications within 1 hour
> of the callsigns been listed. He lives in the same post office zone
> and the applications were mailed with the same day. You can understand
> his skepticism.
>
> It would have been far better if the callsigns administration was in
> the hands of some independent body not related to ham radio. A
> simpler fairer impartial system would have to use a automated secure
> online immediate transaction system., just like they sell tickets. In
> the past it too 30 mins for the ACMA to allocate a call why the WIA
> takes weeks is beyond me.
>
> What i have experience so far, is that I have little faith in WIA
> allocating these 2 letter calls. I wonder if the process is open to
> legal independent scrutiny? Does the ACMA audit the process I wonder?

1426. Coogi Man T-Shirt cheap good quality (http://www.brandtrade10.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 04:28:36 UTC
From: "www.jersey-2009.com" <brandtrade01@yahoo.com>
Message-ID: <4465db4a-92ec-4379-abe0-619c451b1dbc@h20g2000prn.googlegroups.com>
Source record: 10026
Cross-posted to: rec.radio.amateur.antenna,rec.birds

Coogi Man T-Shirt cheap good quality (http://www.brandtrade10.com)
Crown Holder Man T-Shirt cheap good quality (http://
www.brandtrade10.com)
D&G Man T-Shirt cheap good quality (http://www.brandtrade10.com)
Diesel Man T-Shirt cheap good quality (http://www.brandtrade10.com)
Ecko Man T-Shirt cheap good quality (http://www.brandtrade10.com)
ED Hardy T-Shirt cheap good quality (http://www.brandtrade10.com)
Evisu Man T-Shirt cheap good quality (http://www.brandtrade10.com)
Gino Green Global Man T-Shirt cheap good quality (http://
www.brandtrade10.com)
G-Star Man T-Shirt cheap good quality (http://www.brandtrade10.com)

1427. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 05:14:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <pPCdnTfsptTZbnnWnZ2dnUVZ_g6dnZ2d@giganews.com>
Source record: 10027

Irv Finkleman wrote:
> There are others on the group who can get into the technical side of
> things -- I just thought I'd tell you what I'd use in the bush, or anywhere
> else for that matter. Make up a twin lead J-pole -- its flexible and you can
> hang it from almost anything. If you Google J-pole you'll find a hundred
> different designs, but electrically they are all the same thing. The
> twin-lead version can be hung anywhere from a string, and then
> rolls up and fits in your pocket when you're done. If you want you
> can hang it on a stick or twig tied to your backpack! A very
> easy to make, versatile, and effective antenna! It's the only
> one you'll ever really need!
>
> Irv VE6BP

I tried that a long time ago and came to a different conclusion. What I found in the remote areas was a lot of multipath reception. Sorry about the technical term -- the consequence of multipath is that the signal strength changes dramatically as you move. It's the cause of the "picket fencing" familiar to mobile operators. Changing antenna position even a few inches can take a signal from unreadable to nearly full quieting. With an HT mounted whip, I move the HT around until I hit a hot spot, and hold it there while communicating. When I hung an antenna from a tree, it was a crap shoot (how's that for keeping it non-technical?) whether it would end up at a hot spot or a lousy spot.

Roy Lewallen, W7EL

1428. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 08:11:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <VvCdnbc_6IRbgXjWnZ2dnUVZ_uydnZ2d@giganews.com>
Source record: 10028

Roy Lewallen wrote:
> Irv Finkleman wrote:
>> There are others on the group who can get into the technical side of
>> things -- I just thought I'd tell you what I'd use in the bush, or
>> anywhere
>> else for that matter. Make up a twin lead J-pole -- its flexible and
>> you can
>> hang it from almost anything. If you Google J-pole you'll find a hundred
>> different designs, but electrically they are all the same thing. The
>> twin-lead version can be hung anywhere from a string, and then
>> rolls up and fits in your pocket when you're done. If you want you
>> can hang it on a stick or twig tied to your backpack! A very
>> easy to make, versatile, and effective antenna! It's the only
>> one you'll ever really need!
>>
>> Irv VE6BP
>
> I tried that a long time ago and came to a different conclusion. . .

Sorry, I missed the suggestion of hanging the J-pole from your backpack. That would allow moving around for the best reception in the multipath environment. My comments were in response to the suggestion of hanging it from a string, which I found not to be a good idea.

Like most vertical radiators isolated from earth ground, a J-pole can couple quite a bit of current to the feedline, making the feedline, rig, and your body part of the antenna system. So you might find some feedline lengths and orientations to work better than others.

Roy Lewallen, W7EL

1429. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 11:58:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ad5a9f63-0814-488a-86d0-ec33cd7e412e@o8g2000yqo.googlegroups.com>
Source record: 10029

On May 7, 12:15 am, Art Unwin <arthurun...@gmail.com> wrote:
> What better place exists to delve further into the Masters thoughts
> rather than the manufacture of another theorem?

To justify another theorem you must do a couple things:
1. predict something that is not currently predicted.
2. explain all known phenomenon at least as well as existing laws/
theories.

In order to do both of those you must be quantitative. Provide exact
equations that combine what is predicted by maxwell with your magical
levitating colored bosons from the sun, show the link to the earth
rotation precisely so the tipping effect can be calculated and proven
or disproved by an experiment, explain why diamagnetic materials must
be used and what happens differently if you use paramagnetic or
ferromagnetic materials in a form that can be measured... but these
all require equations, not handwaving general statements about the big
bang and your magical equilibrium.

1430. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 12:04:16 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <218e1965-6490-4914-bcb9-3a3f6a7977f1@e1g2000yqe.googlegroups.com>
Source record: 10030

On May 7, 7:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:785d429a-a671-43a4-94a8-c158a1069442@o11g2000yqj.googlegroups.com...
> On May 6, 8:00 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "K1TTT" <k1...@arrl.net>
> > wrotenews:9a2ac8d8-74af-4528-86a4-8d2190f51d75@k41g2000yqb.googlegroups.com...
> >> On May 3, 7:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> > Radio waves from the dipole are polarized. Does it mean that light is
> > > emitted by a dipoles?
>
> >> sure, why not? but polarized waves can be emitted from other things
> > > also.
>
> >> > We can shield the one end of the dipole.
>
> >> no you can't.
>
> >> A whip antennas on a car is not such?
> >no, the other half of the dipole is the body of the car itself.
>
> Have you ever seen the dipole which one end is without a cap and the other
> with the huge cap (the body of the car?
> The body is rather a mirror for the monopole.
>
>
>
> >> > Why the dipoles exhibit the directional pattern?
>
> >> because they do, its well measured and accurately described in the
> > > equations.
>
> >> Are the measured and the calculated from the equations in agreement?
> >yes, to within many, many decimal places... if they did not agree to
>
>> within the limits of measurement then someone would have had to make a
>> new theory to explain the difference.
>
> No such need. For the radio waves apply all knowledge for the acoustic
> waves.
> The monopole works like the Kundt's tube. The dipole like the two.

> The directional pattern is the same for two loudspeakers like for the
> dipole.
> S*

wrongo buckaroo. there is no such thing as a monopole... when you have a feedline are there not always 2 conductors? search for some basic circuit theory about current and voltage sources, you will see they always have 2 ports. there must always be a return path that is the other half of the dipole, even if you can't see it as such. all antennas derive from the infinitesimal dipole which when degenerated even father can be represented as a single oscillating charge. it always goes back and forth or around in circles to create the propagating wave, if it only moves in one direction as it would have to in a monopole there is no wave only a simple field.

1431. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 12:08:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a81d0fee-e70b-4b84-bb0c-1c673783679b@e2g2000yqn.googlegroups.com>
Source record: 10031

On May 7, 8:35 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org> wrotenews:4be379fb$0$637$8046368a@newsreader.iphouse.net...
>
> > On 5/6/2010 8:42 PM, tom wrote:
> >> On 5/6/2010 3:25 AM, Szczepan Bialek wrote:
>
> >>> Charged particles can move at any speed from 0 to c and always produce
> >>> the
> >>> electric field. Why not?
>
> >> Incorrect. A particle has mass, and cannot attain light speed.
>
> >> tom
> >> K0TAR
>
> > Should have said "charged particle" rather than "particle".
>
> What do you think. Is the electron a charged particle?
>
> Maxwell assumed that the electricity is massles and incompressible.
> He would be right if the electron is a charged particle.
> S*

have you ever measured the charge on an electron? that is a standard
college physics lab experiment, measure charge and mass and compare to
text book values. a very simple experiment actually, look up the
millikan oil drop experiment and give it a try. maybe you could get
together with art and go through a few of those simple experiments to
gain a better understanding of basic physics.

1432. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 12:13:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9e229e13-52ae-464f-a12c-c33692bf08c0@i10g2000yqh.googlegroups.com>
Source record: 10032

On May 7, 8:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> I did it. Radio waves and sound waves have the same directional patterns for
> the same numbers, configurations (and phases).
> The two waves emitted from the dipole (ACOUSTIC OR ELECTRIC) are
> "polarized". You can experimentally determine the plane in which the dipole
> is.
>
> The same is with more sources.
> S*

they may have the same patterns for some cases, that is why they are
used in lower grades, to keep the explanations of waves simple for
those who don't have the mathematical background to understand the
full detail of it. but pattern does not show polarization. by
matching an interference pattern you are not showing how a wave is
polarized, only that superposition principles work for both types of
waves. show me an experiment where a sound wave is polarized, that
one i would like to see. you might want to start with a couple of
these:
http://en.wikipedia.org/wiki/Wave
http://universe-review.ca/R12-03-wave.htm
http://www.answers.com/topic/polarization-of-waves
http://www.isvr.soton.ac.uk/spcg/Tutorial/Tutorial/Tutorial_files/Web-further-light.htm

1433. Re: Pondering a more effective HT Antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 15:35:30 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hs40c3$9ce$1@news.eternal-september.org>
Source record: 10033

<nm5k@wt.net> wrote in message
news:9aa18a21-3827-484b-9309-3a135ae2c426@l31g2000yqm.googlegroups.com...
On May 7, 11:31 am, James186282 <pil...@mail.com> wrote:
> I've been trying to understand the basics of HT radio antennas. The
> first part that puzzles me is the "ground" side of an antenna. Or if I
> can use a Dipole as an example one side of the dipole. Or if we use a
> groundplane the radials. With an HT are we just "doing without"? Or is
> this just my dumbness in action?
>
> My second question is in asking how effective is the typical rubber duck
> antenna versus say a truly resonant antenna or even a 5/8th wave which
> tries (if I understand it) to squish the pattern down from a sphere to a
> doughnut so its hears and talks better out then "up and down"
>
> In my mind I would simply like an antenna that was effective but
> flexable. Length is not "critical" as I plan to hang it up high on an
> LB harness. The idea is a rough and tumble antenna that can work in the
> woods on a Search and Rescue mission but will give me the very best
> range out (not so much up/dn)
>
> Has anyone done any serious work with HT antennas? Is there anyone
> clued into how to match these properly? And has anyone looking into
> using spring steel (Such as Measuring tape) for the antenna as the
> Military uses in many of their radios?
>
> Thanks for any thoughts on this de Jay W0VNE

<With an HT, the radio and the person holding it are the lower half
<of the antenna if using a 1/4 wave or 5/8 wave. And yes, a full
<length antenna will trounce most rubber ducks.
<A good antenna for HT's is the half wave. But I've seen the 5/8's
<do pretty well even considering the problems.
<A 1/4 wave is a good cheap antenna. IE: get an adapter that
<converts the rubber duck connector to a SO-239. Then stick
<a 1/4 wave whip in the center pin hole. Quicky 1/4 wave that will eat
<most all rubber ducks. And using external ground planes, verticals
<works well too.
-
At one time, I did troubleshooting on a manpack radio (that dates the event)
that had a battery operated data terminal connected to the radio. Pressing
the transmit button would terminate the data. The problem was that the
cable length from the radio to the data terminal was almost exactly 1/4
resonant. The radio loved the arrangement....the data terminal didn't like
the voltage.

1434. DX, RF radiation efficiency, and Orgonite

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 16:36:14 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3a3bu51ptcpctgj0j7lbraus9r6m1n5qme@4ax.com>
Source record: 10034

It has come to my attention that my inability to effectively work DX stations might not be due to my baling wire antenna, Romex feed line, broken HF radios, or obnoxious operating style. It's quite possible that someone buried some Orgonite near my QTH, which is interfering by converting my negative energy (RF) into positive energy (good weather, positive attitude, good karma, etc).

<http://www.orgonite.info>
We have found that tactical deployment of Orgonite
(e.g., "gifting") by throwing, hiding or burying it near
sources of electromagnetic radiation or other pollution
or in polluted areas, such as near cellphone/TV/radio
towers, power plants, in lakes, rivers and ocean harbors,
has a powerful and noticeable effect on the area. The skies
get clearer and return to the deep blue color you remember
from your childhood, complete with normal puffy white clouds.
(etc...)

Orgonite stones are apparently made by encapsulating quartz crystals or amorphous quartz in casting resin, resulting the required RF neutralizing strange shapes. While I have yet to find any Orgonite in the yard, the digging and exercise seems to have produced some positive energy. Anyway, if you notice that your equipment or location is not working as expected, search for Orgonite crystals like these:
<http://www.google.com/images?q=orgonite>
<http://www.orgonecrystals.com>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1435. Need source 1:1 unun N Connectors

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 17:51:47 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <ab3fb292-e799-4b9a-8c7e-b811d1df8a3a@v18g2000vbc.googlegroups.com>
Source record: 10035

I need a one to one un-un to isolate common mode currents on a feed line that is fitted with N connectors. The power level is 100 Watts or less. Just for the sake of having some margin a two hundred watt design would be good.
--
Tom Horne, W3TDH

1436. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 18:13:05 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <24d49e43-0145-40cf-85be-c2f26fb47934@24g2000yqy.googlegroups.com>
Source record: 10036

On 6 mayo, 19:20, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:f220b1d5-bae7-48b4-b0f6-5fdb7d2bb46c@j15g2000vbq.googlegroups.com:
>
> > Could it simply be a capacitive coupling method without any matching
> > property ?
>
> That depends what you mean by "without any matching property".
>
> If the o/c stub is less than an electrical quarter wave (as it seems from
> the description, it must introduce some series capacitive reactance, and
> loss resistance, the longer it is, the higher the loss resistance.
>
> It is not at all obvious why they would do what you described (and for
> Tom's benefit, I am not talking about a gamma match).
>
> Owen

Hi Owen

I mean "any matching property" in the sense that we give to a coupling
condenser in electronic circuits.

Another possibility could be that it was a method to trim the resonant
frequency easily from the center of the structure without to cut the
tube neither to make it telescopic making the element a little more
longer. I don`t know, I hoped to obtain a correct answer looking for
it in the Web.

At worse, maybe that system never existed. I only remember sometimes
heard speak about it in the eter or a mailing list :>)

Thank you very much for your helping

Miguel LU6ETJ

1437. Re: Feeding system name?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 18:34:57 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <1500a2ea-8e59-4995-9589-1d3255322038@y12g2000vbr.googlegroups.com>
Source record: 10037

On 8 mayo, 15:13, lu6etj <lu6...@gmail.com> wrote:
> On 6 mayo, 19:20, Owen Duffy <n...@no.where> wrote:
>
> > lu6etj <lu6...@gmail.com> wrote
innews:f220b1d5-bae7-48b4-b0f6-5fdb7d2bb46c@j15g2000vbq.googlegroups.com:
>
> > > Could it simply be a capacitive coupling method without any matching
> > > property ?
>
> > That depends what you mean by "without any matching property".
>
> > If the o/c stub is less than an electrical quarter wave (as it seems from
> > the description, it must introduce some series capacitive reactance, and
> > loss resistance, the longer it is, the higher the loss resistance.
>
> > It is not at all obvious why they would do what you described (and for
> > Tom's benefit, I am not talking about a gamma match).
>
> > Owen
>
> Hi Owen
>
> I mean "any matching property" in the sense that we give to a coupling
> condenser in electronic circuits.
>
> Another possibility could be that it was a method to trim the resonant
> frequency easily from the center of the structure without to cut the
> tube neither to make it telescopic making the element a little more
> longer. I don`t know, I hoped to obtain a correct answer looking for
> it in the Web.
>
> At worse, maybe that system never existed. I only remember sometimes
> heard speak about it in the eter or a mailing list :>)
>
> Thank you very much for your helping
>
> Miguel LU6ETJ

Another speculation...

Increasing dipole length radiation resistance increases. Could be a
method devised to take advantage of that effect using the condenser to
take the antenna to resonance again

Will it compensate the increase in the radiation resistance the higher losses in coaxial condenser?

Miguel

1438. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 19:04:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be5b5b7$0$17099$65785112@news.neostrada.pl>
Source record: 10038

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:218e1965-6490-4914-bcb9-3a3f6a7977f1@e1g2000yqe.googlegroups.com...
On May 7, 7:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> >> > Radio waves from the dipole are polarized. Does it mean that light
>> >> > is
> > > emitted by a dipoles?
>
>> >> sure, why not? but polarized waves can be emitted from other things
> > also.
>
>> >> > We can shield the one end of the dipole.
>
> >> no you can't.
>
>> >> A whip antennas on a car is not such?
> >no, the other half of the dipole is the body of the car itself.
>
>> Have you ever seen the dipole which one end is without a cap and the
>> other
> with the huge cap (the body of the car?
> The body is rather a mirror for the monopole.
>
>
>> >> > Why the dipoles exhibit the directional pattern?
>
>> >> because they do, its well measured and accurately described in the
> > equations.
>
>> >> Are the measured and the calculated from the equations in agreement?
> >yes, to within many, many decimal places... if they did not agree to
>
>>> within the limits of measurement then someone would have had to make a
>> new theory to explain the difference.
>
>> No such need. For the radio waves apply all knowledge for the acoustic
> waves.
> The monopole works like the Kundt's tube. The dipole like the two.
> The directional pattern is the same for two loudspeakers like for the
> dipole.
> S*

>wrongo buckaroo. there is no such thing as a monopole... when you
have a feedline are there not always 2 conductors? search for some

basic circuit theory about current and voltage sources, you will see
they always have 2 ports. there must always be a return path that is
the other half of the dipole, even if you can't see it as such. all
antennas derive from the infinitesimal dipole which when degenerated
even father can be represented as a single oscillating charge. it
always goes back and forth or around in circles to create the
propagating wave,

Yes. But one end of the dipole may have the better conditions to propagate.

>if it only moves in one direction as it would have
to in a monopole there is no wave only a simple field.

I am writing about a dipole with one end visible and the second shielded.

In nature is always as you wrote. The both ands are always "visible".

Light is always directional. Radio waves can be omnidirectional.
Of course light is emitted by many dipoles. Radio waves by halve, one, two
(circular polarity) or many (phase radar).
S*

1439. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 19:19:40 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be5b951$0$19171$65785112@news.neostrada.pl>
Source record: 10039

"K1TTT" <k1ttt@arrl.net> wrote
news:9e229e13-52ae-464f-a12c-c33692bf08c0@i10g2000yqh.googlegroups.com...
On May 7, 8:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> I did it. Radio waves and sound waves have the same directional patterns
>> for
> the same numbers, configurations (and phases).
> The two waves emitted from the dipole (ACOUSTIC OR ELECTRIC) are
> "polarized". You can experimentally determine the plane in which the
> dipole
> is.
>
>> The same is with more sources.
> S*

>they may have the same patterns for some cases, that is why they are
used in lower grades, to keep the explanations of waves simple for
those who don't have the mathematical background to understand the
full detail of it. but pattern does not show polarization. by
matching an interference pattern you are not showing how a wave is
polarized,

You assume that radio wave is transversal. Such are polarised. But such are
only in Maxwell's Hypothesis.

Radio waves from the ends of the dipole are coupled. The both are in one
plane.

Radio wave from one end is spherical.

>only that superposition principles work for both types of
waves. show me an experiment where a sound wave is polarized,

Sound wave is not polarised. Sound waves from "dipole" is.

> that one i would like to see.
> you might want to start with a couple of
these:
http://en.wikipedia.org/wiki/Wave
http://universe-review.ca/R12-03-wave.htm
http://www.answers.com/topic/polarization-of-waves
http://www.isvr.soton.ac.uk/spcg/Tutorial/Tutorial/Tutorial_files/Web-further-light.htm

In above no directional pattern for sound dipoles.

"Polarized" means directional. Are all radio waves directional?
S*

1440. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 19:32:08 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be5bc3d$0$2600$65785112@news.neostrada.pl>
Source record: 10040

"K1TTT" <k1ttt@arrl.net> wrote
news:a81d0fee-e70b-4b84-bb0c-1c673783679b@e2g2000yqn.googlegroups.com...
On May 7, 8:35 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org>
> wrotenews:4be379fb$0$637$8046368a@newsreader.iphouse.net...
>
> > On 5/6/2010 8:42 PM, tom wrote:
> >> On 5/6/2010 3:25 AM, Szczepan Bialek wrote:
>
> >>> Charged particles can move at any speed from 0 to c and always produce
> >>> the
> >>> electric field. Why not?
>
> >> Incorrect. A particle has mass, and cannot attain light speed.
>
> >> tom
> >> K0TAR
>
>> > Should have said "charged particle" rather than "particle".
>
>> What do you think. Is the electron a charged particle?
>
>> Maxwell assumed that the electricity is massles and incompressible.
> He would be right if the electron is a charged particle.
> S*

>have you ever measured the charge on an electron? that is a standard
college physics lab experiment, measure charge and mass and compare to
text book values. a very simple experiment actually, look up the
millikan oil drop experiment and give it a try. maybe you could get
together with art and go through a few of those simple experiments to
gain a better understanding of basic physics.

Almost all Authors of tekstbooks write that it was a big mistake of Maxwell
when he assumed that electricity is massles and incompressible. They wrote
it after discovery of electron.

Now we assume that the electron gas is the electricity.
What do you think. Is the electron a charged particle or pure electricity?
S*

1441. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 19:34:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a47b3468-2834-4336-a570-b974e0c66960@e35g2000yqm.googlegroups.com>
Source record: 10041

On May 8, 7:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:9e229e13-52ae-464f-a12c-c33692bf08c0@i10g2000yqh.googlegroups.com...
> On May 7, 8:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> I did it. Radio waves and sound waves have the same directional patterns
> >> for
> > > the same numbers, configurations (and phases).
> > > The two waves emitted from the dipole (ACOUSTIC OR ELECTRIC) are
> > > "polarized". You can experimentally determine the plane in which the
> > > dipole
> > > is.
>
> >> The same is with more sources.
> > > S*
> >they may have the same patterns for some cases, that is why they are
>
> used in lower grades, to keep the explanations of waves simple for
> those who don't have the mathematical background to understand the
> full detail of it. but pattern does not show polarization. by
> matching an interference pattern you are not showing how a wave is
> polarized,
>
> You assume that radio wave is transversal. Such are polarised. But such are
> only in Maxwell's Hypothesis.
>
> Radio waves from the ends of the dipole are coupled. The both are in one
> plane.
>
> Radio wave from one end is spherical.
>
> >only that superposition principles work for both types of
>
> waves. show me an experiment where a sound wave is polarized,
>
> Sound wave is not polarised. Sound waves from "dipole" is.
>
> > that one i would like to see.
> > you might want to start with a couple of
>
> these:http://en.wikipedia.org/wiki/Wavehttp://universe-review.ca/R12-03-wave.htmhttp://www.answers.com/topic/polarization-of-waveshttp://www.isvr.soton.ac.uk/spcg/Tutorial/Tutorial/Tutorial_files/Web...
>

> In above no directional pattern for sound dipoles.
>
> "Polarized" means directional. Are all radio waves directional?
> S*

this discussion is worthless until you go back to school and learn the
basics.

1442. Acceleration of charge

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-08 20:26:17 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e5921bee-9278-4d7e-85bf-ff41e264019a@a21g2000yqn.googlegroups.com>
Source record: 10042

How does one accelerate a charge, field or
wave?
Does it distort in any way when you push it?
What do you use to push it?
Does a receiver catch it without distorting it?
Can you put the charge,field or wave into a speaker to listen to at a
later time?
Can you re arrange them and send them back at a later time?
How many charges make up a wave?
How many waves fit into a field?
Can a field of waves support an oil slick?

1443. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 01:18:56 UTC
From: tom <news4792@taring.org>
Message-ID: <4be60d7a$0$638$8046368a@newsreader.iphouse.net>
Source record: 10043

On 5/8/2010 2:04 PM, Szczepan Bialek wrote:

> Yes. But one end of the dipole may have the better conditions to propagate.
>
>> if it only moves in one direction as it would have
> to in a monopole there is no wave only a simple field.
>
> I am writing about a dipole with one end visible and the second shielded.
>
> In nature is always as you wrote. The both ands are always "visible".
>
> Light is always directional. Radio waves can be omnidirectional.
> Of course light is emitted by many dipoles. Radio waves by halve, one, two
> (circular polarity) or many (phase radar).
> S*

Astonishing understanding of the subject.

tom
K0TAR

1444. Re: Need source 1:1 unun N Connectors

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 01:25:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4be60efa$0$638$8046368a@newsreader.iphouse.net>
Source record: 10044

On 5/8/2010 12:51 PM, Tom Horne wrote:
> I need a one to one un-un to isolate common mode currents on a feed
> line that is fitted with N connectors. The power level is 100 Watts
> or less. Just for the sake of having some margin a two hundred watt
> design would be good.
> --
> Tom Horne, W3TDH

The frequency range that it is expected to handle would help a lot.

And the connector type is meaningless.

tom
K0TAR

1445. Re: Acceleration of charge

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 01:28:34 UTC
From: tom <news4792@taring.org>
Message-ID: <4be60fbd$0$636$8046368a@newsreader.iphouse.net>
Source record: 10045

On 5/8/2010 3:26 PM, Art Unwin wrote:

> Does it distort in any way when you push it?

Does what distort? The particle? The field? The universe?

Ask a complete and coherent question.

> Does a receiver catch it without distorting it?

Catch what? Ask a COMPLETE question.

<snip>

tom
K0TAR

1446. Re: Need source 1:1 unun N Connectors

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 01:30:56 UTC
From: tom <news4792@taring.org>
Message-ID: <4be6104a$0$636$8046368a@newsreader.iphouse.net>
Source record: 10046

On 5/8/2010 8:25 PM, tom wrote:
>
> The frequency range that it is expected to handle would help a lot.
>
> And the connector type is meaningless.
>
> tom
> K0TAR
>

Ok, Mostly Meaningless. (Sorry Mr Adams)

tom
K0TAR

1447. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 10:14:40 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be68b15$0$17099$65785112@news.neostrada.pl>
Source record: 10047

"K1TTT" <k1ttt@arrl.net> wrote
news:a47b3468-2834-4336-a570-b974e0c66960@e35g2000yqm.googlegroups.com...
On May 8, 7:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> You assume that radio wave is transversal. Such are polarised. But such
>> are
> only in Maxwell's Hypothesis.
>
>> Radio waves from the ends of the dipole are coupled. The both are in one
> plane.
>
>> Radio wave from one end is spherical.
>
>> >only that superposition principles work for both types of
>
>>> waves. show me an experiment where a sound wave is polarized,
>
>> Sound wave is not polarised. Sound waves from "dipole" is.
>
>> > that one i would like to see.
> > you might want to start with a couple of
>
>>> these:http://en.wikipedia.org/wiki/Wavehttp://universe-review.ca/R12-03-wave.htmhttp://www.answers.com/topic/polarization-of-waveshttp://www.isvr.soton.ac.uk/spcg/Tutorial/Tutorial/Tutorial_files/Web...
>
>> In above no directional pattern for sound dipoles.
>
>> "Polarized" means directional. Are all radio waves directional?
> S*

>this discussion is worthless until you go back to school and learn the
basics.

In textbooks must be all theories.
In one chapter light (and radio waves) is like photons, in the next chapter
like EM waves and in next like acoustics.

EM is the only example of transversal waves. So it must be in teaching
program.

But we try to help Peter. He wrote: "I begin to appreciate a comment made by
a fellow radio amateur and
technician that antenna theory was 15% science and 85% black magic! "

It seems that you are sure that radio waves are transversal. It is
impossible to help you (Maxwell was full of doubts).
May be that somebody consider the Acoustic analogy and the black magic
disappear for him.
S*

1448. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 10:30:16 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be68ebd$0$19166$65785112@news.neostrada.pl>
Source record: 10048

"tom" <news4792@taring.org> wrote
news:4be60d7a$0$638$8046368a@newsreader.iphouse.net...
> On 5/8/2010 2:04 PM, Szczepan Bialek wrote:
>
>> Yes. But one end of the dipole may have the better conditions to
>> propagate.
>>
>>> if it only moves in one direction as it would have
>> to in a monopole there is no wave only a simple field.
>>
>> I am writing about a dipole with one end visible and the second
>> shielded.
>>
>> In nature is always as you wrote. The both ands are always "visible".
>>
>> Light is always directional. Radio waves can be omnidirectional.
>> Of course light is emitted by many dipoles. Radio waves by halve, one,
>> two
>> (circular polarity) or many (phase radar).
>> S*
>
> Astonishing understanding of the subject.

Light is not coherent. So dipole radiate for very short time.
Radio waves are coherent and can be from one source. It is easy to analyse
them.
Are they transversal?
S*

> tom
> K0TAR

1449. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 10:49:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <edc4c6e0-ca97-4337-a24a-91d6cb039fd3@e35g2000yqm.googlegroups.com>
Source record: 10049

On May 9, 10:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:a47b3468-2834-4336-a570-b974e0c66960@e35g2000yqm.googlegroups.com...
> On May 8, 7:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> You assume that radio wave is transversal. Such are polarised. But such
> >> are
> > > only in Maxwell's Hypothesis.
>
> >> Radio waves from the ends of the dipole are coupled. The both are in one
> > > plane.
>
> >> Radio wave from one end is spherical.
>
> >> >only that superposition principles work for both types of
>
> >>> waves. show me an experiment where a sound wave is polarized,
>
> >> Sound wave is not polarised. Sound waves from "dipole" is.
>
> >> > that one i would like to see.
> > > you might want to start with a couple of
>
> >>> these:http://en.wikipedia.org/wiki/Wavehttp://universe-review.ca/R12-03-wav......
>
> >> In above no directional pattern for sound dipoles.
>
> >> "Polarized" means directional. Are all radio waves directional?
> > > S*
> >this discussion is worthless until you go back to school and learn the
>
> basics.
>
> In textbooks must be all theories.
> In one chapter light (and radio waves) is like photons, in the next chapter
> like EM waves and in next like acoustics.
>
> EM is the only example of transversal waves. So it must be in teaching
> program.
>

> But we try to help Peter. He wrote: "I begin to appreciate a comment made by
> a fellow radio amateur and
> technician that antenna theory was 15% science and 85% black magic! "
>
> It seems that you are sure that radio waves are transversal. It is
> impossible to help you (Maxwell was full of doubts).
> May be that somebody consider the Acoustic analogy and the black magic
> disappear for him.
> S*

maxwell may have been full of doubts, and Einstein wasn't able to see
the experiments that have proven his theories, but we have seen them
well tested and accepted over the years. if you think that 85% is
black magic then you have lots of learning to do to fill in that 85%
gap in your knowledge.

1450. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 10:50:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <aee5366b-1aab-40ef-bbd4-b7ec0e5ea52a@b18g2000yqb.googlegroups.com>
Source record: 10050

On May 9, 10:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org> wrotenews:4be60d7a$0$638$8046368a@newsreader.iphouse.net...
>
>
>
> > On 5/8/2010 2:04 PM, Szczepan Bialek wrote:
>
> >> Yes. But one end of the dipole may have the better conditions to
> >> propagate.
>
> >>> if it only moves in one direction as it would have
> >> to in a monopole there is no wave only a simple field.
>
> >> I am writing about a dipole with one end visible and the second
> >> shielded.
>
> >> In nature is always as you wrote. The both ands are always "visible".
>
> >> Light is always directional. Radio waves can be omnidirectional.
> >> Of course light is emitted by many dipoles. Radio waves by halve, one,
> >> two
> >> (circular polarity) or many (phase radar).
> >> S*
>
> > Astonishing understanding of the subject.
>
> Light is not coherent. So dipole radiate for very short time.
> Radio waves are coherent and can be from one source. It is easy to analyse
> them.
> Are they transversal?
> S*
>
> > tom
> > K0TAR

light can be coherent, what do you think lasers are?

1451. Re: Acceleration of charge

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 10:55:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e187ecdd-b100-49d1-b4c9-fbd30a7e2875@a34g2000yqn.googlegroups.com>
Source record: 9951

On May 8, 8:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
> How does one accelerate a charge, field or
> wave?

a charged particle can be accelerated in many ways. an
electromagnetic field or wave can not be accelerated, it travels at c
in the medium it is in no matter what you do to it.

> Does it distort in any way when you push it?
> What do you use to push it?

can you measure the distortion of a particle? that would be
interesting to see. as above, you can't push a field or wave.

> Does a receiver catch it without distorting it?

only if you don't exceed it's dynamic range.

> Can you put the charge,field or wave into a speaker to listen to at a
> later time?

only if you don't violate it's copyright.

> Can you re arrange them and send them back at a later time?

sure, that is what mirrors do. the image that you see of yourself is
delayed by the time it takes light to travel from your fact to it and
back, and is then reversed in the process.

> How many charges make up a wave?

none.

> How many waves fit into a field?

none, fields make up waves... much like those amber waves of grain in
the field.

> Can a field of waves support an oil slick?

no, but an ocean wave can swamp a field hand.

1452. Variable Geometry Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 18:26:24 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <t1vdu5ho8kmjnkqsbde0cl57pib76alcgn@4ax.com>
Source record: 9952

I have been thinking about the SteppIR Antennas. There is no way I will ever justify the money for one. Has anyone pondered the problems from a HomeBrew stand point. It seems to me that the first challenge is to couple the radiator to the feed line. The rest is simply (maybe simply is not the right word...) mechanics.

Whatever form the radiator takes it needs to be wound on a spool like mechanism.

Google does show some hits...
John Ferrell W8CCW

1453. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 19:00:51 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be70669$0$2602$65785112@news.neostrada.pl>
Source record: 9953

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:edc4c6e0-ca97-4337-a24a-91d6cb039fd3@e35g2000yqm.googlegroups.com...
On May 9, 10:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> In textbooks must be all theories.
> In one chapter light (and radio waves) is like photons, in the next
> chapter
> like EM waves and in next like acoustics.
>
>> EM is the only example of transversal waves. So it must be in teaching
> program.
>
>> But we try to help Peter. He wrote: "I begin to appreciate a comment made
>> by
> a fellow radio amateur and
> technician that antenna theory was 15% science and 85% black magic! "
>
>> It seems that you are sure that radio waves are transversal. It is
> impossible to help you (Maxwell was full of doubts).
> May be that somebody consider the Acoustic analogy and the black magic
> disappear for him.
> S*

>maxwell may have been full of doubts, and Einstein wasn't able to see
the experiments that have proven his theories,

Maxwell did EM, Einstein did the photons and somebody else the acoustic
analogy.

>but we have seen them
well tested and accepted over the years.

All of that three (all three are in textbooks) are well tested and accepted
but only in some extend. May be that after some time only one will be fully
accepted. Which one do you designate?

> if you think that 85% is
black magic then you have lots of learning to do to fill in that 85% gap in
your knowledge.

I designate the acoustic analogy and do not see any gaps.
They who designate EM or the photons are in constant trouble for more than
100 years.
S*

1454. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 19:13:22 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be70958$0$19168$65785112@news.neostrada.pl>
Source record: 9954

"K1TTT" <k1ttt@arrl.net> wrote
news:aee5366b-1aab-40ef-bbd4-b7ec0e5ea52a@b18g2000yqb.googlegroups.com...
On May 9, 10:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org>
> wrotenews:4be60d7a$0$638$8046368a@newsreader.iphouse.net...
>
>
>
>> > On 5/8/2010 2:04 PM, Szczepan Bialek wrote:
>
> >> Yes. But one end of the dipole may have the better conditions to
> >> propagate.
>
> >>> if it only moves in one direction as it would have
> >> to in a monopole there is no wave only a simple field.
>
> >> I am writing about a dipole with one end visible and the second
> >> shielded.
>
> >> In nature is always as you wrote. The both ands are always "visible".
>
> >> Light is always directional. Radio waves can be omnidirectional.
> >> Of course light is emitted by many dipoles. Radio waves by halve, one,
> >> two
> >> (circular polarity) or many (phase radar).
> >> S*
>
>> > Astonishing understanding of the subject.
>
>> Light is not coherent. So dipole radiate for very short time.
> Radio waves are coherent and can be from one source. It is easy to analyse
> them.
> Are they transversal?
> S*

>light can be coherent, what do you think lasers are?

"The most monochromatic sources are usually lasers; such high
monochromaticity implies long coherence lengths (up to hundreds of meters).
For example, a stabilized helium-neon laser can produce light with coherence
lengths in excess of 5 m. Not all lasers are monochromatic, however (e.g.
for a mode-locked Ti-sapphire laser, ?? ? 2 nm - 70 nm). LEDs are
characterized by ?? ? 50 nm, and tungsten filament lights exhibit ?? ? 600
nm, so these sources have shorter coherence times than the most
monochromatic lasers". From:

http://en.wikipedia.org/wiki/Coherence_(physics)

Up to now light is not coherent. But in future who knows.
S*

1455. Re: Variable Geometry Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 19:50:37 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <5o2eu5pj5106nf3cfrt6k0adgvo4javcnu@4ax.com>
Source record: 9955

On Sun, 09 May 2010 14:26:24 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>I have been thinking about the SteppIR Antennas. There is no way I
>will ever justify the money for one. Has anyone pondered the problems
>from a HomeBrew stand point. It seems to me that the first challenge
>is to couple the radiator to the feed line. The rest is simply (maybe
>simply is not the right word...) mechanics.
>
>Whatever form the radiator takes it needs to be wound on a spool like
>mechanism.

Well, if you're going to clone it, these might offer some clues:
<www.w4gkf.com/steppir/>
Lots of photos. Perforated flat copper "tape" is used for the
elements. Sprokets inside the motor assembly unroll the tape from a
spool which is then fed into the fiberglass support tubes. The
electrical connections to the elements is with a simple wiper contact.
There's a view of the guts about 4 photos down from the top:
<http://www.w4gkf.com/steppir/n4dk/>

Some interesting stuff from the patent:
<http://www.google.com/patents/about?id=CjKhAAAAEBAJ&dq=steppir>

If you're planning on cloning the antenna, I suspect your biggest
challenge will be the wide variety of custom fabricated mechanical
parts required. Making adjustments and modifications on top of a
tower is also not my idea of fun. I could probably design one
suitable for home brew, using round wires on spools with pulleys at
the element ends, but the result will probably not survive the first
storm.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1456. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 20:52:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0c55e54d-e422-4b91-a57c-5d273ee8b130@s29g2000yqd.googlegroups.com>
Source record: 9956

On May 9, 7:00 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:edc4c6e0-ca97-4337-a24a-91d6cb039fd3@e35g2000yqm.googlegroups.com...
> On May 9, 10:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> In textbooks must be all theories.
> > In one chapter light (and radio waves) is like photons, in the next
> > chapter
> > like EM waves and in next like acoustics.
>
> >> EM is the only example of transversal waves. So it must be in teaching
> > program.
>
> >> But we try to help Peter. He wrote: "I begin to appreciate a comment made
> >> by
> > a fellow radio amateur and
> > technician that antenna theory was 15% science and 85% black magic! "
>
> >> It seems that you are sure that radio waves are transversal. It is
> > impossible to help you (Maxwell was full of doubts).
> > May be that somebody consider the Acoustic analogy and the black magic
> > disappear for him.
> > S*
> >maxwell may have been full of doubts, and Einstein wasn't able to see
>
> the experiments that have proven his theories,
>
> Maxwell did EM, Einstein did the photons and somebody else the acoustic
> analogy.
>
> >but we have seen them
>
> well tested and accepted over the years.
>
> All of that three (all three are in textbooks) are well tested and accepted
> but only in some extend. May be that after some time only one will be fully
> accepted. Which one do you designate?
>
> > if you think that 85% is
>

> black magic then you have lots of learning to do to fill in that 85% gap in
> your knowledge.
>
> I designate the acoustic analogy and do not see any gaps.
> They who designate EM or the photons are in constant trouble for more than
> 100 years.
> S*

you may designate away, that doesn't make it any more correct. the
only things that the acoustic, water, and em radiation has in common
is the sinusoidal characteristics and that superposition works.
because of those two you can get similar interference patterns from
all 3 types of waves. that doesn't mean the underlying physics are
the same.

1457. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-09 20:59:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2c953ef9-b0ef-4b9b-92a4-b3f2e3c23284@j33g2000yqn.googlegroups.com>
Source record: 9957

On May 9, 7:13 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:aee5366b-1aab-40ef-bbd4-b7ec0e5ea52a@b18g2000yqb.googlegroups.com...
> On May 9, 10:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "tom" <news4...@taring.org>
> > wrotenews:4be60d7a$0$638$8046368a@newsreader.iphouse.net...
>
> >> > On 5/8/2010 2:04 PM, Szczepan Bialek wrote:
>
> > > >> Yes. But one end of the dipole may have the better conditions to
> > > >> propagate.
>
> > > >>> if it only moves in one direction as it would have
> > > >> to in a monopole there is no wave only a simple field.
>
> > > >> I am writing about a dipole with one end visible and the second
> > > >> shielded.
>
> > > >> In nature is always as you wrote. The both ands are always "visible".
>
> > > >> Light is always directional. Radio waves can be omnidirectional.
> > > >> Of course light is emitted by many dipoles. Radio waves by halve, one,
> > > >> two
> > > >> (circular polarity) or many (phase radar).
> > > >> S*
>
> >> > Astonishing understanding of the subject.
>
> >> Light is not coherent. So dipole radiate for very short time.
> > Radio waves are coherent and can be from one source. It is easy to analyse
> > them.
> > Are they transversal?
> > S*
> >light can be coherent, what do you think lasers are?
>
> "The most monochromatic sources are usually lasers; such high
> monochromaticity implies long coherence lengths (up to hundreds of meters).
> For example, a stabilized helium-neon laser can produce light with coherence
> lengths in excess of 5 m. Not all lasers are monochromatic, however (e.g.
> for a mode-locked Ti-sapphire laser, ?? ? 2 nm - 70 nm). LEDs are
> characterized by ?? ? 50 nm, and tungsten filament lights exhibit ?? ? 600

> nm, so these sources have shorter coherence times than the most
> monochromatic lasers". From:http://en.wikipedia.org/wiki/Coherence_(physics)
>
> Up to now light is not coherent. But in future who knows.
> S*

if you are going to be that critical then its hard to call radio waves
coherent either. every transmitter has some drift, phase noise, or
harmonic content that distorts the pure sine waveform one way or
another making them incoherent in longer periods, the same way there
is noise and incoherence in lasers... nothing is perfect.

1458. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 00:42:36 UTC
From: joe <none@domain.invalid>
Message-ID: <hs7kiqffe2@speranza.aioe.org>
Source record: 9958

Szczepan Biaï¿½ek wrote:

>
> Do you know even one example where Acoustic analogy do not work?
> S*
>
>

A high school experiment using a bell jar, alarm clock and a vacuum pump.

1459. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 07:41:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be7b8be$0$17095$65785112@news.neostrada.pl>
Source record: 9959

"joe" <none@domain.invalid> wrote news:hs7kiqffe2@speranza.aioe.org...
> Szczepan Bia&#65533;ek wrote:
>
>>
>> Do you know even one example where Acoustic analogy do not work?
>> S*
>
> A high school experiment using a bell jar, alarm clock and a vacuum pump.

Jim wrote: " Having some similar charactristics does not mean EM and sound
are the
same thing."

They are not the same. Sound propagate in gases, liquids and solids
Electric waves in the "aether".

But the source of sound is an increase of the pressure.
The source of electric waves is an increase of the voltage.

The voltage increases at the ends of a dipole.

The electric waves and sound propagate in metal wires, but with different
speeds.
Are electric waves in a wire also transversal?
S*

1460. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 08:03:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be7bdeb$0$19178$65785112@news.neostrada.pl>
Source record: 9960

"K1TTT" <k1ttt@arrl.net>wrote
news:0c55e54d-e422-4b91-a57c-5d273ee8b130@s29g2000yqd.googlegroups.com...
On May 9, 7:00 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> In textbooks must be all theories.
> > In one chapter light (and radio waves) is like photons, in the next
> > chapter
> > like EM waves and in next like acoustics.
>
> >> EM is the only example of transversal waves. So it must be in teaching
> > program.
>
> >> But we try to help Peter. He wrote: "I begin to appreciate a comment
> >> made
> >> by
> > a fellow radio amateur and
> > technician that antenna theory was 15% science and 85% black magic! "
>
> >> It seems that you are sure that radio waves are transversal. It is
> > impossible to help you (Maxwell was full of doubts).
> > May be that somebody consider the Acoustic analogy and the black magic
> > disappear for him.
> > S*
> >maxwell may have been full of doubts, and Einstein wasn't able to see
>
> the experiments that have proven his theories,
>
> Maxwell did EM, Einstein did the photons and somebody else the acoustic
> analogy.
>
> >but we have seen them
>
> well tested and accepted over the years.
>
> All of that three (all three are in textbooks) are well tested and
> accepted
> but only in some extend. May be that after some time only one will be
> fully
> accepted. Which one do you designate?
>
> > if you think that 85% is
>
>> black magic then you have lots of learning to do to fill in that 85% gap
>> in

> your knowledge.
>
>> I designate the acoustic analogy and do not see any gaps.
> They who designate EM or the photons are in constant trouble for more than
> 100 years.
> S*

>you may designate away, that doesn't make it any more correct. the
only things that the acoustic, water, and em radiation has in common
is the sinusoidal characteristics and that superposition works.
because of those two you can get similar interference patterns from
all 3 types of waves. that doesn't mean the underlying physics are
the same.

Oscillating compressible gas create .the standing waves in the tube with the
closed end.
The oscillating compressible electron gas create the standing waves in open
circuit (antenna).
Is not the same physics?
S*

1461. Re: DX, RF radiation efficiency, and Orgonite

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 08:21:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <atefu5huubtvttorhgad0jq7gde1mo6fo1@4ax.com>
Source record: 9961

On Sat, 08 May 2010 09:36:14 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>Orgonite stones are apparently made by encapsulating quartz crystals
>or amorphous quartz in casting resin, resulting the required RF
>neutralizing strange shapes.

This is a looooooong way away from the Orgone that Orson Bean went
gaga over on TV (something that somehow skirted censoring):
http://www.educationrevolution.org/orgone.html

I forget where I saw him make his pitch - must have been to a
thunderstruck Johnny Carson.

To cut to the chase, Orson made claims of something absolutely
miraculous that happened to him in the orgone box:
"The box was a closet-size container made of sheet metal and Celotex.
It was said to gather 'orgone energy' from the cosmos and transmit it,
with beneficial psychological effects, to anyone who sat inside."

Read more:
http://www.time.com/time/magazine/article/0,9171,902961-2,00.html#ixzz0nVnIU7RD

73's
Richard Clark, KB7QHC

1462. Re: DX, RF radiation efficiency, and Orgonite

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 15:04:11 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <DfVFn.2439$V%2.66@newsfe08.iad>
Source record: 9962

Have you considered wearing a hat made of aluminum foil? It will protect
you
from the Orgone energy raining down through that hole in the ionosphere. :-)

Irv VE6BP

"Jeff Liebermann" <jeffl@cruzio.com> wrote in message
news:3a3bu51ptcpctgj0j7lbraus9r6m1n5qme@4ax.com...
> It has come to my attention that my inability to effectively work DX
> stations might not be due to my baling wire antenna, Romex feed line,
> broken HF radios, or obnoxious operating style. It's quite possible
> that someone buried some Orgonite near my QTH, which is interfering by
> converting my negative energy (RF) into positive energy (good weather,
> positive attitude, good karma, etc).
>
> <http://www.orgonite.info>
> We have found that tactical deployment of Orgonite
> (e.g., "gifting") by throwing, hiding or burying it near
> sources of electromagnetic radiation or other pollution
> or in polluted areas, such as near cellphone/TV/radio
> towers, power plants, in lakes, rivers and ocean harbors,
> has a powerful and noticeable effect on the area. The skies
> get clearer and return to the deep blue color you remember
> from your childhood, complete with normal puffy white clouds.
> (etc...)
>
> Orgonite stones are apparently made by encapsulating quartz crystals
> or amorphous quartz in casting resin, resulting the required RF
> neutralizing strange shapes. While I have yet to find any Orgonite in
> the yard, the digging and exercise seems to have produced some
> positive energy. Anyway, if you notice that your equipment or
> location is not working as expected, search for Orgonite crystals like
> these:
> <http://www.google.com/images?q=orgonite>
> <http://www.orgonecrystals.com>
>
> --
> Jeff Liebermann jeffl@cruzio.com
> 150 Felker St #D http://www.LearnByDestroying.com
> Santa Cruz CA 95060 http://802.11junk.com
> Skype: JeffLiebermann AE6KS 831-336-2558

1463. Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 17:35:33 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <06c13009-6fdd-4571-832c-ac467ea582be@l28g2000yqd.googlegroups.com>
Source record: 9963

I just completed a experiment with my antenna optimizer program where
I had a dipole in free space and where I increased the diameter until
it was close to.003 ohms resistive
What this means is the current flow is right at the surface where
there is no skin depth
penetration involved and thus close to zero material resistance. This
means that the total resistance is the radiation resistance of the
surface encapsulating particles. The radiation was 35 db in a shape
close to that of a sphere. (when the resistance of the aluminum dipole
went to zero the radiation went to a perfect sphere) Efficiency was
stated at 100% efficient pointing to 100% accountability for all
forces involved and where losses were at a minimum.
Regards
Art

1464. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 18:05:17 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <817a855b-b65f-42cc-8b47-9b9c31c81151@e1g2000yqe.googlegroups.com>
Source record: 9964

On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
> .... The radiation was 35 db in a shape
> close to that of a sphere. (when the resistance of the aluminum dipole
> went to zero the radiation went to a perfect sphere)

The radiation was "35 db" compared to what reference value?

BTW, a single, linear radiator cannot generate a perfectly spherical
radiation pattern, no matter what your model tells you.

Even an "infinitesimally" short, center-fed linear dipole has a figure
8 radiation pattern with a directivity (gain) of 1.5 X, or 1.76 dBi
-- see any antenna engineering textbook.

RF

1465. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 18:49:06 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <74c01e6d-5ad8-481f-9f5a-8b419a0f6f74@e35g2000yqm.googlegroups.com>
Source record: 9965

On May 10, 1:05 pm, Richard Fry <r...@adams.net> wrote:
> On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > .... The radiation was 35 db in a shape
> > close to that of a sphere. (when the resistance of the aluminum dipole
> > went to zero the radiation went to a perfect sphere)
>
> The radiation was "35 db" compared to what reference value?
>
> BTW, a single, linear radiator cannot generate a perfectly spherical
> radiation pattern, no matter what your model tells you.
>
> Even an "infinitesimally" short, center-fed linear dipole has a figure
> 8 radiation pattern with a directivity (gain) of 1.5 X, or 1.76 dBi
> -- see any antenna engineering textbook.
>
> RF

I believe the computer programs to be more up to date than the books!
There certainly have been more advances since they have come into
being.
The programs reflect Maxwells equations which support the presence of
particles which is what provide the radiation resistance and not the
dipole itself. The dipole will show a donut pattern that will
gradually deform to a perfect sphere when resistance drops to zero as
per Poynting.
I would also point out that the programs support the presence of
Gaussian static particles as does mathematics. I would imagine that no
matter what programs you decide to use you will get the same results
as you increase the element diameter until the impedance is zero.No
point in trashing computer programs in advance because of personal
intuition. All I have done is removing resistance losses that do not
contribute to radiation.

1466. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 20:12:13 UTC
From: nm5k@wt.net
Message-ID: <a5970412-6ba9-4e08-b62a-95ebf11a9513@n15g2000yqf.googlegroups.com>
Source record: 9966

On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I just completed a experiment with my antenna optimizer program where
> I had a dipole in free space and where I increased the diameter until
> it was close to.003 ohms resistive
> What this means is the current flow is right at the surface where
> there is no skin depth
> penetration involved and thus close to zero material resistance. This
> means that the total resistance is the radiation resistance of the
> surface encapsulating particles. The radiation was 35 db in a shape
> close to that of a sphere. (when the resistance of the aluminum dipole
> went to zero the radiation went to a perfect sphere) Efficiency was
> stated at 100% efficient pointing to 100% accountability for all
> forces involved and where losses were at a minimum.
> Regards
> Art

Where is Lurch when I need him.... Grrrrrrrrrrrrrrrr...
Once again , delusions of grandeur induced by misuse of antenna
modeling programs. :/

1467. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 22:26:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4aa55c97-e661-4388-afa9-4d587b298980@p2g2000yqh.googlegroups.com>
Source record: 9967

On May 10, 6:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 10, 1:05 pm, Richard Fry <r...@adams.net> wrote:
>
>
>
> > On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > .... The radiation was 35 db in a shape
> > > close to that of a sphere. (when the resistance of the aluminum dipole
> > > went to zero the radiation went to a perfect sphere)
>
> > The radiation was "35 db" compared to what reference value?
>
> > BTW, a single, linear radiator cannot generate a perfectly spherical
> > radiation pattern, no matter what your model tells you.
>
> > Even an "infinitesimally" short, center-fed linear dipole has a figure
> > 8 radiation pattern with a directivity (gain) of 1.5 X, or 1.76 dBi
> > -- see any antenna engineering textbook.
>
> > RF
>
> I believe the computer programs to be more up to date than the books!
> There certainly have been more advances since they have come into
> being.
> The programs reflect Maxwells equations which support the presence of
> particles which is what provide the radiation resistance and not the
> dipole itself. The dipole will show a donut pattern that will
> gradually deform to a perfect sphere when resistance drops to zero as
> per Poynting.
> I would also point out that the programs support the presence of
> Gaussian static particles as does mathematics. I would imagine that no
> matter what programs you decide to use you will get the same results
> as you increase the element diameter until the impedance is zero.No
> point in trashing computer programs in advance because of personal
> intuition. All I have done is removing resistance losses that do not
> contribute to radiation.

the programs are based on the books... but even worse, they are
digital approximations of the continuous formulas and as such are not
completely accurate. this is especially true when extremely large or
small numbers are used or there are a large number of additions done,
as is common in antenna modeling programs. there are also assumptions
made in the development of most of those programs that are often not

stated to, or not understood by, the user, such as you. so when you set something to optimize forever or start making elements extremely skinny, fat, short, or long, or too close together, you are most likely going to get wrong, or physically unrealizable results.

1468. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 22:27:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ee8f3e27-bfcc-43a7-b818-fc154ce59077@k19g2000yqm.googlegroups.com>
Source record: 9968

On May 10, 7:41 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "joe" <n...@domain.invalid> wrotenews:hs7kiqffe2@speranza.aioe.org...
>
> > Szczepan Bia³ek wrote:
>
> >> Do you know even one example where Acoustic analogy do not work?
> >> S*
>
> > A high school experiment using a bell jar, alarm clock and a vacuum pump.
> Jim wrote: " Having some similar charactristics does not mean EM and sound
>
> are the
> same thing."
>
> They are not the same. Sound propagate in gases, liquids and solids
> Electric waves in the "aether".
>
> But the source of sound is an increase of the pressure.
> The source of electric waves is an increase of the voltage.
>
> The voltage increases at the ends of a dipole.
>
> The electric waves and sound propagate in metal wires, but with different
> speeds.
> Are electric waves in a wire also transversal?
> S*

yes.

1469. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 22:27:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9f20268f-22cb-48c2-bf99-715b374062a6@a21g2000yqn.googlegroups.com>
Source record: 9969

On May 10, 8:03 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>wrotenews:0c55e54d-e422-4b91-a57c-5d273ee8b130@s29g2000yqd.goog
legroups.com...
> On May 9, 7:00 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > > >> In textbooks must be all theories.
> > > > In one chapter light (and radio waves) is like photons, in the next
> > > > chapter
> > > > like EM waves and in next like acoustics.
>
> > > >> EM is the only example of transversal waves. So it must be in teaching
> > > > program.
>
> > > >> But we try to help Peter. He wrote: "I begin to appreciate a comment
> > > >> made
> > > >> by
> > > > a fellow radio amateur and
> > > > technician that antenna theory was 15% science and 85% black magic! "
>
> > > >> It seems that you are sure that radio waves are transversal. It is
> > > > impossible to help you (Maxwell was full of doubts).
> > > > May be that somebody consider the Acoustic analogy and the black magic
> > > > disappear for him.
> > > > S*
> > > >maxwell may have been full of doubts, and Einstein wasn't able to see
>
> > the experiments that have proven his theories,
>
> > Maxwell did EM, Einstein did the photons and somebody else the acoustic
> > analogy.
>
> > >but we have seen them
>
> > well tested and accepted over the years.
>
> > All of that three (all three are in textbooks) are well tested and
> > accepted
> > but only in some extend. May be that after some time only one will be
> > fully
> > accepted. Which one do you designate?

>
> > > if you think that 85% is
>
> >> black magic then you have lots of learning to do to fill in that 85% gap
> >> in
> > your knowledge.
>
> >> I designate the acoustic analogy and do not see any gaps.
> > They who designate EM or the photons are in constant trouble for more than
> > 100 years.
> > S*
> >you may designate away, that doesn't make it any more correct. the
>
> only things that the acoustic, water, and em radiation has in common
> is the sinusoidal characteristics and that superposition works.
> because of those two you can get similar interference patterns from
> all 3 types of waves. that doesn't mean the underlying physics are
> the same.
>
> Oscillating compressible gas create .the standing waves in the tube with the
> closed end.
> The oscillating compressible electron gas create the standing waves in open
> circuit (antenna).
> Is not the same physics?
> S*

no

1470. Re: Variable Geometry Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-10 22:51:29 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <2u1gu55fmihtge2of5mqcur60nvdkc1e9j@4ax.com>
Source record: 9970

On Sun, 09 May 2010 12:50:37 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>On Sun, 09 May 2010 14:26:24 -0400, John Ferrell
><jferrell13@triad.rr.com> wrote:
>
>>I have been thinking about the SteppIR Antennas. There is no way I
>>will ever justify the money for one. Has anyone pondered the problems
>>from a HomeBrew stand point. It seems to me that the first challenge
>>is to couple the radiator to the feed line. The rest is simply (maybe
>>simply is not the right word...) mechanics.
>>
>>Whatever form the radiator takes it needs to be wound on a spool like
>>mechanism.
>
>Well, if you're going to clone it, these might offer some clues:
><www.w4gkf.com/steppir/>
>Lots of photos. Perforated flat copper "tape" is used for the
>elements. Sprokets inside the motor assembly unroll the tape from a
>spool which is then fed into the fiberglass support tubes. The
>electrical connections to the elements is with a simple wiper contact.
>There's a view of the guts about 4 photos down from the top:
><http://www.w4gkf.com/steppir/n4dk/>
>
>Some interesting stuff from the patent:
><http://www.google.com/patents/about?id=CjKhAAAAEBAJ&dq=steppir>
>
>If you're planning on cloning the antenna, I suspect your biggest
>challenge will be the wide variety of custom fabricated mechanical
>parts required. Making adjustments and modifications on top of a
>tower is also not my idea of fun. I could probably design one
>suitable for home brew, using round wires on spools with pulleys at
>the element ends, but the result will probably not survive the first
>storm.
Thanks for the url's. I am not trying to clone it, just impliment the
concept. I do my antenna work on the ground with a minerature version
of the Tilt-Plate concept. I do my antenna work with both feet firmly
on the ground.

A Home Brew version of the variable geometry beam antenna seems to me
like a good place to learn a bit.
John Ferrell W8CCW

1471. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 00:04:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c14b03e1-cb45-416a-959a-aa3eba62f277@e2g2000yqn.googlegroups.com>
Source record: 9971

On May 10, 5:26 pm, K1TTT <k1...@arrl.net> wrote:
> On May 10, 6:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 10, 1:05 pm, Richard Fry <r...@adams.net> wrote:
>
> > > On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > .... The radiation was 35 db in a shape
> > > > close to that of a sphere. (when the resistance of the aluminum dipole
> > > > went to zero the radiation went to a perfect sphere)
>
> > > The radiation was "35 db" compared to what reference value?
>
> > > BTW, a single, linear radiator cannot generate a perfectly spherical
> > > radiation pattern, no matter what your model tells you.
>
> > > Even an "infinitesimally" short, center-fed linear dipole has a figure
> > > 8 radiation pattern with a directivity (gain) of 1.5 X, or 1.76 dBi
> > > -- see any antenna engineering textbook.
>
> > > RF
>
> > I believe the computer programs to be more up to date than the books!
> > There certainly have been more advances since they have come into
> > being.
> > The programs reflect Maxwells equations which support the presence of
> > particles which is what provide the radiation resistance and not the
> > dipole itself. The dipole will show a donut pattern that will
> > gradually deform to a perfect sphere when resistance drops to zero as
> > per Poynting.
> > I would also point out that the programs support the presence of
> > Gaussian static particles as does mathematics. I would imagine that no
> > matter what programs you decide to use you will get the same results
> > as you increase the element diameter until the impedance is zero.No
> > point in trashing computer programs in advance because of personal
> > intuition. All I have done is removing resistance losses that do not
> > contribute to radiation.
>
> the programs are based on the books... but even worse, they are
> digital approximations of the continuous formulas and as such are not
> completely accurate. this is especially true when extremely large or
> small numbers are used or there are a large number of additions done,

> as is common in antenna modeling programs. there are also assumptions
> made in the development of most of those programs that are often not
> stated to, or not understood by, the user, such as you. so when you
> set something to optimize forever or start making elements extremely
> skinny, fat, short, or long, or too close together, you are most
> likely going to get wrong, or physically unrealizable results.

Obviously you are very experienced in generating
and bug catching in antenna programs having large experiences of
finding antenna errors.
What exactly in the nature of antenna computer programs, which have
been around for some time now, have you found them to be suspect ?
In my case the program verified what mathematics show as the presence
of particles on the surface and where the total input forces were used
for particle propagation. Now I am aware you have taken the position
that particles are not involved in radiation and thus you will resist
what computer programs arrive at relying on your intuition at all
times which requires no personal experience on the subject
However, I am taking the program that I purchased on trust especially
when it follows the maxwell equations and where I am not adverse to
change.
I look forward to specific examples that buttress your thoughts in a
scientific manner so I may decide what to do with my program purchase.
May I recommend you do the same thing with the program of your choice
where you can specifically point to the areas of error where they do
not meet your expectations. Why not do the same with EZNEC so Roy can
learn from your personal experiences and intuitions and institute the
appropriate corrections. Never mind the length of the dipole just make
the diameter very very fat and see what EZNEC does.

1472. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 00:10:50 UTC
From: nm5k@wt.net
Message-ID: <fb0fdafa-52fe-447e-907d-789cea0cfb3a@q30g2000yqd.googlegroups.com>
Source record: 9972

On May 10, 7:04 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 10, 5:26 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On May 10, 6:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On May 10, 1:05 pm, Richard Fry <r...@adams.net> wrote:
>
> > > > On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > .... The radiation was 35 db in a shape
> > > > > close to that of a sphere. (when the resistance of the aluminum dipole
> > > > > went to zero the radiation went to a perfect sphere)
>
> > > > The radiation was "35 db" compared to what reference value?
>
> > > > BTW, a single, linear radiator cannot generate a perfectly spherical
> > > > radiation pattern, no matter what your model tells you.
>
> > > > Even an "infinitesimally" short, center-fed linear dipole has a figure
> > > > 8 radiation pattern with a directivity (gain) of 1.5 X, or 1.76 dBi
> > > > -- see any antenna engineering textbook.
>
> > > > RF
>
> > > I believe the computer programs to be more up to date than the books!
> > > There certainly have been more advances since they have come into
> > > being.
> > > The programs reflect Maxwells equations which support the presence of
> > > particles which is what provide the radiation resistance and not the
> > > dipole itself. The dipole will show a donut pattern that will
> > > gradually deform to a perfect sphere when resistance drops to zero as
> > > per Poynting.
> > > I would also point out that the programs support the presence of
> > > Gaussian static particles as does mathematics. I would imagine that no
> > > matter what programs you decide to use you will get the same results
> > > as you increase the element diameter until the impedance is zero.No
> > > point in trashing computer programs in advance because of personal
> > > intuition. All I have done is removing resistance losses that do not
> > > contribute to radiation.
>
> > the programs are based on the books... but even worse, they are
> > digital approximations of the continuous formulas and as such are not

> > completely accurate. this is especially true when extremely large or
> > small numbers are used or there are a large number of additions done,
> > as is common in antenna modeling programs. there are also assumptions
> > made in the development of most of those programs that are often not
> > stated to, or not understood by, the user, such as you. so when you
> > set something to optimize forever or start making elements extremely
> > skinny, fat, short, or long, or too close together, you are most
> > likely going to get wrong, or physically unrealizable results.
>
> Obviously you are very experienced in generating
> and bug catching in antenna programs having large experiences of
> finding antenna errors.
> What exactly in the nature of antenna computer programs, which have
> been around for some time now, have you found them to be suspect ?
> In my case the program verified what mathematics show as the presence
> of particles on the surface and where the total input forces were used
> for particle propagation. Now I am aware you have taken the position
> that particles are not involved in radiation and thus you will resist
> what computer programs arrive at relying on your intuition at all
> times which requires no personal experience on the subject
> However, I am taking the program that I purchased on trust especially
> when it follows the maxwell equations and where I am not adverse to
> change.
> I look forward to specific examples that buttress your thoughts in a
> scientific manner so I may decide what to do with my program purchase.
> May I recommend you do the same thing with the program of your choice
> where you can specifically point to the areas of error where they do
> not meet your expectations. Why not do the same with EZNEC so Roy can
> learn from your personal experiences and intuitions and institute the
> appropriate corrections. Never mind the length of the dipole just make
> the diameter very very fat and see what EZNEC does.

Groan... Let me tell you the story about 24 dbi gain dipoles...
Simple to model.. Then again, no, it's a futile waste of time trying
to
convince you of the error of your ways.. :/
Continue with fantasy hour... :/

1473. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 00:32:40 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5b0356d5-097d-4ac6-9d7d-98f72cd944ba@b18g2000yqb.googlegroups.com>
Source record: 9973

On May 10, 7:10 pm, n...@wt.net wrote:
> On May 10, 7:04 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 10, 5:26 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On May 10, 6:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On May 10, 1:05 pm, Richard Fry <r...@adams.net> wrote:
>
> > > > > On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > > .... The radiation was 35 db in a shape
> > > > > close to that of a sphere. (when the resistance of the aluminum dipole
> > > > > went to zero the radiation went to a perfect sphere)
>
> > > > > The radiation was "35 db" compared to what reference value?
>
> > > > > BTW, a single, linear radiator cannot generate a perfectly spherical
> > > > > radiation pattern, no matter what your model tells you.
>
> > > > > Even an "infinitesimally" short, center-fed linear dipole has a figure
> > > > > 8 radiation pattern with a directivity (gain) of 1.5 X, or 1.76 dBi
> > > > > -- see any antenna engineering textbook.
>
> > > > > RF
>
> > > > I believe the computer programs to be more up to date than the books!
> > > > There certainly have been more advances since they have come into
> > > > being.
> > > > The programs reflect Maxwells equations which support the presence of
> > > > particles which is what provide the radiation resistance and not the
> > > > dipole itself. The dipole will show a donut pattern that will
> > > > gradually deform to a perfect sphere when resistance drops to zero as
> > > > per Poynting.
> > > > I would also point out that the programs support the presence of
> > > > Gaussian static particles as does mathematics. I would imagine that no
> > > > matter what programs you decide to use you will get the same results
> > > > as you increase the element diameter until the impedance is zero.No
> > > > point in trashing computer programs in advance because of personal
> > > > intuition. All I have done is removing resistance losses that do not
> > > > contribute to radiation.
>

> > > the programs are based on the books... but even worse, they are
> > > digital approximations of the continuous formulas and as such are not
> > > completely accurate. this is especially true when extremely large or
> > > small numbers are used or there are a large number of additions done,
> > > as is common in antenna modeling programs. there are also assumptions
> > > made in the development of most of those programs that are often not
> > > stated to, or not understood by, the user, such as you. so when you
> > > set something to optimize forever or start making elements extremely
> > > skinny, fat, short, or long, or too close together, you are most
> > > likely going to get wrong, or physically unrealizable results.
>
> > Obviously you are very experienced in generating
> > and bug catching in antenna programs having large experiences of
> > finding antenna errors.
> > What exactly in the nature of antenna computer programs, which have
> > been around for some time now, have you found them to be suspect ?
> > In my case the program verified what mathematics show as the presence
> > of particles on the surface and where the total input forces were used
> > for particle propagation. Now I am aware you have taken the position
> > that particles are not involved in radiation and thus you will resist
> > what computer programs arrive at relying on your intuition at all
> > times which requires no personal experience on the subject
> > However, I am taking the program that I purchased on trust especially
> > when it follows the maxwell equations and where I am not adverse to
> > change.
> > I look forward to specific examples that buttress your thoughts in a
> > scientific manner so I may decide what to do with my program purchase.
> > May I recommend you do the same thing with the program of your choice
> > where you can specifically point to the areas of error where they do
> > not meet your expectations. Why not do the same with EZNEC so Roy can
> > learn from your personal experiences and intuitions and institute the
> > appropriate corrections. Never mind the length of the dipole just make
> > the diameter very very fat and see what EZNEC does.
>
> Groan... Let me tell you the story about 24 dbi gain dipoles...
> Simple to model.. Then again, no, it's a futile waste of time trying
> to
> convince you of the error of your ways..   :/
> Continue with fantasy hour...   :/

What ever program you use let me know the result for a fat dipole.
Walk the walk ! Forget the talk!

1474. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 01:21:41 UTC
From: tom <news4792@taring.org>
Message-ID: <4be8b124$0$645$8046368a@newsreader.iphouse.net>
Source record: 9974

On 5/10/2010 12:35 PM, Art Unwin wrote:
> I just completed a experiment with my antenna optimizer program where
> I had a dipole in free space and where I increased the diameter until
> it was close to.003 ohms resistive
> What this means is the current flow is right at the surface where
> there is no skin depth
> penetration involved and thus close to zero material resistance. This
> means that the total resistance is the radiation resistance of the
> surface encapsulating particles. The radiation was 35 db in a shape
> close to that of a sphere. (when the resistance of the aluminum dipole
> went to zero the radiation went to a perfect sphere) Efficiency was
> stated at 100% efficient pointing to 100% accountability for all
> forces involved and where losses were at a minimum.
> Regards
> Art

What program would this be? I would like to try and duplicate your
results, as would others here.

tom
K0TAR

1475. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 01:29:29 UTC
From: tom <news4792@taring.org>
Message-ID: <4be8b2f9$0$640$8046368a@newsreader.iphouse.net>
Source record: 9975

On 5/10/2010 3:12 PM, nm5k@wt.net wrote:
> On May 10, 12:35 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> I just completed a experiment with my antenna optimizer program where
>> I had a dipole in free space and where I increased the diameter until
>> it was close to.003 ohms resistive
>> What this means is the current flow is right at the surface where
>> there is no skin depth
>> penetration involved and thus close to zero material resistance. This
>> means that the total resistance is the radiation resistance of the
>> surface encapsulating particles. The radiation was 35 db in a shape
>> close to that of a sphere. (when the resistance of the aluminum dipole
>> went to zero the radiation went to a perfect sphere) Efficiency was
>> stated at 100% efficient pointing to 100% accountability for all
>> forces involved and where losses were at a minimum.
>> Regards
>> Art
>
> Where is Lurch when I need him.... Grrrrrrrrrrrrrrr...
> Once again , delusions of grandeur induced by misuse of antenna
> modeling programs. :/

As Clint said in the wonderful old movie, "A man's gotta know his
limits". For antenna modelers it should read, "A man's gotta know the
program's limits".

Of course, Art thinks things have changed and the computer modelers have
a better grasp upon reality than the ones even he calls "the masters".
He is an example of the blind man leading himself.

tom
K0TAR

1476. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 01:44:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e0cdd8da-e160-4b3f-847c-a7a75d2d7c80@24g2000yqy.googlegroups.com>
Source record: 9976

On May 10, 8:21 pm, tom <news4...@taring.org> wrote:
> On 5/10/2010 12:35 PM, Art Unwin wrote:
>
> > I just completed a experiment with my antenna optimizer program where
> > I had a dipole in free space and where I increased the diameter until
> > it was close to.003 ohms resistive
> > What this means is the current flow is right at the surface where
> > there is no skin depth
> > penetration involved and thus close to zero material resistance. This
> > means that the total resistance is the radiation resistance of the
> > surface encapsulating particles. The radiation was 35 db in a shape
> > close to that of a sphere. (when the resistance of the aluminum dipole
> > went to zero the radiation went to a perfect sphere) Efficiency was
> > stated at 100% efficient pointing to 100% accountability for all
> > forces involved and where losses were at a minimum.
> > Regards
> > Art
>
> What program would this be? I would like to try and duplicate your
> results, as would others here.
>
> tom
> K0TAR

Great, tho most people on the group have yet to learn about antenna
programs preferring to procede by intuition.
Choose a dipole suitable for a particular frequency
in FREE SPACE.
Increase diameter incrementaly in the order of 1000
inches or so.
Plot radiation field
Continue until impedance drops to much less than 1 ohm (I dropped to
about .003 ohms) Plot radiation pattern and compare change from donut
to sphere shape of pattern and compare results.
What to expect.
Radiation will increase as impedance decreases.
Maximum radiation will occur when the dipole impedance drops to zero
and the particle skin becomes the sole resistance of the composite
dipole.
The radiation pattern will reflect point radiation within the cosmos.
Note some programs provide an impedance in negative terms. It is
better that impedance stays positive to determine all trends.

1477. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 01:52:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4be8b869$0$644$8046368a@newsreader.iphouse.net>
Source record: 9977

On 5/10/2010 8:44 PM, Art Unwin wrote:
> On May 10, 8:21 pm, tom<news4...@taring.org> wrote:
>> On 5/10/2010 12:35 PM, Art Unwin wrote:
>>
>>> I just completed a experiment with my antenna optimizer program where
>>> I had a dipole in free space and where I increased the diameter until
>>> it was close to.003 ohms resistive
>>> What this means is the current flow is right at the surface where
>>> there is no skin depth
>>> penetration involved and thus close to zero material resistance. This
>>> means that the total resistance is the radiation resistance of the
>>> surface encapsulating particles. The radiation was 35 db in a shape
>>> close to that of a sphere. (when the resistance of the aluminum dipole
>>> went to zero the radiation went to a perfect sphere) Efficiency was
>>> stated at 100% efficient pointing to 100% accountability for all
>>> forces involved and where losses were at a minimum.
>>> Regards
>>> Art
>>
>> What program would this be? I would like to try and duplicate your
>> results, as would others here.
>>
>> tom
>> K0TAR
>
> Great, tho most people on the group have yet to learn about antenna
> programs preferring to procede by intuition.
> Choose a dipole suitable for a particular frequency
> in FREE SPACE.
> Increase diameter incrementaly in the order of 1000
> inches or so.
> Plot radiation field
> Continue until impedance drops to much less than 1 ohm (I dropped to
> about .003 ohms) Plot radiation pattern and compare change from donut
> to sphere shape of pattern and compare results.
> What to expect.
> Radiation will increase as impedance decreases.
> Maximum radiation will occur when the dipole impedance drops to zero
> and the particle skin becomes the sole resistance of the composite
> dipole.
> The radiation pattern will reflect point radiation within the cosmos.
> Note some programs provide an impedance in negative terms. It is
> better that impedance stays positive to determine all trends.

And the program you are using is?

tom
K0TAR

1478. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 01:52:51 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <cd3e01e4-ac52-45b2-a19b-b0df2dacc5af@k2g2000yqe.googlegroups.com>
Source record: 9978

On May 10, 8:29 pm, tom <news4...@taring.org> wrote:
> On 5/10/2010 3:12 PM, n...@wt.net wrote:
>
>
>
> > On May 10, 12:35 pm, Art Unwin<arthurun...@gmail.com> wrote:
> >> I just completed a experiment with my antenna optimizer program where
> >> I had a dipole in free space and where I increased the diameter until
> >> it was close to.003 ohms resistive
> >> What this means is the current flow is right at the surface where
> >> there is no skin depth
> >> penetration involved and thus close to zero material resistance. This
> >> means that the total resistance is the radiation resistance of the
> >> surface encapsulating particles. The radiation was 35 db in a shape
> >> close to that of a sphere. (when the resistance of the aluminum dipole
> >> went to zero the radiation went to a perfect sphere) Efficiency was
> >> stated at 100% efficient pointing to 100% accountability for all
> >> forces involved and where losses were at a minimum.
> >> Regards
> >> Art
>
> > Where is Lurch when I need him.... Grrrrrrrrrrrrrrr...
> > Once again , delusions of grandeur induced by misuse of antenna
> > modeling programs. :/
>
> As Clint said in the wonderful old movie, "A man's gotta know his
> limits". For antenna modelers it should read, "A man's gotta know the
> program's limits".
>
> Of course, Art thinks things have changed and the computer modelers have
> a better grasp upon reality than the ones even he calls "the masters".
> He is an example of the blind man leading himself.
>
> tom
> K0TAR

No Tom, programs are based on Maxwells equations and the stipulation
of equilibrium.
Hams use this same program for yagi design that is NOT in accordance
with Maxwells equation.
Thus programmers modify the contents to suit what the customer wants
so they make money by making the customer happy. It is hams that are
following the one eyed man by living with garbage.
Which is OK as they know no better to strive for.

1479. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 01:58:08 UTC
From: tom <news4792@taring.org>
Message-ID: <4be8b9af$0$50147$8046368a@newsreader.iphouse.net>
Source record: 9979

On 5/10/2010 8:52 PM, Art Unwin wrote:
>> Of course, Art thinks things have changed and the computer modelers have
>> a better grasp upon reality than the ones even he calls "the masters".
>> He is an example of the blind man leading himself.
>>
>> tom
>> K0TAR
>
> No Tom, programs are based on Maxwells equations and the stipulation
> of equilibrium.
> Hams use this same program for yagi design that is NOT in accordance
> with Maxwells equation.
> Thus programmers modify the contents to suit what the customer wants
> so they make money by making the customer happy. It is hams that are
> following the one eyed man by living with garbage.
> Which is OK as they know no better to strive for.

Wrong. Simply wrong.

tom
K0TAR

1480. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 02:11:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4be8bcc3$0$641$8046368a@newsreader.iphouse.net>
Source record: 9980

On 5/10/2010 8:52 PM, Art Unwin wrote:
> No Tom, programs are based on Maxwells equations and the stipulation
> of equilibrium.
> Hams use this same program for yagi design that is NOT in accordance
> with Maxwells equation.
> Thus programmers modify the contents to suit what the customer wants
> so they make money by making the customer happy. It is hams that are
> following the one eyed man by living with garbage.
> Which is OK as they know no better to strive for.

So the programs are based on Maxwell and your equlibrium, and then you say they are not because of greed. B as in B, S as in S. What are these programs you haven't named?

And what program is the yagi program you won't name?

Will you give anyone on the list one shred of a tiny piece of a fact for once in your life?

We already know the answer. You can't, because it's all fantasy. None of it exists, and therefore you can't point at a single program. It's all there in your twisted mind but exists nowhere else.

tom
K0TAR

1481. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 02:33:08 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <487a30c1-82ad-4606-a54a-86c1610b60ba@i9g2000yqi.googlegroups.com>
Source record: 9981

On May 10, 10:11 pm, tom <news4...@taring.org> wrote:
> On 5/10/2010 8:52 PM, Art Unwin wrote:
>
> > No Tom, programs are based on Maxwells equations and the stipulation
> > of equilibrium.
> > Hams use this same program for yagi design that is NOT in accordance
> > with Maxwells equation.
> > Thus programmers modify the contents to suit what the customer wants
> > so they make money by making the customer happy. It is hams that are
> > following the one eyed man by living with garbage.
> > Which is OK as they know no better to strive for.
>
> So the programs are based on Maxwell and your equlibrium, and then you
> say they are not because of greed. B as in B, S as in S. What are
> these programs you haven't named?
>
> And what program is the yagi program you won't name?
>
> Will you give anyone on the list one shred of a tiny piece of a fact for
> once in your life?
>
> We already know the answer. You can't, because it's all fantasy. None
> of it exists, and therefore you can't point at a single program. It's
> all there in your twisted mind but exists nowhere else.
>
> tom
> K0TAR

Sounds like my wife trying to explain to the dog why he shouldn't get
on the couch.

Jimmie

1482. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 02:34:34 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <49GdnYUkBud2XHXWnZ2dnUVZ_qadnZ2d@earthlink.com>
Source record: 9982

"tom" <news4792@taring.org> wrote in message
news:4be8b2f9$0$640$8046368a@newsreader.iphouse.net...
> On 5/10/2010 3:12 PM, nm5k@wt.net wrote:
> As Clint said in the wonderful old movie, "A man's gotta know his limits".
> For antenna modelers it should read, "A man's gotta know the program's
> limits".
>
> Of course, Art thinks things have changed and the computer modelers have a
> better grasp upon reality than the ones even he calls "the masters". He is
> an example of the blind man leading himself.
>
> tom
> K0TAR

The computer program should know its limits. Anytine a program allows the data entered to be too large or small for the calculations, it should be flagged as being out of range. Also many computer programs will use simplified formulars that can mast the true outcome. Usually it is not very much, but as all errors start to add up the end results may be way off.

I often enter data that I know will be difficult for programs to use. If the program gives an answer then I usually don't use that program expecting a exect answer.
Back in the Windows 3.1 and 3.11 days the simple calculator would give wrong answers to simple problems. I think if you entered 3.11 and subtracted 3.1 from it you got the wrong answer. That program was not corrected by Microsoft.

1483. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 02:45:59 UTC
From: tom <news4792@taring.org>
Message-ID: <4be8c4e7$0$633$8046368a@newsreader.iphouse.net>
Source record: 9983

On 5/10/2010 9:34 PM, Ralph Mowery wrote:
>
> The computer program should know its limits. Anytine a program allows the
> data entered to be too large or small for the calculations, it should be
> flagged as being out of range. Also many computer programs will use
> simplified formulars that can mast the true outcome. Usually it is not very
> much, but as all errors start to add up the end results may be way off.
>
> I often enter data that I know will be difficult for programs to use. If
> the program gives an answer then I usually don't use that program expecting
> a exect answer.
> Back in the Windows 3.1 and 3.11 days the simple calculator would give wrong
> answers to simple problems. I think if you entered 3.11 and subtracted 3.1
> from it you got the wrong answer. That program was not corrected by
> Microsoft.
>
>

I disagree. The program cannot "know" its limits if the problem it's
modeling is complex enough. So the user must understand the program and
especially the math related to what the program is modeling.

Blaming the program for giving you the "wrong" answer is like blaming
the tires for hitting the guard rail because you exceeded their limits.
Those limits are not the same under varying conditions and must be
filtered by experience and understanding.

tom
K0TAR

1484. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 03:21:52 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a4c0f21b-40a5-4b66-8b08-ca52694bebd9@o14g2000yqb.googlegroups.com>
Source record: 9984

On May 10, 9:34 pm, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "tom" <news4...@taring.org> wrote in message
>
> news:4be8b2f9$0$640$8046368a@newsreader.iphouse.net...
>
> > On 5/10/2010 3:12 PM, n...@wt.net wrote:
> > As Clint said in the wonderful old movie, "A man's gotta know his limits".
> > For antenna modelers it should read, "A man's gotta know the program's
> > limits".
>
> > Of course, Art thinks things have changed and the computer modelers have a
> > better grasp upon reality than the ones even he calls "the masters". He is
> > an example of the blind man leading himself.
>
> > tom
> > K0TAR
>
> The computer program should know its limits. Anytine a program allows the
> data entered to be too large or small for the calculations, it should be
> flagged as being out of range. Also many computer programs will use
> simplified formulars that can mast the true outcome. Usually it is not very
> much, but as all errors start to add up the end results may be way off.
>
> I often enter data that I know will be difficult for programs to use. If
> the program gives an answer then I usually don't use that program expecting
> a exect answer.
> Back in the Windows 3.1 and 3.11 days the simple calculator would give wrong
> answers to simple problems. I think if you entered 3.11 and subtracted 3.1
> from it you got the wrong answer. That program was not corrected by
> Microsoft.

Ralph, the computer program I use is AO pro which is equipt with an
optimiser and based on Maxwells equation. It is required to provide
arrays where the whole is in equilibrium as is its parts where all
forces are taken into account according to boundary rules.
It is quite easy to confirm if the results are in equilibrium.There
are many programs that arer similar
only they will not crunch the numbers as an optimiser will but instead
calculate only from your input but without alteration. These also are
based on Maxwells equations. However hams are bound to Yagi style
antenna designs which are planar and not in equilibrium. This style of
program is modified to encompass its primary use. There are also
programs that are specifically designed for planar arrangement only
per the Yagi and are not based solely on Maxwell equations that demand

equilibrium.
To apply any of these programs is ok for a dipole in free space say for 14 Mhz and should give the same results. Same goes if one changes the diameter as will the radiation pattern provided. So in this particular
situation it matters not what program one uses the results will be the same. To conform with Maxwells equation equilibrium is demanded ie all vectors add up to zero.Since it is based on boundary rules one can make a static field dynamic which thus includes particles where the result is applicable to Maxwells equations. Thus we have an conductive element covered or encapsulated by particles the later being dynamic.This produces two resistances, the element and the particle skin. The element resistance goes to zero as the current flow moves towards the surface thus removing skin penetration losses and where all energy input is applied to propagation where we get accountability for all forces resulting in an array or element where all is in equilibrium without being planar as one must account for the earths rotation vector as well as that for gravity otherwise equilibrium cannot be retained. Thus as the diameter of the element is increased so does the surface increase for the resting particles such that the applied energy equals the energy required to elevate and propagate the supplied particles. without penetrating the surface of the element. This way we do not get into the situation of dealing with the sharing of the total resistance and thus removing element losses that do nothing for propagation, at the same time balancing the propagation vectors upon the particles alone to the applied energy.
All basic classical physics which uses only fully accepted rules of the masters without alteration of any kind as predicted by Einstein in his search for the std model.

1485. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 03:40:46 UTC
From: tom <news4792@taring.org>
Message-ID: <4be8d1bd$0$50146$8046368a@newsreader.iphouse.net>
Source record: 9985

On 5/10/2010 10:21 PM, Art Unwin wrote:
> Ralph, the computer program I use is AO pro which is equipt with an
> optimiser and based on Maxwells equation. It is required to provide

Art

I was an alpha tester on AO. Do you know what an alpha tester is?

I am sure that I know much more about this program's capabilities and
especially its limitations than you.

And almost everything you claim about it, now that I know what you're
making claims against, is either wrong or inaccurate.

tom
K0TAR

1486. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 08:26:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4be914d2$0$17088$65785112@news.neostrada.pl>
Source record: 9986

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:ee8f3e27-bfcc-43a7-b818-fc154ce59077@k19g2000yqm.googlegroups.com...
On May 10, 7:41 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> But the source of sound is an increase of the pressure.
>> The source of electric waves is an increase of the voltage.
>
>> The voltage increases at the ends of a dipole.
>
>> The electric waves and sound propagate in metal wires, but with different
> speeds.
>> Are electric waves in a wire also transversal?

>yes.

" As the wave propagates along the line, it is accompanied by currents which
flow longitudinally in the conductors".
From: http://www.answers.com/topic/electromagnetic-wave-transmission

In reality no pure transversal waves. Such are only possible in the math.
S*

1487. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 12:35:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8ba12574-0df8-4b42-94a3-2be4495d2a6d@e35g2000yqm.googlegroups.com>
Source record: 9987

On May 10, 10:40 pm, tom <news4...@taring.org> wrote:
> And almost everything you claim about it, now that I know what you're
> making claims against, is either wrong or inaccurate.

Here's my super-gain antenna with 24 dBi gain at a TOA of 23 degrees.

http://www.w5dxp.com/SUPRGAIN.EZ
--
73, Cecil, w5dxp.com

1488. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 14:45:36 UTC
From: nm5k@wt.net
Message-ID: <f2888a2c-99af-43eb-99b5-a216e7e90737@e1g2000yqe.googlegroups.com>
Source record: 9988

On May 11, 7:35 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 10, 10:40 pm, tom <news4...@taring.org> wrote:
>
> > And almost everything you claim about it, now that I know what you're
> > making claims against, is either wrong or inaccurate.
>
> Here's my super-gain antenna with 24 dBi gain at a TOA of 23 degrees.
>
> http://www.w5dxp.com/SUPRGAIN.EZ
> --
> 73, Cecil, w5dxp.com

Shall I help you file the patent? Maybe we can split the sales
50/50 ? Chortle.. We will be rich beyond our wildest dreams.
Go down in history as two of the "masters"... :/
I'll be able to finally afford the GI Joe with the Kung Fu grip after
all
these years. :) After all, that's what really matters.

1489. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 18:38:55 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hsc87v$7fs$1@news.jpl.nasa.gov>
Source record: 9990

Ralph Mowery wrote:
> "tom" <news4792@taring.org> wrote in message
> news:4be8b2f9$0$640$8046368a@newsreader.iphouse.net...
>> On 5/10/2010 3:12 PM, nm5k@wt.net wrote:
>> As Clint said in the wonderful old movie, "A man's gotta know his limits".
>> For antenna modelers it should read, "A man's gotta know the program's
>> limits".
>>
>> Of course, Art thinks things have changed and the computer modelers have a
>> better grasp upon reality than the ones even he calls "the masters". He is
>> an example of the blind man leading himself.
>>
>> tom
>> K0TAR
>
> The computer program should know its limits.

yes and no. For EM modeling codes originally intended for use by sophisticated users with a knowledge of the limitations of numerical analysis, they might assume the user knows enough to formulate models that are "well conditioned", or how to experiment to determine this. NEC is the leading example here. It doesn't do much checking of the inputs, and assumes you know what you are doing.

There were modeling articles in ARRL pubs 20 years ago that described one way to do this at a simple level: changing the number of segments in the model and seeing if the results change. The "average gain test" is another way.

In many cases, the constraints on the model are not simply representable (a lot of "it depends"), so that raises an issue for a "design rule checker" that is reasonably robust. Some products that use NEC as the backend put a checker on the front (4nec2, for instance, warns you about length/diameter ratios, almost intersections, and the like)

It's sort of like power tools vs hand tools. The assumption is that the user of the power tool knows how to use it.

Anytine a program allows the
> data entered to be too large or small for the calculations, it should be
> flagged as being out of range. Also many computer programs will use
> simplified formulars that can mast the true outcome. Usually it is not very
> much, but as all errors start to add up the end results may be way off.

There's whole books written on this for NEC. Part I of the NEC documents, in particular, discusses this. There's also a huge

professional literature on various FEM computational techniques and
their limitations. NEC, like most numerical codes (for mechanics,
thermal, as well as EM), is very much a chainsaw without safety guards.
It's up to the user to wear gloves and goggles and not cut their leg off.

1490. Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 18:47:08 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <87db91c1-3b5f-4c15-b58e-d55c73e10eb1@r11g2000yqa.googlegroups.com>
Source record: 9989

Hi

I found it (thank you to all for your helping)

The name of the feeding system I was looking for is:" Balanced
Capacitive Matching", and as Ralph Mowery said, it is a system
patented by the Mosley company see =>
http://www.mosley-electronics.com/page%20files/faq.htm
for explanations.

Mosley people says that its function is the one that I supposed in
third term => to increase the radiation resistance lengthening the
element.

When I search the web for the first time I didn't find it because I
looked for "T33".
My friend Luis Fernández - LU1DMA - mentioned again (in another radio
list) a Mosley "TA-33" and with this new Google key I gave immediately
with her.
LU1DMA tell me that he has a "Mosley TA-33" and a "Palombo" antenna
(local production, the last) and that both use this feeding type =>

http://xa.yimg.com/kq/groups/15085895/213843572/name/adaptador.pdf

that it is not identical to the one that Mosley describes in its FAQ.

Could this be a later variant they add to the lengthening effect of
their original system with the properties that are attributed to the
bazooka system?

73

Miguel Ghezzi LU6ETJ

1491. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 19:41:11 UTC
From: Frank <frank@spamfree.telus.net>
Message-ID: <rpiGn.3782$Z6.2648@edtnps82>
Source record: 9991

>What ever program you use let me know the result for a fat dipole.
>Walk the walk ! Forget the talk!

Are you sure you have not violated the segment length/wire diameter ratio? From Cebik; Intermediate Antenna Modeling: "In NEC-2 it is especially important to keep the segment length (greater than) about 4 times the wire diameter. You may reduce this value by half by invoking the EK command." Also, what does your "Average Gain Test" report show?

73,

Frank

1492. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 19:53:36 UTC
From: Frank <frank@spamfree.telus.net>
Message-ID: <4BiGn.3783$Z6.1000@edtnps82>
Source record: 9992

>Increase diameter incrementaly in the order of 1000
>inches or so.

As stated earlier the above is a gross violation of the
segment length/diameter ratio. Again; what does
your "Average Gain Test" report say under these
conditions?

Frank

1493. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 20:17:19 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <519bcf08-3710-4ec8-80ef-d38ad557fd99@o14g2000yqb.googlegroups.com>
Source record: 9993

On May 11, 1:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Ralph Mowery wrote:
> > "tom" <news4...@taring.org> wrote in message
> >news:4be8b2f9$0$640$8046368a@newsreader.iphouse.net...
> >> On 5/10/2010 3:12 PM, n...@wt.net wrote:
> >> As Clint said in the wonderful old movie, "A man's gotta know his limits".
> >> For antenna modelers it should read, "A man's gotta know the program's
> >> limits".
>
> >> Of course, Art thinks things have changed and the computer modelers have a
> >> better grasp upon reality than the ones even he calls "the masters". He is
> >> an example of the blind man leading himself.
>
> >> tom
> >> K0TAR
>
> > The computer program should know its limits.
>
> yes and no. For EM modeling codes originally intended for use by
> sophisticated users with a knowledge of the limitations of numerical
> analysis, they might assume the user knows enough to formulate models
> that are "well conditioned", or how to experiment to determine this.
> NEC is the leading example here. It doesn't do much checking of the
> inputs, and assumes you know what you are doing.
>
> There were modeling articles in ARRL pubs 20 years ago that described
> one way to do this at a simple level: changing the number of segments in
> the model and seeing if the results change. The "average gain test" is
> another way.
>
> In many cases, the constraints on the model are not simply representable
> (a lot of "it depends"), so that raises an issue for a "design rule
> checker" that is reasonably robust. Some products that use NEC as the
> backend put a checker on the front (4nec2, for instance, warns you about
> length/diameter ratios, almost intersections, and the like)
>
> It's sort of like power tools vs hand tools. The assumption is that the
> user of the power tool knows how to use it.
>
>   Anytine a program allows the
>
> > data entered to be too large or small for the calculations, it should be
> > flagged as being out of range. Also many computer programs will use
> > simplified formulars that can mast the true outcome. Usually it is not very

> > much, but as all errors start to add up the end results may be way off.
>
> There's whole books written on this for NEC. Part I of the NEC
> documents, in particular, discusses this. There's also a huge
> professional literature on various FEM computational techniques and
> their limitations. NEC, like most numerical codes (for mechanics,
> thermal, as well as EM), is very much a chainsaw without safety guards.
>   It's up to the user to wear gloves and goggles and not cut their leg off.

Jim Lux of NASA no less!
All of the programs clearly state that they are based on Maxwells
equations. The bottom line of that equation is that for accountability
for all forces involved are required and where the summation of all
equals zero. This is nothing new and has been followed thru for
centuries. The equations requires first and formost equilibrium and
what the program supplies is easily checked that it meets these
requirements. It is very simple. Showing that the solution is that
inside an arbitrary boundary all within as with the whole must be
resonant and in equilibrium.It requires no more than that to show if
the program has achieved its object. I understand your preachings but
you presented no point that can be discussed.
Now you will respond that I must do such and such to back the
statement above despite that those requirements are the basis of
physics. So to you I will supply the same that I have supplied to
others which they reject, no one has stated why.
A arbitrary gaussian border containing static particles
(not waves as many summize. Gauss was very clear about the presence
of static particles) in equilibrium may be made dynamic by the
addition of a time varying field such that Maxell's equations can be
applied to solve.I have stated the over checks that can be applied to
provide correctness of this procedure. You may, of course, join the
poll that swells on behalf of NASA in opposition to the above but it
would provide me a great deal of delight if you provided more than to
just say "I am wrong". Nobody as yet provided one mathematical reason
that disputes the above, so in the absence of such you will not be
alone, only your credibility suffers but you will remain in the
majority of the poll in the eyes of the ham radio World.
Regards
Art Unwin

1494. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 21:02:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hscglqnhs1@news.jpl.nasa.gov>
Source record: 9994

Art Unwin wrote:
> On May 11, 1:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>>
>>> The computer program should know its limits.
>> yes and no. For EM modeling codes originally intended for use by
>> sophisticated users with a knowledge of the limitations of numerical
>> analysis, they might assume the user knows enough to formulate models
>> that are "well conditioned", or how to experiment to determine this.
>> NEC is the leading example here. It doesn't do much checking of the
>> inputs, and assumes you know what you are doing.
>>
> Jim Lux of NASA no less!
Speaking, however, as Jim Lux, engineer, not necessarily on NASA's behalf.

> All of the programs clearly state that they are based on Maxwells
> equations.
<snip>
I understand your preachings but
> you presented no point that can be discussed.

While NEC and its ilk are clearly based on Maxwell's equations, one should realize that they do not provide an analytical closed form solution, but, rather, are numerical approximations, and are subject to all the limitations inherent in that. They solve for the currents by the method of moments, which is but one way to find a solution, and one that happens to work quite well with things made of wires.

Within the limits of computational precision, for simple cases, where analytical solutions are known to exist, the results of NEC and the analytical solution are identical. That's what validation of the code is all about.

Further, where there is no analytical solution available, measured data on an actual antenna matches that predicted by the model, within experimental uncertainty.

In both of the above situations, the validation has been done many times, by many people, other than the original authors of the software, so NEC fits in the category of "high quality validated modeling tools".

This does not mean, however, that just because NEC is based on Maxwell's equations that you can take anything that is solvable with Maxwell and it will be equally solvable in NEC.

I suspect that one could take the NEC algorithms, and implement a modeling code for, say, a dipole, using an arbitrary precision math

package and get results that are accurate to any desired degree. This would be a lot of work.

It's unclear that this would be useful, except perhaps as an extraordinary proof for an extraordinary claim (e.g. a magic antenna that "can't be modeled in NEC"). However, once you've done all that software development, you'd need independent verification that you correctly implemented it.

This is where a lot of the newer modeling codes come from (e.g. FDTD): they are designed to model things that a method of moments code can't do effectively.

1495. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 22:04:49 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4be9d47d$0$12129$4fafbaef@reader4.news.tin.it>
Source record: 9995

The name of the feeding system I was looking for is:" Balanced
Capacitive Matching", and as Ralph Mowery said, it is a system
patented by the Mosley company see =>
http://www.mosley-electronics.com/page%20files/faq.htm
for explanations.

Mosley people says that its function is the one that I supposed in
third term => to increase the radiation resistance lengthening the
element.

The Mosley explanation does not convince me.

Making the radiator somewhat longer than the resonant length can certainly give
birth to a significant series inductive reactance (+j50 ohm in their example),
but can only cause a very modest increase in resistance, certainly not from 30
ohm up to 50 ohm as they state. Probably a resistance value in the range of 32
ohm or so would be realistic.

Nevertheless, applying the series --> parallel impedance transformation, the
impedance of the lengthened antenna (which could be about 32 + j50 as said
before) can be seen as a 50 ohm resistance with an inductive reactance in
PARALLEL, not in SERIES.

The residual reactance could then only be cancelled out using a PARALLEL
capacitor, not a SERIES one.

73

Tony I0JX
Rome Italy

1496. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-11 23:22:43 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hscos2$72o$1@news.jpl.nasa.gov>
Source record: 9996

Antonio Vernucci wrote:
> The name of the feeding system I was looking for is:" Balanced
> Capacitive Matching", and as Ralph Mowery said, it is a system
> patented by the Mosley company see =>
> http://www.mosley-electronics.com/page%20files/faq.htm
> for explanations.
>
> Mosley people says that its function is the one that I supposed in
> third term => to increase the radiation resistance lengthening the
> element.
>
> ------------------------------------
> The Mosley explanation does not convince me.
>
> Making the radiator somewhat longer than the resonant length can
> certainly give birth to a significant series inductive reactance (+j50
> ohm in their example), but can only cause a very modest increase in
> resistance, certainly not from 30 ohm up to 50 ohm as they state.
> Probably a resistance value in the range of 32 ohm or so would be
> realistic.
>
> Nevertheless, applying the series --> parallel impedance transformation,
> the impedance of the lengthened antenna (which could be about 32 + j50
> as said before) can be seen as a 50 ohm resistance with an inductive
> reactance in PARALLEL, not in SERIES.
>
> The residual reactance could then only be cancelled out using a PARALLEL
> capacitor, not a SERIES one.
>
> 73
>
> Tony I0JX
> Rome Italy
>
>
Could it be that the parallel bar that holds the two halves of the
driven element serves as the parallel capacitor.

It's also possible that the Z goes somewhat higher in resistance, but as
you say, 50 ohms is pretty high. A lot of Yagi designs have feedpoint
impedances in the 10-20 ohm range.

1497. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 00:30:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e1d52ad0-376a-48d7-a9a2-1e442702122a@j35g2000yqm.googlegroups.com>
Source record: 9997

On May 11, 4:02 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Art Unwin wrote:
> > On May 11, 1:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> >>> The computer program should know its limits.
> >> yes and no. For EM modeling codes originally intended for use by
> >> sophisticated users with a knowledge of the limitations of numerical
> >> analysis, they might assume the user knows enough to formulate models
> >> that are "well conditioned", or how to experiment to determine this.
> >> NEC is the leading example here. It doesn't do much checking of the
> >> inputs, and assumes you know what you are doing.
>
> > Jim Lux of NASA no less!
>
> Speaking, however, as Jim Lux, engineer, not necessarily on NASA's behalf.
>
> > All of the programs clearly state that they are based on Maxwells
> > equations.
>
> <snip>
> I understand your preachings but
>
> > you presented no point that can be discussed.
>
> While NEC and its ilk are clearly based on Maxwell's equations, one
> should realize that they do not provide an analytical closed form
> solution, but, rather, are numerical approximations, and are subject to
> all the limitations inherent in that. They solve for the currents by
> the method of moments, which is but one way to find a solution, and one
> that happens to work quite well with things made of wires.
>
> Within the limits of computational precision, for simple cases, where
> analytical solutions are known to exist, the results of NEC and the
> analytical solution are identical. That's what validation of the code
> is all about.
>
> Further, where there is no analytical solution available, measured data
> on an actual antenna matches that predicted by the model, within
> experimental uncertainty.
>
> In both of the above situations, the validation has been done many
> times, by many people, other than the original authors of the software,
> so NEC fits in the category of "high quality validated modeling tools".
>

> This does not mean, however, that just because NEC is based on Maxwell's
> equations that you can take anything that is solvable with Maxwell and
> it will be equally solvable in NEC.
>
> I suspect that one could take the NEC algorithms, and implement a
> modeling code for, say, a dipole, using an arbitrary precision math
> package and get results that are accurate to any desired degree. This
> would be a lot of work.
>
> It's unclear that this would be useful, except perhaps as an
> extraordinary proof for an extraordinary claim (e.g. a magic antenna
> that "can't be modeled in NEC"). However, once you've done all that
> software development, you'd need independent verification that you
> correctly implemented it.
>
> This is where a lot of the newer modeling codes come from (e.g. FDTD):
> they are designed to model things that a method of moments code can't do
> effectively.

Again you preach but obviously you are not qualified to address the
issue.
Maxwells equations are such that all forces are accounted for when the
array is in a state of equilibrium. To use such an equation for an
array that is not in equilibrium requires additional input
(proximetry equations) which is where error creep in.When an array is
in equilibrium then Maxwell's equations are exact. The proof of the
pudding is that the resulting array is in equilibrium as is its parts.
AO pro by Beasley consistently produces an array in equilibrium when
the optimizer is used as well as including the presence of particles
dictated by Gauss., The program is of Minninec foundation which
obviously does not require the patch work aproach that NEC has. On top
of all that. it sees an element as one in encapsulation as forseen by
Gauss by removing the resistance of the element, which produces a
loss, and thus allows dealing only with all vectors as they deal with
propagation. It is only because hams use Maxwell's equation for
occasions that equilibrium does not exist, such as the yagi, do errors
start to creep in. Any array produced solely by the use of Maxwell's
equations provides proof of association by producing an array in
equilibrium which can be seen as an over check.Like you, I speak only
as an engineer on behalf of myself. Clearly, Maxwell had taken
advantage of the presence of particles when he added displacement
current so that the principle of equilibrium would be adhered to. This
being exactly the same that Faraday did when explaining the
transference from a particle to a time varying current when describing
the workings of the cage.
Regards
Art

1498. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 01:46:22 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <87849dc4-3258-45bb-be37-5f56e935a16d@a21g2000yqn.googlegroups.com>
Source record: 9998

On 11 mayo, 20:22, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Antonio Vernucci wrote:
> > The name of the feeding system I was looking for is:" Balanced
> > Capacitive Matching", and as Ralph Mowery said, it is a system
> > patented by the Mosley company see =>
> >http://www.mosley-electronics.com/page%20files/faq.htm
> > for explanations.
>
> > Mosley people says that its function is the one that I supposed in
> > third term => to increase the radiation resistance lengthening the
> > element.
>
> > ----------
> > The Mosley explanation does not convince me.
>
> > Making the radiator somewhat longer than the resonant length can
> > certainly give birth to a significant series inductive reactance (+j50
> > ohm in their example), but can only cause a very modest increase in
> > resistance, certainly not from 30 ohm up to 50 ohm as they state.
> > Probably a resistance value in the range of 32 ohm or so would be
> > realistic.
>
> > Nevertheless, applying the series --> parallel impedance transformation,
> > the impedance of the lengthened antenna (which could be about 32 + j50
> > as said before) can be seen as a 50 ohm resistance with an inductive
> > reactance in PARALLEL, not in SERIES.
>
> > The residual reactance could then only be cancelled out using a PARALLEL
> > capacitor, not a SERIES one.
>
> > 73
>
> > Tony I0JX
> > Rome Italy
>
> Could it be that the parallel bar that holds the two halves of the
> driven element serves as the parallel capacitor.
>
> It's also possible that the Z goes somewhat higher in resistance, but as
> you say, 50 ohms is pretty high. A lot of Yagi designs have feedpoint
> impedances in the 10-20 ohm range.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hi Tony and Jim

I think that it was not a crazy thing :>) A rapid simulation of a full size three element 20 m Yagi in 4NEC2 software gives me aprox. 32 + j0 ohm with a length of 5.12 m per excited element leg, lengthen to 5,37 m, impedance raises to 37,4 + j51,5 ohm, it is not so much as 50 vs 30 ohm for 50 ohm inductive reactance augment claimed for Mosley guys but if we add some possible losses perhaps that approach was valid enough for them (I should verify more carefully a more real model with loading coils, etc)
Jim idea about paralell capacity it is interesting to think of.

Any way... I wanted discover what was the supporting idea behind that feeding system for its designers and now I got it :>)

Thank you.

Miguel Ghezzi LU 6ETJ

1499. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 02:23:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4bea1129$0$50148$8046368a@newsreader.iphouse.net>
Source record: 9999

On 5/11/2010 7:35 AM, Cecil Moore wrote:
> On May 10, 10:40 pm, tom<news4...@taring.org> wrote:
>> And almost everything you claim about it, now that I know what you're
>> making claims against, is either wrong or inaccurate.
>
> Here's my super-gain antenna with 24 dBi gain at a TOA of 23 degrees.
>
> http://www.w5dxp.com/SUPRGAIN.EZ
> --
> 73, Cecil, w5dxp.com

I don't know what the problem is, Cecil, it looks perfectly normal to
me. And it's great, effectively an omnidirectional super yagi on 40m
kind of thing.

You patented it, right?

tom
K0TAR

1500. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 02:45:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4bea162d$0$50148$8046368a@newsreader.iphouse.net>
Source record: 10000

On 5/10/2010 10:40 PM, tom wrote:
> On 5/10/2010 10:21 PM, Art Unwin wrote:
>> Ralph, the computer program I use is AO pro which is equipt with an
>> optimiser and based on Maxwells equation. It is required to provide
>
> Art
>
> I was an alpha tester on AO. Do you know what an alpha tester is?
>
> I am sure that I know much more about this program's capabilities and
> especially its limitations than you.
>
> And almost everything you claim about it, now that I know what you're
> making claims against, is either wrong or inaccurate.
>
> tom
> K0TAR

Art?

No comment?

tom
K0TAR

1501. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 15:12:59 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <jJOdncv4PbjlWHfWnZ2dnUVZ_vKdnZ2d@bright.net>
Source record: 9901

As given, the average gain is about 16.7 dB - so one knows that
something-is-afoot . . .
The driven element (wire 1) is essentially touching wire 4. Current in wire
4 is unbelievably high. With use of #30 wire things improve, but wires are
too close.

Thanks for the example. Will use it when next talking about NEC as an
example of what not to do.

73, Mac N8TT
--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net

"Cecil Moore" <w5dxp@hotmail.com> wrote in message
news:8ba12574-0df8-4b42-94a3-2be4495d2a6d@e35g2000yqm.googlegroups.com...
<snip>

Here's my super-gain antenna with 24 dBi gain at a TOA of 23 degrees.

http://www.w5dxp.com/SUPRGAIN.EZ
--
73, Cecil, w5dxp.com

1502. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 17:10:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8836cf83-890d-4ad2-b4c0-a688ffe7cf88@a34g2000yqn.googlegroups.com>
Source record: 9902

On May 11, 8:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
> When an array is
> in equilibrium then Maxwell's equations are exact.

maxwell's equations are ALWAYS exact, it is digital models that are
inexact and have limitations due to the approximations made and the
numeric representations used.

1503. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 17:42:32 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hsepa8$2bq$1@news.jpl.nasa.gov>
Source record: 9904

Art Unwin wrote:
> On May 11, 4:02 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>>
>
> Again you preach but obviously you are not qualified to address the
> issue.

Opinions on qualification differ.

> AO pro by Beasley consistently produces an array in equilibrium when
> the optimizer is used as well as including the presence of particles
> dictated by Gauss., The program is of Minninec foundation which
> obviously does not require the patch work aproach that NEC has.

Interestingly, MININEC uses the very same method of moments that NEC does, but, because it's "mini" it has substantial limitations. It was developed to fit in small microcomputers of the day. I'd hardly call NEC "patchwork". The two programs do use different formulations for the basis function defining the current on the segment.

There are several papers out there that compare the mechanism of MININEC vs NEC. One might start with the report by Burke and Poggio (for NEC) and the report by Julian, Logam, and Rockway (which talks about MININEC). John Rockway published a paper in 1995 describing the history and differences.
"Advances in MININEC"
John Rockway, James Logan
IEEE Antennas and Propagation Magazine, v37, #4, August 1995, p7-12

1504. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 18:00:42 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4beaecde$0$40293$4fafbaef@reader2.news.tin.it>
Source record: 9903

```
--
-----------------------------------------------------
Antonio Vernucci, I0JX US call: K0JX
Beacons: 50.004 MHz & 70.088 MHz
Home page: http://www.qsl.net/i0jx
e-mail: k0jx {at} amsat {dot} org
-----------------------------------------------------
"lu6etj" <lu6etj@gmail.com> ha scritto nel messaggio
news:87849dc4-3258-45bb-be37-5f56e935a16d@a21g2000yqn.googlegroups.com...
On 11 mayo, 20:22, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Antonio Vernucci wrote:
> > The name of the feeding system I was looking for is:" Balanced
> > Capacitive Matching", and as Ralph Mowery said, it is a system
> > patented by the Mosley company see =>
> >http://www.mosley-electronics.com/page%20files/faq.htm
> > for explanations.
>
> > Mosley people says that its function is the one that I supposed in
> > third term => to increase the radiation resistance lengthening the
> > element.
>
> > ------------------------------------
> > The Mosley explanation does not convince me.
>
> > Making the radiator somewhat longer than the resonant length can
> > certainly give birth to a significant series inductive reactance (+j50
> > ohm in their example), but can only cause a very modest increase in
> > resistance, certainly not from 30 ohm up to 50 ohm as they state.
> > Probably a resistance value in the range of 32 ohm or so would be
> > realistic.
>
> > Nevertheless, applying the series --> parallel impedance transformation,
> > the impedance of the lengthened antenna (which could be about 32 + j50
> > as said before) can be seen as a 50 ohm resistance with an inductive
> > reactance in PARALLEL, not in SERIES.
>
> > The residual reactance could then only be cancelled out using a PARALLEL
> > capacitor, not a SERIES one.
>
> > 73
>
> > Tony I0JX
> > Rome Italy
>
```

> Could it be that the parallel bar that holds the two halves of the
> driven element serves as the parallel capacitor.
>
> It's also possible that the Z goes somewhat higher in resistance, but as
> you say, 50 ohms is pretty high. A lot of Yagi designs have feedpoint
> impedances in the 10-20 ohm range.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hi Tony and Jim

I think that it was not a crazy thing :>) A rapid simulation of a full size three element 20 m Yagi in 4NEC2 software gives me aprox. 32 + j0 ohm with a length of 5.12 m per excited element leg, lengthen to 5,37 m, impedance raises to 37,4 + j51,5 ohm, it is not so much as 50 vs 30 ohm for 50 ohm inductive reactance augment claimed for Mosley guys but if we add some possible losses perhaps that approach was valid enough for them (I should verify more carefully a more real model with loading coils, etc)

I tried the EZ-NEC file representing a 50-MHz three-element NBS Yagi.

At resonance (49.95 MHz) impedance is 12.05 + j0

Lengthening the radiating element by about three inches causes impedance to become 14.34 + j50

To show 50-ohm resistance, the antenna losses should cause the birth of a (50-14.34) = 35.66 series resistance. This would cause a loss of about 5.4 dB, so nearly offsetting the antenna gain.

73

Tony I0JX

1505. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 19:26:10 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4e82f964-0055-4ced-95b1-b4ec88142b8d@j35g2000yqm.googlegroups.com>
Source record: 9905

On May 12, 12:42 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Art Unwin wrote:
> > On May 11, 4:02 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > Again you preach but obviously you are not qualified to address the
> > issue.
>
> Opinions on qualification differ.
>
> > AO pro by Beasley consistently produces an array in equilibrium when
> > the optimizer is used as well as including the presence of particles
> > dictated by Gauss., The program is of Minninec foundation which
> > obviously does not require the patch work aproach that NEC has.
>
> Interestingly, MININEC uses the very same method of moments that NEC
> does, but, because it's "mini" it has substantial limitations. It was
> developed to fit in small microcomputers of the day. I'd hardly call
> NEC "patchwork". The two programs do use different formulations for the
> basis function defining the current on the segment.
>
> There are several papers out there that compare the mechanism of MININEC
> vs NEC. One might start with the report by Burke and Poggio (for NEC)
> and the report by Julian, Logam, and Rockway (which talks about
> MININEC). John Rockway published a paper in 1995 describing the history
> and differences.
> "Advances in MININEC"
> John Rockway, James Logan
> IEEE Antennas and Propagation Magazine, v37, #4, August 1995, p7-12

I personaly am extremely happy with AO since I am able always to do an
overcheck with respect
the element resonance. I wouldn't be surprised if the next generation
moved away from the present
algerithms and rely purely on number crunching to obtain systems in
equilibrium. I personaly believe
that the programs would be much more accurate if they had a better
understanding of close elements because of proximetry effects. But as
long as the industry strays away from non planar forms we will have to
live with close approximations. Tho using Maxwell to its limits I have
yet to find a way to concentrate radiation for gain as opposed to
efficiency by the introduction of other elements but I enjoy trying
different methods and there is always a new vista that appears with
its use. My next aproach will be a multiplicity of cells or boundaries
dependent on how far my program can spread. One thing I am absolutely

sure now is that particles are the staple of propagation where the neutrino act as the carrier and can well be the singular particle that Einstein envisaged based on the Earths two vectors.I was absolutely over joyed when AO allowed the radiating elements to gyrate towards zero resistance so that the encapsulating cylinder could be divorced from element thus removing losses. I see no better proof of my aproach in making Gaussian static fields dynamic
which clearly exposes the presence of encapsulation that is substantiated by the math and allows propagation to be viewed as a point source. Next time one visits the moon they can apply a time varying current to the space suit to prevent the carrage of particles to the inside of the ship.
Regards
Art.Unwin

1506. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 19:29:47 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b2d9270a-a84f-43df-ad94-21b3aa10b379@j35g2000yqm.googlegroups.com>
Source record: 9906

On May 12, 12:10 pm, K1TTT <k1...@arrl.net> wrote:
> On May 11, 8:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > When an array is
> > in equilibrium then Maxwell's equations are exact.
>
> maxwell's equations are ALWAYS exact, it is digital models that are
> inexact and have limitations due to the approximations made and the
> numeric representations used.

On this I have total agreement. The moment one strays from the concept
of equilibrium is when we expose ourselves to errors.
Regards
Art

1507. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 19:37:40 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <0453926c-e748-4bce-ae68-b7098c3dadf7@d39g2000yqa.googlegroups.com>
Source record: 9907

```
On 12 mayo, 15:00, "Antonio Vernucci" <vernu...@tin.it> wrote:
> --
>  ------------------------------------------------------
>  Antonio Vernucci, I0JX  US call: K0JX
>  Beacons: 50.004 MHz & 70.088 MHz
>  Home page:http://www.qsl.net/i0jx
>  e-mail: k0jx {at} amsat {dot} org
>  ------------------------------------------------------
> "lu6etj" <lu6...@gmail.com> ha scritto nel
messaggionews:87849dc4-3258-45bb-be37-5f56e935a16d@a21g2000yqn.googlegroups.com...
> On 11 mayo, 20:22, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
>
>
>
>
> > Antonio Vernucci wrote:
> > > The name of the feeding system I was looking for is:" Balanced
> > > Capacitive Matching", and as Ralph Mowery said, it is a system
> > > patented by the Mosley company see =>
> > >http://www.mosley-electronics.com/page%20files/faq.htm
> > > for explanations.
>
> > > Mosley people says that its function is the one that I supposed in
> > > third term => to increase the radiation resistance lengthening the
> > > element.
>
> > > ------------------------------------
> > > The Mosley explanation does not convince me.
>
> > > Making the radiator somewhat longer than the resonant length can
> > > certainly give birth to a significant series inductive reactance (+j50
> > > ohm in their example), but can only cause a very modest increase in
> > > resistance, certainly not from 30 ohm up to 50 ohm as they state.
> > > Probably a resistance value in the range of 32 ohm or so would be
> > > realistic.
>
> > > Nevertheless, applying the series --> parallel impedance transformation,
> > > the impedance of the lengthened antenna (which could be about 32 + j50
> > > as said before) can be seen as a 50 ohm resistance with an inductive
> > > reactance in PARALLEL, not in SERIES.
>
> > > The residual reactance could then only be cancelled out using a PARALLEL
> > > capacitor, not a SERIES one.
```

>
> > > 73
>
> > > Tony I0JX
> > > Rome Italy
>
> > Could it be that the parallel bar that holds the two halves of the
> > driven element serves as the parallel capacitor.
>
> > It's also possible that the Z goes somewhat higher in resistance, but as
> > you say, 50 ohms is pretty high. A lot of Yagi designs have feedpoint
> > impedances in the 10-20 ohm range.- Ocultar texto de la cita -
>
> > - Mostrar texto de la cita -
>
> Hi Tony and Jim
>
> I think that it was not a crazy thing :) A rapid simulation of a
> full size three element 20 m Yagi in 4NEC2 software gives me aprox. 32
> + j0 ohm with a length of 5.12 m per excited element leg, lengthen to
> 5,37 m, impedance raises to 37,4 + j51,5 ohm, it is not so much as 50
> vs 30 ohm for 50 ohm inductive reactance augment claimed for Mosley
> guys but if we add some possible losses perhaps that approach was
> valid enough for them (I should verify more carefully a more real
> model with loading coils, etc)
>
> I tried the EZ-NEC file representing a 50-MHz three-element NBS Yagi.
>
> At resonance (49.95 MHz) impedance is 12.05 + j0
>
> Lengthening the radiating element by about three inches causes impedance to
> become 14.34 + j50
>
> To show 50-ohm resistance, the antenna losses should cause the birth of a
> (50-14.34) = 35.66 series resistance. This would cause a loss of about 5.4 dB,
> so nearly offsetting the antenna gain.
>
> 73
>
> Tony I0JX- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

24 % increment in 20 m example, 19 % in 6 m example. OK, Similar
numbers...

But don't forget that feedeing point impedance not always is near 10
ohms, Yagi feedeing point impedance typically takes values from 40 to
10 ohms depending on spacing, element length, coil loading, etc.

I think: If your assumed numbers were those of the Mosley beam, its SWR would be 4:1(without losses), and with losses included she would be ¡a very nasty antenna!. I think the ham buyers would not be very happy with such a poor antenna on both cases :>)

73

Miguel LU 6ETJ

1508. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 19:58:12 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <0772f0e2-cb00-4090-8ecf-6320b0ee4642@v29g2000prb.googlegroups.com>
Source record: 9908

On May 10, 7:45 pm, tom <news4...@taring.org> wrote:
> On 5/10/2010 9:34 PM, Ralph Mowery wrote:
>
>
>
>
>
> > The computer program should know its limits. Anytine a program allows the
> > data entered to be too large or small for the calculations, it should be
> > flagged as being out of range. Also many computer programs will use
> > simplified formulars that can mast the true outcome. Usually it is not very
> > much, but as all errors start to add up the end results may be way off.
>
> > I often enter data that I know will be difficult for programs to use. If
> > the program gives an answer then I usually don't use that program expecting
> > a exect answer.
> > Back in the Windows 3.1 and 3.11 days the simple calculator would give wrong
> > answers to simple problems. I think if you entered 3.11 and subtracted 3.1
> > from it you got the wrong answer. That program was not corrected by
> > Microsoft.
>
> I disagree. The program cannot "know" its limits if the problem it's
> modeling is complex enough. So the user must understand the program and
> especially the math related to what the program is modeling.
>
> Blaming the program for giving you the "wrong" answer is like blaming
> the tires for hitting the guard rail because you exceeded their limits.
>   Those limits are not the same under varying conditions and must be
> filtered by experience and understanding.
>
> tom
> K0TAR

I've found it in my best interest to check the consistency of results
in various ways, whenever I can. Often there's more than one way to
think about a problem, and if the answers I get differ, I want to know
why. Until I can resolve the differences, I distrust both (or all...)
answers. I also like to have an idea about the tolerance on the
answers, and many programs (and formulas you use to calculate answers
for yourself) don't give much of a clue about the tolerance. Some are
"exact," and some should be considered only approximations, but often
they don't bother to tell you which. One example is formulas for
calculating the impedance of TEM transmission lines; it's common to
see, for air-dielectric two-wire line, Z0=276*log10(2D/d), but this is

an approximation whose error becomes significant as d approaches D. Even the better formula, Z0=120invcosh(D/d), is not exact: the 120 isn't exactly correct, there's no consideration of finite conductor resistance (and resulting skin depth), and there's no consideration of the atmospheric pressure and relative humidity...

I mostly agree with Tom: don't expect the program, or formula, to know how you are going to misapply it. Try to be aware of what the answers you get imply. Learn the limits of your tools (programs; formulas), and apply them wisely so they will serve you well.

Do I get stung by my own foolishness in not paying proper attention to things like this? You bet I do! Just last night, I entered a coil into the Hamwaves inductance calculator and it was happy to give me an answer. The coil? Ten turns of 1mm wire in a coil 10mm diameter and 10mm long... Duh, that's a 1mm winding pitch and the turns will short together. I didn't think to check that at first. The calculator complains and won't give you an answer if the pitch is less than the wire diameter, but not if it's just equal. Considering the same very useful inductance calculator, I've learned to ignore the answer for the effective shunt stray capacitance: it in general doesn't come close to matching the value calculated from the self-resonance and the inductance. To see what I mean, try entering D=10mm, N=10, len.=20mm, d=1mm, and check what C(L,p) is reported. Now try changing D in 1mm increments up and down. OK, so I don't trust the reported C(L,p) value, but because I've checked several cases of all the other reported values against measurements of actual coils and against one or two other programs I use, I've learned to trust those other reported values, within some tolerance (that's a lot looser than the reported precision in the calculator!). -- I don't mean to pick on that inductance calculator, just to use it to illustrate what applies to pretty much all calculation programs and formulas.

Cheers,
Tom

1509. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 20:16:55 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <57b06875-6451-457a-aff3-b847f42edb1d@32g2000prq.googlegroups.com>
Source record: 9909

On May 12, 12:58 pm, K7ITM <k7...@msn.com> wrote:
...
> To see what I mean, try entering D=10mm, N=10, len.=20mm,
> d=1mm, and check what C(L,p) is reported. Now try changing D in 1mm
> increments up and down. OK, so I don't trust the reported C(L,p)
> value, ...

OK, it also helps to RTFM. The text down below the inductance calculator explains about this some. Also, I should have said that you need to set the "design frequency" to something low (e.g. 10MHz) to see the effect. However, the text suggests that C(L,p) value would be larger than expected...and I've also seen it for some coils to be considerably smaller. So I end up, then, not finding the lumped model including C(L,p) being very useful for the things I do, where I want a model that gives me _decent_ agreement over a broader frequency range, rather than perhaps more exact agreement over a very limited frequency range (as happens when the reported value of C(L,p) gets very large; try "design frequency" = 1MHz for that coil).

Cheers,
Tom

1510. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 20:35:24 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5cb85954-76ce-4d7e-9c75-18a7d4c936a3@y6g2000pra.googlegroups.com>
Source record: 9910

On May 12, 3:16 pm, K7ITM <k7...@msn.com> wrote:
> On May 12, 12:58 pm, K7ITM <k7...@msn.com> wrote:
> ...
>
> > To see what I mean, try entering D=10mm, N=10, len.=20mm,
> > d=1mm, and check what C(L,p) is reported. Now try changing D in 1mm
> > increments up and down. OK, so I don't trust the reported C(L,p)
> > value, ...
>
> OK, it also helps to RTFM. The text down below the inductance
> calculator explains about this some. Also, I should have said that
> you need to set the "design frequency" to something low (e.g. 10MHz)
> to see the effect. However, the text suggests that C(L,p) value would
> be larger than expected...and I've also seen it for some coils to be
> considerably smaller. So I end up, then, not finding the lumped model
> including C(L,p) being very useful for the things I do, where I want a
> model that gives me _decent_ agreement over a broader frequency range,
> rather than perhaps more exact agreement over a very limited frequency
> range (as happens when the reported value of C(L,p) gets very large;
> try "design frequency" = 1MHz for that coil).
>
> Cheers,
> Tom

Remember, I have always specified that one does not go beyond the
units supplied by Maxwell, Maxwell did not use lumped loads. It is
stipulated
that equilibrium is paramount as soon as you see the "=" sign. Thus I
can say I am persueing exactnes or accuracy and not fudging.It was
when Maxwell followed the edict of the "equal" sign that he was forced
to add the particle elevation vector by the addition of displacement
current even tho
he could not describe the addition. To him it was a mathematical
equation and nothing else and without explanation of the process.
Art

1511. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 20:36:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9e9b5d8d-89d4-428d-a29f-96d19b9958ec@u20g2000pru.googlegroups.com>
Source record: 9911

On May 12, 3:29 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 12, 12:10 pm, K1TTT <k1...@arrl.net> wrote:
>
> > On May 11, 8:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > When an array is
> > > in equilibrium then Maxwell's equations are exact.
>
> > maxwell's equations are ALWAYS exact, it is digital models that are
> > inexact and have limitations due to the approximations made and the
> > numeric representations used.
>
> On this I have total agreement. The moment one strays from the concept of equilibrium is
when we expose ourselves to errors.
> Regards
> Art

ok, so you DO agree that maxwell's equations that make no mention of
particles like neutrinos, gravity, coriolis forces, or levitation ARE
correct! And therefor you must agree that the representation of
gauss's law encapsulated in maxwell's equations, WITHOUT an explicit t
in it must be correct! You must also be admitting that your
optimization experiments are full of errors. wow, now its time to go
and rejoice, art has finally come around to the real world!

1512. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 20:49:00 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <cb5b6edf-87fa-4be3-933c-d6eb4022579e@23g2000pre.googlegroups.com>
Source record: 9912

On May 12, 3:16 pm, K7ITM <k7...@msn.com> wrote:
> On May 12, 12:58 pm, K7ITM <k7...@msn.com> wrote:
> ...
>
> > To see what I mean, try entering D=10mm, N=10, len.=20mm,
> > d=1mm, and check what C(L,p) is reported. Now try changing D in 1mm
> > increments up and down. OK, so I don't trust the reported C(L,p)
> > value, ...
>
> OK, it also helps to RTFM. The text down below the inductance
> calculator explains about this some. Also, I should have said that
> you need to set the "design frequency" to something low (e.g. 10MHz)
> to see the effect. However, the text suggests that C(L,p) value would
> be larger than expected...and I've also seen it for some coils to be
> considerably smaller. So I end up, then, not finding the lumped model
> including C(L,p) being very useful for the things I do, where I want a
> model that gives me _decent_ agreement over a broader frequency range,
> rather than perhaps more exact agreement over a very limited frequency
> range (as happens when the reported value of C(L,p) gets very large;
> try "design frequency" = 1MHz for that coil).
>
> Cheers,
> Tom

Again I state. If you are using Maxwell equations you cannot stray
from the units supplied.Hams do not follow the rules with respect
to antennas so approximations are literally garranteed.
Using Maxwells equations alone you have the presence of point
radiation. With a single point radiation the rules of physics state
that radiation limits is in the form of a sphere. If one states you
cannot have a sphere of radiation they are breaking all the laws of
physics and I certainly had no part in the making of the rules.
Regards
Art

1513. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 21:07:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f0f90f8b-cb66-42f2-a0b0-6bb9f19d951f@k19g2000yqm.googlegroups.com>
Source record: 9913

On May 12, 4:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 12, 3:16 pm, K7ITM <k7...@msn.com> wrote:
>
>
>
>
>
> > On May 12, 12:58 pm, K7ITM <k7...@msn.com> wrote:
> > ...
>
> > > To see what I mean, try entering D=10mm, N=10, len.=20mm,
> > > d=1mm, and check what C(L,p) is reported. Now try changing D in 1mm
> > > increments up and down. OK, so I don't trust the reported C(L,p)
> > > value, ...
>
> > OK, it also helps to RTFM. The text down below the inductance
> > calculator explains about this some. Also, I should have said that
> > you need to set the "design frequency" to something low (e.g. 10MHz)
> > to see the effect. However, the text suggests that C(L,p) value would
> > be larger than expected...and I've also seen it for some coils to be
> > considerably smaller. So I end up, then, not finding the lumped model
> > including C(L,p) being very useful for the things I do, where I want a
> > model that gives me _decent_ agreement over a broader frequency range,
> > rather than perhaps more exact agreement over a very limited frequency
> > range (as happens when the reported value of C(L,p) gets very large;
> > try "design frequency" = 1MHz for that coil).
>
> > Cheers,
> > Tom
>
> Again I state. If you are using Maxwell equations you cannot stray
> from the units supplied.Hams do not follow the rules with respect
> to antennas so approximations are literally garranteed.
> Using Maxwells equations alone you have the presence of point
> radiation. With a single point radiation the rules of physics state
> that radiation limits is in the form of a sphere. If one states you
> cannot have a sphere of radiation they are breaking all the laws of
> physics and I certainly had no part in the making of the rules.
> Regards
> Art- Hide quoted text -
>
> - Show quoted text -

you can have a spherically symetric static electric field as is easily shown by gauss's law. but in order to have 'radiation' (implying em wave propagating through space) you must have movement of some kind, that immediately removes the spherical symetry by creating an axis defined by the direction of movement. this is why even the theoretical infinitesimal dipole still produces a doughnut shaped field in free space.

1514. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 21:16:04 UTC
From: nm5k@wt.net
Message-ID: <5b21d133-79e4-4734-91b5-a10cd624b914@g21g2000yqk.googlegroups.com>
Source record: 9914

On May 12, 3:49 pm, Art Unwin <arthurun...@gmail.com> wrote:

>
> Again I state. If you are using Maxwell equations you cannot stray
> from the units supplied.Hams do not follow the rules with respect
> to antennas so approximations are literally garranteed.

Maybe this is good.. I have noticed my antennas tend to actually
work as radiators of RF, where as most of yours seem to prefer
to turn it to heat. :/ I think Maxwell must be taking you for a big
ride. I bet he's up there is the land of the big RF just laughing his
head off at all this silly jibber jabber you keep blaming him for.

> Using Maxwells equations alone you have the presence of point
> radiation. With a single point radiation the rules of physics state
> that radiation limits is in the form of a sphere. If one states you
> cannot have a sphere of radiation they are breaking all the laws of
> physics and I certainly had no part in the making of the rules.
> Regards
> Art

How many cases of a single point of radiation have you seen
in the real world, using real world antennas? This is not a trick
question.

1515. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 21:21:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D774ADDDAB73nonenowhere@61.9.191.5>
Source record: 9915

lu6etj <lu6etj@gmail.com> wrote in
news:87db91c1-3b5f-4c15-b58e-d55c73e10eb1@r11g2000yqa.googlegroups.com:

> Hi
>
> I found it (thank you to all for your helping)
>
> The name of the feeding system I was looking for is:" Balanced
> Capacitive Matching", and as Ralph Mowery said, it is a system
> patented by the Mosley company see =>
> http://www.mosley-electronics.com/page%20files/faq.htm for
> explanations.

Miguel,

I browsed your reference.

The text following "MOSLEY TRAP MASTER AND POWER MASTER SERIES... A Discussion of Beam Antenna Feed Systems" is typical BS that comes from antenna manufacturers with more interest in taking your money than an understanding of how things work.

For example, the justification of unbalanced feed of the split dipole is sheer technical nonsense.

Owen

Owen

1516. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 21:32:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b7abc0c1-143e-4d1f-bda3-de188401c2e2@37g2000yqm.googlegroups.com>
Source record: 9916

On May 11, 4:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:ee8f3e27-bfcc-43a7-b818-fc154ce59077@k19g2000yqm.googlegroups.com...
> On May 10, 7:41 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> But the source of sound is an increase of the pressure.
> >> The source of electric waves is an increase of the voltage.
>
> >> The voltage increases at the ends of a dipole.
>
> >> The electric waves and sound propagate in metal wires, but with different
> > speeds.
> >> Are electric waves in a wire also transversal?
> >yes.
>
> " As the wave propagates along the line, it is accompanied by currents which
> flow longitudinally in the conductors".
> From:http://www.answers.com/topic/electromagnetic-wave-transmission
>
> In reality no pure transversal waves. Such are only possible in the math.
> S*

but as dilbert's trolls know, numbers create reality, not the other
way around. if you can't describe it in a formula, it can't exist.
and yes, while the current moves longitudinally along the wire, the
fields are transverse. look at the formulas, they apply to the wire
also. they just get more complex because you have to take into
account the boundry conditions at the interface between the wire and
what is around it... something that freshman physics and calculus are
not enough to handle.

1517. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 21:57:19 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <43484fb0-380c-4cec-948a-7005951a29b8@i10g2000yqh.googlegroups.com>
Source record: 9917

On May 11, 9:23 pm, tom <news4...@taring.org> wrote:
> I don't know what the problem is, Cecil, it looks perfectly normal to
> me.

Yep, one of its claims to fame is that it passes all the geometry and
segmentation checks that EZNEC runs. However, it does violate the
"spacing of elements" admonition in the manual.
--
73, Cecil, w5dxp.com

1518. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 22:00:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D7751721DDBFnonenowhere@61.9.191.5>
Source record: 9918

I read on their web page for some more BS.

In explaining why their traps are lossless:

"Gain is a function of element spacing and boom length and not what constitutes an element. The published gain figures for our products are dBd, actual measured gain. Antennas which use other forms of trapping such as linear loading, poor trap copies, baluns or matching devices have inherit loss. "

So, all these things have inherent loss, but not their traps.

Fact is that GAIN is reduced by LOSS, anywhere and everywhere in the system, dB for dB. This includes conductor losses, dielectric losses, and trap losses which they exclude from their definition.

Owen

1519. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-12 23:41:54 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <75b31838-21fe-4e5e-be6e-9856a7263b8b@b7g2000yqk.googlegroups.com>
Source record: 9919

On 12 mayo, 19:00, Owen Duffy <n...@no.where> wrote:
> I read on their web page for some more BS.
>
> In explaining why their traps are lossless:
>
> "Gain is a function of element spacing and boom length and not what
> constitutes an element. The published gain figures for our products are
> dBd, actual measured gain. Antennas which use other forms of trapping such
> as linear loading, poor trap copies, baluns or matching devices have
> inherit loss. "
>
> So, all these things have inherent loss, but not their traps.
>
> Fact is that GAIN is reduced by LOSS, anywhere and everywhere in the
> system, dB for dB. This includes conductor losses, dielectric losses, and
> trap losses which they exclude from their definition.
>
> Owen

As I said: "I wanted to discover what was the supporting idea behind
that
feeding system for its designers"

Defend commercial stuff and his claims It is not my job (I do not
trust enough in all of them), I am an Amateur :>) but seems to me that
their concept it is not opposed to my modest theoretical knowledge
neither my simulations exercises in 4NEC2 (their "numbers" partially
agree with mine, although I have not simulated exactly a Mosley
antenna model).
Now I am only interested in validate or negate the especific technical
concept and explanation given, from a scientific perspective.

Proposition =>. Is it possible match the impedance of some Yagi
antennas lengthening the driven element and canceling its inductive
reactance splitting the element and adding series caps?
Can be made these caps with special pieces of insulated wire
introduced in element tube?.

Try it... lenghten in a NEC simulation the driven element and cancel
inductive reactance => impedance raises and gain stays (I used
"3YAGI20.NEC" from 4NEC2 examples provided with Arie soft, for
testing).
In my test, raisen length from 5.12 m to 5.85 m per leg, Zin raises
from 31.8 + j2 ohm to 50.9 + j150 ohm and gain stays in 12 dBi (with a
fast ground and 15 m height).

73

Miguel Ghezzi LU6ETJ

1520. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 00:20:46 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hsfgku$e9d$1@news.jpl.nasa.gov>
Source record: 9920

K1TTT wrote:

> you can have a spherically symetric static electric field as is easily
> shown by gauss's law. but in order to have 'radiation' (implying em
> wave propagating through space) you must have movement of some kind,
> that immediately removes the spherical symetry by creating an axis
> defined by the direction of movement. this is why even the
> theoretical infinitesimal dipole still produces a doughnut shaped
> field in free space.

That's a very clever qualitative explanation of, for, instance, why isotropic antennas cannot exist. (without resorting to things like the Hairy Ball Theorem, which is great for explaining polarization)

1521. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 01:04:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D77709645C69nonenowhere@61.9.191.5>
Source record: 9921

Owen Duffy <none@no.where> wrote in
news:Xns9D7751721DDBFnonenowhere@61.9.191.5:

Ok, since you are discussing impedance matching, what was the effect on
VSWR bandwidth.

It seems to me that as you go lower in frequency, the inductive reactance
at the feedpoint becomes less and the series stub reactance becomes
greater, so one aggravates the other.

The question is whether the outcome is narrower than desired or available
with other matches.

Because Mosely's explanation contains so much BS, I have no faith in
anything they have said.

Owen

1522. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 01:07:27 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hsfjcgjrk1@news.jpl.nasa.gov>
Source record: 9922

lu6etj wrote:
> On 12 mayo, 19:00, Owen Duffy <n...@no.where> wrote:
>> I read on their web page for some more BS.
>>
>> In explaining why their traps are lossless:
>>
>> "Gain is a function of element spacing and boom length and not what
>> constitutes an element. The published gain figures for our products are
>> dBd, actual measured gain. Antennas which use other forms of trapping such
>> as linear loading, poor trap copies, baluns or matching devices have
>> inherit loss. "
>>
>> So, all these things have inherent loss, but not their traps.
>>
>> Fact is that GAIN is reduced by LOSS, anywhere and everywhere in the
>> system, dB for dB. This includes conductor losses, dielectric losses, and
>> trap losses which they exclude from their definition.
>>
>> Owen
>
> As I said: "I wanted to discover what was the supporting idea behind
> that
> feeding system for its designers"
>
> Defend commercial stuff and his claims It is not my job (I do not
> trust enough in all of them), I am an Amateur :>) but seems to me that
> their concept it is not opposed to my modest theoretical knowledge
> neither my simulations exercises in 4NEC2 (their "numbers" partially
> agree with mine, although I have not simulated exactly a Mosley
> antenna model).
> Now I am only interested in validate or negate the especific technical
> concept and explanation given, from a scientific perspective.
>
> Proposition =>. Is it possible match the impedance of some Yagi
> antennas lengthening the driven element and canceling its inductive
> reactance splitting the element and adding series caps?
> Can be made these caps with special pieces of insulated wire
> introduced in element tube?.

A worthy goal.. There's countless schemes for feeding, most developed
empirically, and all probably work about the same, but have some aspect
that is convenient for manufacture, installation, patent avoidance; and
a lot of them are just marketing sizzle (Now! with brigher color paint!
our patented 10 mm bolt with 1.618 mm threads in the Golden Ratio is

available exclusively on our Whiz-Bang model 32 antenna! Worked all 5
boroughs of NY from the top of the Empire State Building on 40m!, etc.)

>
> Try it... lenghten in a NEC simulation the driven element and cancel
> inductive reactance => impedance raises and gain stays (I used
> "3YAGI20.NEC" from 4NEC2 examples provided with Arie soft, for
> testing).
> In my test, raisen length from 5.12 m to 5.85 m per leg, Zin raises
> from 31.8 + j2 ohm to 50.9 + j150 ohm and gain stays in 12 dBi (with a
> fast ground and 15 m height).

Running that model in free space gives a forward gain of 8.13dBi and a
f/b of about 26.5 dB, with a couple of sidelobes at 115 degrees off
boresight at about 29 dB down.

making the change you give, changes the forward gain to 8.11 dBi
(insignificantly different), but the rear lobes get bigger: The side
lobe is now 25 dB down (instead of 29), and the back lobe is at 24dB down.

Still not a bad F/B, though.

>
Changing the length of the elements changes the relative phases and
magnitudes of the currents in the elements. You can have pretty big
changes without affecting gain very much.

However, what *will* go bad in a hurry is front/back or sidelobe
performance. The "cancellation" of the back and side lobes depends on
the phasing of the currents.

So, if the goal is "reasonable gain" in the forward direction and "easy
to build a matching network for" that's a valid strategy.

Just for grins, here are the currents in the center of each element:
5.85m leg 5.15m
R (wire2,seg62) 0.27 + j0.07(0.30< 70) -0.3 +j 0.75 (1.3<111)
De(wire1,seg21) 0.39 - j1.45(0.51<-75) 1.62 -j 1.03 (3.1<-32.5)
D (wire3,seg103) -1 + j0.05(0.45<152) -1.2 -j 0.27 (1.9<-167)

(mag<phase)

A couple things are interesting.. the overall magnitudes of the currents
are lower for the 5.85m version, but that's because it's excited with
1Volt, so the higher feedpoint Z means lower total current.

What's interesting is looking at the relative currents and phases:
The 5.85 has almost equal magnitudes, while the 5.15 has more current in
the driven element, and very much lower in the rear element.

The 5.15 meter has about 143 degrees phase shift from reflector to
driven, and then another 135 degrees from driven to director.
The 5.85 has 145 degree from reflector to driven, and 133 degrees from
driven to director.

That's pretty close in phase, which is why the forward gain is pretty much the same.. the wavefronts line up nicely. It's the different current magnitudes that are ruining the back lobes. A current magnitude error of 10% changes the forward gain by about 0.4dB. But that same error can turn a -30dB side lobe into a -10dB sidelobe.

1523. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 01:12:06 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hsfjl6kdr1@news.jpl.nasa.gov>
Source record: 9923

Owen Duffy wrote:
> Owen Duffy <none@no.where> wrote in
> news:Xns9D7751721DDBFnonenowhere@61.9.191.5:
>
> Ok, since you are discussing impedance matching, what was the effect on
> VSWR bandwidth.
>
> It seems to me that as you go lower in frequency, the inductive reactance
> at the feedpoint becomes less and the series stub reactance becomes
> greater, so one aggravates the other.
>
> The question is whether the outcome is narrower than desired or available
> with other matches.
>
> Because Mosely's explanation contains so much BS, I have no faith in
> anything they have said.
>

Aside from marketing BS..

Owen raises a good point. You bring the feedpoint Z from 31.8+j2 to
51+j150. Resonating the j150 with a -j150 is fine, but now,you've
effectively got a resonant circuit with moderately high Q, or, at the
very least, more circulating power between matching network and antenna.

1524. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 02:14:07 UTC
From: tom <news4792@taring.org>
Message-ID: <4beb606c$0$50146$8046368a@newsreader.iphouse.net>
Source record: 9924

On 5/12/2010 2:26 PM, Art Unwin wrote:
> the element resonance. I wouldn't be surprised if the next generation
> moved away from the present
> algerithms and rely purely on number crunching to obtain systems in
> equilibrium. I personaly believe

WTF? Number crunching. Algorithms. Treated as separable.

What an astonishing idea.

tom
K0TAR

1525. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 02:28:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4beb63b7$0$50146$8046368a@newsreader.iphouse.net>
Source record: 9925

On 5/12/2010 3:16 PM, K7ITM wrote:
> On May 12, 12:58 pm, K7ITM<k7...@msn.com> wrote:
> ...
>> To see what I mean, try entering D=10mm, N=10, len.=20mm,
>> d=1mm, and check what C(L,p) is reported. Now try changing D in 1mm
>> increments up and down. OK, so I don't trust the reported C(L,p)
>> value, ...
>
> OK, it also helps to RTFM. The text down below the inductance
> calculator explains about this some. Also, I should have said that
> you need to set the "design frequency" to something low (e.g. 10MHz)
> to see the effect. However, the text suggests that C(L,p) value would
> be larger than expected...and I've also seen it for some coils to be
> considerably smaller. So I end up, then, not finding the lumped model
> including C(L,p) being very useful for the things I do, where I want a
> model that gives me _decent_ agreement over a broader frequency range,
> rather than perhaps more exact agreement over a very limited frequency
> range (as happens when the reported value of C(L,p) gets very large;
> try "design frequency" = 1MHz for that coil).
>
> Cheers,
> Tom
>
>

You are amusing in an engineer unix geek kind of way. Just the kind of
thing that annoyed my ex.

tom
K0TAR

1526. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 02:32:14 UTC
From: tom <news4792@taring.org>
Message-ID: <4beb64ac$0$639$8046368a@newsreader.iphouse.net>
Source record: 9926

On 5/12/2010 3:49 PM, Art Unwin wrote:
>
> Again I state. If you are using Maxwell equations you cannot stray
> from the units supplied.Hams do not follow the rules with respect

"stray from the units"? How can one stray? All the units we are
talking about here are freely convertible.

Is this now religion?

tom
K0TAR

1527. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 04:45:08 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <e57e2fbf-75a6-4014-a190-5fb88c0c3a11@e1g2000yqe.googlegroups.com>
Source record: 9927

On 12 mayo, 22:12, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Owen Duffy wrote:
> > Owen Duffy <n...@no.where> wrote in
> >news:Xns9D7751721DDBFnonenowhere@61.9.191.5:
>
> > > Ok, since you are discussing impedance matching, what was the effect on
> > > VSWR bandwidth.
>
> > > It seems to me that as you go lower in frequency, the inductive reactance
> > > at the feedpoint becomes less and the series stub reactance becomes
> > > greater, so one aggravates the other.
>
> > > The question is whether the outcome is narrower than desired or available
> > > with other matches.
>
> > > Because Mosely's explanation contains so much BS, I have no faith in
> > > anything they have said.
>
> Aside from marketing BS..
>
> Owen raises a good point. You bring the feedpoint Z from 31.8+j2 to
> 51+j150. Resonating the j150 with a -j150 is fine, but now,you've
> effectively got a resonant circuit with moderately high Q, or, at the
> very least, more circulating power between matching network and antenna.- Ocultar texto
de la cita -
>
> - Mostrar texto de la cita -

Very good and detailed análisis Jim.

Owen point it is also good, but seems to me it is a little odd biased
by the others claims of Mosley people :>)
I think that if Owen "forget Mosley" perhaps he could give another
chance to the system itself. For example => not all directive antennas
needs a great bandwidth...

However 4NEC2 simulation seem to favor the system we are analyzing.
Adding an ideal reactance of -155 ohms coarsely in the first segment
to the right of the central segment of mentioned provided 4NEC2 model
with lengthen driven element and doing a 13 to15 MHz frequency sweep I
got a lightly increment on VSWR bandwidth of approximately 200 kHz and
a decreasing of VSWR at resonance from aprox 1.5:1 to 1:1 (perhaps for
the localization of capacitive reactance on model?).

Finally, maybe I am also a little biased because my third speculation was viable and that made me feel happy, hi hi :>D

73

Miguel Ghezzi LU6ETJ

1528. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 05:06:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kkumu5pp910crakg67pvsfquis6fj88qk3@4ax.com>
Source record: 9928

>On 5/12/2010 2:26 PM, Art Unwin wrote:
>> the element resonance. I wouldn't be surprised if the next generation
>> moved away from the present
>> algerithms and rely purely on number crunching to obtain systems in
>> equilibrium. I personaly believe
>
>WTF? Number crunching. Algorithms. Treated as separable.
>
>What an astonishing idea.

Hi Tom,

It would have been called "coin flipping" by the Indus valley people of Mehrgarh if someone had had the foresight to invent pockets that could hold a dime. Unfortunately, it would be another 6000 years before the first coins were struck. Instead, they flipped mud tablets performing the world's first "binary search:" Is this the solution?

They solved a lot of the state-of-the-art electromagnetics problems back then within two to three tosses. Few disputed their claims (mud is a form of ground) or challenged their accuracies of -50% to +100% for water conductivity (will the Indus overflow this season? - an equilibrium problem of the first order).

It would be that same 6000 years later before algerithms would advance to the point where Archimedes could model equilibrium of water (note its pre-eminence again) in a bath tub. This improved accuracies to -50% to +100% once again (the ancient work had been lost in a flood of the Indus and only recently un-earthed).

Little might have changed since, except that the fluorescence of newsgroup gurus have enlightened modern civilization with advances in accuracies now verging on ï¿½6dB where the pre-eminence of water has been overthrown in favor of photon-stream control. The binary search that was formerly the cornerstone of modeling has been replaced with the unary declaration that is self-proven by having been uttered (or posted to a group that has a vague resemblance to the topic). Hence, the inaccuracies of coins has been wholly removed to yield perfect understanding (within ï¿½6dB, of course).

73's
Richard Clark, KB7QHC

1529. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 05:11:44 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D779A947E29Enonenowhere@61.9.191.5>
Source record: 9929

lu6etj <lu6etj@gmail.com> wrote in news:e57e2fbf-75a6-4014-a190-5fb88c0c3a11@e1g2000yqe.googlegroups.com:

> Adding an ideal reactance of -155 ohms

Bit is not a fixed reactance, it is a transmission line element, and you should model it as that, even if lossless.

Owen

1530. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 06:05:23 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <cs3nu51ndu2oldtj84btorqbv3sj09vrfm@4ax.com>
Source record: 9930

On Wed, 12 May 2010 22:06:49 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>Little might have changed since, except that the fluorescence of
>newsgroup gurus have enlightened modern civilization with advances in
>accuracies now verging on ï¿½6dB where the pre-eminence of water has
>been overthrown in favor of photon-stream control. The binary search
>that was formerly the cornerstone of modeling has been replaced with
>the unary declaration that is self-proven by having been uttered (or
>posted to a group that has a vague resemblance to the topic). Hence,
>the inaccuracies of coins has been wholly removed to yield perfect
>understanding (within ï¿½6dB, of course).

That's a fair description of the digital part of antenna design, but
prior to the invention of computing, all such antennas were analog in
nature. The ancient pagans, that found the ideal size and shape of
trees necessary to obtain the attention of the gods were using analog
cut-n-try techniques. Given sufficient time and trees, the design was
eventually optimized.

Somewhat later, the Romans and Greeks discovered that the E and H
directions, the ratio of which was defined by the golden section.
Again, this was not a digital model, but determined with analog
techniques. Once the ratios were accurately determined, the resultant
telephone pole like structure could be used for everything from art to
executions. One of the reasons the Roman Empire lasted so long is
that they didn't have a symbol for zero, thus avoiding the divide by
zero problem. In any case, the design was demonstratively functions,
as installing the design on a hill top, would invariably draw
lightning.

After about a millennium, people started running out of hilltops and
tall trees, and found it more convenient to produce their own
lightning. The previously functional structures were wrapped in
metallic wires and waved around a magnet, thus resulting in home made
lightning. Calculations were again attempted, but since the zero had
been invented, none of the math would work. Once again, civilization
rested on the tried and true analog method of cut-n-try.

Modern antenna design followed the same analog patterns. With the aid
of the analog slide rule, accuracy could be improved to about 2
significant figures. That worked fine until the invention of the
digital computer. Suddenly, 2 sig fig was not enough. The digital
computer could calculate to amazing levels of precision and suddenly
everything had to conform to this standard. Instead of "cut to fit"
and "tweak and tune" it was now necessary to justify the cost of the

new digital computers with absurd accuracies. Good enough lasted only until the next model computer.

So, here we are, debating the relative merits of the umpteenth decimal place, splitting hairs multiple times, and digitally modeling to quantum levels. While useful for justifying the computers, the resultant antennas look roughly the same as the old cut-n-try models designed with an analog slide rule.

Whatever your vision of modeling history, one historical observation remains constant. One must always suffer before enlightenment and this newsgroup provides that function.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

1531. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 06:42:39 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <90c5c494-45a0-476c-8f9e-c331fa6152c9@b7g2000yqk.googlegroups.com>
Source record: 9931

On 13 mayo, 02:11, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote in news:e57e2fbf-75a6-4014-a190-
> 5fb88c0c3...@e1g2000yqe.googlegroups.com:
>
> > > Adding an ideal reactance of -155 ohms
>
> Bit is not a fixed reactance, it is a transmission line element, and you
> should model it as that, even if lossless.
>
> Owen

;=D Easy and quick 50 ohm transmission line 0.05121 lambda (-150
ohms) replacement for old fix reactance in the same segment => ¡Same
result...! and now... I'm go to ZZZZZ

73

Miguel

1532. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 07:29:13 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bebaa4f$0$2607$65785112@news.neostrada.pl>
Source record: 9932

"K1TTT" <k1ttt@arrl.net> wrote
news:b7abc0c1-143e-4d1f-bda3-de188401c2e2@37g2000yqm.googlegroups.com...
On May 11, 4:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> But the source of sound is an increase of the pressure.
> >> The source of electric waves is an increase of the voltage.
>
> >> The voltage increases at the ends of a dipole.
>
> >> The electric waves and sound propagate in metal wires, but with
> >> different
> > speeds.
> >> Are electric waves in a wire also transversal?
> >yes.
>
>> " As the wave propagates along the line, it is accompanied by currents
>> which
> flow longitudinally in the conductors".
> From:http://www.answers.com/topic/electromagnetic-wave-transmission
>
>> In reality no pure transversal waves. Such are only possible in the math.
> S*

>but as dilbert's trolls know, numbers create reality, not the other
way around. if you can't describe it in a formula, it can't exist.
and yes, while the current moves longitudinally along the wire, the
fields are transverse. look at the formulas, they apply to the wire
also. they just get more complex because you have to take into
account the boundry conditions at the interface between the wire and
what is around it... something that freshman physics and calculus are
not enough to handle.

You all time about Maxwell's hypothesis. But Maxwell wrote: "The general
type of a stress is not suitable as a representation of a magnetic force,
because a line of magnetic force has direction and intensity, but has no
third qufility indicating any difference between the sides of the line,
which would be analogous to that observed in the case of polarized
light[2]." From: http://en.wikisource.org/wiki/On_Physical_Lines_of_Force

To explain the light polarization Maxwell assumed that the current in the
wire create the magnetic whirl around the wire (The same for displacement
current in the space).

Maxwell's waves are polarized. Now you know that the dipoles are "polarized"
(not waves).

S*

1533. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 07:38:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <68anu5tposflblai83bot7225vei86tubr@4ax.com>
Source record: 9933

On Wed, 12 May 2010 23:05:23 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>Whatever your vision of modeling history, one historical observation
>remains constant. One must always suffer before enlightenment and
>this newsgroup provides that function.

The Aztecs had a far more accurate model of the calendar than Mini NEC
has for antennas.

As for suffering, the Aztecs also experimented with open-heart surgery
- of a sort. Unfortunately like Art, they never perfected nor did
they care about the recovery phase. There were always plenty of
models (aka prisoners) to replace failures. If you could carve, you
had proven your point and a party generally followed.

A superior technology (conquistadors) took over rapidly. The success
rate of open-heart surgery didn't improve, but the population of
models was enlarged to include All of South America (less Brazil where
Portuguese total-heart bypass was attempted), greater Central America,
and portions of North America.

Basically, we have a theory here that has gutted the heart of RF from
electromagnetics to transplant it with magnetics using a broken
stopwatch.

73's
Richard Clark, KB7QHC

1534. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 07:59:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D77B6FBCDF3Dnonenowhere@61.9.191.5>
Source record: 9934

lu6etj <lu6etj@gmail.com> wrote in news:90c5c494-45a0-476c-8f9e-c331fa6152c9@b7g2000yqk.googlegroups.com:

> On 13 mayo, 02:11, Owen Duffy <n...@no.where> wrote:
>> lu6etj <lu6...@gmail.com> wrote in news:e57e2fbf-75a6-4014-a190-
>> 5fb88c0c3...@e1g2000yqe.googlegroups.com:
>>
>> > Adding an ideal reactance of -155 ohms
>>
>> Bit is not a fixed reactance, it is a transmission line element, and
you
>> should model it as that, even if lossless.
>>
>> Owen
>
> ;=D Easy and quick 50 ohm transmission line 0.05121 lambda (-150
> ohms) replacement for old fix reactance in the same segment => Same
> result...! and now... I'm go to ZZZZZ
>
If you specified it in wavelengths, wouldn't that have a constant
reactance.

The real stub is a fixed physical length, and its reactance changes with frequency.

Owen

1535. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 12:11:58 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <4b8e1932-7409-4bae-99f5-1d7aa765e378@b18g2000yqb.googlegroups.com>
Source record: 9935

On 13 mayo, 04:59, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote in news:90c5c494-45a0-476c-8f9e-
> c331fa615...@b7g2000yqk.googlegroups.com:
>
>
>
>
>
> > On 13 mayo, 02:11, Owen Duffy <n...@no.where> wrote:
> >> lu6etj <lu6...@gmail.com> wrote in news:e57e2fbf-75a6-4014-a190-
> >> 5fb88c0c3...@e1g2000yqe.googlegroups.com:
> >
> >> > Adding an ideal reactance of -155 ohms
> >
> >> Bit is not a fixed reactance, it is a transmission line element, and
> you
> >> should model it as that, even if lossless.
> >
> >> Owen
> >
> > ;=D Easy and quick 50 ohm transmission line 0.05121 lambda (-150
> > ohms) replacement for old fix reactance in the same segment => ¡Same
> > result...! and now... I'm go to ZZZZZ
> >
> If you specified it in wavelengths, wouldn't that have a constant
> reactance.
>
> The real stub is a fixed physical length, and its reactance changes with
> frequency.
>
> Owen- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Good morning (here) Mr. Duffy

It was in meters...

Please, remember the proposition to validate or refute. Once validated
(if it is), then we could think about details

You know, I was not trying to find out if it is the best matching
method but whether it is a viable method. For example: In precedent
post I said I was using a "coarsely" reactance for a basic hypothesis
test because my dictionary suggest that word, perhaps I should have

written: rudely? approximately?

SRI, this is not my natural language and I may not adequately explained my goal...

Miguel Ghezzi LU6ETJ

1536. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 12:56:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <88OdnQwjLd55a3bWnZ2dnUVZ_h6dnZ2d@giganews.com>
Source record: 9936

K1TTT wrote:
> On May 11, 8:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
>> When an array is
>> in equilibrium then Maxwell's equations are exact.
>
> maxwell's equations are ALWAYS exact, it is digital models that are
> inexact and have limitations due to the approximations made and the
> numeric representations used.

Inexactness of the solution isn't because the method is digital. The field equations solved by the digital methods simply can't be solved by other methods, except for a relatively few very simple cases. Many non-digital methods were developed over the years before high speed computers to arrive at various approximate solutions, but all have shortcomings. For example, I have a thick file of papers devoted to the apparently simple problem of finding the input impedance of a dipole of arbitrary length and diameter. Even that can't be solved in closed form. Solution by digital methods is vastly superior, and is capable of giving much more accurate results, than solution by any known method.

Roy Lewallen, W7EL

1537. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 13:33:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <BY-dnVRw5KwsYnbWnZ2dnUVZ_gmdnZ2d@giganews.com>
Source record: 9937

Jim Lux wrote:
> Art Unwin wrote:
>> On May 11, 4:02 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>>>
>>
>> Again you preach but obviously you are not qualified to address the
>> issue.
>
> Opinions on qualification differ.
>
>> AO pro by Beasley consistently produces an array in equilibrium when
>> the optimizer is used as well as including the presence of particles
>> dictated by Gauss., The program is of Minninec foundation which
>> obviously does not require the patch work aproach that NEC has.
>
> Interestingly, MININEC uses the very same method of moments that NEC
> does, but, because it's "mini" it has substantial limitations. It was
> developed to fit in small microcomputers of the day. I'd hardly call
> NEC "patchwork". The two programs do use different formulations for the
> basis function defining the current on the segment.
> . . .

That difference in choice of basis functions has profound effects on the limitations and quirks of the program, however -- they're quite different for NEC and MININEC. MININEC is, in fact, able to do some things that NEC can't, despite its simpler formulation.

Roy Lewallen, W7EL

1538. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 13:36:17 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrnhuo06q.pjh.bit-bucket@shell.config.com>
Source record: 9938

On Wed, 12 May 2010 23:05:23 -0700, Jeff Liebermann wrote:
> One must always suffer before enlightenment
> and this newsgroup provides that function.

YIPES!!! A new usenet sig !!!

1539. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 16:14:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6r8ou5la6rdirsrqlorkpfuvii9cdjpob9@4ax.com>
Source record: 9939

On Thu, 13 May 2010 05:11:58 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>I was using a "coarsely" reactance for a basic hypothesis
>test because my dictionary suggest that word, perhaps I should have
>written: rudely? approximately?

Hi Miguel,

Coarse,
Rude,
Approximate
are the correct forms as adjectives that describe things.

Coarsely,
Rudely,
Approximately
are forms of adverbs that describe actions.

Any of the six words are easily understood in context.

I understand your goal. Newsgroup behavior is about speaking more
completely to the larger audience. Thus, other's will add commentary
to your goal.

73's
Richard Clark, KB7QHC

1540. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 17:56:23 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b1aa12e5-9bca-46fc-bd76-8fc6867322ed@p2g2000yqh.googlegroups.com>
Source record: 9940

On 13 mayo, 13:14, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 13 May 2010 05:11:58 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >I was using a "coarsely" reactance for a basic hypothesis
> >test because my dictionary suggest that word, perhaps I should have
> >written: rudely? approximately?
>
> Hi Miguel,
>
> Coarse,
> Rude,
> Approximate
> are the correct forms as adjectives that describe things.
>
> Coarsely,
> Rudely,
> Approximately
> are forms of adverbs that describe actions.
>
> Any of the six words are easily understood in context.
>
> I understand your goal. Newsgroup behavior is about speaking more
> completely to the larger audience. Thus, other's will add commentary
> to your goal.
>
> 73's
> Richard Clark, KB7QHC

Thank you very much Richard I am happy to know it:

When I translate a ham technical article from spanish to english it is
worse because I have not any feedback to check if it has good sense to
english language readers.
I know you say about newsgropus, and that makes very interesting to me
read this. I like the way in that you squeeze the juice of each
topic :>) Thanks to it I have understood very good things from all of
you...

73

Miguel

1541. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 18:36:32 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hshgrgucu2@news.jpl.nasa.gov>
Source record: 9942

Richard Clark wrote:
>> On 5/12/2010 2:26 PM, Art Unwin wrote:
>>> the element resonance. I wouldn't be surprised if the next generation
>>> moved away from the present
>>> algerithms and rely purely on number crunching to obtain systems in
>>> equilibrium. I personaly believe
>> WTF? Number crunching. Algorithms. Treated as separable.
>>
>> What an astonishing idea.
>
> Hi Tom,
>
> They solved a lot of the state-of-the-art electromagnetics problems
> back then within two to three tosses. Few disputed their claims (mud
> is a form of ground) or challenged their accuracies of -50% to +100%

> its pre-eminence again) in a bath tub. This improved accuracies to
> -50% to +100% once again (the ancient work had been lost in a flood of
> the Indus and only recently un-earthed).

in
> accuracies now verging on ï¿½6dB where the pre-eminence of water has
> been overthrown in favor of photon-stream control. The binary search

Well, sometime after Archimedes but before today, someone came up with
the idea of logarithms, allow us to talk in dB instead of percentage ratios.

So there have been advances <grin>

1542. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 18:38:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hshgvpucu3@news.jpl.nasa.gov>
Source record: 9941

Owen Duffy wrote:
> lu6etj <lu6etj@gmail.com> wrote in news:e57e2fbf-75a6-4014-a190-
> 5fb88c0c3a11@e1g2000yqe.googlegroups.com:
>
>> Adding an ideal reactance of -155 ohms
>
> Bit is not a fixed reactance, it is a transmission line element, and you
> should model it as that, even if lossless.
>
> Owen
In the Mosley case, judging from the writeup at the link supplied a few
days ago, the series capacitor is sufficiently short (a few inches?),
that it's probably safe to consider it a lumped element. Isn't it just a
wire in the middle of a tube.. essentially a coaxial capacitor.

1543. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 19:47:10 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <bb443573-6dfa-4d7d-9b1f-9c720823ebf0@a34g2000yqn.googlegroups.com>
Source record: 9943

On 13 mayo, 15:38, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Owen Duffy wrote:
> > lu6etj <lu6...@gmail.com> wrote in news:e57e2fbf-75a6-4014-a190-
> > 5fb88c0c3...@e1g2000yqe.googlegroups.com:
>
> >> Adding an ideal reactance of -155 ohms
>
> > Bit is not a fixed reactance, it is a transmission line element, and you
> > should model it as that, even if lossless.
>
> > Owen
>
> In the Mosley case, judging from the writeup at the link supplied a few
> days ago, the series capacitor is sufficiently short (a few inches?),
> that it's probably safe to consider it a lumped element. Isn't it just a
> wire in the middle of a tube.. essentially a coaxial capacitor.

True. Since delta f is small (aprox 2%), considering it a plain
condenser, reactance variation between 14 and 14.3 MHz is from 150 to
146.6 ohm; considering it a transmission line variation is from 150 to
146.8 -worthless-
In the worst case, thinking it as a coaxial condenser could have a
higher error on cable length calculation more than in the reactancev
variation with frequency.

1544. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 20:50:28 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4bec6636$0$18993$4fafbaef@reader5.news.tin.it>
Source record: 9944

I think: If your assumed numbers were those of the Mosley beam, its
SWR would be 4:1(without losses), and with losses included she would
be ï¿½a very nasty antenna!. I think the ham buyers would not be very
happy with such a poor antenna on both cases :>)

I am not saying that the Mosley antenna has a bad SWR or that is has a low gain.

I am just saying that the explanation they give for their matching arrangement
is not convincing. And this leads me to believe that their matching arrangement
is not equivalent to a simple capacitor in series...

73

Tony I0JX

1545. Re: Feeding System found it => Mosley

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-13 20:52:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dgpou5ltrfeuap3ib7cj53d3d859br7ee5@4ax.com>
Source record: 9945

On Thu, 13 May 2010 10:56:23 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>When I translate a ham technical article from spanish to english it is
>worse because I have not any feedback to check if it has good sense to
>english language readers.

Hi Miguel,

Feel free to send me what you are working on for feedback.

73's
Richard Clark, KB7QHC

1546. hot hot

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-14 10:29:37 UTC
From: SEX <bdshwgdhwfvcgc@gmail.com>
Message-ID: <55c3cd0d-19a9-4eff-90fa-ed282d261cdc@g39g2000pri.googlegroups.com>
Source record: 9946

hot kiss 2
http://hotimagesandvideos.blogspot.com/2010/04/hot-kiss-2.html
hot lip kiss1
http://hotimagesandvideos.blogspot.com/2010/04/hot-lip-kiss1.html
hot hug
http://hotimagesandvideos.blogspot.com/2010/04/hot-hug.html
super hot kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-hot-kiss.html
one lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/one-lip-kiss.html
super navel kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-navel-kiss.html
hot train lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-train-lip-kiss.html
hot boobs kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-boobs-kiss.html

1547. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-14 10:51:55 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2f497717-688d-4936-ade0-9fc4376d6a9b@k42g2000yqb.googlegroups.com>
Source record: 9947

On May 13, 3:29 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:b7abc0c1-143e-4d1f-bda3-de188401c2e2@37g2000yqm.googlegroups.com...
> On May 11, 4:26 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
>
>
> > > >> But the source of sound is an increase of the pressure.
> > > >> The source of electric waves is an increase of the voltage.
>
> > > >> The voltage increases at the ends of a dipole.
>
> > > >> The electric waves and sound propagate in metal wires, but with
> > > >> different
> > > > speeds.
> > > >> Are electric waves in a wire also transversal?
> > > >yes.
>
> >> " As the wave propagates along the line, it is accompanied by currents
> >> which
> > > flow longitudinally in the conductors".
> > > From:http://www.answers.com/topic/electromagnetic-wave-transmission
>
> >> In reality no pure transversal waves. Such are only possible in the math.
> > > S*
> > >but as dilbert's trolls know, numbers create reality, not the other
>
> way around. if you can't describe it in a formula, it can't exist.
> and yes, while the current moves longitudinally along the wire, the
> fields are transverse. look at the formulas, they apply to the wire
> also. they just get more complex because you have to take into
> account the boundry conditions at the interface between the wire and
> what is around it... something that freshman physics and calculus are
> not enough to handle.
>
> You all time about Maxwell's hypothesis. But Maxwell wrote: "The general
> type of a stress is not suitable as a representation of a magnetic force,
> because a line of magnetic force has direction and intensity, but has no
> third qufility indicating any difference between the sides of the line,
> which would be analogous to that observed in the case of polarized

> light[2]." From: http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
>
> To explain the light polarization Maxwell assumed that the current in the
> wire create the magnetic whirl around the wire (The same for displacement
> current in the space).
>
> Maxwell's waves are polarized. Now you know that the dipoles are "polarized"
> (not waves).
> S*- Hide quoted text -
>
> - Show quoted text -

of course dipoles are polarized, dipoles = two poles, if you have two
poles you have to have at least 2 points, and 2 points define a line
and that line defines the polarization. qed.

1548. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-14 11:19:57 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ebb529c0-1872-41b4-b5d1-f3d7a8fa58a0@d27g2000yqc.googlegroups.com>
Source record: 9948

On May 13, 8:56 am, Roy Lewallen <w...@eznec.com> wrote:
> K1TTT wrote:
> > On May 11, 8:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
> >> When an array is
> >> in equilibrium then Maxwell's equations are exact.
>
> > maxwell's equations are ALWAYS exact, it is digital models that are
> > inexact and have limitations due to the approximations made and the
> > numeric representations used.
>
> Inexactness of the solution isn't because the method is digital. The
> field equations solved by the digital methods simply can't be solved by
> other methods, except for a relatively few very simple cases. Many
> non-digital methods were developed over the years before high speed
> computers to arrive at various approximate solutions, but all have
> shortcomings. For example, I have a thick file of papers devoted to the
> apparently simple problem of finding the input impedance of a dipole of
> arbitrary length and diameter. Even that can't be solved in closed form.
> Solution by digital methods is vastly superior, and is capable of giving
> much more accurate results, than solution by any known method.
>
> Roy Lewallen, W7EL

quantization of every number in a numeric simulation is but one of the
contributions to inaccuracy. the limitations of the physical model is
another, every modeling program i know of breaks the physical thing
being modeled into small pieces, some with fixed sizes, some use
adaptive methods, but then they all calculate using those small pieces
as if they were a single homogonous piece with step changes at the
edges... that also adds to inaccuracies. the robustness of the
algorithm and the residual errors created are a bit part of getting
more accurate results. There is no doubt that numerical methods have
allowed 'solutions' of many problems that would be extremely difficult
to find closed form solutions for, but they must always be examined
for the acceptibility of the unavoidable errors in the method used.

other non-digital methods also have their limitations. unless you are
using the original differential or integral equations and satisfying
all the boundary conditions, your method will introduce errors.
weather that means you represent an odd shaped solid object by a
sphere, or make other geometic replacements that give you simpler
field configurations, you have introduced errors at some level. you
must of course judge these methods by the same way to determine of the
errors introduced by the simplyfied geometry or other methods used are
acceptible for the problem at hand.

1549. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-14 15:50:47 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hsjrgosap1@news.jpl.nasa.gov>
Source record: 9949

K1TTT wrote:
> On May 13, 8:56 am, Roy Lewallen <w...@eznec.com> wrote:
>> K1TTT wrote:
>>> On May 11, 8:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
>>>> When an array is
>>>> in equilibrium then Maxwell's equations are exact.
>>> maxwell's equations are ALWAYS exact, it is digital models that are
>>> inexact and have limitations due to the approximations made and the
>>> numeric representations used.
>> Inexactness of the solution isn't because the method is digital. The
>> field equations solved by the digital methods simply can't be solved by
>> other methods, except for a relatively few very simple cases. Many
>> non-digital methods were developed over the years before high speed
>> computers to arrive at various approximate solutions, but all have
>> shortcomings. For example, I have a thick file of papers devoted to the
>> apparently simple problem of finding the input impedance of a dipole of
>> arbitrary length and diameter. Even that can't be solved in closed form.
>> Solution by digital methods is vastly superior, and is capable of giving
>> much more accurate results, than solution by any known method.
>>
>> Roy Lewallen, W7EL
>
> quantization of every number in a numeric simulation is but one of the
> contributions to inaccuracy. the limitations of the physical model is
> another, every modeling program i know of breaks the physical thing
> being modeled into small pieces, some with fixed sizes, some use
> adaptive methods, but then they all calculate using those small pieces
> as if they were a single homogonous piece with step changes at the
> edges...

Not all modeling uses step changes. Some modeling approaches use a model description that is continuous at element boundaries (at least for some number of derivatives). For example, a cubic spline has smoothly varying values, first and second derivatives.

The tradeoff in the code is whether you use fewer, better (higher order modeling) chunks or more simpler chunks. For instance, NEC uses a basis function that represents the current in a segment (the chunk) as the combination of a value and two sinusoid sections. Other codes assume the current is uniform over the segment, yet others assume a sinusoidal distribution or a triangle.

This leads to a tradeoff in computational resources required: numerical precision, computational complexity, etc. (lots of simple elements tends to require bigger precision)

I think that for codes hams are likely to encounter, these are pretty subtle differences and irrelevant. A lot of the "computational efficiency" issues are getting smaller, as cheap processor horsepower is easy to come by.

that also adds to inaccuracies. the robustness of the
> algorithm and the residual errors created are a bit part of getting
> more accurate results. There is no doubt that numerical methods have
> allowed 'solutions' of many problems that would be extremely difficult
> to find closed form solutions for, but they must always be examined
> for the acceptibility of the unavoidable errors in the method used.

That's why there's all those "validation of modeling code X" papers out there.

1550. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-15 02:07:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4bee01e4$0$645$8046368a@newsreader.iphouse.net>
Source record: 9950

On 5/14/2010 6:19 AM, K1TTT wrote:
>
> quantization of every number in a numeric simulation is but one of the
> contributions to inaccuracy. the limitations of the physical model is
> another, every modeling program i know of breaks the physical thing
> being modeled into small pieces, some with fixed sizes, some use
> adaptive methods, but then they all calculate using those small pieces
> as if they were a single homogonous piece with step changes at the
> edges... that also adds to inaccuracies. the robustness of the
> algorithm and the residual errors created are a bit part of getting
> more accurate results. There is no doubt that numerical methods have
> allowed 'solutions' of many problems that would be extremely difficult
> to find closed form solutions for, but they must always be examined
> for the acceptibility of the unavoidable errors in the method used.

I will assume that most here are familiar with Simpson's Rule
Integration. This allows one to compute the "area under the curve" of a
function with a fairly simple algorithm. It's as little as 7 statements
using Fortran. And it is quite amazing how accurate the answer can be
with even just a few slices of the curve from start to finish. If used
properly.

Don't think that seemingly large chunks mean poor accuracy. When the
algorithm is good, and the program selects the chunk size well, the
results can be very close to the true answer.

tom
K0TAR

1551. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-15 05:48:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dncsu51nm2flksmbo44j8i0riugv9r08j9@4ax.com>
Source record: 9851

On Fri, 14 May 2010 21:07:32 -0500, tom <news4792@taring.org> wrote:

>Don't think that seemingly large chunks mean poor accuracy. When the
>algorithm is good, and the program selects the chunk size well, the
>results can be very close to the true answer.
>
I recall Simpson's Rule from work about 23 years ago that lead me to
finding more accurate methods in a great compendium of
"Numerical Recipes
The Art of Scientific Computing."
Press, Flannery, Teukolsky, Vetterling,
Cambridge University Press, 1986

which has Simpon's 3/8th Rule, and a more extensive
"Bode's rule... This is exact for polynomials up to and
including degree 5.
"At this point the formulas stop being named
after famous personages, so we will not go
any further. Consult Abramowitz and Stegun
for aditional formulas in the sequence."
The book continues with FORTRAN (my first language) and Pascal (my 9th
or 11th language or dialect by that time) interpretations of a
spectrum of math systems for another 700 pages....

73's
Richard Clark, KB7QHC

1552. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-15 06:02:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6ndsu5pdudq1n1cbf5pui956ve5kq8q8sj@4ax.com>
Source record: 9852

On Fri, 14 May 2010 22:48:57 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

> Cambridge University Press, 1986

Honest, no name dropping here. In fact this citation neatly
dove-tails with a film I just finished watching (god bless streaming
Netflix) prior to this post that was about some of Cambridge's (and
Oxford's, hence Oxbridge's) noted Dons: Cleese, Idle, Chapman, Palin,
and Jones (with some Yank called Gilliam)
"Before the Flying Circus"

Some of these remarkable academics acknowledged, with gratitude, the
groundbreaking work of Stanley Unwin - on par with the Goon Show.

Somehow all these loose ends tie together here - eventually. One has
only to wait....

73's
Richard Clark, KB7QHC

1553. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-16 03:00:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4bef5fd6$0$50147$8046368a@newsreader.iphouse.net>
Source record: 9853

On 5/15/2010 1:02 AM, Richard Clark wrote:
>
> Some of these remarkable academics acknowledged, with gratitude, the
> groundbreaking work of Stanley Unwin - on par with the Goon Show.

Lost on quite a few here I'd think. Who would know who Spike was? Or
what would become of Peter?

tom
K0TAR

1554. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-16 16:41:45 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4bf02052$0$17105$65785112@news.neostrada.pl>
Source record: 9854

U&#65533;ytkownik "Szczepan Bialek" <sz.bialek@wp.pl> napisa&#65533; w wiadomo&#65533;ci
news:4be70958$0$19168$65785112@news.neostrada.pl...
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:aee5366b-1aab-40ef-bbd4-b7ec0e5ea52a@b18g2000yqb.googlegroups.com...
> On May 9, 10:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> "tom" <news4...@taring.org>
>> wrotenews:4be60d7a$0$638$8046368a@newsreader.iphouse.net...
>>
>>
>>
>>> > On 5/8/2010 2:04 PM, Szczepan Bialek wrote:
>>
>> >> Yes. But one end of the dipole may have the better conditions to
>> >> propagate.
>>
>> >>> if it only moves in one direction as it would have
>> >> to in a monopole there is no wave only a simple field.
>>
>> >> I am writing about a dipole with one end visible and the second
>> >> shielded.
>>
>> >> In nature is always as you wrote. The both ands are always "visible".
>>
>> >> Light is always directional. Radio waves can be omnidirectional.
>> >> Of course light is emitted by many dipoles. Radio waves by halve, one,
>> >> two
>> >> (circular polarity) or many (phase radar).
>> >> S*
>>
>>> > Astonishing understanding of the subject.
>>
>>> Light is not coherent. So dipole radiate for very short time.
>> Radio waves are coherent and can be from one source. It is easy to
>> analyse
>> them.
>> Are they transversal?
>> S*
>
>>light can be coherent, what do you think lasers are?
>
> "The most monochromatic sources are usually lasers; such high
> monochromaticity implies long coherence lengths (up to hundreds of

> meters). For example, a stabilized helium-neon laser can produce light
> with coherence lengths in excess of 5 m. Not all lasers are monochromatic,
> however (e.g. for a mode-locked Ti-sapphire laser, ?? ? 2 nm - 70 nm).
> LEDs are characterized by ?? ? 50 nm, and tungsten filament lights exhibit
> ?? ? 600 nm, so these sources have shorter coherence times than the most
> monochromatic lasers". From:
> http://en.wikipedia.org/wiki/Coherence_(physics)
>
> Up to now light is not coherent. But in future who knows.

"As the electrons are undergoing acceleration they radiate electromagnetic energy in their flight direction, and as they interact with the light already emitted, photons along its line are emitted in phase, resulting in a "laser-like" monocromatic and coherent beam. The mirrors show in the sketch below are superfluous, as all the light is emitted in one direction anyway."
From: http://en.wikipedia.org/wiki/Halbach_array

So we have the light like the radio waves: Monocromatic and coherent. But it is not from plain lasers.
S*

1555. Re: DX, RF radiation efficiency, and Orgonite

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-16 22:52:40 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <470bf4e9-6b93-4ad8-85ae-27317d6e6c16@23g2000pre.googlegroups.com>
Source record: 9855

On May 10, 8:04 am, "Irv Finkleman" <fink...@shaw.ca> wrote:
> Have you considered wearing a hat made of aluminum foil? It will protect
> you
> from the Orgone energy raining down through that hole in the ionosphere. :-)
>
> Irv VE6BP
>
> "Jeff Liebermann" <je...@cruzio.com> wrote in message
>
> news:3a3bu51ptcpctgj0j7lbraus9r6m1n5qme@4ax.com...
>
>
>
> > It has come to my attention that my inability to effectively work DX
> > stations might not be due to my baling wire antenna, Romex feed line,
> > broken HF radios, or obnoxious operating style. It's quite possible
> > that someone buried some Orgonite near my QTH, which is interfering by
> > converting my negative energy (RF) into positive energy (good weather,
> > positive attitude, good karma, etc).
>
> > <http://www.orgonite.info>
> >   We have found that tactical deployment of Orgonite
> >   (e.g., "gifting") by throwing, hiding or burying it near
> >   sources of electromagnetic radiation or other pollution
> >   or in polluted areas, such as near cellphone/TV/radio
> >   towers, power plants, in lakes, rivers and ocean harbors,
> >   has a powerful and noticeable effect on the area. The skies
> >   get clearer and return to the deep blue color you remember
> >   from your childhood, complete with normal puffy white clouds.
> >   (etc...)
>
> > Orgonite stones are apparently made by encapsulating quartz crystals
> > or amorphous quartz in casting resin, resulting the required RF
> > neutralizing strange shapes. While I have yet to find any Orgonite in
> > the yard, the digging and exercise seems to have produced some
> > positive energy. Anyway, if you notice that your equipment or
> > location is not working as expected, search for Orgonite crystals like
> > these:
> > <http://www.google.com/images?q=orgonite>
> > <http://www.orgonecrystals.com>
>
> > --
> > Jeff Liebermann   je...@cruzio.com
> > 150 Felker St #D   http://www.LearnByDestroying.com

> > Santa Cruz CA 95060http://802.11junk.com
> > Skype: JeffLiebermann AE6KS 831-336-2558- Hide quoted text -
>
> - Show quoted text -

Orgonite is a dishwasher detergent, isn't it?

1556. Pleasant surprise in the mail today

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-17 21:14:30 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hssbji$g2a$1@news.eternal-september.org>
Source record: 9856

Received the new "Reflections III".
Guess I'll clear some time in my schedule for some reading.
--Wayne
W5GIE

1557. Re: Pleasant surprise in the mail today

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-17 22:20:49 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <8c963e90-d139-425f-8438-f718d817be6c@j36g2000prj.googlegroups.com>
Source record: 9857

On May 17, 2:14 pm, "Wayne" <mygarbage...@verizon.net> wrote:
> Received the new "Reflections III".
> Guess I'll clear some time in my schedule for some reading.
> --Wayne
> W5GIE

This either a Customizable Starwars card game or a new CQ book. Which?

Paul, KD7HB

1558. Re: Pleasant surprise in the mail today

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-18 00:06:29 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hsslm0jnc1@news.eternal-september.org>
Source record: 9858

"pdrahn@coinet.com" <co_farmer@yahoo.com> wrote in message
news:8c963e90-d139-425f-8438-f718d817be6c@j36g2000prj.googlegroups.com...
On May 17, 2:14 pm, "Wayne" <mygarbage...@verizon.net> wrote:
>> Received the new "Reflections III".
>> Guess I'll clear some time in my schedule for some reading.
>> --Wayne
>> W5GIE
>
>This either a Customizable Starwars card game or a new CQ book. Which?
>
>Paul, KD7HB
-
In rec.radio.amateur.antenna.....which would be more likely? :)

1559. Re: Pleasant surprise in the mail today

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-18 00:51:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf1e4aa$0$638$8046368a@newsreader.iphouse.net>
Source record: 9859

On 5/17/2010 4:14 PM, Wayne wrote:
> Received the new "Reflections III".
> Guess I'll clear some time in my schedule for some reading.
> --Wayne
> W5GIE
>
>

Me too.

tom
K0TAR

1560. Re: Pleasant surprise in the mail today

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-18 20:24:30 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hsut1u$b04e$1@tr22n12.aset.psu.edu>
Source record: 9860

Wayne wrote:
> "pdrahn@coinet.com" <co_farmer@yahoo.com> wrote in message
> news:8c963e90-d139-425f-8438-f718d817be6c@j36g2000prj.googlegroups.com...
> On May 17, 2:14 pm, "Wayne" <mygarbage...@verizon.net> wrote:
>>> Received the new "Reflections III".
>>> Guess I'll clear some time in my schedule for some reading.
>>> --Wayne
>>> W5GIE
>> This either a Customizable Starwars card game or a new CQ book. Which?
>>
>> Paul, KD7HB
> -
> In rec.radio.amateur.antenna.....which would be more likely? :)

Must... resist.....urge... to say porn!....

sorry 'bout that.

- 73 de Mike N3LI -

1561. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-18 23:06:56 UTC
From: richardharrison@webtv.net
Message-ID: <25693-4BF31D90-955@storefull-3171.bay.webtv.net>
Source record: 9861

"Sz Bialek wrote:
"Why the dipoles exhibit the directional pattern?".

John D. Ktaus wrote on page 3 of his 1950 efition of "Antennas": Fig. 1-3. a length chart for EM waves from the microscopic to the astronomic. Kraus was a famous radio astromoner. He obviously believed the EM Spectrum was continuous, so do I.

Terman begins his antenna section in his 1955 edition of "Electronic and Radio Engineering" on page 864. He explains and illustrates how vectors form and control the far field radiation pattern of antennas. Polarization is the direction of the electric field in the antenna and in the field produced by the antenna.

Dipoles have nulls at their ends and maxima perpendicular to the conductor as Terman shows in Fig. 23 on page 865,

Today, the postman felivered my eagerly awaited copy of W2DU`s "Reflections III" and I can`t wait to read it either.

Best regards, Richard Harrison, KB5WZI

1562. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 00:46:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4950b3f9-620f-4eef-9c21-9b5c4beb0f6d@d12g2000vbr.googlegroups.com>
Source record: 9862

On May 16, 4:41 pm, "Szczepan Bia³ek" <sz.bia...@wp.pl> wrote:
> U¿ytkownik "Szczepan Bialek" <sz.bia...@wp.pl> napisa³ w
wiadomo¶cinews:4be70958$0$19168$65785112@news.neostrada.pl...
>
>
>
>
>
> > "K1TTT" <k1...@arrl.net> wrote
> >news:aee5366b-1aab-40ef-bbd4-b7ec0e5ea52a@b18g2000yqb.googlegroups.com...
> > On May 9, 10:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >> "tom" <news4...@taring.org>
> >> wrotenews:4be60d7a$0$638$8046368a@newsreader.iphouse.net...
>
> >>> > On 5/8/2010 2:04 PM, Szczepan Bialek wrote:
>
> >> >> Yes. But one end of the dipole may have the better conditions to
> >> >> propagate.
>
> >> >>> if it only moves in one direction as it would have
> >> >> to in a monopole there is no wave only a simple field.
>
> >> >> I am writing about a dipole with one end visible and the second
> >> >> shielded.
>
> >> >> In nature is always as you wrote. The both ands are always "visible".
>
> >> >> Light is always directional. Radio waves can be omnidirectional.
> >> >> Of course light is emitted by many dipoles. Radio waves by halve, one,
> >> >> two
> >> >> (circular polarity) or many (phase radar).
> >> >> S*
>
> >>> > Astonishing understanding of the subject.
>
> >>> Light is not coherent. So dipole radiate for very short time.
> >> Radio waves are coherent and can be from one source. It is easy to
> >> analyse
> >> them.
> >> Are they transversal?
> >> S*
>
> >>light can be coherent, what do you think lasers are?
>

> > "The most monochromatic sources are usually lasers; such high
> > monochromaticity implies long coherence lengths (up to hundreds of
> > meters). For example, a stabilized helium-neon laser can produce light
> > with coherence lengths in excess of 5 m. Not all lasers are monochromatic,
> > however (e.g. for a mode-locked Ti-sapphire laser, ?? ? 2 nm - 70 nm).
> > LEDs are characterized by ?? ? 50 nm, and tungsten filament lights exhibit
> > ?? ? 600 nm, so these sources have shorter coherence times than the most
> > monochromatic lasers". From:
> >http://en.wikipedia.org/wiki/Coherence_(physics)
>
> > Up to now light is not coherent. But in future who knows.
>
> "As the electrons are undergoing acceleration they radiate electromagnetic
> energy in their flight direction, and as they interact with the light
> already emitted, photons along its line are emitted in phase, resulting in a
> "laser-like" monocromatic and coherent beam. The mirrors show in the sketch
> below are superfluous, as all the light is emitted in one direction anyway."
> From:http://en.wikipedia.org/wiki/Halbach_array
>
> So we have the light like the radio waves: Monocromatic and coherent. But it
> is not from plain lasers.
> S*

nothing is perfect. even radio waves are not perfectly monochromatic
and hence not perfectly coherent either. but they are close enough
that we can tell they are the same phenomenon, they are all
electromagnetic waves and obey the same laws.

1563. Re: Pleasant surprise in the mail today

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 01:45:48 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf342cb$0$633$8046368a@newsreader.iphouse.net>
Source record: 9863

On 5/17/2010 7:51 PM, tom wrote:
> On 5/17/2010 4:14 PM, Wayne wrote:
>> Received the new "Reflections III".
>> Guess I'll clear some time in my schedule for some reading.
>> --Wayne
>> W5GIE
>>
>>
>
> Me too.
>
> tom
> K0TAR
>

Walter

I received mine yesterday. Well done.

Thank you for everything in the book. The stories are wonderful. And
so is everything else.

tom
K0TAR

1564. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 06:04:16 UTC
From: richardharrison@webtv.net
Message-ID: <18070-4BF37F60-7@storefull-3172.bay.webtv.net>
Source record: 9864

Art wrote:
"I just completed an experiment with my antenna optimizer program where I had a dipole in free space and where I increased the diameter until it was close to .003 ohms resistive. What this means is the current flow is right at the surface where there is no skin depth penetration involved and it is close to zero material resistance. This means the total resistance is the resistance of the surface encapsulating particles. The radiation was 35 db in a shape close to that of a sphere."

Ask yourself if the exerimental results are reasonable.

According to Terman:
"Radio waves are produced to some extent whenever a wire in open space carries a high-frequency current. The laws governing such radiation are obtained by using Maxwell`s equations to express the fields associated with the wire; when this is done there is found to be a component, termed the radiated field, having a strength that varies inversely with the distance."

The simple very short elemental dipole has a figure of eight pattern cross section and produces a power gain of 1.5 over an isotropic radiator, which produces the same radiation in all directions. 1.5 = about 2 db power gain as 3 db represents about 2X the power.

"Radiation close to that of a sphere" is close to isotropic or uniform in all directions, the standard for 0 db gain, not 35 db.

About the only asvantage of a fat or cylindrical dipole is broader bandwidth than a thin wire dipole which has the same gain, is cheaper, lighter, and has less wind loading.

One beautiful day if Art keeps trying he may have an original idea that works.

Best regards, Richard Harrison, KB5WZI

1565. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 07:57:00 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf399cf$0$19184$65785112@news.neostrada.pl>
Source record: 9865

"K1TTT" <k1ttt@arrl.net> wrote
news:4950b3f9-620f-4eef-9c21-9b5c4beb0f6d@d12g2000vbr.googlegroups.com...
On May 16, 4:41 pm, "Szczepan Bia&#65533;ek" <sz.bia...@wp.pl> wrote:
>
>
>> "As the electrons are undergoing acceleration they radiate
>> electromagnetic
> energy in their flight direction, and as they interact with the light
> already emitted, photons along its line are emitted in phase, resulting in
> a
> "laser-like" monocromatic and coherent beam. The mirrors show in the
> sketch
> below are superfluous, as all the light is emitted in one direction
> anyway."
> From:http://en.wikipedia.org/wiki/Halbach_array
>
> So we have the light like the radio waves: Monocromatic and coherent. But
> it
> is not from plain lasers.
> S*

>nothing is perfect. even radio waves are not perfectly monochromatic
and hence not perfectly coherent either. but they are close enough
that we can tell they are the same phenomenon, they are all
electromagnetic waves and obey the same laws.

Nobody know what the EM waves are. See what Maxwell wrote: "I propose now
to examine magnetic phenomena from a mecha nical point of view, and to
determine what tensions in, or motions of, a medium are capable of producing
the mechanical pheno mena observed. If, by the same hypothesis, we can
connect the phenomena of magnetic attraction with electromagnetic phe nomena
and with those of induced currents, we shall have found a theory which, if
not true, can only be proved to be erroneous by experiments which will
greatly enlarge our knowledge of this part of physics. " From:
http://en.wikisource.org/wiki/On_Physical_Lines_of_Force

Our knowledge is enlarged enough to say:
Now we can tell that light. radio waves and sound are the same phenomenon
and obey the same laws.
S*

1566. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 08:36:38 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf3a31a$0$19181$65785112@news.neostrada.pl>
Source record: 9866

"Richard Harrison" <richardharrison@webtv.net> wrote
news:25693-4BF31D90-955@storefull-3171.bay.webtv.net...
> "Sz Bialek wrote:
> "Why the dipoles exhibit the directional pattern?".
>
> John D. Ktaus wrote on page 3 of his 1950 efition of "Antennas": Fig.
> 1-3. a length chart for EM waves from the microscopic to the astronomic.
> Kraus was a famous radio astromoner. He obviously believed the EM
> Spectrum was continuous, so do I.
>
> Terman begins his antenna section in his 1955 edition of "Electronic and
> Radio Engineering" on page 864. He explains and illustrates how vectors
> form and control the far field radiation pattern of antennas.
> Polarization is the direction of the electric field in the antenna and
> in the field produced by the antenna.

Electric field is along the wire. If antenna has the ball on the end the
electric field is at right angle to tha ball surface.

> Dipoles have nulls at their ends and maxima perpendicular to the
> conductor as Terman shows in Fig. 23 on page 865,

At the ends of the dipole the voltage is doubled (at least).
>
> Today, the postman felivered my eagerly awaited copy of W2DU`s
> "Reflections III" and I can`t wait to read it either.

In meantime read this: http://en.wikipedia.org/wiki/Standing_wave

In Maxwell's hypothesis the electricity is incompressible. Standing waves in
antennas are the experimental prove that the hypothesis is erroneous.

See what Maxwell wrote: "I propose now
to examine magnetic phenomena from a mecha nical point of view, and to
determine what tensions in, or motions of, a medium are capable of producing
the mechanical pheno mena observed. If, by the same hypothesis, we can
connect the phenomena of magnetic attraction with electromagnetic phe nomena
and with those of induced currents, we shall have found a theory which, if
not true, can only be proved to be erroneous by experiments which will
greatly enlarge our knowledge of this part of physics. " From:
http://en.wikisource.org/wiki/On_Physical_Lines_of_Force

In textbooks are prsented all theories and hipothesis.
It is your choose which one do you prefer: EM, photons or like sound.
S*

> Best regards, Richard Harrison, KB5WZI
>

1567. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 08:55:20 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf3a77a$0$19180$65785112@news.neostrada.pl>
Source record: 9867

"Richard Harrison" <richardharrison@webtv.net> wrote
news:18070-4BF37F60-7@storefull-3172.bay.webtv.net...
> Art wrote:
> "I just completed an experiment with my antenna optimizer program where
> I had a dipole in free space and where I increased the diameter until it
> was close to .003 ohms resistive. What this means is the current flow is
> right at the surface where there is no skin depth penetration involved
> and it is close to zero material resistance. This means the total
> resistance is the resistance of the surface encapsulating particles. The
> radiation was 35 db in a shape close to that of a sphere."
>
> Ask yourself if the exerimental results are reasonable.
>
> According to Terman:
> "Radio waves are produced to some extent whenever a wire in open space
> carries a high-frequency current.

The transmissing line is in open space.
It seems that radio waves are produced from ends of the wire where the
voltage is doubled (at least)

> The laws governing such radiation are
> obtained by using Maxwell`s equations to express the fields associated
> with the wire; when this is done there is found to be a component,
> termed the radiated field, having a strength that varies inversely with
> the distance."

Maxwell's equations (wrote by Heaviside) are for the incompressible
electricity. Such electricity create the oscillating magnetic whirl. Such
whirls are transwersal.
The Maxwell's hypothesis is erroneous.

> The simple very short elemental dipole has a figure of eight pattern
> cross section and produces a power gain of 1.5 over an isotropic
> radiator, which produces the same radiation in all directions. 1.5 =
> about 2 db power gain as 3 db represents about 2X the power.
>
> "Radiation close to that of a sphere" is close to isotropic or uniform
> in all directions, the standard for 0 db gain, not 35 db.
>
> About the only asvantage of a fat or cylindrical dipole is broader
> bandwidth than a thin wire dipole which has the same gain, is cheaper,
> lighter, and has less wind loading.

Half waves dipoles or shorter are always the two sources of waves. The
pattern is a rsult of interference of them.

>
> One beautiful day if Art keeps trying he may have an original idea that
> works.

It will be the longitudinal oscilations of electric field.
Best regards,
S*

1568. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 12:31:32 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <91e84bdd-3265-4a44-bb47-aad2709d9521@m4g2000vbl.googlegroups.com>
Source record: 9868

On May 19, 3:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> It seems that radio waves are produced from ends of the wire where the
> voltage is doubled (at least)

The quantum electrodynamics process for the generation of EM waves is
well understood. The electron carriers in the wire are alternately
accelerated and decelerated by the transmit signal energy. During the
acceleration process, electrons absorb energy. During the deceleration
process, electrons emit photons, the quantum particles associated with
the radiated EM waves. Electrons at the ends of a wire dipole are not
accelerated as much as the electrons in the middle of the dipole.
--
73, Cecil, w5dxp.com

1569. How to Test a W9INN 40/80 Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 18:51:07 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-53AE18.13510719052010@news.eternal-september.org>
Source record: 9869

I have an old W9INN (SK) 40/80 Dipole that has worked great; however, I suspect the balan or center feed may be open inside. I would like to know how to test it or how to obtain a replacement.

Anyone know of a source of replacement parts for W9INN antennas?

aa5vu

1570. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 18:51:59 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <081171d7-fe2d-4a33-8bf9-9c56b19d850a@j27g2000vbp.googlegroups.com>
Source record: 9870

On May 19, 1:04 am, richardharri...@webtv.net (Richard Harrison)
wrote:
> Art wrote:
>
> "I just completed an experiment with my antenna optimizer program where
> I had a dipole in free space and where I increased the diameter until it
> was close to .003 ohms resistive. What this means is the current flow is
> right at the surface where there is no skin depth penetration involved
> and it is close to zero material resistance. This means the total
> resistance is the resistance of the surface encapsulating particles. The
> radiation was 35 db in a shape close to that of a sphere."

> Ask yourself if the exerimental results are reasonable.
Why
Reasonable means no change from the deductions made in the past aka
resistance to change.

An experiment is an action which requires an explanation otherwise
there is no reason to do it.
I had no expectations of what the results would be that I would have
to provide an explanation for.

Superconductivity reduces resistance which could correlate with
removal of fields from that which the current is applied. If this is
correct I sq R suggests
increased radiation. This would appear reasonable
If the fields transferred to a nearby medium whether it be a
encapsulating material or just a nearby substance one has transfered
the problem
to one where the fields in a adjacent material is handled and where
the applied power is applied to a member without resistance.
Is that reasonable ? Yes it is. Explanable is another question. This
is the very reason for any experiment
with respect to education. Reasonable means that
it does not meet expectations which, if we are not willing to think
about, means discoveries are impossible.
First question to ask is superconductivity a reality ?
Second is whether antenna programs are to be trusted?
I did the experiment with purchased material and it gave me the above
results which I am sharing.
So the question becomes is it correct and why is it not correct. First
thing to look at obviously is can a field or fields be removed from a
conductor?
In boundary laws if we don't consider the passage
of static particles that enter the boundary compared to those that

leave the boundary then things become awkward because we also know
that we are taking account of flux transitions.
If Gaussian laws state that static particles can become dynamic then
the answer is that fields can
exist beyond the sphere to which current is applied.
Now that is my personal suggested interpretation of what happens to
provide agreement with the experiment findings. Other interpretations
provided could appear more valid.
I am not equipped to comment on the validity of the computer programs
as Maxwells equations do not explicitly explain the mechanics of
radiation so I leave it to others to provide better answers for the
situation seen above. Yes, I know that the interpretation of Maxwell
is not fully supplied in the books so I invite others to advance
suitable explanations. Is that so bad?

1571. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 19:03:38 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf4360d$0$2596$65785112@news.neostrada.pl>
Source record: 9871

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:91e84bdd-3265-4a44-bb47-aad2709d9521@m4g2000vbl.googlegroups.com...
On May 19, 3:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> It seems that radio waves are produced from ends of the wire where the
> voltage is doubled (at least)

>The quantum electrodynamics process for the generation of EM waves is
well understood. The electron carriers in the wire are alternately
accelerated and decelerated by the transmit signal energy. During the
acceleration process, electrons absorb energy. During the deceleration
process, electrons emit photons, the quantum particles associated with
the radiated EM waves. Electrons at the ends of a wire dipole are not
accelerated as much as the electrons in the middle of the dipole.

It was a few weeks ago.
Electrons are decelerated at the ands of the dipole.
Next they accelerate and in the middle (of the oryginal Hertz dipole) the
speed of electrons is constant (no acceleration/deceleration).

In textbooks are prsented all theories and hipothesis.
It is your choose which one do you prefer: EM, photons, QED or like sound.

"QED mathematically describes all phenomena involving electrically charged
particles interacting by means of exchange of photons".

QED is about Photons, not EM waves. Photons have the analogy in phonons. So
radio waves are like the sound.
S*

1572. Re: Pleasant surprise in the mail today

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 21:01:39 UTC
From: Sven Lundbech <oz7s@hotmail.com>
Message-ID: <4bf451b3$0$36565$edfadb0f@dtext01.news.tele.dk>
Source record: 9872

"tom" <news4792@taring.org> skrev i en meddelelse
news:4bf342cb$0$633$8046368a@newsreader.iphouse.net...
> On 5/17/2010 7:51 PM, tom wrote:
>> On 5/17/2010 4:14 PM, Wayne wrote:
>>> Received the new "Reflections III".
>>> Guess I'll clear some time in my schedule for some reading.
>>> --Wayne
>>> W5GIE
>>>
>>>
>>
>> Me too.
>>
>> tom
>> K0TAR
>>
>
> Walter
>
> I received mine yesterday. Well done.
>
> Thank you for everything in the book. The stories are wonderful. And so
> is everything else.
>
> tom
> K0TAR

I'm still eagerly waiting... probably due to overseas mail delivery delay.

vy 73

OZ7S Sven

1573. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 22:18:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5292e926-0949-4476-bdcb-14f4b34c64e2@c11g2000vbe.googlegroups.com>
Source record: 9873

On May 19, 2:03 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> QED is about Photons, not EM waves.

From "QED", by Feynman: "So now, I present to you the three basic
actions,
from which all the phenomena of light (EM waves) and electrons arise.

-Action #1: A photon goes from place to place.
-Action #2: An electron goes from place to place.
-Action #3: An electron emits or absorbs a photon."

Photons and EM waves are the same quantized phenomena, viewed in
different mathematical ways. A single photon can pass through two
slots
at the same time and interfere with itself on the other side.
--
73, Cecil, w5dxp.com

1574. Re: How to Test a W9INN 40/80 Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-19 23:40:42 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <_F_In.25929$pv.25794@news-server.bigpond.net.au>
Source record: 9874

Dick,
Just click on this link it will give you quite a few options for obtaining a replacement.

http://www.google.com.au/#hl=en&source=hp&q=w9inn+balun&aq=2&aqi=g6&aql=&oq=W9INN&gs_rfai=&fp=e63da0a766da87e1
73
John
VK2KC
"Dick" <aa5vu@nospam.arrl.net> wrote in message
news:aa5vu-53AE18.13510719052010@news.eternal-september.org...
>I have an old W9INN (SK) 40/80 Dipole that has worked
> great; however, I suspect the balan or center feed may be
> open inside. I would like to know how to test it or how to
> obtain a replacement.
>
> Anyone know of a source of replacement parts for W9INN
> antennas?
>
> aa5vu
>

1575. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 03:47:08 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <14f0ba26-1b48-4c01-94fd-ef3560463f95@j27g2000vbp.googlegroups.com>
Source record: 9875

On May 10, 12:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I just completed a experiment with my antenna optimizer program where
> I had a dipole in free space and where I increased the diameter until
> it was close to.003 ohms resistive
> What this means is the current flow is right at the surface where
> there is no skin depth
> penetration involved and thus close to zero material resistance. This
> means that the total resistance is the radiation resistance of the
> surface encapsulating particles. The radiation was 35 db in a shape
> close to that of a sphere. (when the resistance of the aluminum dipole
> went to zero the radiation went to a perfect sphere) Efficiency was
> stated at 100% efficient pointing to 100% accountability for all
> forces involved and where losses were at a minimum.
> Regards
> Art

Extra information
When resonant at 50 ohms resistive the donut shape was evident and
provided by two vortices.
As the resonant value dropped so did the depth of the two vortices
At 5 ohms resistive the vortice depth really started to reduce in
depth.In other words as the vortice reduced so did the skin depth and
where the reduction in vortice volume was taken up by radiation. When
the resonant point was brought to a fraction of an ohm the vortices
had virtually disappeared and the radiation increased such that the
total radiation became a sphere which equated to a maximum radiation
value. Dropping the resonant value below zero ohms removed the
radiation pattern from its normal progression.
This would infer that zero displacement current was generated which
means that particles were only elevated and not projected or
accelerated in any particular direction which thus permits a sphere of
radiation, contrary to that where particles were accelerated in any
particular direction. Note that it is the intersection of two fields
that created acceleration and direction as shown on my antenna page
and with direction the donut shape is retained. Thus this line of
logic supports the idea of a spherical radiation pattern as, with the
absence of resistance so goes the absence of eddy or displacement
current.

1576. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 04:09:37 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf4b604$0$633$8046368a@newsreader.iphouse.net>
Source record: 9876

On 5/19/2010 10:47 PM, Art Unwin wrote:
> On May 10, 12:35 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> I just completed a experiment with my antenna optimizer program where
>> I had a dipole in free space and where I increased the diameter until
>> it was close to.003 ohms resistive
>> What this means is the current flow is right at the surface where
>> there is no skin depth
>> penetration involved and thus close to zero material resistance. This
>> means that the total resistance is the radiation resistance of the
>> surface encapsulating particles. The radiation was 35 db in a shape
>> close to that of a sphere. (when the resistance of the aluminum dipole
>> went to zero the radiation went to a perfect sphere) Efficiency was
>> stated at 100% efficient pointing to 100% accountability for all
>> forces involved and where losses were at a minimum.
>> Regards
>> Art
>
> Extra information
> When resonant at 50 ohms resistive the donut shape was evident and
> provided by two vortices.
> As the resonant value dropped so did the depth of the two vortices
> At 5 ohms resistive the vortice depth really started to reduce in
> depth.In other words as the vortice reduced so did the skin depth and

Wow! I'd really like to see this vortex, sorry these vortices, that you
have produced.

Is the rotation right or left handed?

This is REALLY COOL!

Please post the file and which optimizer software that you are using.

Thanks!

tom
K0TAR

1577. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 04:45:34 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4d2e0933-1b54-4a9e-9164-741eb945e13b@y12g2000vbg.googlegroups.com>
Source record: 9877

On May 19, 11:09 pm, tom <news4...@taring.org> wrote:
> On 5/19/2010 10:47 PM, Art Unwin wrote:
>
>
>
> > On May 10, 12:35 pm, Art Unwin<arthurun...@gmail.com> wrote:
> >> I just completed a experiment with my antenna optimizer program where
> >> I had a dipole in free space and where I increased the diameter until
> >> it was close to.003 ohms resistive
> >> What this means is the current flow is right at the surface where
> >> there is no skin depth
> >> penetration involved and thus close to zero material resistance. This
> >> means that the total resistance is the radiation resistance of the
> >> surface encapsulating particles. The radiation was 35 db in a shape
> >> close to that of a sphere. (when the resistance of the aluminum dipole
> >> went to zero the radiation went to a perfect sphere) Efficiency was
> >> stated at 100% efficient pointing to 100% accountability for all
> >> forces involved and where losses were at a minimum.
> >> Regards
> >> Art
>
> > Extra information
> > When resonant at 50 ohms resistive the donut shape was evident and
> > provided by two vortices.
> > As the resonant value dropped so did the depth of the two vortices
> > At 5 ohms resistive the vortice depth really started to reduce in
> > depth.In other words as the vortice reduced so did the skin depth and
>
> Wow! I'd really like to see this vortex, sorry these vortices, that you
> have produced.
>
> Is the rotation right or left handed?
>
> This is REALLY COOL!
>
> Please post the file and which optimizer software that you are using.
>
> Thanks!
>
> tom
> K0TAR

The presence of these vortices are used to determine imperfections in
materials during manufacturing processes. Removing the presence of

such is the primary reason for laminations instead of solids in the manufacture of transformers.I am surprised that you are not familiar with the concept of skin depth when at the same time you consider yourself as an expert with respect to antennas. The antenna program I use is
AO Pro purely because it has an optimizer to ensure Maxwell's equations are adhered to as well as accountability for all vectors involved. Planar devices are quite efficient such as the Yagi but planar devices are not in equilibrium which is a requirement of Maxwell's equations! I imagine that with any program you could fiddle with a dipole
construction such that it was resonant at a very low impedance to obtain a progression for radiation
pattern /volume versus impedance if it does not posses optimization abilities. The free EZNEC program probably will be good enough.
As far as vortices are concerned the same two vectors used with antennas are also evident with the Earth's weather system. For instance, a tornado
or a whirlpool presents a vortice by virtue of the intersection of two vectors involved. Remove one intersecting vector and the vortice disappears. This is an example of what Einstein saw with respect to his leanings on the unified theory.

1578. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 05:13:33 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <5e7d2524-51e6-486c-8af5-953efd765e90@a16g2000prg.googlegroups.com>
Source record: 9878

On Apr 29, 1:07 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Apr 29, 12:30 pm, Michael Coslo <m...@psu.edu> wrote:
>
>
>
>
>
> > K1TTT wrote:
> > > On Apr 28, 6:45 pm, Michael Coslo <m...@psu.edu> wrote:
> > >> Richard Clark wrote:
> > >>> On Wed, 28 Apr 2010 10:11:51 -0700 (PDT), Bill <k4...@arrl.net> wrote:
> > >>>> how useful is the discussion to the average reader of r.r.a.a.?
> > >>> Hi Bill,
> > >>> Well, diversity antenna work is quite useful to the average reader - I
> > >>> suppose (they haven't actually clamored for the discussion or
> > >>> embroiled themselves in the topic, but you did couch this in terms of
> > >>> "readers").
> > >> Sure, at least in a practical sense. I make use of diversity receivers
> > >> in wireless microphone work.
>
> > >> While these are used at UHF frequencies rather than HF, our problems are
> > >> more multipath, maybe picket fencing a bit.
>
> > >> So while I know better than to get into the definitions of diversity
> > >> antennas, given my meager abilities, my guess is that if one antenna
> > >> worked better than two - or merely worked at all, we'd be using just one.
>
> > >> Tom's pseudo stereo looks suspiciously like a wetware version of my
> > >> wireless systems,only that they vote, whereas his signal levels are too
> > >> low for that, so he does it in his head.
>
> > >>> Unfortunately, if we divorced the two authors who fail to offer what
> > >>> Diversity means, apart from what is already accepted in convention,
> > >>> then we remove the entertainment value and "readership" would likely
> > >>> decline.
> > >> That is for certain.
>
> > >>> A paradox.
> > >> One of my favorite words.
>
> > > if the pseudo stereo is derived from 2 different antennas then you
> > > have diversity reception where the separate antennas provide different
> > > signals that may fade at different times due to polarization changes
> > > or incident angle changes... that is what tom was driving at as a

> > > useful diversity system, albeit at the expense of more complex
> > > receiver hardware.
>
> > Yeah, I think I agree with Tom's practical experience/experiment. I
> > certainly do not think that one antenna is going to do this diversity,
> > because if it would, it means that there is no need for any of the
> > diversity systems we know about today, with double antennas, voting
> > and/or dual receivers.
>
> > Richard's concerns are for the definition, which I think in Art's case,
> > is probably important.
>
> >   > when you take a single rf signal and split it through different
>
> > > receive processors to shift the phase, or do different sidebands, or
> > > just run through different high/low pass audio filters, you don't
> > > really have diversity, you have some kind of a processing system that
> > > makes it easier for your brain or some other decoder to sort out the
> > > signal from the noise. I played with some simple ones years ago
>
> > side foray here. Did you try binaural receivers? I've heard of them,
> > never had a chance to listen to one.
>
> > > and
> > > they can provide interesting effects that can make sorting out signals
> > > in pileups easier, or maybe pulling signals out of the noise a bit
> > > easier, but none of them will really prevent the multipath, arrival
> > > angle, or polarization fading. that is where tom was trying to point
> > > out that any way you combine the rf from two antennas into one you
> > > lose the advantages of the diversity of the antennas.
>
> > I agree. One of the important factors as far as I know is that the
> > antennas have to be in two different spots, and although I haven't
> > measured, (I will now that I'm really interested) I'll bet that the best
> > performance comes at a distance that is well related to the wavelength.
> > Which is to say the picket fencing I hear on a mobile two meter signal
> > might allow me to determine his velocity by knowing the frequency of the
> > picket, the frequency of the transmission, with a likely but small error
> > via Doppler shift.
>
> > But aside from that little foray, I have no doubt that the effects that
> > call for diversity antennas/receivers also call for some physical
> > separation of separate antennas.
>
> >   - 73 de Mike N3LI -
>
> When I was an ET in the Air Force I had a TDY assignment attached to a
> project with Hughes. They were attempting to to implement in software
> what Tom was doing in wetware. The purpose was to send high speed(at
> the time) radar data over HF SSB . The project was a success but the

> final implementation was very different from "stereo diversity"
> basically because they could not program a computer to do what the
> brain can do very easily.
>
> Jimmie- Hide quoted text -
>
> - Show quoted text -

I was in the US Navy from 1962 to 1982 and encountered the venerable R-390A receiver on many occasions. By design, the -390 was equipped for diversity if you manipulated some straps on the rear panel. However, the one time that I tried to use a pair of -390s in diversity mode the results were less than spectacular. I was on a ship and we copied an RTTY broadcast that was being keyed on several frequencies, all subject to QSB. I suspect that the combined audio signal, even though it sounded better (less apparent QSB), was degraded by differing path lengths for the two signals, causing timing jitter on the recovered TTY signal. Whatever the reason, performance was worse, not better.

"Sal"
(KD6VKW)

1579. Welcome to Name Your Baby.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 13:24:12 UTC
From: Rhett Heyward <rhetth96@gmail.com>
Message-ID: <4b94c6b5-5bf7-41d0-9202-2cc8a0cf252d@m33g2000vbi.googlegroups.com>
Source record: 9879

Our baby name generator wizard can help you find some unique names for
your new bundle of joy! Just click on either button below (depending
on whether you are looking for a baby boy or baby girl name) or our
wizard will suggest a name for you. Push the button as many times as
you want until you find the perfect baby name you love!
http://www.nameyourbaby.ca

1580. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 16:42:08 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf56663$0$17099$65785112@news.neostrada.pl>
Source record: 9880

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:5292e926-0949-4476-bdcb-14f4b34c64e2@c11g2000vbe.googlegroups.com...
On May 19, 2:03 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> QED is about Photons, not EM waves.

>From "QED", by Feynman: "So now, I present to you the three basic
actions,
from which all the phenomena of light (EM waves) and electrons arise.

>-Action #1: A photon goes from place to place.
>-Action #2: An electron goes from place to place.
>-Action #3: An electron emits or absorbs a photon."

>Photons and EM waves are the same quantized phenomena, viewed in
different mathematical ways. A single photon can pass through two
slots at the same time and interfere with itself on the other side.

I wrote: "In textbooks are prsented all theories and hipothesis.
It is your choose which one do you prefer: EM, photons, QED or like sound."

So you prefer the all.
The "like sound" is the oldest and explain the all phenomena.
The new ones: EM, photons, QED explain only some. They are the fantastic
pieces to teach.
S*

1581. Re: How to Test a W9INN 40/80 Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 17:48:21 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-61244F.12482120052010@news.eternal-september.org>
Source record: 9881

My W9INN dipole does not use the W9INN Balun Box. It uses something
made by Bill that looks like an MFJ-918.

In article <_F_In.25929$pv.25794@news-server.bigpond.net.au>,
"VK2KC" <vk2kcjohn@gmail.com> wrote:

> Dick,
> Just click on this link it will give you quite a few options for obtaining a
> replacement.
>
> http://www.google.com.au/#hl=en&source=hp&q=w9inn+balun&aq=2&aqi=g6&aql=&oq=W9
> INN&gs_rfai=&fp=e63da0a766da87e1
> 73
> John
> VK2KC
> "Dick" <aa5vu@nospam.arrl.net> wrote in message
> news:aa5vu-53AE18.13510719052010@news.eternal-september.org...
> >I have an old W9INN (SK) 40/80 Dipole that has worked
> > > great; however, I suspect the balan or center feed may be
> > > open inside. I would like to know how to test it or how to
> > > obtain a replacement.
> > >
> > > Anyone know of a source of replacement parts for W9INN
> > > antennas?
> > >
> > > aa5vu
> > >

1582. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 19:06:54 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d6e02636-7f69-4888-85f4-e2af145a6384@k31g2000vbu.googlegroups.com>
Source record: 9882

On May 20, 11:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> The "like sound" is the oldest and explain the all phenomena.

"All phenomena", including traveling at the speed of light in a
vacuum? :-)
--
73, Cecil, w5dxp.com

1583. Re: Welcome to Name Your Baby.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 19:44:18 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <ht43ei$o41a$1@tr22n12.aset.psu.edu>
Source record: 9883

Rhett Heyward wrote:
> Our baby name generator wizard can help you find some unique names for
> your new bundle of joy! Just click on either button below (depending
> on whether you are looking for a baby boy or baby girl name) or our
> wizard will suggest a name for you. Push the button as many times as
> you want until you find the perfect baby name you love!
> http://www.nameyourbaby.ca

Bet you wish your parents used it, eh Rhett?

1584. Re: How to Test a W9INN 40/80 Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 22:18:24 UTC
From: David Thompson <thompson@mindspring.com>
Message-ID: <ifydnZ9hSuOuKGjWnZ2dnUVZ_smdnZ2d@earthlink.com>
Source record: 9884

Check from the coax connector to each side. I just did this with a Spi-Ro
160 I have been using.
Center to the end of one side was a complete closed circuit. The other side
shield to end was open. From the connector to the coil was closed but nada
on the other side of the coil. So in my case the coil is bad.

To start all you need to test is from the coax connector to each side just
beyond the center connector/balun. W9INN used a 1 to 1 balun
along with a connector. You can used a budwing
center connector then add the balun (2 pieces).
I would suspect the balun first then the center connector. If that antenna
has traps check them also if everything is Ok in the center.

Good luck.

73 Dave K4JRB
"Dick" <aa5vu@nospam.arrl.net> wrote in message
news:aa5vu-53AE18.13510719052010@news.eternal-september.org...
>I have an old W9INN (SK) 40/80 Dipole that has worked
> great; however, I suspect the balan or center feed may be
> open inside. I would like to know how to test it or how to
> obtain a replacement.
>
> Anyone know of a source of replacement parts for W9INN
> antennas?
>
> aa5vu

1585. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 22:45:50 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <752f298b-be73-4726-8238-0b01e553a751@q33g2000vbt.googlegroups.com>
Source record: 9885

On May 19, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Richard Harrison" <richardharri...@webtv.net>
wrotenews:25693-4BF31D90-955@storefull-3171.bay.webtv.net...
>
> > "Sz Bialek wrote:
> > "Why the dipoles exhibit the directional pattern?".
>
> > John D. Ktaus wrote on page 3 of his 1950 efition of "Antennas": Fig.
> > 1-3. a length chart for EM waves from the microscopic to the astronomic.
> > Kraus was a famous radio astromoner. He obviously believed the EM
> > Spectrum was continuous, so do I.
>
> > Terman begins his antenna section in his 1955 edition of "Electronic and
> > Radio Engineering" on page 864. He explains and illustrates how vectors
> > form and control the far field radiation pattern of antennas.
> > Polarization is the direction of the electric field in the antenna and
> > in the field produced by the antenna.
>
> Electric field is along the wire. If antenna has the ball on the end the
> electric field is at right angle to tha ball surface.
>
> > Dipoles have nulls at their ends and maxima perpendicular to the
> > conductor as Terman shows in Fig. 23 on page 865,
>
> At the ends of the dipole the voltage is doubled (at least).
>
>
>
> > Today, the postman felivered my eagerly awaited copy of W2DU`s
> > "Reflections III" and I can`t wait to read it either.
>
> In meantime read this:http://en.wikipedia.org/wiki/Standing_wave
>
> In Maxwell's hypothesis the electricity is incompressible. Standing waves in
> antennas are the experimental prove that the hypothesis is erroneous.
>
> See what Maxwell wrote: "I propose now
>
> to examine magnetic phenomena from a mecha nical point of view, and to
> determine what tensions in, or motions of, a medium are capable of producing
> the mechanical pheno mena observed. If, by the same hypothesis, we can
> connect the phenomena of magnetic attraction with electromagnetic phe nomena
> and with those of induced currents, we shall have found a theory which, if
> not true, can only be proved to be erroneous by experiments which will

> greatly enlarge our knowledge of this part of physics. "
From:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
>
> In textbooks are prsented all theories and hipothesis.
> It is your choose which one do you prefer: EM, photons or like sound.
> S*
>

mr. b. you and art should get together. i'm sure his vortices off the ends of his over optimized dipole would work well with your sound model of electromagnetics. he has forced the particles off the dipole by making it superconductive so they should respond like perfectly compressible sound carriers and since they are massless the sound will travel at the speed of light. how perfect could that be! both new theories come together in one big never ending thread where we can all read the bafflegab and have a big laugh behind your backs, or maybe right in your faces. Sorry i've been a bit slow responding, i had a nice trip to dayton, but didn't find any of the unwin antennas for sale, or any sound driven dipoles out in the flea market either... well, maybe next year, i'm sure you'll both be selling those new superconductive longitudinal wave generating magical levitating diamagnetic neutrino hyperwave antennas at bargain basement prices after everyone learns how bad they really are.

1586. Re: How to Test a W9INN 40/80 Dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 23:23:40 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-3FA3BF.18233920052010@62-183-169-81.bb.dnainternet.fi>
Source record: 9886

Dave K4JRB,

I suspect one of the two is open inside the closed PCV. Going to drop
it tomorrow to run the test.

In article <ifydnZ9hSuOuKGjWnZ2dnUVZ_smdnZ2d@earthlink.com>,
"David Thompson" <thompson@mindspring.com> wrote:

> Check from the coax connector to each side. I just did this with a Spi-Ro
> 160 I have been using.
> Center to the end of one side was a complete closed circuit. The other side
> shield to end was open. From the connector to the coil was closed but nada
> on the other side of the coil. So in my case the coil is bad.
>
> To start all you need to test is from the coax connector to each side just
> beyond the center connector/balun. W9INN used a 1 to 1 balun
> along with a connector. You can used a budwing
> center connector then add the balun (2 pieces).
> I would suspect the balun first then the center connector. If that antenna
> has traps check them also if everything is Ok in the center.
>
> Good luck.
>
> 73 Dave K4JRB
> "Dick" <aa5vu@nospam.arrl.net> wrote in message
> news:aa5vu-53AE18.13510719052010@news.eternal-september.org...
> >I have an old W9INN (SK) 40/80 Dipole that has worked
> > > great; however, I suspect the balan or center feed may be
> > > open inside. I would like to know how to test it or how to
> > > obtain a replacement.
> > >
> > > Anyone know of a source of replacement parts for W9INN
> > > antennas?
> > >
> > > aa5vu

1587. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-20 23:54:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf5cba4$0$633$8046368a@newsreader.iphouse.net>
Source record: 9887

On 5/19/2010 11:45 PM, Art Unwin wrote:
>> Wow! I'd really like to see this vortex, sorry these vortices, that you
>> have produced.
>>
>> Is the rotation right or left handed?
>>
>> This is REALLY COOL!
>>
>> Please post the file and which optimizer software that you are using.
>>
>> Thanks!
>>
>> tom
>> K0TAR
>
> The presence of these vortices are used to determine imperfections in
> materials during manufacturing processes. Removing the presence of
> such is the primary reason for laminations instead of solids in the
> manufacture of transformers.I am surprised that you are not familiar
> with the concept of skin depth when at the same time you consider
> yourself as an expert with respect to antennas. The antenna program I
> use is
> AO Pro purely because it has an optimizer to ensure Maxwell's
> equations are adhered to as well as accountability for all vectors
> involved. Planar devices are quite efficient such as the Yagi but
> planar devices are not in equilibrium which is a requirement of
> Maxwell's equations! I imagine that with any program you could fiddle
> with a dipole
> construction such that it was resonant at a very low impedance to
> obtain a progression for radiation
> pattern /volume versus impedance if it does not posses optimization
> abilities. The free EZNEC program probably will be good enough.
> As far as vortices are concerned the same two vectors used with
> antennas are also evident with the Earth's weather system. For
> instance, a tornado
> or a whirlpool presents a vortice by virtue of the intersection of two
> vectors involved. Remove one intersecting vector and the vortice
> disappears. This is an example of what Einstein saw with respect to
> his leanings on the unified theory.

Oh that's right, I forgot. You use my god child. I asked Brian to do
that program for 2 or 3 years before he finally did. I was the alpha
tester on it and other of his programs.

You do know that's just MiniNEC, right? With all the problems MiniNEC has included for your computing pleasure.

It's off frequency - low. And it gets worse as the wire diameter INCREASES. Which is what you are doing in your example.

It also doesn't like bent wires, as in things that don't meet at 180 degrees. It breaks down completely at less than 28 degrees.

It doesn't like adjacent segments that are in a ratio greater than 2 to 1.

And it doesn't like adjacent wires that are closer than .23 of a segment length.

Given some of the things you have posted that you have modeled, I'd guess that you break a minimum of 1, normally 2, and sometimes 3 of the above conditions.

No wonder your stuff acts abnormal.

And you are using this tool to attempt to prove your twisted theories about Maxwell's equations? That's like using a chain saw to do brain surgery.

tom
K0TAR

1588. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 00:40:23 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <09062c42-875d-4b21-9af5-2b254c390aa6@m21g2000vbr.googlegroups.com>
Source record: 9888

On May 20, 6:54 pm, tom <news4...@taring.org> wrote:
> On 5/19/2010 11:45 PM, Art Unwin wrote:
>
>
>
> >> Wow! I'd really like to see this vortex, sorry these vortices, that you
> >> have produced.
>
> >> Is the rotation right or left handed?
>
> >> This is REALLY COOL!
>
> >> Please post the file and which optimizer software that you are using.
>
> >> Thanks!
>
> >> tom
> >> K0TAR
>
> > The presence of these vortices are used to determine imperfections in
> > materials during manufacturing processes. Removing the presence of
> > such is the primary reason for laminations instead of solids in the
> > manufacture of transformers.I am surprised that you are not familiar
> > with the concept of skin depth when at the same time you consider
> > yourself as an expert with respect to antennas. The antenna program I
> > use is
> > AO Pro purely because it has an optimizer to ensure Maxwell's
> > equations are adhered to as well as accountability for all vectors
> > involved. Planar devices are quite efficient such as the Yagi but
> > planar devices are not in equilibrium which is a requirement of
> > Maxwell's equations! I imagine that with any program you could fiddle
> > with a dipole
> > construction such that it was resonant at a very low impedance to
> > obtain a progression for radiation
> > pattern /volume versus impedance if it does not posses optimization
> > abilities. The free EZNEC program probably will be good enough.
> > As far as vortices are concerned the same two vectors used with
> > antennas are also evident with the Earth's weather system. For
> > instance, a tornado
> > or a whirlpool presents a vortice by virtue of the intersection of two
> > vectors involved. Remove one intersecting vector and the vortice
> > disappears. This is an example of what Einstein saw with respect to
> > his leanings on the unified theory.
>

> Oh that's right, I forgot. You use my god child. I asked Brian to do
> that program for 2 or 3 years before he finally did. I was the alpha
> tester on it and other of his programs.
>
> You do know that's just MiniNEC, right? With all the problems MiniNEC
> has included for your computing pleasure.
>
> It's off frequency - low. And it gets worse as the wire diameter
> INCREASES. Which is what you are doing in your example.
>
> It also doesn't like bent wires, as in things that don't meet at 180
> degrees. It breaks down completely at less than 28 degrees.
>
> It doesn't like adjacent segments that are in a ratio greater than 2 to 1.
>
> And it doesn't like adjacent wires that are closer than .23 of a segment
> length.
>
> Given some of the things you have posted that you have modeled, I'd
> guess that you break a minimum of 1, normally 2, and sometimes 3 of the
> above conditions.
>
> No wonder your stuff acts abnormal.
>
> And you are using this tool to attempt to prove your twisted theories
> about Maxwell's equations? That's like using a chain saw to do brain
> surgery.
>
> tom
> K0TAR

All very interesting Tom but frankly you lack credibility. As with
other posts of yours you do not provide specifics and more than often
express opinions. I personally am as pleased as punch in what I
purchased from Brian and I certainly do not believe he would foist on
the ham community anything but his best. Knowing that he is not
exactly a peoples person I suspect he would not shy from a clash with
you when you distribute your personal opinions. So I can imagine why
such a person like you would jump at the chance to savage another's
personality. For my part I use the program strictly for his adherence
to Maxwell's equations which is the approach that I take. This allows
for an over check most times when ensuring
that arrays proffered meet the condition of equilibrium of each part
and all of the provided
array. I doubt very much you would have strayed beyond the Yagi and
other planar designs when testing, but then you are not short of
claiming anything that may boost your position in life.
Thanks for your operative points offered and I will certainly consider
them within the specific technical confines which you so gently
provided.

Regards
Art

1589. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 01:16:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf5dee3$0$50148$8046368a@newsreader.iphouse.net>
Source record: 9889

On 5/20/2010 7:40 PM, Art Unwin wrote:
>> Oh that's right, I forgot. You use my god child. I asked Brian to do
>> that program for 2 or 3 years before he finally did. I was the alpha
>> tester on it and other of his programs.
>>
>> You do know that's just MiniNEC, right? With all the problems MiniNEC
>> has included for your computing pleasure.
>>
>> It's off frequency - low. And it gets worse as the wire diameter
>> INCREASES. Which is what you are doing in your example.
>>
>> It also doesn't like bent wires, as in things that don't meet at 180
>> degrees. It breaks down completely at less than 28 degrees.
>>
>> It doesn't like adjacent segments that are in a ratio greater than 2 to 1.
>>
>> And it doesn't like adjacent wires that are closer than .23 of a segment
>> length.
>>
>> Given some of the things you have posted that you have modeled, I'd
>> guess that you break a minimum of 1, normally 2, and sometimes 3 of the
>> above conditions.
>>
>> No wonder your stuff acts abnormal.
>>
>> And you are using this tool to attempt to prove your twisted theories
>> about Maxwell's equations? That's like using a chain saw to do brain
>> surgery.
>>
>> tom
>> K0TAR
>
> All very interesting Tom but frankly you lack credibility. As with
> other posts of yours you do not provide specifics and more than often
> express opinions. I personally am as pleased as punch in what I
> purchased from Brian and I certainly do not believe he would foist on
> the ham community anything but his best. Knowing that he is not

It was his best, but based on MiniNEC. He couldn't change that. He did
tweak things in YO because it was special purpose, but I believe he left
the engine in AO pretty much alone.

> exactly a peoples person I suspect he would not shy from a clash with
> you when you distribute your personal opinions. So I can imagine why
> such a person like you would jump at the chance to savage another's

> personality. For my part I use the program strictly for his adherence
> to Maxwell's equations which is the approach that I take. This allows
> for an over check most times when ensuring

It adheres to MiniNEC's core. Which adhere to Maxwell no more and no less than that. And it has serious and known shortcomings, which you seem to want to wish away. Brian did a great, hell spectacular, job with what he started with, but he couldn't make the problems with MiniNEC disappear. No one has done anything like it that is available at the prices he charged since then. But the user needs to understand the limitations of the product.

> that arrays proffered meet the condition of equilibrium of each part
> and all of the provided

AO knows nothing of the equilibrium of which you speak.

> array. I doubt very much you would have strayed beyond the Yagi and
> other planar designs when testing, but then you are not short of
> claiming anything that may boost your position in life.

You have no idea what I have done, designed or built. But I would bet I've built more, and that it works better than anything you have come up with unless you copied it from someone else.

tom
K0TAR

1590. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 01:21:04 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf5e002$0$633$8046368a@newsreader.iphouse.net>
Source record: 9890

On 5/20/2010 7:40 PM, Art Unwin wrote:
>
> All very interesting Tom but frankly you lack credibility. As with
> other posts of yours you do not provide specifics and more than often
> express opinions.

And this comment from someone who never states anything about his
miracle antennas except the fact that they are miraculous.

Yes, you are Mr. Credibility!

tom
K0TAR

1591. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 02:14:20 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f456c188-45a8-4177-9fce-f9c493cab955@f13g2000vbm.googlegroups.com>
Source record: 9891

On May 20, 8:21 pm, tom <news4...@taring.org> wrote:
> On 5/20/2010 7:40 PM, Art Unwin wrote:
>
>
>
> > All very interesting Tom but frankly you lack credibility. As with
> > other posts of yours you do not provide specifics and more than often
> > express opinions.
>
> And this comment from someone who never states anything about his
> miracle antennas except the fact that they are miraculous.
>
> Yes, you are Mr. Credibility!
>
> tom
> K0TAR

Tom I try to provide the specifics with respect to my posts because
without them there can be no discussion. I do get discussions and
generally they
are not as nice as I would like them to be but others do get involved
while at the same time providing worth while comments such as the
continuity of the donut shape which forced me to reconsider. As far as
minninec is concerned I had no other choice since I required an
optimiser but even so minninec surely has its problems the same as
NEC. If and when NEC tries the optimiser aproach I suspect they will
incorporate minninec in some way. As far as the faults you pointed to
I can't imagine not placing segment opposite each other for close
spaced elements or in fact placing much confidence in bent angles in
the area below 30 degrees whether it be eznec or minninec.
When I started to look away from yagi's and planar devices I followed
the standard rules of mathematics with respect to equilibrium and
Maxwell's rules, I was very pleased that the mininec
conformed to my expectations. This however, did not stop me from
getting confirmation else where using NEC4. So again I have no reason
not to trust
AO any time before I distrust myself when I am more than willing to
declare what I did and who I am. The reason I do respond to your posts
is to encourage you to use free speech and thus force you to disclose
what sort of person you are to other members of the group, and not for
its technical content. I have on my page unwinantennas a sample of an
array (diversity array)that conforms to my thinking with respect to
Maxwells equations
which were fully revealed to me by the expansion of

Gauss theorem from static to dynamic in every way,
which provided the evidence of particles as the carrier of radiation.
Since nobody on this group is willing to understand the meanings of
equilibrium in physics or the legitamacy of changing static parameters
to dynamic, minninec did supply the backing for my thoughts in every
way which no other program that was available was capable of.
Have a happy day
Art

1592. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 02:27:29 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf5ef8e$0$50145$8046368a@newsreader.iphouse.net>
Source record: 9892

On 5/20/2010 9:14 PM, Art Unwin wrote:
>
> Tom I try to provide the specifics with respect to my posts because
> without them there can be no discussion. I do get discussions and
> generally they
> are not as nice as I would like them to be but others do get involved
> while at the same time providing worth while comments such as the
> continuity of the donut shape which forced me to reconsider. As far as
> minninec is concerned I had no other choice since I required an
> optimiser but even so minninec surely has its problems the same as
> NEC. If and when NEC tries the optimiser aproach I suspect they will
> incorporate minninec in some way. As far as the faults you pointed to
> I can't imagine not placing segment opposite each other for close
> spaced elements or in fact placing much confidence in bent angles in
> the area below 30 degrees whether it be eznec or minninec.
> When I started to look away from yagi's and planar devices I followed
> the standard rules of mathematics with respect to equilibrium and
> Maxwell's rules, I was very pleased that the mininec
> conformed to my expectations. This however, did not stop me from
> getting confirmation else where using NEC4. So again I have no reason
> not to trust
> AO any time before I distrust myself when I am more than willing to
> declare what I did and who I am. The reason I do respond to your posts
> is to encourage you to use free speech and thus force you to disclose
> what sort of person you are to other members of the group, and not for
> its technical content. I have on my page unwinantennas a sample of an
> array (diversity array)that conforms to my thinking with respect to
> Maxwells equations
> which were fully revealed to me by the expansion of
> Gauss theorem from static to dynamic in every way,
> which provided the evidence of particles as the carrier of radiation.
> Since nobody on this group is willing to understand the meanings of
> equilibrium in physics or the legitamacy of changing static parameters
> to dynamic, minninec did supply the backing for my thoughts in every
> way which no other program that was available was capable of.
> Have a happy day
> Art

And yet you never, ever, give numbers that define your antennas,
excepting the almost planar example antenna. Which doesn't work all
that well, actually.

You have to present some examples of things that actually work well
before you are considered credible.

And given your claims, you are expected to show antennas that are demonstrably better than current designs.

So far you have not done any of the above.

tom
K0TAR

tom
K0TAR

1593. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 03:54:25 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <KtnJn.17224$rE4.13549@newsfe15.iad>
Source record: 9893

O Jeez! Here we go again!!!! All this about vortices sounds like spin to me.

Irv VE6BP

1594. Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 05:22:34 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <uMoJn.26161$pv.8481@news-server.bigpond.net.au>
Source record: 9894

I am going to build an array of 4 stacked dipoles for operation on 2 metres. I would like to know whether the gamma fed dipole has any advantage over the folded dipole, apart from the folded dipole being a tad more difficult to make.

I have heard that the gamma fed dipole has a skewed radiation pattern in comparison to the folded one.

Any thoughts and advice?
Many thanks
John
VK2KC

1595. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 06:45:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <npacv5pigiosfe390b4t0l78n687muh796@4ax.com>
Source record: 9895

On Fri, 21 May 2010 05:22:34 GMT, "VK2KC" <vk2kcjohn@gmail.com> wrote:

>I have heard that the gamma fed dipole has a skewed radiation pattern in
>comparison to the folded one.

Hi John,

You could have heard the same thing said for the opposite design - and
they would BOTH be true.

The devil is in the details, such as how much skew would it take to
bother you? Then there is the question, how much skew before it would
it matter anyway? Some folks sweat over things they couldn't possibly
measure. Worse yet, they would pay more to change things than they
would get back in improvement.

73's
Richard Clark, KB7QHC

1596. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 07:24:07 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf6351a$0$2603$65785112@news.neostrada.pl>
Source record: 9896

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:752f298b-be73-4726-8238-0b01e553a751@q33g2000vbt.googlegroups.com...
On May 19, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> In textbooks are prsented all theories and hipothesis.
> It is your choose which one do you prefer: EM, photons or like sound.
> S*
>

>mr. b. you and art should get together. i'm sure his vortices off the
ends of his over optimized dipole would work well with your sound
model of electromagnetics.

Sound model of electric waves is the oldest (XIX century). I am not young
but it is not mine.

> he has forced the particles off the dipole
by making it superconductive so they should respond like perfectly
compressible sound carriers and since they are massless the sound will
travel at the speed of light. how perfect could that be! both new
theories

May be that the Art's is a new. The "like sound" is the oldest.

>come together in one big never ending thread where we can all
read the bafflegab and have a big laugh behind your backs, or maybe
right in your faces. Sorry i've been a bit slow responding, i had a
nice trip to dayton, but didn't find any of the unwin antennas for
sale, or any sound driven dipoles out in the flea market either...

All dipoles are with the standing waves (like sound).

>well, maybe next year, i'm sure you'll both be selling those new
superconductive longitudinal wave generating magical levitating
diamagnetic neutrino hyperwave antennas at bargain basement prices
after everyone learns how bad they really are.

"Like sound " antennas are in sale for ages.
If Art's are or will be - I do not know. I am not an expert. (I have trouble
with understanding Art's idea - he is using very sophistcated terms).
S*

1597. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 07:35:05 UTC
From: nm5k@wt.net
Message-ID: <47bff326-8bae-45a9-8b9c-8b7476b63bc3@j9g2000vbp.googlegroups.com>
Source record: 9897

On May 20, 9:27 pm, tom <news4...@taring.org> wrote:

>

>
> You have to present some examples of things that actually work well
> before you are considered credible.
>

>
> So far you have not done any of the above.
>

The Chronicles of Arthur Unwin. :/
Delusions of grandeur induced by abuse and misuse of
antenna modeling programs.
Excessive adult beverage consumption may also be
an issue, but I couldn't really say being as I can't give
him a breathalyzer test over the internet...

Heck, I think more than a few of the common programs
have "optimization" routines. Big deal.
I know the freeware MMANA does..
And having played with it a bit, I know you have to take
the results with a grain of salt, and often the results were
worse than what I would come up with manually. :(

Say optimizing a yagi.. I've seen some fairly peculiar
and below par results using the optimization in that
program. Art's blind trust is rather peculiar. :/

Not to mention some of his peculiar theories and notions.
IE: if the pattern of an antenna displays an isotropic
pattern, how in the heck are you going to have large
amounts of gain? The gain would be near zero if using
isotropic antenna as the reference.
Not 32 dbi or whatever number he came up with.
In order to have gain in any direction, a null must form
in some other direction. No free lunch. Sorry.
Of course, Art seems to confuse efficiency and gain, but
that's a chapter for another day.

Art generally ignores efficiency. In his world, equilibrium,
neutrinos, and solar fairy dust particles with levitating vortex
swirls cause efficiency issues to vanish into thin air.
If the vortex swirls start to resemble what you would see
off a Boeing 757 on a moist cloudy day, you have total

equilibrium and obvious 100% efficiency and 87 dbi gain
in all directions.
Tell Jethro to fix the brakes on the truck. We may be moving
soon. :)

Say as when using an A/C fan motors worth of thin wire wound
on a short stick of PVC and supposedly operated on 160m.. :(
But even Art himself claims to almost never actually use the
transmitter in his rig. Being as even a stick of wound wire can
receive halfway well on the low bands, we have a new miracle!
Never mind that some guy tried the same thing about 85 years
ago I'm sure.. :/ It doesn't work any better now than it did then.
Back to the drawing board for prior Art..

No transmit tests or comparison with known benchmarks are
required in the world of Art. The masters sayeth, so it must
be true! Woe to the non believers! They knoweth not what
they do or say!

They have no equilibrium!

Call the patent office, and get the lawyers on the phone!
Load up the truck, we're moving to Beverly Hills. :)
Did Jethro ever fix the brakes?

In the dark recesses of Art's brain, he applied the theory of
reciprocity to this antenna. It receives fairly well, so it surely
must transmit in a like manner.
If only the world were fair.

Next week.. If you run over a neutrino with a Goodyear
Accutread tire, will a puncture occur?
The answer to this question and many others on the next
installment of Art's Chronicles.

1598. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 07:37:09 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf63829$0$17093$65785112@news.neostrada.pl>
Source record: 9898

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:d6e02636-7f69-4888-85f4-e2af145a6384@k31g2000vbu.googlegroups.com...
On May 20, 11:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> The "like sound" is the oldest and explain the all phenomena.

"All phenomena", including traveling at the speed of light in a
vacuum? :-)

All without exceptions.
In the space are free electrons (plasma). If you move one of them the next
reacts on it. It is normal pressure wave (electric wave).

It is intresting that the speed of electric waves are the same in vacuum and
in conductors.
In insulators the electric waves travel slower.
S*

1599. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 08:44:32 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <rt6dnW-LAahv2mvWnZ2dnUVZ_h6dnZ2d@giganews.com>
Source record: 9899

VK2KC wrote:
> I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> I would like to know whether the gamma fed dipole has any advantage over the
> folded dipole, apart from the folded dipole being a tad more difficult to
> make.
>
> I have heard that the gamma fed dipole has a skewed radiation pattern in
> comparison to the folded one.
>
> Any thoughts and advice?
> Many thanks
> John
> VK2KC

Richard Harrison has posted a number of times the comment that systems using folded dipoles are much more robust with respect to lightning and static discharges due to the low impedance path for DC and most of the RF components they contain.

Roy Lewallen, W7EL

1600. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 08:55:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <BuqdnYerEcXu12vWnZ2dnUVZ_gednZ2d@giganews.com>
Source record: 9900

nm5k@wt.net wrote:
> . . .
> Not to mention some of his peculiar theories and notions.
> IE: if the pattern of an antenna displays an isotropic
> pattern, how in the heck are you going to have large
> amounts of gain? The gain would be near zero if using
> isotropic antenna as the reference.
> Not 32 dbi or whatever number he came up with.
> In order to have gain in any direction, a null must form
> in some other direction. No free lunch. Sorry. . .

Yep.

As I point out when I give a talk about antenna basics, the isotropic radiator has the lowest possible gain for any lossless antenna, if you consider an antenna's "gain" to be its gain in its best direction. In other words, any lossless antenna has more than 0 dBi gain in some direction.

I make sure I point this out before I introduce very short and theoretically lossless dipoles. A free space dipole has a gain in its best direction of about 2.15 dBi. No lossless antenna can have a gain in its best direction of less than 0 dBi. So what should we expect the gain of a very short dipole to be if we could make one with no (resistive) loss?

Roy Lewallen, W7EL

1601. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 11:24:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <060f6c65-a8b4-420f-b751-86f06d764abe@r9g2000vbk.googlegroups.com>
Source record: 9801

On May 21, 7:24 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:752f298b-be73-4726-8238-0b01e553a751@q33g2000vbt.googlegroups.com...
> On May 19, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In textbooks are prsented all theories and hipothesis.
> > > It is your choose which one do you prefer: EM, photons or like sound.
> > > S*
>
> >mr. b. you and art should get together. i'm sure his vortices off the
>
> ends of his over optimized dipole would work well with your sound
> model of electromagnetics.
>
> Sound model of electric waves is the oldest (XIX century). I am not young
> but it is not mine.
>
> > he has forced the particles off the dipole
>
> by making it superconductive so they should respond like perfectly
> compressible sound carriers and since they are massless the sound will
> travel at the speed of light. how perfect could that be! both new
> theories
>
> May be that the Art's is a new. The "like sound" is the oldest.
>
> >come together in one big never ending thread where we can all
>
> read the bafflegab and have a big laugh behind your backs, or maybe
> right in your faces. Sorry i've been a bit slow responding, i had a
> nice trip to dayton, but didn't find any of the unwin antennas for
> sale, or any sound driven dipoles out in the flea market either...
>
> All dipoles are with the standing waves (like sound).
>
> >well, maybe next year, i'm sure you'll both be selling those new
>
> superconductive longitudinal wave generating magical levitating
> diamagnetic neutrino hyperwave antennas at bargain basement prices
> after everyone learns how bad they really are.
>
> "Like sound " antennas are in sale for ages.

> If Art's are or will be - I do not know. I am not an expert. (I have trouble
> with understanding Art's idea - he is using very sophistcated terms).
> S*

show me the equations for modeling a dipole radiation pattern using
sound in free space, be sure to account for polarization.

1602. Who makes this HF Beam ??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 12:38:11 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <_6vJn.73967$0M5.68088@newsfe07.iad>
Source record: 9802

Hello to All
Yesterday I took down a small HF beam antenna,for lady whose husband just passed away.
He had bought it last year brand new.At 1st I thought it was a Butternut Butterfly beam,but its not.
The reflector is a elongated triangle with wire around the perimeter of it and has clear tubes for support of the triangle that go into Aluminum tubes of the support structure,in the middle of the triangle is a plastic hub that it all ties into and mounts to the boom.The boom look like aprox 10' long,the driven element has a matching network of some kind that is in a gray 4x4 box,and at each end of the driven element it has a hub with about 8 rods on it,the director is almost the same as the driven but is not split in middle and has the same hub and rods at the ends of it as the driven element.
I hope I explained ok the best that I could do
Any input would be great
Thanks all and have a nice summer
Howard
VE4ISP

1603. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 14:05:34 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d3ddfdbd-6bf1-4c43-b02e-628ef4977452@j9g2000vbp.googlegroups.com>
Source record: 9803

On May 21, 2:37 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> In the space are free electrons (plasma). If you move one of them the next
> reacts on it. It is normal pressure wave (electric wave).

If you are correct, the feedpoint impedance of a 1/2WL standing-wave
dipole should change from 75 ohms to around 600 ohms (traveling wave
antenna) when installed in free space. Does NASA know that resonant
standing-wave antennas, like 1/2WL dipoles, will not work in free
space because of all those free electrons in free space?
--
73, Cecil, w5dxp.com

1604. Re: Who makes this HF Beam ??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 14:09:06 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <cswJn.19262$mi.17747@newsfe01.iad>
Source record: 9804

Just found something
Maybe a TGM commincations Model MQ-36SR
Howard

"Howard Kowall" <hkowall@shaw.ca> wrote in message
news:_6vJn.73967$0M5.68088@newsfe07.iad...
> Hello to All
> Yesterday I took down a small HF beam antenna,for lady whose husband just
> passed away.
> He had bought it last year brand new.At 1st I thought it was a Butternut
> Butterfly beam,but its not.
> The reflector is a elongated triangle with wire around the perimeter of it
> and has clear tubes for support of the triangle that go into Aluminum
> tubes of the support structure,in the middle of the triangle is a plastic
> hub that it all ties into and mounts to the boom.The boom look like aprox
> 10' long,the driven element has a matching network of some kind that is in
> a gray 4x4 box,and at each end of the driven element it has a hub with
> about 8 rods on it,the director is almost the same as the driven but is
> not split in middle and has the same hub and rods at the ends of it as
> the driven element.
> I hope I explained ok the best that I could do
> Any input would be great
> Thanks all and have a nice summer
> Howard
> VE4ISP
>
>

1605. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 14:19:32 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <ht64pk$gc1k$1@tr22n12.aset.psu.edu>
Source record: 9805

Szczepan Bialek wrote:

> (I have trouble
> with understanding Art's idea - he is using very sophistcated terms).

There is a clue in there. Use of the terms does not indicate
correctness, just useage.

While for any given case of Art's antennas, whether the theory, or the actual described antennas - I just don't understand the theory, and the antennas, which are usually explainable by other, less abstruse and more well known methods.

In at least one case, the coil on the end of a mast 160 meter antenna, well, it's a tuned circuit on the end of a stick. No doubt it works in similar fashion to the other antennas of the same ilk, relying on feed line radiation. Nothing new, and no need for new theory in the case that the old one describes it well.

In any event, extraordinary claims require extraordinary proof, and Art is not willing to provide, we are supposed to believe him based on it being him.

Wrong-o-freaking-rama! Just about anything can be explained in some fashion to just about anyone, and the onus is on the one trying to explain. I've never had a problem understanding anything else the experts have offered. That brings us back to my first sentence.

- Mike -

1606. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 16:13:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <uvbdv5trna5ft3tk6ki872v8qdkbfhssiv@4ax.com>
Source record: 9806

On Fri, 21 May 2010 10:19:32 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

> extraordinary claims require extraordinary proof

An ordinary proof would be more than adequate. It is the
"extraordinary" proof (aka radiating particles on diamagnetic rods
enclosed in the equilibrium of a faraday shield to induce the
Luxembourg effect) that is probably the surest indicator of deception.

73's
Richard Clark, KB7QHC

1607. Re: Diversity antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 16:22:13 UTC
From: richardharrison@webtv.net
Message-ID: <19507-4BF6B335-1486@storefull-3173.bay.webtv.net>
Source record: 9807

Sal, KD6VKW wrote:
"Wharever the reason, performance was worse, not better."

Sal, thank you for your U.S. Navy service.

My experience with diversity was different. At Radio Free Europe we relayed broadcast programs by HF radio before communications satellites existed.

We used Hammarlund SP-600 receivers in triple diversity. We found most other receivers deficient. Our receiving sites were remote ffrom our transmitting sites to avoid interference. We used UHF for short haul relay.

For HF triple diversity each of the SP-600s was connected via an isolation amplifier with a separate rhombic antenna aimed at its transmitter. Outputs of the three receivers was fed into a Crosby or Pioneer combiner which elected the best signal and rejected the other two.

The horizontal rhombics each required four towers because they were laterally spaced about ten wavelengths apart for space diversity at one of the lower allocated frequencies. We, at times resorted to frequency diversity too.

The receiver operator listened to both of the sidebands of each transmitted frequemncy and selected the better of the two for reception manually.

By selecting the cleanest frequencies and sidebands and using the output combiners to select the instantaneously best of three signals, broadcast quality programs usually prevailed.

Best regards, Richard Harrison, KB5WZI

1608. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 17:48:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf6c78f$0$2589$65785112@news.neostrada.pl>
Source record: 9808

"K1TTT" <k1ttt@arrl.net> wrote
ews:060f6c65-a8b4-420f-b751-86f06d764abe@r9g2000vbk.googlegroups.com...
On May 21, 7:24 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
> >> In textbooks are prsented all theories and hipothesis.
> > It is your choose which one do you prefer: EM, photons or like sound.
> > S*
>
>> "Like sound " antennas are in sale for ages.
> If Art's are or will be - I do not know. I am not an expert. (I have
> trouble
> with understanding Art's idea - he is using very sophistcated terms).
> S*

>show me the equations for modeling a dipole radiation pattern using
sound in free space, be sure to account for polarization.

I have something like this:
http://perg.phys.ksu.edu:80/vqmorig/programs/java/makewave/Slit/vq_mws.htm

See also 1864 in:
http://online.physics.uiuc.edu/courses/phys435/spring10/Lecture_Notes/A_Brief_History_of_Electromagnetism.pdf

Transversal wves have no sense. The equations are usefull for teaching the
math.

S*

1609. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 18:07:02 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf6cbc9$0$17093$65785112@news.neostrada.pl>
Source record: 9809

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:d3ddfdbd-6bf1-4c43-b02e-628ef4977452@j9g2000vbp.googlegroups.com...
On May 21, 2:37 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> In the space are free electrons (plasma). If you move one of them the
>> next
> reacts on it. It is normal pressure wave (electric wave).

> If you are correct, the feedpoint impedance of a 1/2WL standing-wave
dipole should change from 75 ohms to around 600 ohms (traveling wave
antenna) when installed in free space. Does NASA know that resonant
standing-wave antennas, like 1/2WL dipoles, will not work in free
space because of all those free electrons in free space?

Alternate electric field from the ends of the dipole kicks the electrons in
the space and they oscillate (longitudinal electric waves).
S*

1610. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 18:23:57 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <ht6j3t$lg3u$1@tr22n12.aset.psu.edu>
Source record: 9810

Richard Clark wrote:
> On Fri, 21 May 2010 10:19:32 -0400, Michael Coslo <mjc5@psu.edu>
> wrote:
>
>> extraordinary claims require extraordinary proof
>
> An ordinary proof would be more than adequate.

I suppose you are right there Richard. Its just that we don't often get the chance to use extraordinary twice in one sentence very often, I just got carried away.

> It is the
> "extraordinary" proof (aka radiating particles on diamagnetic rods
> enclosed in the equilibrium of a faraday shield to induce the
> Luxembourg effect) that is probably the surest indicator of deception.

I was thinking his explanations might involve the Stockholm effect.

- 73 de Mike N3LI -

1611. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 18:40:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <38ddf5f4-0881-4390-8587-2fbd0a0cfc54@c13g2000vbr.googlegroups.com>
Source record: 9811

On May 21, 5:48 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net> wrote
> ews:060f6c65-a8b4-420f-b751-86f06d764...@r9g2000vbk.googlegroups.com...
> On May 21, 7:24 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > >> In textbooks are prsented all theories and hipothesis.
> > > It is your choose which one do you prefer: EM, photons or like sound.
> > > S*
>
> >> "Like sound " antennas are in sale for ages.
> > If Art's are or will be - I do not know. I am not an expert. (I have
> > trouble
> > with understanding Art's idea - he is using very sophistcated terms).
> > S*
> >show me the equations for modeling a dipole radiation pattern using
>
> sound in free space, be sure to account for polarization.
>
> I have something like
this:http://perg.phys.ksu.edu:80/vqmorig/programs/java/makewave/Slit/vq_mw...
>
> See also 1864
in:http://online.physics.uiuc.edu/courses/phys435/spring10/Lecture_Notes...
>
> Transversal wves have no sense. The equations are usefull for teaching the
> math.
>
> S*

right, read this carefully from that 1864 note: 'the requirements of
his mechanical model keep him from finding the correct boundary
conditions, so he never does this calculation'. This is just one of
the basic shortcomings of using a mechanical analogy, you can not
satisfy the electric and magnetic field boundary conditions that the
final version of his equations handle properly. while some basic
effects like the interference patterns can be duplicated for both
longitudinal and transverse waves, they are not interchangeable in all
cases and trying to do so will only lead to absurd things like
electrons jumping off antennas or the need for an aether to transmit
em waves.

1612. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 20:08:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <41879617-3e45-450a-8ea6-46c565e80e4b@c11g2000vbe.googlegroups.com>
Source record: 9812

On May 21, 1:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Alternate electric field from the ends of the dipole kicks the electrons in
> the space and they oscillate (longitudinal electric waves).

How much I^2*R loss is there in the plasma conductors of free space?
How far into space does the electron plasma effect extend? If
electrons can flow from a cold aluminum element in a vacuum, why does
a vacuum tube need a special heated cathode?
--
73, Cecil, w5dxp.com

1613. Re: Who makes this HF Beam ??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-21 22:13:09 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <VzDJn.26262$pv.10530@news-server.bigpond.net.au>
Source record: 9813

Howard,
Here is a link, http://www.atrc.com.au/mq36sr.htm
does it look like this one?
John VK2KC

"Howard Kowall" <hkowall@shaw.ca> wrote in message
news:_6vJn.73967$0M5.68088@newsfe07.iad...
> Hello to All
> Yesterday I took down a small HF beam antenna,for lady whose husband just
> passed away.
> He had bought it last year brand new.At 1st I thought it was a Butternut
> Butterfly beam,but its not.
> The reflector is a elongated triangle with wire around the perimeter of it
> and has clear tubes for support of the triangle that go into Aluminum
> tubes of the support structure,in the middle of the triangle is a plastic
> hub that it all ties into and mounts to the boom.The boom look like aprox
> 10' long,the driven element has a matching network of some kind that is in
> a gray 4x4 box,and at each end of the driven element it has a hub with
> about 8 rods on it,the director is almost the same as the driven but is
> not split in middle and has the same hub and rods at the ends of it as
> the driven element.
> I hope I explained ok the best that I could do
> Any input would be great
> Thanks all and have a nice summer
> Howard
> VE4ISP
>
>
>

1614. @m Jpole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 02:32:56 UTC
From: ai8o <ai8o@lexcominc.net>
Message-ID: <da45c44f-fa03-47d1-810a-3e18821e736d@c11g2000vbe.googlegroups.com>
Source record: 9814

I built a 2m J-Pole from 1/2 inch copper tubing.
I am going to put a page about it on my website.(HTTP://ai8o.yemiola.net
)
The webpage will have a short history of Zepps and their evolution
into J-poles.
I took pictures during construction showing how it was constructed,
and will post them also.
Does anyone have a current/voltage plot of a J-Pole that they would
be willing to share, so I can post it on My J-Pole webpage?
I have found several diagrams of J-Pole dimensions, (like the one in
the ARRL Antenna Book),but I have not found any Current /voltage plots
for a vertical J-Pole.
73
AI8O

1615. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 06:33:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf77aa4$0$2592$65785112@news.neostrada.pl>
Source record: 9815

"K1TTT" <k1ttt@arrl.net> wrote
news:38ddf5f4-0881-4390-8587-2fbd0a0cfc54@c13g2000vbr.googlegroups.com...
On May 21, 5:48 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > >> In textbooks are prsented all theories and hipothesis.
> > > It is your choose which one do you prefer: EM, photons or like sound.
> > > S*
>
> >> "Like sound " antennas are in sale for ages.
> > If Art's are or will be - I do not know. I am not an expert. (I have
> > trouble
> > with understanding Art's idea - he is using very sophistcated terms).
> > S*
> >show me the equations for modeling a dipole radiation pattern using
>
>>> sound in free space, be sure to account for polarization.
>
>> I have something like
>> this:http://perg.phys.ksu.edu:80/vqmorig/programs/java/makewave/Slit/vq_mw...
>
>> See also 1864
>> in:http://online.physics.uiuc.edu/courses/phys435/spring10/Lecture_Notes...
>
>> Transversal wves have no sense. The equations are usefull for teaching
>> the
> math.

>right, read this carefully from that 1864 note: 'the requirements of
his mechanical model keep him from finding the correct boundary
conditions, so he never does this calculation'.

> This is just one of
the basic shortcomings of using a mechanical analogy, you can not
satisfy the electric and magnetic field boundary conditions that the
final version of his equations handle properly.

In science area are scientists and teachers.
All scientists know that electricity, magnetism and gravity are the same.
Teachers know that the three must be taught seperately. Are you a student?

> while some basic
effects like the interference patterns can be duplicated for both
longitudinal and transverse waves, they are not interchangeable in all
cases and trying to do so will only lead to absurd things like
electrons jumping off antennas or the need for an aether to transmit

em waves.

Maxwell's model is for the aether. But with the two substances: magnetism and electricity.

Your antennas have the blunt tips to prevent the "jumping off ".
The alternate voltage in the ends create the oscilation of electrons in neighbourhood .

Electrons in space are detected. So they are the aether.
Do not you hear on Dirac electron see?
S*

1616. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 06:49:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf77e64$0$19173$65785112@news.neostrada.pl>
Source record: 9816

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:41879617-3e45-450a-8ea6-46c565e80e4b@c11g2000vbe.googlegroups.com...
On May 21, 1:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Alternate electric field from the ends of the dipole kicks the electrons
>> in
> the space and they oscillate (longitudinal electric waves).

>How much I^2*R loss is there in the plasma conductors of free space?

Oscillations are not travelling. Loss are only when something travel between
obstacles.

>How far into space does the electron plasma effect extend?

As far as light do.

>If electrons can flow from a cold aluminum element in a vacuum, why does
a vacuum tube need a special heated cathode?

Also exists the field emission. But it is harmfull for antennas if it is in
form of sparks.
The high voltage kicks the electrons in the neighbourhood.
Probably the electrons flow (and come back - but it is not symetrical)) from
a cold aluminum element. Anenna radiate if VSWR is low. It means that not
all come back.
S*

1617. Re: Welcome to Name Your Baby.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 09:58:18 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <xisx0RE6q69LFwba@b-howie.demon.co.uk>
Source record: 9817

In message <ht43ei$o41a$1@tr22n12.aset.psu.edu>, Michael Coslo
<mjc5@psu.edu> writes
>Rhett Heyward wrote:
>> Our baby name generator wizard can help you find some
>> pretty weird names for
>> your new bundle of joy! Just click on either button below (depending
>> on whether you are looking for a baby boy or baby girl name) or our
>> wizard will suggest a name for you. Push the button as many times as
>> you want until you find the perfect baby name you love!

I've corrected his post.

I wanted to call my daughter Mosfet, but wife overruled.

Brian

--
Brian Bauxite-13 Howie
"Lonesome no more"

1618. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 10:05:09 UTC
From: Brian Howie <brian@nospam.demon.co.uk>
Message-ID: <9SnyIPFVx69LFw5y@b-howie.demon.co.uk>
Source record: 9818

In message <uMoJn.26161$pv.8481@news-server.bigpond.net.au>, VK2KC
<vk2kcjohn@gmail.com> writes
>I am going to build an array of 4 stacked dipoles for operation on 2 metres.
>I would like to know whether the gamma fed dipole has any advantage over the
>folded dipole, apart from the folded dipole being a tad more difficult to
>make.
>
>I have heard that the gamma fed dipole has a skewed radiation pattern in
>comparison to the folded one.
>
>Any thoughts and advice?
>Many thanks

The Clemens match is a variant of the gamma match that gets round that
problem. I tried them on 6m and 4m.

Http://www.qsl.net/yt1vp/THE%20CLEMENS%20MATCH.htm

You need to watch the losses in the coax dielectric. I vaporised UR67
and had to go to PTFE.

Brian GM4DIJ

--
Brian Howie

1619. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 10:36:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a567d768-f1b8-4248-9de3-8a115336f686@u7g2000vbq.googlegroups.com>
Source record: 9819

On May 22, 6:33 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:38ddf5f4-0881-4390-8587-2fbd0a0cfc54@c13g2000vbr.googlegroups.com...
> On May 21, 5:48 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > > >> In textbooks are prsented all theories and hipothesis.
> > > > It is your choose which one do you prefer: EM, photons or like sound.
> > > > S*
>
> > >> "Like sound " antennas are in sale for ages.
> > > If Art's are or will be - I do not know. I am not an expert. (I have
> > > trouble
> > > with understanding Art's idea - he is using very sophistcated terms).
> > > S*
> > >show me the equations for modeling a dipole radiation pattern using
>
> >>> sound in free space, be sure to account for polarization.
>
> >> I have something like
> >> this:http://perg.phys.ksu.edu:80/vqmorig/programs/java/makewave/Slit/vq_mw...
>
> >> See also 1864
> >> in:http://online.physics.uiuc.edu/courses/phys435/spring10/Lecture_Notes...
>
> >> Transversal wves have no sense. The equations are usefull for teaching
> >> the
> > math.
> >right, read this carefully from that 1864 note: 'the requirements of
>
> his mechanical model keep him from finding the correct boundary
> conditions, so he never does this calculation'.
>
> > This is just one of
>
> the basic shortcomings of using a mechanical analogy, you can not
> satisfy the electric and magnetic field boundary conditions that the
> final version of his equations handle properly.
>
> In science area are scientists and teachers.
> All scientists know that electricity, magnetism and gravity are the same.

> Teachers know that the three must be taught seperately. Are you a student?
>
> > while some basic
>
> effects like the interference patterns can be duplicated for both
> longitudinal and transverse waves, they are not interchangeable in all
> cases and trying to do so will only lead to absurd things like
> electrons jumping off antennas or the need for an aether to transmit
> em waves.
>
> Maxwell's model is for the aether. But with the two substances: magnetism
> and electricity.
>
> Your antennas have the blunt tips to prevent the "jumping off ".
> The alternate voltage in the ends create the oscilation of electrons in
> neighbourhood .
>
> Electrons in space are detected. So they are the aether.
> Do not you hear on Dirac electron see?
> S*

no, i am not a student, i am an engineer by training and scientist by
title. where in maxwell's equations is there an aether?

not all antennas have blunt tips, and electron's don't just 'jump off'
an antenna.

no, just because there are electrons in space doesn't make that an
aether. there are electrons flowing in vacuum tubes, that is a
current, not an aether to carry em waves.

1620. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 10:39:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <27cb764a-c486-4f5a-ad46-149063d625fb@z17g2000vbd.googlegroups.com>
Source record: 9820

On May 22, 6:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>
wrotenews:41879617-3e45-450a-8ea6-46c565e80e4b@c11g2000vbe.googlegroups.com...
> On May 21, 1:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> Alternate electric field from the ends of the dipole kicks the electrons
> >> in
> > the space and they oscillate (longitudinal electric waves).
> >How much I^2*R loss is there in the plasma conductors of free space?
>
> Oscillations are not travelling. Loss are only when something travel between
> obstacles.
>
> >How far into space does the electron plasma effect extend?
>
> As far as light do.
>
> >If electrons can flow from a cold aluminum element in a vacuum, why does
>
> a vacuum tube need a special heated cathode?
>
> Also exists the field emission. But it is harmfull for antennas if it is in
> form of sparks.
> The high voltage kicks the electrons in the neighbourhood.
> Probably the electrons flow (and come back - but it is not symetrical)) from
> a cold aluminum element. Anenna radiate if VSWR is low. It means that not
> all come back.
> S*

so over a period of time if the electrons keep flowing away from an
antenna it should become positively charged. and the longer it
operates the higher the charge. unfortunately this is not the case,
antennas do not give off electrons any more than they have magical
levitating neutrinos like art prefers.

1621. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 10:54:44 UTC
From: "Kjell W. Strom" <strom.lime@xs4all.nl>
Message-ID: <4bf7b7f4$0$22917$e4fe514c@news.xs4all.nl>
Source record: 9821

Walt: For somebody who missed out on Reflections II, it looks like a lot of
fine reading - many thanks!

Sven: Got delivery here in Holland today.

73,
Kjell PB3SM - SM6CPI

"Sven Lundbech" <oz7s@hotmail.com> wrote in message
news:4bd30060$0$36581$edfadb0f@dtext01.news.tele.dk...
> "walt" <walt@w2du.com> skrev i en meddelelse
> news:ff574e73-6c94-46ea-94e6-3c4a21a5e5fd@r27g2000yqn.googlegroups.com...
>> To order a copy of the 3rd edition of Reflections, authored by Walter
>> Maxwell, W2DU, go to the W2DU website at www.w2du.com, then go to page
>> 2 and click on the following:
>>
>> Order Reflections III from CQ Online BookStore
>>
>> Walt, W2DU
>>
> Dear Walt,
>
> Ever since reading your 1973 QST articles, being a second-year student at
> the Polytechnics/Technical University of Copenhagen, I have referred to
> your ground-breaking work for removing the myths and misunderstandings of
> the (un)importance of the swr over and over again. Somewhere I still have
> the ageing photocopies of all the articles. But having the opportunity to
> get it all and more in one piece in Reflections III is really greast. I
> have ordered my copy right away.
>
> Later on, both in my professional life after receiving my MSc(EE) as a
> radio engineer and during my 19 years as Technical Editor of 'OZ' (the
> Danisk QST) I have had to weed out misconceptions about swr and
> transmission lines. My early understanding from your work was a great
> help. Thanks!
>
> All the best,
>
> vy 73
> OZ7S Sven
>

1622. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 11:36:23 UTC
From: joe <none@domain.invalid>
Message-ID: <ht8fc6$3rq$1@speranza.aioe.org>
Source record: 9822

Szczepan Bialek wrote:
> > In science area are scientists and teachers.
> All scientists know that electricity, magnetism and gravity are the same.
S*
>
>

I can demonstrate that electrically charged items can repel each other.
I can demonstrate how magnets can repel each other.

How do I demonstrate the repelling effect of gravity?

1623. Re: Who makes this HF Beam ??

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 12:26:08 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <H1QJn.15586$jt.11957@newsfe04.iad>
Source record: 9823

Yes I did finally find it
I also manage to download the manuals aslo
thanks very much John for you time and effort
Howard VE4ISP
"VK2KC" <vk2kcjohn@gmail.com> wrote in message
news:VzDJn.26262$pv.10530@news-server.bigpond.net.au...
> Howard,
> Here is a link, http://www.atrc.com.au/mq36sr.htm
> does it look like this one?
> John VK2KC
>
> "Howard Kowall" <hkowall@shaw.ca> wrote in message
> news:_6vJn.73967$0M5.68088@newsfe07.iad...
>> Hello to All
>> Yesterday I took down a small HF beam antenna,for lady whose husband just
>> passed away.
>> He had bought it last year brand new.At 1st I thought it was a Butternut
>> Butterfly beam,but its not.
>> The reflector is a elongated triangle with wire around the perimeter of
>> it and has clear tubes for support of the triangle that go into Aluminum
>> tubes of the support structure,in the middle of the triangle is a plastic
>> hub that it all ties into and mounts to the boom.The boom look like aprox
>> 10' long,the driven element has a matching network of some kind that is
>> in a gray 4x4 box,and at each end of the driven element it has a hub with
>> about 8 rods on it,the director is almost the same as the driven but is
>> not split in middle and has the same hub and rods at the ends of it as
>> the driven element.
>> I hope I explained ok the best that I could do
>> Any input would be great
>> Thanks all and have a nice summer
>> Howard
>> VE4ISP
>>
>>
>>
>
>

1624. Re: Welcome to Name Your Baby.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 12:35:15 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <c6def03e-575c-4584-bf47-37a066879eb2@d12g2000vbr.googlegroups.com>
Source record: 9824
Body handling: HTML body converted to readable text

On May 22, 5:58 am, Brian Howie wrote:
> In message , Michael Coslo
> writes >Rhett Heyward wrote:
>
> >> Our baby name generator wizard can help you find some
> >> pretty weird names for
> >> your new bundle of joy! Just click on either button below (depending
> >> on whether you are looking for a baby boy or baby girl name) or our
> >> wizard will suggest a name for you. Push the button as many times as
> >> you want until you find the perfect baby name you love!
>
> I've corrected his post.
>
> I wanted to call my daughter Mosfet, but wife overruled.
>
> Brian
>
> --
> Brian Bauxite-13 Howie
> "Lonesome no more"

I had the wife online with Taylor Gibson Fender then someone clued her
in. Dont make jokes like that to a pregnant lady.

Jimmie

1625. Replacement for W9INN Center Connector

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 12:37:12 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-265EC9.07371222052010@news.eternal-september.org>
Source record: 9825

My 40/80 (modified for extra bands) W9INN dipole is getting old and I need to replace the center connector. I am not sure what Bill W9INN used for the center connector but it looks like a W2AU 1:1 balun.

Can someone verify what Bill used and recommend a replacement.

Dick AA5VU

W9INN (SK) is missed!

1626. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 17:35:46 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf815fa$0$2604$65785112@news.neostrada.pl>
Source record: 9826

Uzytkownik "joe" <none@domain.invalid> napisal w wiadomosci
news:ht8fc6$3rq$1@speranza.aioe.org...
> Szczepan Bialek wrote:
>> > In science area are scientists and teachers.
>> All scientists know that electricity, magnetism and gravity are the same.
> S*
>>
>>
>
> I can demonstrate that electrically charged items can repel each other.

Only can. Strong charged attracts the weaker charged.

> I can demonstrate how magnets can repel each other.

The same as above.

> How do I demonstrate the repelling effect of gravity?

An apple fall down but Moon dust levitates. Is it repelled?
Aepinus was sure about that. Now no doubts.
S*

1627. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 17:56:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf81ae7$0$17084$65785112@news.neostrada.pl>
Source record: 9827

"K1TTT" <k1ttt@arrl.net> wrote
news:a567d768-f1b8-4248-9de3-8a115336f686@u7g2000vbq.googlegroups.com...
On May 22, 6:33 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > >> In textbooks are prsented all theories and hipothesis.
> > > > It is your choose which one do you prefer: EM, photons or like
> > > > sound.
> > > > S*
>
>
> >> I have something like
> >> this:
> >> http://perg.phys.ksu.edu:80/vqmorig/programs/java/makewave/Slit/vq_mw...
>
> >> See also 1864
> >> in:http://online.physics.uiuc.edu/courses/phys435/spring10/Lecture_Notes...
>
> >> Transversal wves have no sense. The equations are usefull for teaching
> >> the
> > math.
> >right, read this carefully from that 1864 note: 'the requirements of
>
>> his mechanical model keep him from finding the correct boundary
> conditions, so he never does this calculation'.
>
> > This is just one of
>
>> the basic shortcomings of using a mechanical analogy, you can not
> satisfy the electric and magnetic field boundary conditions that the
> final version of his equations handle properly.
>
>> In science area are scientists and teachers.
> All scientists know that electricity, magnetism and gravity are the same.
> Teachers know that the three must be taught seperately. Are you a student?
>
>> > while some basic
>
>>> effects like the interference patterns can be duplicated for both
> longitudinal and transverse waves, they are not interchangeable in all
> cases and trying to do so will only lead to absurd things like
> electrons jumping off antennas or the need for an aether to transmit
> em waves.
>
>> Maxwell's model is for the aether. But with the two substances: magnetism

> and electricity.
>
>> Your antennas have the blunt tips to prevent the "jumping off ".
> The alternate voltage in the ends create the oscilation of electrons in
> neighbourhood .
>
>> Electrons in space are detected. So they are the aether.
> Do not you hear on Dirac electron see?
> S*

>no, i am not a student, i am an engineer by training and scientist by
title. where in maxwell's equations is there an aether?

Maxwell's equations are wrote by Heaviside (engineer).
Maxwell did the aether model and proper math.
Teachers often use big names to support his program teaching.
The same is with Ampere. His name is used to support the magnetic whirl.
For Ampere the magnetism is an illusion. It is the electric field of moving
charges.

>not all antennas have blunt tips, and electron's don't just 'jump off'
an antenna.

Whe they are? The reflected wave is weaker.

>no, just because there are electrons in space doesn't make that an
aether. there are electrons flowing in vacuum tubes, that is a
current, not an aether to carry em waves.

The same is in conductors. Currents are DC or AC. Maxwell's displacement
current is the AC (oscillating).
In Maxwell's aether the current in the wire oscillate in phase with the
displacement current in the aether.

Why are you the slave the only one hipothesis. The "like sound" is the
theory.

In textbooks no statements which one is correct. The all are presented.
S*

1628. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 18:07:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf81d4c$0$19183$65785112@news.neostrada.pl>
Source record: 9828

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:27cb764a-c486-4f5a-ad46-149063d625fb@z17g2000vbd.googlegroups.com...
On May 22, 6:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Also exists the field emission. But it is harmfull for antennas if it is
>> in
> form of sparks.
> The high voltage kicks the electrons in the neighbourhood.
> Probably the electrons flow (and come back - but it is not symetrical))
> from
> a cold aluminum element. Anenna radiate if VSWR is low. It means that not
> all come back.
> S*

>so over a period of time if the electrons keep flowing away from an
antenna it should become positively charged. and the longer it
operates the higher the charge. unfortunately this is not the case,

Is antena grounded?
All circuits are closed. The receiver antenna also do not become negatively
charged. The Earth closes the circuit.

>antennas do not give off electrons any more than they have magical
levitating neutrinos like art prefers.

I am using only old theories proved by experiments. Art is probably trying
to do the new.
The same was with Maxwell. He did the new. May be that Art's hipothesis the
teachers adopt to teaching.
S*

1629. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 20:01:32 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4d41c9d4-a681-4822-99b9-fceb704b755c@q23g2000vba.googlegroups.com>
Source record: 9829

On May 22, 1:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:27cb764a-c486-4f5a-ad46-149063d625fb@z17g2000vbd.googlegroups.com...
> On May 22, 6:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Also exists the field emission. But it is harmfull for antennas if it is
> >> in
> > form of sparks.
> > The high voltage kicks the electrons in the neighbourhood.
> > Probably the electrons flow (and come back - but it is not symetrical))
> > from
> > a cold aluminum element. Anenna radiate if VSWR is low. It means that not
> > all come back.
> > S*
> >so over a period of time if the electrons keep flowing away from an
>
> antenna it should become positively charged. and the longer it
> operates the higher the charge. unfortunately this is not the case,
>
> Is antena grounded?
> All circuits are closed. The receiver antenna also do not become negatively
> charged. The Earth closes the circuit.
>
> >antennas do not give off electrons any more than they have magical
>
> levitating neutrinos like art prefers.
>
> I am using only old theories proved by experiments. Art is probably trying
> to do the new.
> The same was with Maxwell. He did the new. May be that Art's hipothesis the
> teachers adopt to teaching.
> S*

Because of comments made I decided to abandon the idea of increasing
the diameter of the dipole which really is a bit off the wall and
decided instead to change frequency applied to obtain a low to near
zero impedance. This approach did not result in a truly spherical
radiation pattern and nor did it remove vortices ! The pattern when
cut always revealed a figure 8 somewhere. Never the less, peak gain
produced by the program always produced a larger volume pattern when
impedance was a minimum. This certainly implies that because of the
loss of skin the element impedance was lowered and thus the radiation

would increase. Of course it depends on the observer to interprete observations where others may well differ.(A sure certainty in this group)
I am beginning to see an analogy between radiation elements and water, where water being diamagnetic would attract particles. Looking at it in radiating terms, the current would flow within the intersection point outside the water and propel the individual particles from or part of the skin which really is an encapsulation surface of a material other than water. Since mass inside the boundary does not change because of instant replacement the boundary mathematical approach would still hold.
Of course, if the skin was actually made of particles the addition of soap to the radiator surface would render it immune to radiation if bubbles were not created thus leaving a diminishing surface area of broken skin.Hopefully I have supplied enough material to anger those who are sure they know all about radiation and thus provoke them to finally declare exactly what is happening in a scientific manner ala details, details,details
Regards
Art

1630. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 21:06:24 UTC
From: Sven Lundbech <oz7s@hotmail.com>
Message-ID: <4bf8474e$0$36577$edfadb0f@dtext01.news.tele.dk>
Source record: 9830

"Kjell W. Strom" <strom.lime@xs4all.nl> skrev i en meddelelse
news:4bf7b7f4$0$22917$e4fe514c@news.xs4all.nl...
> Walt: For somebody who missed out on Reflections II, it looks like a lot
> of fine reading - many thanks!
>
> Sven: Got delivery here in Holland today.
>
> 73,
> Kjell PB3SM - SM6CPI
>
>
> "Sven Lundbech" <oz7s@hotmail.com> wrote in message
> news:4bd30060$0$36581$edfadb0f@dtext01.news.tele.dk...
>> "walt" <walt@w2du.com> skrev i en meddelelse
>> news:ff574e73-6c94-46ea-94e6-3c4a21a5e5fd@r27g2000yqn.googlegroups.com...
>>> To order a copy of the 3rd edition of Reflections, authored by Walter
>>> Maxwell, W2DU, go to the W2DU website at www.w2du.com, then go to page
>>> 2 and click on the following:
>>>
>>> Order Reflections III from CQ Online BookStore
>>>
>>> Walt, W2DU
>>>
>> Dear Walt,
>>
>> Ever since reading your 1973 QST articles, being a second-year student at
>> the Polytechnics/Technical University of Copenhagen, I have referred to
>> your ground-breaking work for removing the myths and misunderstandings of
>> the (un)importance of the swr over and over again. Somewhere I still have
>> the ageing photocopies of all the articles. But having the opportunity to
>> get it all and more in one piece in Reflections III is really greast. I
>> have ordered my copy right away.
>>
>> Later on, both in my professional life after receiving my MSc(EE) as a
>> radio engineer and during my 19 years as Technical Editor of 'OZ' (the
>> Danisk QST) I have had to weed out misconceptions about swr and
>> transmission lines. My early understanding from your work was a great
>> help. Thanks!
>>
>> All the best,
>>
>> vy 73
>> OZ7S Sven
>>

>
Got delivery to-day.

As mentioned earlier, most of the stuff is old hat to me - but I really look forward to dig into the chapters concerning tx output impedance. A highly controversial subject for decades.

vy 73
OZ7S Sven

1631. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 21:39:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7749f6a9-9c25-43b8-a23f-a1c70e043966@c7g2000vbc.googlegroups.com>
Source record: 9831

On May 22, 5:56 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:a567d768-f1b8-4248-9de3-8a115336f686@u7g2000vbq.googlegroups.com...
> On May 22, 6:33 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > > > >> In textbooks are prsented all theories and hipothesis.
> > > > > It is your choose which one do you prefer: EM, photons or like
> > > > > sound.
> > > > > S*
>
> > >> I have something like
> > >> this:
> > >>http://perg.phys.ksu.edu:80/vqmorig/programs/java/makewave/Slit/vq_mw...
>
> > >> See also 1864
> > >> in:http://online.physics.uiuc.edu/courses/phys435/spring10/Lecture_Notes...
>
> > >> Transversal wves have no sense. The equations are usefull for teaching
> > >> the
> > > math.
> > >right, read this carefully from that 1864 note: 'the requirements of
>
> >> his mechanical model keep him from finding the correct boundary
> > conditions, so he never does this calculation'.
>
> > > This is just one of
>
> >> the basic shortcomings of using a mechanical analogy, you can not
> > satisfy the electric and magnetic field boundary conditions that the
> > final version of his equations handle properly.
>
> >> In science area are scientists and teachers.
> > All scientists know that electricity, magnetism and gravity are the same.
> > Teachers know that the three must be taught seperately. Are you a student?
>
> >> > while some basic
>
> >>> effects like the interference patterns can be duplicated for both
> > longitudinal and transverse waves, they are not interchangeable in all
> > cases and trying to do so will only lead to absurd things like

> > electrons jumping off antennas or the need for an aether to transmit
> > em waves.
>
> >> Maxwell's model is for the aether. But with the two substances: magnetism
> > and electricity.
>
> >> Your antennas have the blunt tips to prevent the "jumping off ".
> > The alternate voltage in the ends create the oscilation of electrons in
> > neighbourhood .
>
> >> Electrons in space are detected. So they are the aether.
> > Do not you hear on Dirac electron see?
> > S*
> >no, i am not a student, i am an engineer by training and scientist by
>
> title. where in maxwell's equations is there an aether?
>
> Maxwell's equations are wrote by Heaviside (engineer).
> Maxwell did the aether model and proper math.
> Teachers often use big names to support his program teaching.
> The same is with Ampere. His name is used to support the magnetic whirl.
> For Ampere the magnetism is an illusion. It is the electric field of moving
> charges.
>
> >not all antennas have blunt tips, and electron's don't just 'jump off'
>
> an antenna.
>
> Whe they are? The reflected wave is weaker.
>
> >no, just because there are electrons in space doesn't make that an
>
> aether. there are electrons flowing in vacuum tubes, that is a
> current, not an aether to carry em waves.
>
> The same is in conductors. Currents are DC or AC. Maxwell's displacement
> current is the AC (oscillating).
> In Maxwell's aether the current in the wire oscillate in phase with the
> displacement current in the aether.
>
> Why are you the slave the only one hipothesis. The "like sound" is the
> theory.
>
> In textbooks no statements which one is correct. The all are presented.
> S*

only in very basic non-scientific treatments. this is getting old
again, it is obvious you have stuck a hundred years or more in the
past and will never catch up.

1632. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 21:41:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1b6d791c-eabf-4212-a548-2f25de0b7ace@z33g2000vbb.googlegroups.com>
Source record: 9832

On May 22, 8:01 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 22, 1:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:27cb764a-c486-4f5a-ad46-149063d625fb@z17g2000vbd.googlegroups.com...
> > On May 22, 6:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > >> Also exists the field emission. But it is harmfull for antennas if it is
> > >> in
> > > form of sparks.
> > > The high voltage kicks the electrons in the neighbourhood.
> > > Probably the electrons flow (and come back - but it is not symetrical))
> > > from
> > > a cold aluminum element. Anenna radiate if VSWR is low. It means that not
> > > all come back.
> > > S*
> > >so over a period of time if the electrons keep flowing away from an
>
> > antenna it should become positively charged. and the longer it
> > operates the higher the charge. unfortunately this is not the case,
>
> > Is antena grounded?
> > All circuits are closed. The receiver antenna also do not become negatively
> > charged. The Earth closes the circuit.
>
> > >antennas do not give off electrons any more than they have magical
>
> > levitating neutrinos like art prefers.
>
> > I am using only old theories proved by experiments. Art is probably trying
> > to do the new.
> > The same was with Maxwell. He did the new. May be that Art's hipothesis the
> > teachers adopt to teaching.
> > S*
>
> Because of comments made I decided to abandon the idea of increasing
> the diameter of the dipole which really is a bit off the wall and
> decided instead to change frequency applied to obtain a low to near
> zero impedance. This approach did not result in a truly spherical
> radiation pattern and nor did it remove vortices ! The pattern when
> cut always revealed a figure 8 somewhere. Never the less, peak gain
> produced by the program always produced a larger volume pattern when

> impedance was a minimum. This certainly implies that because of the
> loss of skin the element impedance was lowered and thus the radiation
> would increase. Of course it depends on the observer to interprete
> observations where others may well differ.(A sure certainty in this
> group)
> I am beginning to see an analogy between radiation
> elements and water, where water being diamagnetic would attract
> particles. Looking at it in radiating terms, the current would flow
> within the intersection point outside the water and propel the
> individual particles from or part of the skin which really is an
> encapsulation surface of a material other than water. Since mass
> inside the boundary does not change because of instant replacement the
> boundary mathematical approach would still hold.
> Of course, if the skin was actually made of particles
> the addition of soap to the radiator surface would render it immune to
> radiation if bubbles were not created thus leaving a diminishing
> surface area of broken skin.Hopefully I have supplied enough material
> to anger those who are sure they know all about radiation and thus
> provoke them to finally declare exactly what is happening in a
> scientific manner ala details, details,details
> Regards
> Art

you really must chat with mr. b. now that you are talking about water
waves you are both on the same 'wavelength' so to speak.

1633. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-22 21:42:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com>
Source record: 9833

On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:27cb764a-c486-4f5a-ad46-149063d625fb@z17g2000vbd.googlegroups.com...
> On May 22, 6:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Also exists the field emission. But it is harmfull for antennas if it is
> >> in
> > form of sparks.
> > The high voltage kicks the electrons in the neighbourhood.
> > Probably the electrons flow (and come back - but it is not symetrical))
> > from
> > a cold aluminum element. Anenna radiate if VSWR is low. It means that not
> > all come back.
> > S*
> >so over a period of time if the electrons keep flowing away from an
>
> antenna it should become positively charged. and the longer it
> operates the higher the charge. unfortunately this is not the case,
>
> Is antena grounded?
> All circuits are closed. The receiver antenna also do not become negatively
> charged. The Earth closes the circuit.
>
> >antennas do not give off electrons any more than they have magical
>
> levitating neutrinos like art prefers.
>
> I am using only old theories proved by experiments. Art is probably trying
> to do the new.
> The same was with Maxwell. He did the new. May be that Art's hipothesis the
> teachers adopt to teaching.
> S*

antennas do now have to be grounded. how are antennas on satellites
grounded?? do satellites become massive positive charges in space as
they keep shooting off electrons... again, this is going no where,
when you have read another hundred years of science and are ready to
believe what has been well proven over that time period maybe we can
have a conversation.

1634. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 00:08:29 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <03888641-8b85-4a56-8fa7-d140a6d77d23@f14g2000vbn.googlegroups.com>
Source record: 9834

On May 22, 4:41 pm, K1TTT <k1...@arrl.net> wrote:
> On May 22, 8:01 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 22, 1:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:27cb764a-c486-4f5a-ad46-149063d625fb@z17g2000vbd.googlegroups.com...
> > > On May 22, 6:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > > >> Also exists the field emission. But it is harmfull for antennas if it is
> > > > >> in
> > > > > form of sparks.
> > > > > The high voltage kicks the electrons in the neighbourhood.
> > > > > Probably the electrons flow (and come back - but it is not symetrical))
> > > > > from
> > > > > a cold aluminum element. Anenna radiate if VSWR is low. It means that not
> > > > > all come back.
> > > > > S*
> > > > >so over a period of time if the electrons keep flowing away from an
>
> > > > antenna it should become positively charged. and the longer it
> > > > operates the higher the charge. unfortunately this is not the case,
>
> > > Is antena grounded?
> > > All circuits are closed. The receiver antenna also do not become negatively
> > > charged. The Earth closes the circuit.
>
> > > >antennas do not give off electrons any more than they have magical
>
> > > levitating neutrinos like art prefers.
>
> > > I am using only old theories proved by experiments. Art is probably trying
> > > to do the new.
> > > The same was with Maxwell. He did the new. May be that Art's hipothesis the
> > > teachers adopt to teaching.
> > > S*
>
> > Because of comments made I decided to abandon the idea of increasing
> > the diameter of the dipole which really is a bit off the wall and
> > decided instead to change frequency applied to obtain a low to near
> > zero impedance. This approach did not result in a truly spherical
> > radiation pattern and nor did it remove vortices ! The pattern when

> > cut always revealed a figure 8 somewhere. Never the less, peak gain
> > produced by the program always produced a larger volume pattern when
> > impedance was a minimum. This certainly implies that because of the
> > loss of skin the element impedance was lowered and thus the radiation
> > would increase. Of course it depends on the observer to interprete
> > observations where others may well differ.(A sure certainty in this
> > group)
> > I am beginning to see an analogy between radiation
> > elements and water, where water being diamagnetic would attract
> > particles. Looking at it in radiating terms, the current would flow
> > within the intersection point outside the water and propel the
> > individual particles from or part of the skin which really is an
> > encapsulation surface of a material other than water. Since mass
> > inside the boundary does not change because of instant replacement the
> > boundary mathematical approach would still hold.
> > Of course, if the skin was actually made of particles
> > the addition of soap to the radiator surface would render it immune to
> > radiation if bubbles were not created thus leaving a diminishing
> > surface area of broken skin.Hopefully I have supplied enough material
> > to anger those who are sure they know all about radiation and thus
> > provoke them to finally declare exactly what is happening in a
> > scientific manner ala details, details,details
> > Regards
> > Art
>
> you really must chat with mr. b. now that you are talking about water
> waves you are both on the same 'wavelength' so to speak.

Is that a good example of what you call conversation?
Waves and wavelength !!!
Talk with Mister B?
I would do that at a drop of the hat if the outcome was that you
wouldn't engage me in conversation for a hundred years as you promised
him.
I left you a clue with respect to water and the
collecting of Neutrinos but again I over estimated
your interlect
I don't think I can go much lower, you as a person has already hit
rock bottom.
Hey a question for you. Richard lives alone, so does Kotar .Possibly
the other regular hacker also. Would I be correct that you also have
to live alone as you seem to fit the standard model of driving people
away?

1635. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 00:38:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf8791e$0$50146$8046368a@newsreader.iphouse.net>
Source record: 9835

On 5/22/2010 3:01 PM, Art Unwin wrote:
> I am beginning to see an analogy between radiation
> elements and water, where water being diamagnetic would attract
> particles. Looking at it in radiating terms, the current would flow
> within the intersection point outside the water and propel the
> individual particles from or part of the skin which really is an
> encapsulation surface of a material other than water. Since mass
> inside the boundary does not change because of instant replacement the
> boundary mathematical approach would still hold.
> Of course, if the skin was actually made of particles
> the addition of soap to the radiator surface would render it immune to
> radiation if bubbles were not created thus leaving a diminishing
> surface area of broken skin.Hopefully I have supplied enough material
> to anger those who are sure they know all about radiation and thus
> provoke them to finally declare exactly what is happening in a
> scientific manner ala details, details,details
> Regards
> Art

Reminds me of a comment an engineer made to me in jest "We're making up
shit as fast as we can!".

And that's about all that needs to be said about Art's latest journey
into fairyland.

tom
K0TAR

1636. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 00:43:01 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf87a15$0$633$8046368a@newsreader.iphouse.net>
Source record: 9836

On 5/22/2010 7:08 PM, Art Unwin wrote:
> Is that a good example of what you call conversation?
> Waves and wavelength !!!
> Talk with Mister B?
> I would do that at a drop of the hat if the outcome was that you
> wouldn't engage me in conversation for a hundred years as you promised
> him.
> I left you a clue with respect to water and the
> collecting of Neutrinos but again I over estimated
> your interlect
> I don't think I can go much lower, you as a person has already hit
> rock bottom.
> Hey a question for you. Richard lives alone, so does Kotar .Possibly
> the other regular hacker also. Would I be correct that you also have
> to live alone as you seem to fit the standard model of driving people
> away?

So desperation is setting in now. He is grasping at straws about which
he has no knowledge.

Let's try a similar useless tactic!

Have you stopped beating your wife Art?

tom
K0TAR

1637. Re: Welcome to Name Your Baby.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 00:47:12 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf87b0f$0$633$8046368a@newsreader.iphouse.net>
Source record: 9837

On 5/22/2010 7:35 AM, JIMMIE wrote:
>>
>> I wanted to call my daughter Mosfet, but wife overruled.
>>
>> Brian
>>
>> --
>> Brian Bauxite-13 Howie
>> "Lonesome no more"
>
> I had the wife online with Taylor Gibson Fender then someone clued her
> in. Dont make jokes like that to a pregnant lady.
>
> Jimmie

That's a wonderful name! And could have led to a lucrative career in
front of large crowds.

tom
K0TAR

1638. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 01:09:07 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6132ca65-6484-4e1c-88a1-9fd61ee21f4a@r9g2000vbk.googlegroups.com>
Source record: 9838

On May 22, 7:43 pm, tom <news4...@taring.org> wrote:
> On 5/22/2010 7:08 PM, Art Unwin wrote:
>
> > Is that a good example of what you call conversation?
> >   Waves and wavelength !!!
> > Talk with Mister B?
> > I would do that at a drop of the hat if the outcome was that you
> > wouldn't engage me in conversation for a hundred years as you promised
> > him.
> > I left you a clue with respect to water and the
> > collecting of Neutrinos but again I over estimated
> > your interlect
> >   I don't think I can go much lower, you as a person has already hit
> > rock bottom.
> > Hey a question for you. Richard lives alone, so does Kotar .Possibly
> > the other regular hacker also. Would I be correct that you also have
> > to live alone as you seem to fit the standard model of driving people
> > away?
>
> So desperation is setting in now. He is grasping at straws about which
> he has no knowledge.
>
> Let's try a similar useless tactic!
>
> Have you stopped beating your wife Art?
>
> tom
> K0TAR

Tom I just can't see you holding your tongue or being civil for any
length of time! It is quite obvious that you have to live alone. Me? I
just celebrated my 50th anniversary with my wife. Monday we all
celebrate my daughters wedding anniversary where all the tribe will
appear. Another great evening on the horizon. Eat your heart out. And
yes, you called it right, your comment was a useless tactic.

1639. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 01:52:51 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf88a72$0$636$8046368a@newsreader.iphouse.net>
Source record: 9839

On 5/22/2010 8:09 PM, Art Unwin wrote:
>> So desperation is setting in now. He is grasping at straws about which
>> he has no knowledge.
>>
>> Let's try a similar useless tactic!
>>
>> Have you stopped beating your wife Art?
>>
>> tom
>> K0TAR
>
> Tom I just can't see you holding your tongue or being civil for any
> length of time! It is quite obvious that you have to live alone. Me? I
> just celebrated my 50th anniversary with my wife. Monday we all
> celebrate my daughters wedding anniversary where all the tribe will
> appear. Another great evening on the horizon. Eat your heart out. And
> yes, you called it right, your comment was a useless tactic.

Just as useless as yours, since you know nothing of what you speak about
myself and others. That was my point. Duh.

tom
K0TAR

1640. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 01:54:46 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf88ae5$0$636$8046368a@newsreader.iphouse.net>
Source record: 9840

On 5/22/2010 8:09 PM, Art Unwin wrote:
>>
>> So desperation is setting in now. He is grasping at straws about which
>> he has no knowledge.
>>
>> Let's try a similar useless tactic!
>>
>> Have you stopped beating your wife Art?
>>
>> tom
>> K0TAR
>
> Tom I just can't see you holding your tongue or being civil for any
> length of time! It is quite obvious that you have to live alone. Me? I
> just celebrated my 50th anniversary with my wife. Monday we all
> celebrate my daughters wedding anniversary where all the tribe will
> appear. Another great evening on the horizon. Eat your heart out. And
> yes, you called it right, your comment was a useless tactic.

And you didn't, as usual, answer the question. Have you stopped beating
your wife?

tom
K0TAR

1641. Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 02:17:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c873b705-6a32-4998-b491-80e3ce15a8af@m4g2000vbl.googlegroups.com>
Source record: 9841

I just modeled two coils counter wound and one inside the other as a complete closed circuit , end fed. Counter winding is quite the norm with special purpose machinery to prevent inter tangling of coils when compressed.
With the coils wound opposite to each other
it made quite a nice antenna when placed on a flat plate. Beam was pencil shaped without side lobes and sensitive to all polarities.Thus any such dishes could be used for 'point to point' using any type circular polarization. Smaller in size compared to other designs is rather obvious. Where Kraus determined such an antenna single wound form demanded a certain angular pitch such a requirement is not apparent with this design. Kraus assumed a certain pitch was required when wave composition clashed, but the opposite happens when particles vectors add. Another example of particle versus waves disputes.It also confirms Maxwells equation by removing the effect of lumped loads which was not included in his equation as was not the stipulation that a radiator must be straight.

Caution:
Above details not yet "printed" in a book so it must be considered questionable.
Regards
Art

1642. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 02:26:25 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2354fa62-6d32-4161-833e-7923bd447381@o15g2000vbb.googlegroups.com>
Source record: 9842

On May 22, 8:54 pm, tom <news4...@taring.org> wrote:
> On 5/22/2010 8:09 PM, Art Unwin wrote:
>
>
>
>
>
> >> So desperation is setting in now. He is grasping at straws about which
> >> he has no knowledge.
>
> >> Let's try a similar useless tactic!
>
> >> Have you stopped beating your wife Art?
>
> >> tom
> >> K0TAR
>
> > Tom I just can't see you holding your tongue or being civil for any
> > length of time! It is quite obvious that you have to live alone. Me? I
> > just celebrated my 50th anniversary with my wife. Monday we all
> > celebrate my daughters wedding anniversary where all the tribe will
> > appear. Another great evening on the horizon. Eat your heart out. And
> > yes, you called it right, your comment was a useless tactic.
>
> And you didn't, as usual, answer the question. Have you stopped beating
> your wife?
>
> tom
> K0TAR

I imagine the beating of a wife would procede the sessation of the
above so you would know nothing about the latter until desertion came
about.
Some time ago I saw a man argueing with himself
which was the mirror image of himself as he looked outside. Is that
where you get your experience from
and your need to win at all times?

1643. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 02:36:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf894b0$0$633$8046368a@newsreader.iphouse.net>
Source record: 9843

On 5/22/2010 9:26 PM, Art Unwin wrote:
>
> I imagine the beating of a wife would procede the sessation of the
> above so you would know nothing about the latter until desertion came
> about.
> Some time ago I saw a man argueing with himself
> which was the mirror image of himself as he looked outside. Is that
> where you get your experience from
> and your need to win at all times?

I generally continue until things are resolved, while you just start a
new thread.

tom
K0TAR

1644. Re: Welcome to Name Your Baby.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 03:48:07 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <4138d2bd-5aa7-48ec-a745-abbf698f199f@v37g2000vbv.googlegroups.com>
Source record: 9844

On May 22, 8:47 pm, tom <news4...@taring.org> wrote:
> On 5/22/2010 7:35 AM, JIMMIE wrote:
>
>
>
> >> I wanted to call my daughter Mosfet, but wife overruled.
>
> >> Brian
>
> >> --
> >> Brian Bauxite-13 Howie
> >> "Lonesome no more"
>
> > I had the wife online with Taylor Gibson Fender then someone clued her
> > in. Dont make jokes like that to a pregnant lady.
>
> > Jimmie
>
> That's a wonderful name! And could have led to a lucrative career in
> front of large crowds.
>
> tom
> K0TAR

We had been settled on the name for about 2 months when her friend
told her it was the name of guitars.While it started as a joke I began
to like it. Daughter IS very much into music.Plays piano xylophone and
flute.

Jimmie

1645. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 04:16:26 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <28654bc8-a7a8-46fa-8cde-f9b84d0ea533@e21g2000vbl.googlegroups.com>
Source record: 9845

On May 22, 9:36 pm, tom <news4...@taring.org> wrote:
> On 5/22/2010 9:26 PM, Art Unwin wrote:
>
>
>
> > I imagine the beating of a wife would procede the sessation of the
> > above so you would know nothing about the latter until desertion came
> > about.
> > Some time ago I saw a man argueing with himself
> > which was the mirror image of himself as he looked outside. Is that
> > where you get your experience from
> > and your need to win at all times?
>
> I generally continue until things are resolved, while you just start a
> new thread.
>
> tom
> K0TAR

Is that how your ex wife characterised you after you challenged her
every day after day? I start a new thread in the hope of getting rid
of you. But when I talk antennas you turn to trash because you know
nothing else other than being a hate full and evil person . Read your
own past postings some time and characterise the person behind what
you read. Not very pleasing right!

1646. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 08:29:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D81BC11E3183nonenowhere@61.9.191.5>
Source record: 9846

"Sven Lundbech" <oz7s@hotmail.com> wrote in
news:4bf8474e$0$36577$edfadb0f@dtext01.news.tele.dk:

...
> As mentioned earlier, most of the stuff is old hat to me - but I
> really look forward to dig into the chapters concerning tx output
> impedance. A highly controversial subject for decades.

Here is a simple little test for the hypothesis that Zs=50+j0 that uses
equipment found in many if not most HF ham shacks.

Owen

1647. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 08:31:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D81BC759136Bnonenowhere@61.9.191.5>
Source record: 9847

Owen Duffy <none@no.where> wrote in news:Xns9D81BC11E3183nonenowhere@
61.9.191.5:

> "Sven Lundbech" <oz7s@hotmail.com> wrote in
> news:4bf8474e$0$36577$edfadb0f@dtext01.news.tele.dk:
>
> ...
>> As mentioned earlier, most of the stuff is old hat to me - but I
>> really look forward to dig into the chapters concerning tx output
>> impedance. A highly controversial subject for decades.
>
> Here is a simple little test for the hypothesis that Zs=50+j0 that uses
> equipment found in many if not most HF ham shacks.

Oh, the URL: http://vk1od.net/blog/?p=1028 .

>
> Owen
>

1648. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 09:34:33 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf8f6ad$0$2586$65785112@news.neostrada.pl>
Source record: 9848

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com...
On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> I am using only old theories proved by experiments. Art is probably
>> trying
> to do the new.
> The same was with Maxwell. He did the new. May be that Art's hipothesis
> the
> teachers adopt to teaching.
> S*

>antennas do not have to be grounded.

"A wire that runs from the motor to the machine's frame to absorb stray
electric charge. Chassis ground is used when it is not possible to connect a
grounding conductor into the earth. "

" how are antennas on satellites
grounded??

To chassis. Your mobile phone also.

>do satellites become massive positive charges in space as
they keep shooting off electrons...

They mainly transmit. So chassis is enough. Chassis must has the large area
to dissipate/absorb the electrons from space.

> again, this is going no where,
when you have read another hundred years of science and are ready to
believe what has been well proven over that time period maybe we can
have a conversation.

Take a glance at: http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
And tell us what is your opinion on Maxwell's model of the aether..

S*

1649. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 09:42:13 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf8f879$0$2591$65785112@news.neostrada.pl>
Source record: 9849

"K1TTT" <k1ttt@arrl.net> wrote
news:7749f6a9-9c25-43b8-a23f-a1c70e043966@c7g2000vbc.googlegroups.com...
On May 22, 5:56 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> The same is in conductors. Currents are DC or AC. Maxwell's displacement
> current is the AC (oscillating).
> In Maxwell's aether the current in the wire oscillate in phase with the
> displacement current in the aether.
>
>> Why are you the slave the only one hipothesis. The "like sound" is the
> theory.
>
>> In textbooks no statements which one is correct. The all are presented.
> S*

>only in very basic non-scientific treatments. this is getting old
again, it is obvious you have stuck a hundred years or more in the
past and will never catch up.

Maxwell's model of aether (two substances) is from 1861.
Dirac model of aether (electrons see) is from 1930 (about).

Who of us is a hundred years or more in the past?
Who do not catch up?
S*

1650. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 11:11:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b4408d60-e12f-48c3-930f-76f7cf21a7f2@q13g2000vbm.googlegroups.com>
Source record: 9850

On May 23, 9:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com...
> On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> I am using only old theories proved by experiments. Art is probably
> >> trying
> > to do the new.
> > The same was with Maxwell. He did the new. May be that Art's hipothesis
> > the
> > teachers adopt to teaching.
> > S*
> >antennas do not have to be grounded.
>
> "A wire that runs from the motor to the machine's frame to absorb stray
> electric charge. Chassis ground is used when it is not possible to connect a
> grounding conductor into the earth. "
>
> " how are antennas on satellites
> grounded??
>
> To chassis. Your mobile phone also.
>
> >do satellites become massive positive charges in space as
> they keep shooting off electrons...
>
> They mainly transmit. So chassis is enough. Chassis must has the large area
> to dissipate/absorb the electrons from space.
>
> > again, this is going no where,
>
> when you have read another hundred years of science and are ready to
> believe what has been well proven over that time period maybe we can
> have a conversation.
>
> Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> And tell us what is your opinion on Maxwell's model of the aether..
>
> S*

argh, one wikipedia article and you are an expert. good bye cruel
usenet, i have real antennas to work on... including the ferromagnetic

pointy ended non-grounded and yet uncharged ones that art can't
explain. you guys enjoy your delusions.

1651. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 11:16:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2e47f35f-b4e8-475b-b334-996ef2111b54@f13g2000vbm.googlegroups.com>
Source record: 9751

On May 23, 9:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:7749f6a9-9c25-43b8-a23f-a1c70e043966@c7g2000vbc.googlegroups.com...
> On May 22, 5:56 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> The same is in conductors. Currents are DC or AC. Maxwell's displacement
> > current is the AC (oscillating).
> > In Maxwell's aether the current in the wire oscillate in phase with the
> > displacement current in the aether.
>
> >> Why are you the slave the only one hipothesis. The "like sound" is the
> > theory.
>
> >> In textbooks no statements which one is correct. The all are presented.
> > S*
> >only in very basic non-scientific treatments. this is getting old
>
> again, it is obvious you have stuck a hundred years or more in the
> past and will never catch up.
>
> Maxwell's model of aether (two substances) is from 1861.
> Dirac model of aether (electrons see) is from 1930 (about).
>
> Who of us is a hundred years or more in the past?
> Who do not catch up?
> S*

sorry, last reply have real antennas to work on today. it was in
between them that the aether was pretty well shot down, you like
wikipedia, go read http://en.wikipedia.org/wiki/Michelson%E2%80%93Morley_experiment
and think some more. dirac was trying to resurrect the aether, that
doesn't make him any more correct than you or art... even the best
thinkers have some bad side trips, the best of them know when to admit
they are on a dead end.

1652. DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 12:43:51 UTC
From: "Man-wai Chang to The Door (33600bps)" <toylet.toylet@gmail.com>
Message-ID: <htb7u8$j29$2@news.eternal-september.org>
Source record: 9752

http://www.mtmscientific.com/loop.html

Anyone got a circuit diagram? :)

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.34
^ ^ 20:43:01 up 4 days 23:54 2 users load average: 1.09 1.02 1.01
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1653. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 14:07:40 UTC
From: tom <news4792@taring.org>
Message-ID: <4bf936ac$0$50146$8046368a@newsreader.iphouse.net>
Source record: 9753

On 5/23/2010 7:43 AM, Man-wai Chang to The Door (33600bps) wrote:
>
> http://www.mtmscientific.com/loop.html
>
> Anyone got a circuit diagram? :)
>

I have one I made years ago that is similar, so I can describe it for you.

Materials needed - about 32m of wire, light plywood (I used scrap),
365pf (or anything close) capacitor, connector of choice.

My box is made with 127cm by 13cm plywood pieces joined as an X, which
will give you a 90cm square box. The dimensions are not very critical.
Drill 10 evenly spaced holes near the end of each piece. Thread the
wire through the holes until 10 turns are in place. You will bring the
2 tails of wire in to a point near the center of the X where you have
mounted the tuning capacitor. Solder the tails to the capacitor. Drill
2 holes in the end of each piece just inside of the 10 turn loop for the
pickup loop and thread a 2 turn loop into place. Run those tails to a
point near the center of the X where you have mounted your connector of
choice. Solder to connector.

Connect your AMBCB radio and tune the capacitor for max signal strength.
Enjoy!

Vary size of box, number of turns in loop, and value of the capacitor
for other bands.

tom
K0TAR

1654. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 14:55:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5c5adbb6-fc12-4b82-b7dc-0ca5f43d46f0@w3g2000vbd.googlegroups.com>
Source record: 9754

On May 22, 1:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >How far into space does the electron plasma effect extend?
>
> As far as light do.

When I was in college, I observed a stream of electrons emitting a glow that traveled at the speed of light to my eyes which evolved to detect photons, not electrons. Since photons can do that, why is there a need to introduce the concept of invisible, undetectable, massless, virtual electrons in free space? What is the electron density of free space?
--
73, Cecil, w5dxp.com

1655. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 16:02:06 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <55d784cc-db91-4edc-b3b8-a47e60f36724@y12g2000vbr.googlegroups.com>
Source record: 9755

On May 21, 3:55 am, Roy Lewallen <w...@eznec.com> wrote:

> So what should we expect the gain of a very short dipole
> to be if we could make one with no (resistive) loss?

An "infinitesimal," center-fed, linear dipole has a peak directivity/
gain of 1.5, or 1.76 dBi. Getting any r-f energy to flow on it takes
some real heroics, though.

RF

1656. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 17:06:30 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <235f60a3-c7bc-4c57-8372-e13e5831a537@o39g2000vbd.googlegroups.com>
Source record: 9756

On May 23, 10:07 am, tom <news4...@taring.org> wrote:
> On 5/23/2010 7:43 AM, Man-wai Chang to The Door (33600bps) wrote:
>
>
>
> >http://www.mtmscientific.com/loop.html
>
> > Anyone got a circuit diagram? :)
>
> I have one I made years ago that is similar, so I can describe it for you.
>
> Materials needed - about 32m of wire, light plywood (I used scrap),
> 365pf (or anything close) capacitor, connector of choice.
>
> My box is made with 127cm by 13cm plywood pieces joined as an X, which
> will give you a 90cm square box. The dimensions are not very critical.
> Drill 10 evenly spaced holes near the end of each piece. Thread the
> wire through the holes until 10 turns are in place. You will bring the
> 2 tails of wire in to a point near the center of the X where you have
> mounted the tuning capacitor. Solder the tails to the capacitor. Drill
> 2 holes in the end of each piece just inside of the 10 turn loop for the
> pickup loop and thread a 2 turn loop into place. Run those tails to a
> point near the center of the X where you have mounted your connector of
> choice. Solder to connector.
>
> Connect your AMBCB radio and tune the capacitor for max signal strength.
> Enjoy!
>
> Vary size of box, number of turns in loop, and value of the capacitor
> for other bands.
>
> tom
> K0TAR

Havent seen one of those in years. Made one when I was a kid in High
School. It was my project in woodworking and physics class.

Jimmie

1657. Re: What exactly is radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 17:33:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf966fa$0$19171$65785112@news.neostrada.pl>
Source record: 9757

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:2e47f35f-b4e8-475b-b334-996ef2111b54@f13g2000vbm.googlegroups.com...
On May 23, 9:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Maxwell's model of aether (two substances) is from 1861.
> Dirac model of aether (electrons see) is from 1930 (about).
>
?> Who of us is a hundred years or more in the past?
> Who do not catch up?
> S*

>sorry, last reply have real antennas to work on today. it was in
between them that the aether was pretty well shot down, you like
wikipedia, go read
http://en.wikipedia.org/wiki/Michelson%E2%80%93Morley_experiment
and think some more.

The aether of Lorentz was shot down. Michelson in his famous experiments in
1887 and 1925 (with Gale) proved that the aether rotate with the Sun but do
not rotate with the Earth. Such model of the aether was made by Stokes, the
chamption of the aether.

Lorentz aether was motionless. You know that the Sun rotate. Why the plasma
do not?

The evidences of that are collected by A. G. Kelly:
http://www.worldnpa.org/pdf/ebooks/Kelly%20-%20New%20Theory%20of%20the%20Behavior%20of%20L
ight.pdf

> dirac was trying to resurrect the aether, that
doesn't make him any more correct than you or art... even the best
thinkers have some bad side trips, the best of them know when to admit
they are on a dead end.

Maxwell was full of doubts.

The aether is shot down from teaching program. The plasma is included.
If somebody do not like the "aether waves" he can use the "plasma waves" or
something else..
S*

1658. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 17:37:22 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5814e95b-ad5e-4ffc-9065-91987784a074@z33g2000vbb.googlegroups.com>
Source record: 9758

On May 23, 11:02 am, Richard Fry <r...@adams.net> wrote:
> On May 21, 3:55 am, Roy Lewallen <w...@eznec.com> wrote:
>
> > So what should we expect the gain of a very short dipole
> > to be if we could make one with no (resistive) loss?
>
> An "infinitesimal," center-fed, linear dipole has a peak directivity/
> gain of 1.5, or 1.76 dBi. Getting any r-f energy to flow on it takes
> some real heroics, though.
>
> RF

I don't think a pursuit of destroying Ohms laws is going to prove
anything.Preservation of time is a must with respect to accelleration
of charge. Would it not be better to operate within Ohms law with a
dipole of "near" zero resistance and then apply a time varying current
from one resonant frequency to another.You then obtain a trend of the
change in volume of radiation. I suspect that the maximum radiation
volume could be reached prior to zero impedance dependent on the
particle transfer and replacement time. Working within existing laws
and environments narrows the variables and narrows the scope of the
eventual debate around the findings. The subject is determination of
maximum volume of radiation which has nothing to do with "gain" using
existing definitions.I see nothing unreasonable in using a computer
program to extract data provided by changes of applied frequency.

1659. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 18:01:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bf96d93$0$19165$65785112@news.neostrada.pl>
Source record: 9760

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:5c5adbb6-fc12-4b82-b7dc-0ca5f43d46f0@w3g2000vbd.googlegroups.com...
On May 22, 1:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> >How far into space does the electron plasma effect extend?
>
>> As far as light do.

>When I was in college, I observed a stream of electrons emitting a
glow that traveled at the speed of light to my eyes which evolved to
detect photons, not electrons.

Your hears detect the air particle oscillations. Your eyes detect the
electrons oscillations.

> Since photons can do that, why is there
a need to introduce the concept of invisible, undetectable, massless,
virtual electrons

Electrons are detectable and have mass.

>in free space? What is the electron density of free space?

Now everybody meassure it:
http://www.academicjournals.org/ijlis/PDF/pdf2009/July/Okeke%20et%20al.pdf
S*

1660. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 18:13:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <830bb9fb-9813-4bf1-b2cc-80f83ec85d51@q23g2000vba.googlegroups.com>
Source record: 9761

On May 23, 5:37 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 23, 11:02 am, Richard Fry <r...@adams.net> wrote:
>
> > On May 21, 3:55 am, Roy Lewallen <w...@eznec.com> wrote:
>
> > > So what should we expect the gain of a very short dipole
> > > to be if we could make one with no (resistive) loss?
>
> > An "infinitesimal," center-fed, linear dipole has a peak directivity/
> > gain of 1.5, or 1.76 dBi. Getting any r-f energy to flow on it takes
> > some real heroics, though.
>
> > RF
>
> I don't think a pursuit of destroying Ohms laws is going to prove
> anything.Preservation of time is a must with respect to accelleration
> of charge. Would it not be better to operate within Ohms law with a
> dipole of "near" zero resistance and then apply a time varying current
> from one resonant frequency to another.You then obtain a trend of the
> change in volume of radiation. I suspect that the maximum radiation
> volume could be reached prior to zero impedance dependent on the
> particle transfer and replacement time. Working within existing laws
> and environments narrows the variables and narrows the scope of the
> eventual debate around the findings. The subject is determination of
> maximum volume of radiation which has nothing to do with "gain" using
> existing definitions.I see nothing unreasonable in using a computer
> program to extract data provided by changes of applied frequency.

max volume equals 0dbi gain, by definition. not very practical and
hard to achieve in a real antenna. for most 'normal' applications we
have some kind of preferred direction so directional antennas from
simple dipoles to big dishes are more useful.

1661. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 18:15:41 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bc31f1d5-8237-4de2-919e-436d0bb97d02@m4g2000vbl.googlegroups.com>
Source record: 9762

On May 23, 6:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> Electrons are detectable and have mass.
>

ah yes, that ugly little thing called mass... because electrons have
mass they can not travel at c, therefore they can not be the carriers
of electromagnetic radiation. also, it is well known that photons
have no rest mass and no charge, both of which disqualify the electron
also. you should really talk to art, he is much closer with his
magical levitating diamagnetic neutrino.

1662. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 18:28:31 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f0168a6b-80e9-4e0e-bdfd-8d7092a88633@40g2000vbr.googlegroups.com>
Source record: 9763

On May 23, 4:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com...
> On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> I am using only old theories proved by experiments. Art is probably
> >> trying
> > to do the new.
> > The same was with Maxwell. He did the new. May be that Art's hipothesis
> > the
> > teachers adopt to teaching.
> > S*
> >antennas do not have to be grounded.
>
> "A wire that runs from the motor to the machine's frame to absorb stray
> electric charge. Chassis ground is used when it is not possible to connect a
> grounding conductor into the earth. "
>
> " how are antennas on satellites
> grounded??
>
> To chassis. Your mobile phone also.
>
> >do satellites become massive positive charges in space as
> they keep shooting off electrons...
>
> They mainly transmit. So chassis is enough. Chassis must has the large area
> to dissipate/absorb the electrons from space.
>
> > again, this is going no where,
>
> when you have read another hundred years of science and are ready to
> believe what has been well proven over that time period maybe we can
> have a conversation.
>
> Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> And tell us what is your opinion on Maxwell's model of the aether..
>
> S*

Hi Mister S
Thank you for supplying reference for the article in the phylisophical

journal. Most of it is beyond my interlect
but a quick review show that the tenents of his explanation
are based first on the requirement of equilibrium
That particles is the center of discussion
That vortices are present to provide a displacement force
And the connection between electrostatic and light
functions. Nowhere do I see reference to Gauss law of statics and the
progression to a dynamic field which makes
his paper some what astounding for him to come up with this paper
without these clues that have been hidden for so long. I intend to get
a print out of all four portions of this paper in the hope I can
cherry pick some portions that I can understand from the paper. As
always one of the most important things are the responses from his
peers which
usually are accompanied by science analysis rather than relyinging on
base intuitions without supporting facts from the ham community.
Thanks again
Art

1663. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 19:14:32 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6485645c-6a8a-492f-b8de-abf7554e7ced@a16g2000vbr.googlegroups.com>
Source record: 9764

On May 23, 1:15 pm, K1TTT <k1...@arrl.net> wrote:
> On May 23, 6:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > Electrons are detectable and have mass.
>
> ah yes, that ugly little thing called mass... because electrons have
> mass they can not travel at c, therefore they can not be the carriers
> of electromagnetic radiation. also, it is well known that photons
> have no rest mass and no charge, both of which disqualify the electron
> also. you should really talk to art, he is much closer with his
> magical levitating diamagnetic neutrino.

Oh my. ! The above is the silliest thing I have heard in a long while,
but I am very glad you presented it
as an example of your private analysis. It shows that tho free speech
is viable what is contained in the enunciation is not necessarily
anything other than trash. And I just love that position of yours
"it is 'well known' that photons have no rest mass and no charge".
Don't you have to repeat that a 1000 times before it can be considered
true?

1664. Re: system degradation question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 19:32:54 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <gB20KgQmLY+LFwDS@g3ohx.demon.co.uk>
Source record: 9765

In message <2ZdKn.23542$Ak3.5406@newsfe16.iad>, rb <rbig@cox.net> writes
>Got a station antenna setup. I have twinlead up to 140' per side dipole.
>I have a desk, facing a wall. Window over to the right. Right now, I
>have coax coming out of my antnenna tuner, going outside, through the
>window, to a setup to feed balanced line.
>
>For years, I've thought about what would happen if I brought balanced line
>into the house.
>
>I've got a metal filing cabinet between window and ham shack. I'd have
>about 5' of line from my tuner, going around the cabinet, and finally
>getting to the window.
>
>How much performance degradation would this give me to do it in spite of the
>metal cabinet? I know for years they say: don't let twinlead come near
>metal objects. This would be doing that. Wonder how much degradation I'd
>suffer if I did that?
>
As they say, "Suck it and see" (especially if it's easy to try).
Keep the feeder as far as possible from the filing cabinet (rotating it,
if you can). [No, not the filing cabinet.]

If you don't try it yourself, and report back here what your findings
are, in six months from now, this thread will still be going strong.
--
Ian

1665. system degradation question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 19:53:48 UTC
From: rb <rbig@cox.net>
Message-ID: <2ZdKn.23542$Ak3.5406@newsfe16.iad>
Source record: 9759

Got a station antenna setup. I have twinlead up to 140' per side dipole. I have a desk, facing a wall. Window over to the right. Right now, I have coax coming out of my antnenna tuner, going outside, through the window, to a setup to feed balanced line.

For years, I've thought about what would happen if I brought balanced line into the house.

I've got a metal filing cabinet between window and ham shack. I'd have about 5' of line from my tuner, going around the cabinet, and finally getting to the window.

How much performance degradation would this give me to do it in spite of the metal cabinet? I know for years they say: don't let twinlead come near metal objects. This would be doing that. Wonder how much degradation I'd suffer if I did that?

1666. Re: system degradation question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 21:16:57 UTC
From: nm5k@wt.net
Message-ID: <b74012b0-18ec-456d-a0bd-cb8a33a076d5@v18g2000vbc.googlegroups.com>
Source record: 9766

On May 23, 2:53 pm, "rb" <r...@cox.net> wrote:
> Got a station antenna setup. I have twinlead up to 140' per side dipole.
> I have a desk, facing a wall. Window over to the right. Right now, I
> have coax coming out of my antnenna tuner, going outside, through the
> window, to a setup to feed balanced line.
>
> For years, I've thought about what would happen if I brought balanced line
> into the house.
>
> I've got a metal filing cabinet between window and ham shack. I'd have
> about 5' of line from my tuner, going around the cabinet, and finally
> getting to the window.
>
> How much performance degradation would this give me to do it in spite of the
> metal cabinet? I know for years they say: don't let twinlead come near
> metal objects. This would be doing that. Wonder how much degradation I'd
> suffer if I did that?

Probably none. Performance might actually increase slightly if the
coax to twin lead connection is lossy. I'm not a fan of running coax
to
twin lead. If I use a tuner, I run twin lead or ladder line the whole
route.
The "twin lead near metal" issues are often overblown.
Like Ian says, try it and see what happens.

1667. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 21:22:42 UTC
From: nm5k@wt.net
Message-ID: <968aa345-c020-4499-b8a9-371dcdca3606@y21g2000vba.googlegroups.com>
Source record: 9767

On May 23, 7:43 am, "Man-wai Chang to The Door (33600bps)"
<toylet.toy...@gmail.com> wrote:
> http://www.mtmscientific.com/loop.html
>
> Anyone got a circuit diagram? :)

$137.50... Dang.. Maybe I should start selling loops.. They sure
seem to be proud of them when they apply the price tag.
This is my version of the same appx thing, except using a
simple PVC frame. Can be built for chump change if you have
an old BC variable laying around. If not , the caps can be
bought on the web.. I scrounge mine out of old analog stereo
receivers, radios, etc..

1668. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 21:38:04 UTC
From: joe <none@domain.invalid>
Message-ID: <htc70csoc1@speranza.aioe.org>
Source record: 9768

Art Unwin wrote:
> On May 23, 4:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com...
>> On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>>
>>
>>>> I am using only old theories proved by experiments. Art is probably
>>>> trying
>>> to do the new.
>>> The same was with Maxwell. He did the new. May be that Art's hipothesis
>>> the
>>> teachers adopt to teaching.
>>> S*
>>> antennas do not have to be grounded.
>> "A wire that runs from the motor to the machine's frame to absorb stray
>> electric charge. Chassis ground is used when it is not possible to connect a
>> grounding conductor into the earth. "
>>
>> " how are antennas on satellites
>> grounded??
>>
>> To chassis. Your mobile phone also.
>>
>> >do satellites become massive positive charges in space as
>> they keep shooting off electrons...
>>
>> They mainly transmit. So chassis is enough. Chassis must has the large area
>> to dissipate/absorb the electrons from space.
>>
>>> again, this is going no where,
>> when you have read another hundred years of science and are ready to
>> believe what has been well proven over that time period maybe we can
>> have a conversation.
>>
>> Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
>> And tell us what is your opinion on Maxwell's model of the aether..
>>
>> S*
>
> Hi Mister S
> Thank you for supplying reference for the article in the phylisophical
> journal. Most of it is beyond my interlect

So much so that neither of you noticed that the article is scanned and ocr'ed from somewhere resulting in none of the equations being faithfully represented. For most I would expect this to result in difficulty understanding the principles presented.

> but a quick review show that the tenents of his explanation
> are based first on the requirement of equilibrium
> That particles is the center of discussion
> That vortices are present to provide a displacement force
> And the connection between electrostatic and light
> functions. Nowhere do I see reference to Gauss law of statics and the
> progression to a dynamic field which makes
> his paper some what astounding for him to come up with this paper
> without these clues that have been hidden for so long. I intend to get
> a print out of all four portions of this paper in the hope I can
> cherry pick some portions that I can understand from the paper. As
> always one of the most important things are the responses from his
> peers which
> usually are accompanied by science analysis rather than relyinging on
> base intuitions without supporting facts from the ham community.
> Thanks again
> Art
>

Art, is there any chance your high observed gain is because antenna has very low impedance that the currents may be overly elevated from the voltage source used in your model?

Low impedance leading to higher current leading to higher fields being generated leading to higher perceived gain.

If you can choose antenna parameters that result in negative resistance, does this really mean your model is working properly under the conditions you are using?

>
>
>
>
>
>

1669. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 21:45:07 UTC
From: joe <none@domain.invalid>
Message-ID: <htc7df$t7l$1@speranza.aioe.org>
Source record: 9769

Art Unwin wrote:
> On May 23, 1:15 pm, K1TTT <k1...@arrl.net> wrote:
>> On May 23, 6:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>>
>>
>>> Electrons are detectable and have mass.
>> ah yes, that ugly little thing called mass... because electrons have
>> mass they can not travel at c, therefore they can not be the carriers
>> of electromagnetic radiation. also, it is well known that photons
>> have no rest mass and no charge, both of which disqualify the electron
>> also. you should really talk to art, he is much closer with his
>> magical levitating diamagnetic neutrino.
>
> Oh my. ! The above is the silliest thing I have heard in a long while,
> but I am very glad you presented it
> as an example of your private analysis. It shows that tho free speech
> is viable what is contained in the enunciation is not necessarily
> anything other than trash. And I just love that position of yours
> "it is 'well known' that photons have no rest mass and no charge".
> Don't you have to repeat that a 1000 times before it can be considered
> true?

Art,

Please enlighten us.

What is the mass of a proton at rest?

Please quantify the charge of a photon.

1670. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 21:46:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a81c5c44-93a4-42d4-a36b-ffbafb222d27@y12g2000vbr.googlegroups.com>
Source record: 9770

On May 23, 7:14 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 23, 1:15 pm, K1TTT <k1...@arrl.net> wrote:
>
> > On May 23, 6:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > Electrons are detectable and have mass.
>
> > ah yes, that ugly little thing called mass... because electrons have
> > mass they can not travel at c, therefore they can not be the carriers
> > of electromagnetic radiation. also, it is well known that photons
> > have no rest mass and no charge, both of which disqualify the electron
> > also. you should really talk to art, he is much closer with his
> > magical levitating diamagnetic neutrino.
>
> Oh my. ! The above is the silliest thing I have heard in a long while,
> but I am very glad you presented it
> as an example of your private analysis. It shows that tho free speech
> is viable what is contained in the enunciation is not necessarily
> anything other than trash. And I just love that position of yours
> "it is 'well known' that photons have no rest mass and no charge".
> Don't you have to repeat that a 1000 times before it can be considered
> true?

isn't that your method... keep repeating the same garbage hoping it
catches on.

1671. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 21:49:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a3cdd496-9d49-42eb-b4ec-2ceb9fc7e6ad@k31g2000vbu.googlegroups.com>
Source record: 9771

On May 23, 6:28 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 23, 4:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com...
> > On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > > I am using only old theories proved by experiments. Art is probably
> > > > trying
> > > > to do the new.
> > > > The same was with Maxwell. He did the new. May be that Art's hipothesis
> > > > the
> > > > teachers adopt to teaching.
> > > > S*
> > > >antennas do not have to be grounded.
>
> > "A wire that runs from the motor to the machine's frame to absorb stray
> > electric charge. Chassis ground is used when it is not possible to connect a
> > grounding conductor into the earth. "
>
> > " how are antennas on satellites
> > grounded??
>
> > To chassis. Your mobile phone also.
>
> > >do satellites become massive positive charges in space as
> > they keep shooting off electrons...
>
> > They mainly transmit. So chassis is enough. Chassis must has the large area
> > to dissipate/absorb the electrons from space.
>
> > > again, this is going no where,
>
> > when you have read another hundred years of science and are ready to
> > believe what has been well proven over that time period maybe we can
> > have a conversation.
>
> > Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> > And tell us what is your opinion on Maxwell's model of the aether..
>
> > S*
>

> Hi Mister S
> Thank you for supplying reference for the article in the phylisophical
> journal. Most of it is beyond my interlect
> but a quick review show that the tenents of his explanation
> are based first on the requirement of equilibrium
> That particles is the center of discussion
> That vortices are present to provide a displacement force
> And the connection between electrostatic and light
> functions. Nowhere do I see reference to Gauss law of statics and the
> progression to a dynamic field which makes
> his paper some what astounding for him to come up with this paper
> without these clues that have been hidden for so long. I intend to get
> a print out of all four portions of this paper in the hope I can
> cherry pick some portions that I can understand from the paper. As
> always one of the most important things are the responses from his
> peers which
> usually are accompanied by science analysis rather than relyinging on
> base intuitions without supporting facts from the ham community.
> Thanks again
> Art

much is beyond your intellect... however you should note that gauss's
law wasn't published until about 6 years after that article, so it
would be surprising if it was referenced. that article is also well
before maxwell had published his works that contain his completed set
of equations describing electromagnetic fields... so it is not
surprising that some of what is in there was undoubtedly incorrect
guesses and suppositions based on earlier observations.

1672. Re: system degradation question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 21:55:48 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <r98jv5h181bs50qo2r6cd655qj9i1j2t6t@4ax.com>
Source record: 9772

On Sun, 23 May 2010 12:53:48 -0700, "rb" <rbig@cox.net> wrote:

>Got a station antenna setup. I have twinlead up to 140' per side dipole.
>I have a desk, facing a wall. Window over to the right. Right now, I
>have coax coming out of my antnenna tuner, going outside, through the
>window, to a setup to feed balanced line.
>
>For years, I've thought about what would happen if I brought balanced line
>into the house.
>
>I've got a metal filing cabinet between window and ham shack. I'd have
>about 5' of line from my tuner, going around the cabinet, and finally
>getting to the window.
>
>How much performance degradation would this give me to do it in spite of the
>metal cabinet? I know for years they say: don't let twinlead come near
>metal objects. This would be doing that. Wonder how much degradation I'd
>suffer if I did that?
>

For my 80 meter dipole, I have 92 feet of twinlead running around the
roof, and through the window, to my tuner -- it passes a few metal
pieces here and there, and I can't see any problems. I'd say give it a
try -- it's the only way to find out.

I use one of the MFJ window feedthrough panels to get the twinlead
indoors -- they work very nicely.

bob
k5qwg

1673. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 22:00:54 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <734784d0-17f9-4dde-995e-f850c95737ad@j9g2000vbp.googlegroups.com>
Source record: 9773

On May 23, 4:49 pm, K1TTT <k1...@arrl.net> wrote:
> On May 23, 6:28 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 23, 4:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com...
> > > On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > > I am using only old theories proved by experiments. Art is probably
> > > > trying
> > > > to do the new.
> > > > The same was with Maxwell. He did the new. May be that Art's hipothesis
> > > > the
> > > > teachers adopt to teaching.
> > > > S*
> > > >antennas do not have to be grounded.
>
> > > "A wire that runs from the motor to the machine's frame to absorb stray
> > > electric charge. Chassis ground is used when it is not possible to connect a
> > > grounding conductor into the earth. "
>
> > > " how are antennas on satellites
> > > grounded??
>
> > > To chassis. Your mobile phone also.
>
> > > >do satellites become massive positive charges in space as
> > > they keep shooting off electrons...
>
> > > They mainly transmit. So chassis is enough. Chassis must has the large area
> > > to dissipate/absorb the electrons from space.
>
> > > > again, this is going no where,
>
> > > when you have read another hundred years of science and are ready to
> > > believe what has been well proven over that time period maybe we can
> > > have a conversation.
>
> > > Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> > > And tell us what is your opinion on Maxwell's model of the aether..
>

> > > S*
>
> > Hi Mister S
> > Thank you for supplying reference for the article in the phylisophical
> > journal. Most of it is beyond my interlect
> > but a quick review show that the tenents of his explanation
> > are based first on the requirement of equilibrium
> > That particles is the center of discussion
> > That vortices are present to provide a displacement force
> > And the connection between electrostatic and light
> > functions. Nowhere do I see reference to Gauss law of statics and the
> > progression to a dynamic field which makes
> > his paper some what astounding for him to come up with this paper
> > without these clues that have been hidden for so long. I intend to get
> > a print out of all four portions of this paper in the hope I can
> > cherry pick some portions that I can understand from the paper. As
> > always one of the most important things are the responses from his
> > peers which
> > usually are accompanied by science analysis rather than relyinging on
> > base intuitions without supporting facts from the ham community.
> > Thanks again
> > Art
>
> much is beyond your intellect... however you should note that gauss's
> law wasn't published until about 6 years after that article, so it
> would be surprising if it was referenced. that article is also well
> before maxwell had published his works that contain his completed set
> of equations describing electromagnetic fields... so it is not
> surprising that some of what is in there was undoubtedly incorrect
> guesses and suppositions based on earlier observations.

I have not printed the article as yet and I admit that I had not noted
the earlier publication date. I thought the publication was just one
year old.
I believe it to be interesting enough to get a print out but it will
be difficult to get a full list of comments
which usually as interesting as the article itself.

1674. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 22:09:32 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e9d64e52-e98f-4487-8d7f-9373bd1f93f0@j9g2000vbp.googlegroups.com>
Source record: 9774

On May 23, 4:45 pm, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
> > On May 23, 1:15 pm, K1TTT <k1...@arrl.net> wrote:
> >> On May 23, 6:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >>> Electrons are detectable and have mass.
> >> ah yes, that ugly little thing called mass... because electrons have
> >> mass they can not travel at c, therefore they can not be the carriers
> >> of electromagnetic radiation. also, it is well known that photons
> >> have no rest mass and no charge, both of which disqualify the electron
> >> also. you should really talk to art, he is much closer with his
> >> magical levitating diamagnetic neutrino.
>
> > Oh my. ! The above is the silliest thing I have heard in a long while,
> > but I am very glad you presented it
> > as an example of your private analysis. It shows that tho free speech
> > is viable what is contained in the enunciation is not necessarily
> > anything other than trash. And I just love that position of yours
> > "it is 'well known' that photons have no rest mass and no charge".
> > Don't you have to repeat that a 1000 times before it can be considered
> > true?
>
> Art,
>
> Please enlighten us.
>
> What is the mass of a proton at rest?
>
> Please quantify the charge of a photon.

Joe, I have not seen a description of a photon and I believe a sample
is yet to be maintained.
Possibly the accelleration of a neutrinos and the resulting collision
will separated the charge from the neutron so one can see if it is
accompanied by a morsel of mass. I say that because as the neutrinos
is the smallest mass known which leads to the maximum speed of light.
Thus collision should not be able to separate the neutrino alone and
only separate attatchments.
But my readings on the subject is some what limited.

1675. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 22:23:34 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <d668011f-820a-40ff-9fe2-48ab6b471557@o15g2000vbb.googlegroups.com>
Source record: 9775

On May 23, 5:22 pm, n...@wt.net wrote:
> On May 23, 7:43 am, "Man-wai Chang to The Door (33600bps)"
>
> <toylet.toy...@gmail.com> wrote:
> >http://www.mtmscientific.com/loop.html
>
> > Anyone got a circuit diagram? :)
>
> $137.50... Dang.. Maybe I should start selling loops.. They sure
> seem to be proud of them when they apply the price tag.
> This is my version of the same appx thing, except using a
> simple PVC frame. Can be built for chump change if you have
> an old BC variable laying around. If not , the caps can be
> bought on the web.. I scrounge mine out of old analog stereo
> receivers, radios, etc..

Yeah, I was thinking how fast I could mass produce say a dozen at a
time.

Jimmie

1676. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-23 22:31:40 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2211e579-8eb5-4edd-bfd6-5f2689658bb2@m4g2000vbl.googlegroups.com>
Source record: 9776

On May 23, 4:38 pm, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
> > On May 23, 4:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:192f5bcf-5644-4417-9186-32a630e06b61@q8g2000vbm.googlegroups.com...
> >> On May 22, 6:07 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >>>> I am using only old theories proved by experiments. Art is probably
> >>>> trying
> >>> to do the new.
> >>> The same was with Maxwell. He did the new. May be that Art's hipothesis
> >>> the
> >>> teachers adopt to teaching.
> >>> S*
> >>> antennas do not have to be grounded.
> >> "A wire that runs from the motor to the machine's frame to absorb stray
> >> electric charge. Chassis ground is used when it is not possible to connect a
> >> grounding conductor into the earth. "
>
> >> " how are antennas on satellites
> >> grounded??
>
> >> To chassis. Your mobile phone also.
>
> >> >do satellites become massive positive charges in space as
> >> they keep shooting off electrons...
>
> >> They mainly transmit. So chassis is enough. Chassis must has the large area
> >> to dissipate/absorb the electrons from space.
>
> >>> again, this is going no where,
> >> when you have read another hundred years of science and are ready to
> >> believe what has been well proven over that time period maybe we can
> >> have a conversation.
>
> >> Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> >> And tell us what is your opinion on Maxwell's model of the aether..
>
> >> S*
>
> > Hi Mister S
> > Thank you for supplying reference for the article in the phylisophical
> > journal. Most of it is beyond my interlect
>

> So much so that neither of you noticed that the article is scanned and
> ocr'ed from somewhere resulting in none of the equations being
> faithfully represented. For most I would expect this to result in
> difficulty understanding the principles presented.
>
>
>
> > but a quick review show that the tenents of his explanation
> > are based first on the requirement of equilibrium
> > That particles is the center of discussion
> > That vortices are present to provide a displacement force
> > And the connection between electrostatic and light
> > functions. Nowhere do I see reference to Gauss law of statics and the
> > progression to a dynamic field which makes
> > his paper some what astounding for him to come up with this paper
> > without these clues that have been hidden for so long. I intend to get
> > a print out of all four portions of this paper in the hope I can
> > cherry pick some portions that I can understand from the paper. As
> > always one of the most important things are the responses from his
> > peers which
> > usually are accompanied by science analysis rather than relyinging on
> > base intuitions without supporting facts from the ham community.
> > Thanks again
> > Art
>
> Art, is there any chance your high observed gain is because antenna has
> very low impedance that the currents may be overly elevated from the
> voltage source used in your model?
>
> Low impedance leading to higher current leading to higher fields being
> generated leading to higher perceived gain.

Certainly if you consider I sq R and the removal of losses made by
penetrations into the metal . But there are other considerations such
as the swamping of diamagnetic action in air after near removal from
the metal itself because the change in eddies strength changes every
thing.
I cannot explain the mechanics of what is actually happening and can
only be guided by what the programs infer. Intimate discussion of the
above is more than welcome. Especially the realization of maximum
radiation determined by the time needed for the replacement of the
ejected particle which probably occurrs before minimum impedance is
reached. I cannot imagine the addition of zero or negative values in
the equation since only the contents of the boundary is relevent in
accountability for all forces as I see it based on
Newtons laws. Joe your comment are the first review that is willing to
discuss the merits of my work and I sure welcome it so that closure
can be reached

>
> If you can choose antenna parameters that result in negative resistance,

> does this really mean your model is working properly under the
> conditions you are using?
>
>

1677. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 00:17:13 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f8ae915e-ae73-4f20-8b61-1b5bcac761ab@k31g2000vbu.googlegroups.com>
Source record: 9777

On May 23, 9:55 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 22, 1:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > >How far into space does the electron plasma effect extend?
>
> > As far as light do.
>
> When I was in college, I observed a stream of electrons emitting a
Now Cecil you never did observe actual electrons let alone a stream !

> glow that traveled at the speed of light to my
Now Cecil you have no way of knowing what the speed was or even the
timing function required by the eyeball.

eyes which evolved to
> detect photons, not electrons.

Where is that stated in print? It has to be in print to be true right?
Cant you reference an eyeball to function the same as a Faraday cage
because a brain requires an electrical circuit?

Since photons can do that,
Does the eyeball have counters to count the dropping photons or what.

why is there
> a need to introduce the concept of invisible, undetectable, massless,
> virtual electrons in free space?
I have no idea what physisist presented to show that there was a need

What is the electron density of free
> space?

Gulp!
Space is homogenous in electron content? If so
how can a solar stream exist?

Cecil, as a side note I posted about coils radiating
since you were responsible for record length threads as to whether and
how they radiate. I lost track how all that fell out after the first
year of the record postings. Did you beat out the detractors?
Art

> --
> 73, Cecil, w5dxp.com

1678. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 02:01:32 UTC
From: walt <walt@w2du.com>
Message-ID: <07fd8631-f234-4d0b-a187-5a22e821dd53@f13g2000vbm.googlegroups.com>
Source record: 9778

On Apr 25, 3:40 am, W0BTU <mikew...@gmail.com> wrote:
> On Apr 16, 8:10 pm, walt <w...@w2du.com> wrote:
>
> > To order a copy of the 3rd edition of Reflections, authored by Walter
> > Maxwell, W2DU, go to the W2DU website atwww.w2du.com, then go to page
> > 2 and click on the following:
>
> >   Order Reflections III from CQ Online BookStore
>
> > Walt, W2DU
>
> I've seen people talking about it in the other forums, and I looked at
> the three sample excerpts at w2du.com. That's all I know about it. It
> sounds interesting, but I need to at least see a table of contents
> (index would be nice, too) before I think about ordering it. Is that
> possible?
>
> TIA.
>
> 73 Mike

Hi Mike,

Since attachments aren't allowed on these NGs I can't send what you
want. If you'll send me your email address I'll send you some material
from the book. My email address is walt@w2du.com.

Walt, W2DU

1679. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 02:28:47 UTC
From: walt <walt@w2du.com>
Message-ID: <c53c2ba4-b565-48cd-92ff-f1540852fbca@l6g2000vbo.googlegroups.com>
Source record: 9779

> >> Dear Walt,
>
> >> Ever since reading your 1973 QST articles, being a second-year student at
> >> the Polytechnics/Technical University of Copenhagen, I have referred to
> >> your ground-breaking work for removing the myths and misunderstandings of
> >> the (un)importance of the swr over and over again. Somewhere I still have
> >> the ageing photocopies of all the articles. But having the opportunity to
> >> get it all and more in one piece in Reflections III is really greast. I
> >> have ordered my copy right away.
>
> >> Later on, both in my professional life after receiving my MSc(EE) as a
> >> radio engineer and during my 19 years as Technical Editor of 'OZ' (the
> >> Danisk QST) I have had to weed out misconceptions about swr and
> >> transmission lines. My early understanding from your work was a great
> >> help. Thanks!
>
> >> All the best,
>
> >> vy 73
> >> OZ7S Sven
>
> Got delivery to-day.
>
> As mentioned earlier, most of the stuff is old hat to me - but I really look
> forward to dig into the chapters concerning tx output impedance. A highly
> controversial subject for decades.
>
> vy 73
> OZ7S Sven

Hello Sven,

Glad you received your copy today. To pique your interest in tx output impedance, Chapter 19 will do that for you, especially Sec 19.14 on Page 19.22. This section describes in detail, in fourteen steps, how the output Z is measured.

I've seen a lot of discussion on this subject, and most of it shows that many who discuss it don't have a clue to the correct answer. Which is why I have made many measurements of the output Z to determine the truth.

The output Z is determined principally by the proper adjustment of the tank circuit with respect to the load. I'm talking now only about tube amps with pi-network tank circuit coupling the amp tube to the load. I

cannot comment on solid-state rigs, or those that have no tuning adjustments.

There are those who believe that the output Z = 50 + j0, and there are those who believe the Z is much higher. Here's what really happens. With any practical grid drive, load and tune the amp into a 50 + j0 dummy load to deliver all the available power. In this case the output Z of the amp will be 50 + j0 ohms.

Now add 50 ohms of inductive reactance to the same dummy load. The result is now a load impedance of 50 + j50 ohms. Now reload and retune the pi-network to again deliver all the available power into the new complex-impedance load. The new output Z? 50 - j50 ohms, the conjugate of the complex load impedance. In other words, to determine the output Z of the amp, simply load it into an impedance of known value such that all the available power is delivered at a reasonable drive level. The output Z is then the conjugate of the load impedance.

You say you want proof of this simplistic procedure? Fine. It's all right there in the fourteen steps in Sec 19.14 that describe the entire measurement procedure. I'm sure you'll find the procedure enlightening.

Walt, W2DU

1680. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 02:33:49 UTC
From: walt <walt@w2du.com>
Message-ID: <e1c58e02-95cb-4b1e-82e3-0806c6ae3428@m4g2000vbl.googlegroups.com>
Source record: 9780

On May 23, 10:01 pm, walt <w...@w2du.com> wrote:
> On Apr 25, 3:40 am, W0BTU <mikew...@gmail.com> wrote:
>
>
>
> > On Apr 16, 8:10 pm, walt <w...@w2du.com> wrote:
>
> > > To order a copy of the 3rd edition of Reflections, authored by Walter
> > > Maxwell, W2DU, go to the W2DU website atwww.w2du.com, then go to page
> > > 2 and click on the following:
>
> > >   Order Reflections III from CQ Online BookStore
>
> > > Walt, W2DU
>
> > I've seen people talking about it in the other forums, and I looked at
> > the three sample excerpts at w2du.com. That's all I know about it. It
> > sounds interesting, but I need to at least see a table of contents
> > (index would be nice, too) before I think about ordering it. Is that
> > possible?
>
> > TIA.
>
> > 73 Mike
>
> Hi Mike,
>
> Since attachments aren't allowed on these NGs I can't send what you
> want. If you'll send me your email address I'll send you some material
> from the book. My email address is w...@w2du.com.
>
> Walt, W2DU

Mike, apparently one can't divulge one's email address on this NG.
However, we'll fool 'em--the word preceding @ is walt. So there, too.

Walt

1681. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 04:16:54 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htcujopli1@news.eternal-september.org>
Source record: 9782

On 05/23/2010 03:09 PM, Art Unwin wrote:
> On May 23, 4:45 pm, joe<n...@domain.invalid> wrote:
>> Art Unwin wrote:
>>> On May 23, 1:15 pm, K1TTT<k1...@arrl.net> wrote:
>>>> On May 23, 6:01 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>
>>>>> Electrons are detectable and have mass.
>>>> ah yes, that ugly little thing called mass... because electrons have
>>>> mass they can not travel at c, therefore they can not be the carriers
>>>> of electromagnetic radiation. also, it is well known that photons
>>>> have no rest mass and no charge, both of which disqualify the electron
>>>> also. you should really talk to art, he is much closer with his
>>>> magical levitating diamagnetic neutrino.

Can I rain on your parade? Light is just super high frequency RF. There
is no such thing as a photon but scientists still use that to explain
things in human terms for the unknowing masses. The best way I can
describe a photon is that it is one wavelength of light at any given
wavelength or frequency if you will. If a star or even our own sun gave
off photons at the rate of burn then it would very soon be an ex-star.
There are very few people who can think at the needed level for this
kind of thing, so let the argument continue. Really silly thinking that
there are red photons, green, yellow, etc.
>>
>>> Oh my. ! The above is the silliest thing I have heard in a long while,
>>> but I am very glad you presented it
>>> as an example of your private analysis. It shows that tho free speech
>>> is viable what is contained in the enunciation is not necessarily
>>> anything other than trash. And I just love that position of yours
>>> "it is 'well known' that photons have no rest mass and no charge".
>>> Don't you have to repeat that a 1000 times before it can be considered
>>> true?
>>
>> Art,
>>
>> Please enlighten us.
>>
>> What is the mass of a proton at rest?
>>
>> Please quantify the charge of a photon.
>
> Joe, I have not seen a description of a photon and I believe a sample
> is yet to be maintained.
> Possibly the accelleration of a neutrinos and the resulting collision

> will separated the charge from the neutron so one can see if it is
> accompanied by a morsel of mass. I say that because as the neutrinos
> is the smallest mass known which leads to the maximum speed of light.
> Thus collision should not be able to separate the neutrino alone and
> only separate attatchments.
> But my readings on the subject is some what limited.

1682. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 04:18:19 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <120d029f-3aa5-4bc2-8633-0d874e8aa280@j9g2000vbp.googlegroups.com>
Source record: 9783

On May 20, 10:54 pm, "Irv Finkleman" <fink...@shaw.ca> wrote:
> O Jeez! Here we go again!!!! All this about vortices sounds like spin to me.
>
> Irv VE6BP

Exactly. Imagine a tornado which is a macro scale version of the
vortice seen as a displacement current
as a series of capacitors along side the current flow
within which there is circular flow. This is no different
to the laminar flow in a firemans hose. Put projections inside the
hose and you can get multiple vortices because of the lamina
friction.You probably have heard of "curl" with respect to antennas
and yes that is described with respect to vortices. So it is not so
far out to see a tornado
as a cloud enclosed by neutrons in terms of a skin tension. This all
goes back to the release of a small particle from the boundary
enclosing the big band
where rotation is applied to same via the levered fracture in the
boundary as it momentarily loses equilibrium. For the above tornadoes
are seen as the swirling action between capacitor plates comprised of
ground and the upper layers. The capacitor plates perform the same
action as a "idler" wheel so that ejected rotations of particles have
the same spin.
Review vortices if only to get a physical idea how the term "curl"
fits in with respect to lamina flow which you can then expand to
magnetic lines or field of a magnet for a better understanding of
transitions. Everything on Earth can be described by the two vectors
created at the big bang down to the two vectors of gravity and
rotation where rotary flow introduces lamina slip and the adherence to
Newtons laws including his equations for acceleration. All the above
is thoroughly seen under boundary laws which are centuries old, when
static fields are transformed into a dynamic field. Nothing new, no
new laws or equations but just a different method of connecting the
known dots determined by past physics to produce a closed circuit
similar to the tank circuit in parallel
Art

1683. new question (from "system degradation question")

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 05:02:16 UTC
From: rb <rbig@cox.net>
Message-ID: <f%IKn.18602$HG1.10065@newsfe21.iad>
Source record: 9781

I'll be using 100 watts SSB/CW, and have about 75' of twinlead up to antnenna feedpoint.

You've got me going to do the "system degradation question": I'll run twinlead to the shack, in spite of the file cabinet.

Now, yes--I can do just fine manually changing my antenna from ladderline fed to putting it on 160 by jumping both ends together and letting it work against ground. Long counterpoise in place. Then, putting it back as twinlead dipole on 80m up.

What's the new question? I normally would go from 160m up through 15m. If I just used the jump both ends together and feed long wire, which ant will be better?

Basically, it's whether a long hat vertical would be as good as using my twinlead as dipole on bands including 80m and up.

I can certainly keep the antenna twinlead fed dipole, no problem. Just curious.

1684. Re: new question (from "system degradation question")

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 05:36:40 UTC
From: nm5k@wt.net
Message-ID: <1b671946-4074-4c72-83b5-0ebae8485010@y12g2000vbg.googlegroups.com>
Source record: 9784

On May 24, 12:02 am, "rb" <r...@cox.net> wrote:
> I'll be using 100 watts SSB/CW, and have about 75' of twinlead up to
> antnenna feedpoint.
>
> You've got me going to do the "system degradation question": I'll run
> twinlead to the shack, in spite of the file cabinet.
>
> Now, yes--I can do just fine manually changing my antenna from ladderline
> fed to putting it on 160 by jumping both ends together and letting it work
> against ground. Long counterpoise in place. Then, putting it back as
> twinlead dipole on 80m up.
>
> What's the new question? I normally would go from 160m up through 15m.
> If I just used the jump both ends together and feed long wire, which ant
> will be better?
>
> Basically, it's whether a long hat vertical would be as good as using my
> twinlead as dipole on bands including 80m and up.
>
> I can certainly keep the antenna twinlead fed dipole, no problem. Just
> curious.

On most bands it will operate the best fed normally as a dipole.

1685. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 08:12:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfa3508$0$19176$65785112@news.neostrada.pl>
Source record: 9785

Uzytkownik "Art Unwin" <arthurunwin@gmail.com> napisal w wiadomosci
news:f0168a6b-80e9-4e0e-bdfd-8d7092a88633@40g2000vbr.googlegroups.com...
On May 23, 4:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> And tell us what is your opinion on Maxwell's model of the aether..
>
> S*

>Hi Mister S
Thank you for supplying reference for the article in the phylisophical
journal. Most of it is beyond my intellect

Do not worry. Maxwell is an excellent writter and his English also.
Everything is wrote in English and next in Math. The math is to calculate.
We do not calculate enything.

>but a quick review show that the tenents of his explanation
are based first on the requirement of equilibrium
That particles is the center of discussion
That vortices are present to provide a displacement force
And the connection between electrostatic and light
functions. Nowhere do I see reference to Gauss law of statics and the
progression to a dynamic field

Maxwell described the rotational oscillations.
Gauss dynamic field is simply the longitudinal oscillations (like sound).

>which makes
his paper some what astounding for him to come up with this paper
without these clues that have been hidden for so long. I intend to get
a print out of all four portions of this paper in the hope I can
cherry pick some portions that I can understand from the paper. As
always one of the most important things are the responses from his
peers which
usually are accompanied by science analysis rather than relyinging on
base intuitions without supporting facts from the ham community.
Thanks again
Art

Nice reading.
S*

1686. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 08:23:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfa376e$0$2590$65785112@news.neostrada.pl>
Source record: 9786

Uzytkownik "joe" <none@domain.invalid> napisal w wiadomosci
news:htc70csoc1@speranza.aioe.org...
> Art Unwin wrote:
>> On May 23, 4:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>
>>> Take a glance
>>> at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
>>> And tell us what is your opinion on Maxwell's model of the aether..
>>>
>>> S*
>>
>> Hi Mister S
>> Thank you for supplying reference for the article in the phylisophical
>> journal. Most of it is beyond my interlect
>
> So much so that neither of you noticed that the article is scanned and
> ocr'ed from somewhere resulting in none of the equations being faithfully
> represented.

If you are fluent in Maxwell's time math:
http://en.wikipedia.org/w/index.php?title=File%3AOn_Physical_Lines_of_Force.pdf&page=1

Wikisource is easy to citations,
S*

1687. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 08:29:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfa3903$0$19162$65785112@news.neostrada.pl>
Source record: 9787

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:bc31f1d5-8237-4de2-919e-436d0bb97d02@m4g2000vbl.googlegroups.com...
On May 23, 6:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Electrons are detectable and have mass.
>

>ah yes, that ugly little thing called mass... because electrons have
mass they can not travel at c, therefore they can not be the carriers
of electromagnetic radiation.

They ara carries of the electric waves.

> also, it is well known that photons
have no rest mass and no charge, both of which disqualify the electron
also. you should really talk to art, he is much closer with his
magical levitating diamagnetic neutrino.

You simply like the EM and photons. It is your choose.
S*

1688. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 08:46:03 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfa3cce$0$19163$65785112@news.neostrada.pl>
Source record: 9788

"Bill Baka" <bbaka@comcast.net> wrote
news:htcujopli1@news.eternal-september.org...
> On 05/23/2010 03:09 PM, Art Unwin wrote:
>> On May 23, 4:45 pm, joe<n...@domain.invalid> wrote:
>>> Art Unwin wrote:
>>>> On May 23, 1:15 pm, K1TTT<k1...@arrl.net> wrote:
>>>>> On May 23, 6:01 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>
>>>>>> Electrons are detectable and have mass.
>>>>> ah yes, that ugly little thing called mass... because electrons have
>>>>> mass they can not travel at c, therefore they can not be the carriers
>>>>> of electromagnetic radiation. also, it is well known that photons
>>>>> have no rest mass and no charge, both of which disqualify the electron
>>>>> also. you should really talk to art, he is much closer with his
>>>>> magical levitating diamagnetic neutrino.
>
> Can I rain on your parade? Light is just super high frequency RF. There is
> no such thing as a photon but scientists still use that to explain things
> in human terms for the unknowing masses. The best way I can describe a
> photon is that it is one wavelength of light at any given wavelength or
> frequency if you will.

It is math for it (Doulong). If a cristal is kicked it radiate diffrent
frequences. But not all and for a limited time.
Higher frequency bigger energy. But such packets are longer than one
wavelengh. It is a coherency of radiation.

>If a star or even our own sun gave off photons at the rate of burn then it
>would very soon be an ex-star.
> There are very few people who can think at the needed level for this kind
> of thing, so let the argument continue. Really silly thinking that there
> are red photons, green, yellow, etc.

Some substances emitt only one or only a few wavelengh. Sodium emits yellow.
(Sodium emitts yellow packets?).
S*

1689. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 08:57:23 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfa3f76$0$19167$65785112@news.neostrada.pl>
Source record: 9789

Uzytkownik "Art Unwin" <arthurunwin@gmail.com> napisal w wiadomosci
news:f8ae915e-ae73-4f20-8b61-1b5bcac761ab@k31g2000vbu.googlegroups.com...
On May 23, 9:55 am, Cecil Moore <w5...@hotmail.com> wrote:
>
>> What is the electron density of free
> space?

>Gulp!
>Space is homogenous in electron content? If so
how can a solar stream exist?

Cecil does not suggest that. What can means the level and fluctuations. Now
everybody measure it:
http://www.academicjournals.org/ijlis/PDF/pdf2009/July/Okeke%20et%20al.pdf
S*

1690. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 11:30:42 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <f2cde81f-473b-4044-9407-2610ce6e9f3d@j27g2000vbp.googlegroups.com>
Source record: 9790

On May 23, 4:31 am, Owen Duffy <n...@no.where> wrote:
> Owen Duffy <n...@no.where> wrote in news:Xns9D81BC11E3183nonenowhere@
> 61.9.191.5:
>
> > "Sven Lundbech" <o...@hotmail.com> wrote in
> >news:4bf8474e$0$36577$edfadb0f@dtext01.news.tele.dk:
>
> > ...
> >> As mentioned earlier, most of the stuff is old hat to me - but I
> >> really look forward to dig into the chapters concerning tx output
> >> impedance. A highly controversial subject for decades.
>
> > Here is a simple little test for the hypothesis that Zs=50+j0 that uses
> > equipment found in many if not most HF ham shacks.
>
> Oh, the URL:http://vk1od.net/blog/?p=1028.
> > Owen

While the analysis of transmitter output impedance in Reflections is
flawed,
experiments (claimed to be repeatable) described in Reflections appear
to
support the conclusions of the flawed analysis.

It would be highly valuable if the results of these experiments could
be
explained in a manner that aligns with established understandings.

Such an explanation might start by describing the circuit conditions
that
result from following the manufacturer’s tuning procedures. After
all,
these usually depend on measuring currents and voltages so are only
indirectly related to power. Perhaps the resulting conditions are not
as they are usually assumed to be.

Try as I might, I have not been able to derive a mechanism to explain
the observations in Reflections. But the explanations offered in
Reflections require large chunks of linear circuit theory to be
discarded,
so this does not seem to be an appropriate path.

...Keith

1691. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 13:23:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0625c588-b3a5-4367-80e6-63c11b75c536@q13g2000vbm.googlegroups.com>
Source record: 9791

On May 24, 6:30 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Such an explanation might start by describing the circuit conditions
> that result from following the manufacturer’s tuning procedures.

On an old tube transmitter, e.g. a Globe Scout, when the manufacturer
specifed a particular grid current and a particular plate current,
does that imply a particular single resistive load line for the final
tube? Why were those particular grid and load currents chosen? Maximum
efficiency? Tube life? Minimum distortion?
--
TNX & 73, Cecil, w5dxp.com

1692. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 13:32:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2fc65732-f061-42e2-90d1-1fda9647235f@a20g2000vbc.googlegroups.com>
Source record: 9792

On May 23, 1:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Your eyes detect the electrons oscillations.

My eyes are in a different location from the electron oscillations.
What is your theory of exactly what is incident upon my retina that is
traversing the distance from the electron stream to my eyes at the
speed of light?
--
73, Cecil, w5dxp.com

1693. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 13:48:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ac3028d7-bf51-4c1b-bcd7-f170ff013047@d12g2000vbr.googlegroups.com>
Source record: 9793

On May 23, 7:17 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 23, 9:55 am, Cecil Moore <w5...@hotmail.com> wrote:
> > eyes which evolved to detect photons, not electrons.
>
> Where is that stated in print?

I did a Yahoo search for, "eye detection of photons", and got 705,007
hits. Here's one of them from the Kansas State University Physics
Dept.

http://web.phys.ksu.edu/vqmorig/tutorials/online/wave_part/Single%20Photons.html

"It has been demonstrated that light-sensitive cells in our eye (rod
cells) are able to detect single photons."
--
73, Cecil, w5dxp.com

1694. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 14:06:44 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <5772c8aa-911c-4112-88bf-98123b615994@y21g2000vba.googlegroups.com>
Source record: 9794

On May 24, 9:23 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 24, 6:30 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Such an explanation might start by describing the circuit conditions
> > that result from following the manufacturer’s tuning procedures.
>
> On an old tube transmitter, e.g. a Globe Scout, when the manufacturer
> specifed a particular grid current and a particular plate current,
> does that imply a particular single resistive load line for the final
> tube? Why were those particular grid and load currents chosen? Maximum
> efficiency? Tube life? Minimum distortion?

Excellent questions. I have often wondered if the manufacturer's
tuning
procedures had anything to do with maximizing output power transfer,
or
were they, in fact, optimizing some other aspect.

...Keith

1695. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 14:55:45 UTC
From: walt <walt@w2du.com>
Message-ID: <97a6b0e6-1630-4af5-9c73-6abcfdb13ea0@s41g2000vba.googlegroups.com>
Source record: 9795

On May 24, 7:30 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On May 23, 4:31 am, Owen Duffy <n...@no.where> wrote:
>
>
>
> > Owen Duffy <n...@no.where> wrote in news:Xns9D81BC11E3183nonenowhere@
> > 61.9.191.5:
>
> > > "Sven Lundbech" <o...@hotmail.com> wrote in
> > >news:4bf8474e$0$36577$edfadb0f@dtext01.news.tele.dk:
>
> > > ...
> > >> As mentioned earlier, most of the stuff is old hat to me - but I
> > >> really look forward to dig into the chapters concerning tx output
> > >> impedance. A highly controversial subject for decades.
>
> > > Here is a simple little test for the hypothesis that Zs=50+j0 that uses
> > > equipment found in many if not most HF ham shacks.
>
> > Oh, the URL:http://vk1od.net/blog/?p=1028.
> > > Owen
>
> While the analysis of transmitter output impedance in Reflections is
> flawed,
> experiments (claimed to be repeatable) described in Reflections appear
> to
> support the conclusions of the flawed analysis.
>
> It would be highly valuable if the results of these experiments could
> be
> explained in a manner that aligns with established understandings.
>
> Such an explanation might start by describing the circuit conditions
> that
> result from following the manufacturer’s tuning procedures. After
> all,
> these usually depend on measuring currents and voltages so are only
> indirectly related to power. Perhaps the resulting conditions are not
> as they are usually assumed to be.
>
> Try as I might, I have not been able to derive a mechanism to explain
> the observations in Reflections. But the explanations offered in
> Reflections require large chunks of linear circuit theory to be
> discarded,

> so this does not seem to be an appropriate path.
>
> ...Keith

Keith, would you please elaborate on why you believe my analysis of transmitter output impedance is flawed? And what is the basis for your belief that my explanations in Reflections require large chunks of linear circuit theory to be discarded. Could it be because you consider the source resistance in the transmitter to be dissipative, as in the classical generator? If so, you must be made to realize that the source resistance of the transmitter is non-dissipative, which is the reason that its efficiency can exceed 50%.

Or are you considering the output characteristic of the transmitter to be non-linear? This is not the case, because the effect of energy storage in the tank circuit isolates the non-linear input from the output circuit, which is linear as evidenced by the almost perfect sine wave appearing at the output of the tank.

One last question: Are you basing your dissatisfaction of Reflections from reviewing the 2nd or 3rd edition? Chapter 19 has been expanded in the 3rd edition, in which I presented additional proof of my position on the subject that you should be aware of. If you haven't yet seen the addition that appears in the 3rd ed, please let me know so that I can send you a copy of the addition. Also include your email address so I can send it.

Keith, you are the only person I know of who appears to have found flaws in my presentation on this subject. Which is why I'm anxious to know exactly why you believe my presentation is flawed.

Walt Maxwell, W2DU

1696. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 15:24:56 UTC
From: richardharrison@webtv.net
Message-ID: <19508-4BFA9A48-1369@storefull-3173.bay.webtv.net>
Source record: 9796

Cecil Moore, W5DXP wrote:
"It has been demonstrated that light-sensitive cells in your eye (rod cells) are able to detect single photons."

From Navy lectures on night vision in WW-2, I remember that cone cells are used for day vision and rods are used at night.

Best regards, Richard Harrison, KB5WZI

1697. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 16:45:58 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfaad4a$0$17084$65785112@news.neostrada.pl>
Source record: 9797

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:2fc65732-f061-42e2-90d1-1fda9647235f@a20g2000vbc.googlegroups.com...
On May 23, 1:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Your eyes detect the electrons oscillations.

>My eyes are in a different location from the electron oscillations.
What is your theory of exactly what is incident upon my retina that is
traversing the distance from the electron stream to my eyes at the
speed of light?

The longitudinal electric waves (electrons oscillations).
The sound waves are also longitudinal (air partcles oscillations).

The theory is from XIX century. It is not mine.
S*

1698. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 16:55:11 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfaaf81$0$19183$65785112@news.neostrada.pl>
Source record: 9798

"Cecil Moore" <w5dxp@hotmail.com>wrote
news:ac3028d7-bf51-4c1b-bcd7-f170ff013047@d12g2000vbr.googlegroups.com...
On May 23, 7:17 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 23, 9:55 am, Cecil Moore <w5...@hotmail.com> wrote:
> > eyes which evolved to detect photons, not electrons.
>
>> Where is that stated in print?

>I did a Yahoo search for, "eye detection of photons", and got 705,007
hits. Here's one of them from the Kansas State University Physics
Dept.

http://web.phys.ksu.edu/vqmorig/tutorials/online/wave_part/Single%20Photons.html

>"It has been demonstrated that light-sensitive cells in our eye (rod
cells) are able to detect single photons."

But remember what Bill wrote: "There
is no such thing as a photon but scientists still use that to explain
things in human terms for the unknowing masses. The best way I can
describe a photon is that it is one wavelength of light at any given
wavelength or frequency if you will."

For light the photon has about 200 wavelength.
Radio wave "photon" is as long as transmitter works.
S*

1699. Re: Replacement for W9INN Center Connector

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 17:47:51 UTC
From: David Thompson <thompson@mindspring.com>
Message-ID: <x9ydnRq2n6ojJmfWnZ2dnUVZ_u2dnZ2d@earthlink.com>
Source record: 9799

Dick,

Any decent balun built into a center connector is OK. W2AU or Radio Works are examples. You can even use the budwing center connector plus a separate balun.

Dave K4JRB

1700. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 19:21:32 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htejjv$p6m$1@news.eternal-september.org>
Source record: 9800

On 05/24/2010 01:46 AM, Szczepan Bialek wrote:
> "Bill Baka"<bbaka@comcast.net> wrote
> news:htcujopli1@news.eternal-september.org...
>> On 05/23/2010 03:09 PM, Art Unwin wrote:
>>> On May 23, 4:45 pm, joe<n...@domain.invalid> wrote:
>>>> Art Unwin wrote:
>>>>> On May 23, 1:15 pm, K1TTT<k1...@arrl.net> wrote:
>>>>>> On May 23, 6:01 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>>
>>>>>>> Electrons are detectable and have mass.
>>>>>> ah yes, that ugly little thing called mass... because electrons have
>>>>>> mass they can not travel at c, therefore they can not be the carriers
>>>>>> of electromagnetic radiation. also, it is well known that photons
>>>>>> have no rest mass and no charge, both of which disqualify the electron
>>>>>> also. you should really talk to art, he is much closer with his
>>>>>> magical levitating diamagnetic neutrino.
>>
>> Can I rain on your parade? Light is just super high frequency RF. There is
>> no such thing as a photon but scientists still use that to explain things
>> in human terms for the unknowing masses. The best way I can describe a
>> photon is that it is one wavelength of light at any given wavelength or
>> frequency if you will.
>
> It is math for it (Doulong). If a cristal is kicked it radiate diffrent
> frequences. But not all and for a limited time.
> Higher frequency bigger energy. But such packets are longer than one
> wavelengh. It is a coherency of radiation.

That explains why UV is harmful, higher frequency, while IR at longer
wavelengths is just heat.
>
>> If a star or even our own sun gave off photons at the rate of burn then it
>> would very soon be an ex-star.
>> There are very few people who can think at the needed level for this kind
>> of thing, so let the argument continue. Really silly thinking that there
>> are red photons, green, yellow, etc.
>
> Some substances emitt only one or only a few wavelengh. Sodium emits yellow.
> (Sodium emitts yellow packets?).
> S*
>
>
Agreed.
That is why LED's emit at only one wave length. It just depends on which

elements are in the LED formula.
Bill

1701. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 19:27:55 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htejvsrnt1@news.eternal-september.org>
Source record: 9701

On 05/24/2010 09:55 AM, Szczepan Bialek wrote:
> "Cecil Moore"<w5dxp@hotmail.com>wrote
> news:ac3028d7-bf51-4c1b-bcd7-f170ff013047@d12g2000vbr.googlegroups.com...
> On May 23, 7:17 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> On May 23, 9:55 am, Cecil Moore<w5...@hotmail.com> wrote:
>>> eyes which evolved to detect photons, not electrons.
>>
>>> Where is that stated in print?
>
>> I did a Yahoo search for, "eye detection of photons", and got 705,007
> hits. Here's one of them from the Kansas State University Physics
> Dept.
>
> http://web.phys.ksu.edu/vqmorig/tutorials/online/wave_part/Single%20Photons.html
>
>> "It has been demonstrated that light-sensitive cells in our eye (rod
> cells) are able to detect single photons."
>
> But remember what Bill wrote: "There
> is no such thing as a photon but scientists still use that to explain
> things in human terms for the unknowing masses. The best way I can
> describe a photon is that it is one wavelength of light at any given
> wavelength or frequency if you will."
>
> For light the photon has about 200 wavelength.
> Radio wave "photon" is as long as transmitter works.
> S*
>
>
I'll give you a partial agreement on this one. The rods in our eyes have
peak sensitivity at Yellow/green. There was a guy, a long time ago who
said he could detect a single photon in a very dark lab. So, if a photon
is anything anyhow a particle how could he see it since the equipment
was set up to radiate into a detector. It may not be in our lifetimes
that the true nature of light is discovered.
Bill Baka

1702. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 19:29:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c9bf38c5-b16b-4a6b-8b52-c99cf5f8d7f9@i31g2000vbt.googlegroups.com>
Source record: 9702

On May 24, 10:24 am, richardharri...@webtv.net (Richard Harrison)
wrote:
> Cecil Moore, W5DXP wrote:
> "It has been demonstrated that light-sensitive cells in your eye (rod
> cells) are able to detect single photons."
>
> From Navy lectures on night vision in WW-2, I remember that cone cells
> are used for day vision and rods are used at night.

The cones cannot detect single photons. It takes many photons to
activate the cones. It only takes one photon to activate a rod.
Unfortunately, the rod is more sensitive than the rest of the path to
the brain so it takes about 9 photons to result in an impulse to the
brain.
--
73, Cecil, w5dxp.com

1703. Re: new question (from "system degradation question")

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 19:33:56 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <uwAKn.30573$wV2.22286@newsfe23.iad>
Source record: 9703

Just use the dipole as is on 160. I had basically the same setup with 63
foot legs on
an inverted vee and worked plenty of 160 stations. Try it -- if you don't
find it
satisfactory, then you can always try something else. System degradation is
usually
far less than theory would have it.

Irv VE6BP

"rb" <rbig@cox.net> wrote in message
news:f%lKn.18602$HG1.10065@newsfe21.iad...
> I'll be using 100 watts SSB/CW, and have about 75' of twinlead up to
> antnenna feedpoint.
>
> You've got me going to do the "system degradation question": I'll run
> twinlead to the shack, in spite of the file cabinet.
>
> Now, yes--I can do just fine manually changing my antenna from ladderline
> fed to putting it on 160 by jumping both ends together and letting it work
> against ground. Long counterpoise in place. Then, putting it back as
> twinlead dipole on 80m up.
>
> What's the new question? I normally would go from 160m up through 15m.
> If I just used the jump both ends together and feed long wire, which ant
> will be better?
>
> Basically, it's whether a long hat vertical would be as good as using my
> twinlead as dipole on bands including 80m and up.
>
> I can certainly keep the antenna twinlead fed dipole, no problem. Just
> curious.
>

1704. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 19:35:38 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htekedpq1@news.eternal-september.org>
Source record: 9704

On 05/24/2010 12:29 PM, Cecil Moore wrote:
> On May 24, 10:24 am, richardharri...@webtv.net (Richard Harrison)
> wrote:
>> Cecil Moore, W5DXP wrote:
>> "It has been demonstrated that light-sensitive cells in your eye (rod
>> cells) are able to detect single photons."
>>
>> From Navy lectures on night vision in WW-2, I remember that cone cells
>> are used for day vision and rods are used at night.

I thought everyone on this group would know that. That is also why some
animals can see in the dark, no cones, but all rods in their eyes.
>
> The cones cannot detect single photons. It takes many photons to
> activate the cones. It only takes one photon to activate a rod.
> Unfortunately, the rod is more sensitive than the rest of the path to
> the brain so it takes about 9 photons to result in an impulse to the
> brain.
Now be sure to tell the researcher that. I give up on this subject,
since you all have been trained to believe that there is such a thing as
a photon. It reminds me of religious indoctrination.
> --
> 73, Cecil, w5dxp.com

Cheers, and I will try to ignore this thread.
Bill Baka

1705. Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 20:06:19 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <62702483-6d3c-43e0-aa8b-0cff735a387d@e28g2000vbd.googlegroups.com>
Source record: 9705

Hi all. I have a doubt about if this text from "Another look at reflections" reflect the author ideas.

"Laboratory and experimental work often requires holding incident voltage constant with variation in loading. A constant-voltage source is usually obtained for this purpose by inserting a pad having 15 to 20 dB attenuation between the generator and the line to absorb the reflected power, preventing it from reaching the generator where it would alter the line coupling and cause the generator output voltage to vary. Because of the absorption of the pad, the generator sees a nearly perfect match for all load conditions and all reflected power is lost - but these are laboratory control conditions required to obtain valid test data."

For example this part => "by inserting a pad having 15 to 20 dB attenuation between the generator and the line TO ABSORB the reflected power"

¿Absorb the reflected power or amortiguate the effects of variyng load impedance?

As I understand it, even without a conjugated match the reflected power neither returns to the source (Thevenin equivalent source).

I give the following example: If we load a generator directly with a resistance of 10 ohms, without any transmission line, there are not traveling waves interfering, therefore there are not stationary waves, there is only a impedance mismatch affecting the source voltage ¿OK?. If then I load it with a line of half wave finished in the same 10 ohms resitance, the generator "will see" a 10 ohms load, and it will behave identically as it made it with the original "direct" load.
In both cases there is not reflected power that it can return to the generator...

(I admire Walter's work and this consultation should only be read as a question, not as a criticism)

Thank you very much in advance.

Miguel Ghezzi LU6ETJ

1706. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 20:09:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a6291499-dc5e-476e-b2a9-e824992b50d5@q23g2000vba.googlegroups.com>
Source record: 9706

On May 24, 2:35 pm, Bill Baka <bb...@comcast.net> wrote:
> On 05/24/2010 12:29 PM, Cecil Moore wrote:
>
> > On May 24, 10:24 am, richardharri...@webtv.net (Richard Harrison)
> > wrote:
> >> Cecil Moore, W5DXP wrote:
> >> "It has been demonstrated that light-sensitive cells in your eye (rod
> >> cells) are able to detect single photons."
>
> >> From Navy lectures on night vision in WW-2, I remember that cone cells
> >> are used for day vision and rods are used at night.
>
> I thought everyone on this group would know that. That is also why some
> animals can see in the dark, no cones, but all rods in their eyes.
>
> > The cones cannot detect single photons. It takes many photons to
> > activate the cones. It only takes one photon to activate a rod.
> > Unfortunately, the rod is more sensitive than the rest of the path to
> > the brain so it takes about 9 photons to result in an impulse to the
> > brain.
>
> Now be sure to tell the researcher that. I give up on this subject,
> since you all have been trained to believe that there is such a thing as
> a photon. It reminds me of religious indoctrination.
>
> > --
> > 73, Cecil, w5dxp.com
>
> Cheers, and I will try to ignore this thread.
> Bill Baka

I do like that last comment! It appears every time
a physicist gets into a jam he invents a particle or inserts a
constant
Cheers

1707. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 20:30:44 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D83423EFD5CCnonenowhere@61.9.191.5>
Source record: 9707

lu6etj <lu6etj@gmail.com> wrote in news:62702483-6d3c-43e0-aa8b-0cff735a387d@e28g2000vbd.googlegroups.com:

> Hi all. I have a doubt about if this text from "Another look at
> reflections" reflect the author ideas.
>
> "Laboratory and experimental work often requires holding incident
> voltage constant with variation in loading. A constant-voltage source
> is usually obtained for this purpose by inserting a pad having 15 to
> 20 dB attenuation between the generator and the line to absorb the
> reflected power, preventing it from reaching the generator where it
> would alter the line coupling and cause the generator output voltage
> to vary. Because of the absorption of the pad, the generator sees a
> nearly perfect match for all load conditions and all reflected power
> is lost - but these are laboratory control conditions required to
> obtain valid test data."
>
> For example this part => "by inserting a pad having 15 to 20 dB
> attenuation between the generator and the line TO ABSORB the reflected
> power"

I would not refer to the cascading of a practical source with a 15 to 20dB attenautor at a 'constant-voltage source' as Walt did above.

A Thevenin source with Zs=50+j0, with varying load impedances, will always have terminal v/i such that the Vfwd component of a traveling wave decomposition of v is constant. I give the explanation / proof at http://vk1od.net/blog/?p=1028 .

Even if a given source has Zs not equal to 50+j0, a sufficiently large cascaded 50 ohm attenuator will result in a combination that is very close to the ideal Zs=50+j0, albeit at lower level. This is a common technique for 'standardising' the equivalent source impedance of a source.

Owen

1708. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 20:34:13 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htens6$s5o$1@news.eternal-september.org>
Source record: 9708

On 05/24/2010 01:09 PM, Art Unwin wrote:
> On May 24, 2:35 pm, Bill Baka<bb...@comcast.net> wrote:>> On 05/24/2010 12:29 PM, Cecil Moore wrote:
>>
>> Now be sure to tell the researcher that. I give up on this subject,
>> since you all have been trained to believe that there is such a thing as
>> a photon. It reminds me of religious indoctrination.
>>
>>> --
>>> 73, Cecil, w5dxp.com
>>
>> Cheers, and I will try to ignore this thread.
>> Bill Baka
>
> I do like that last comment! It appears every time
> a physicist gets into a jam he invents a particle or inserts a
> constant
> Cheers
That is how it works. They have to produce some results for their
funding to continue. I remember when they tried to explain that
everything was made up by quarks. That could possibly explain Neutrons
and Protons, but what about that poor little electron??
Also how come a puny electron has such a charge that it roughly equal
the charge on a (relatively) huge Proton??
There is a lot of understanding to be done yet.
1. What is the speed of gravity?
2. How does gravity propagate through seemingly empty space?
3. How can a magnet attract in the vacuum of space?
Many more questions than answers.
I don't think those questions will be solved until the median IQ reaches
about 130 and not 100, but I am not holding my breath over that ever
happening.
Something for people to think about.
Bill Baka

1709. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 20:36:45 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <c85cf92d-ab75-434a-b1b9-a9016764f331@y21g2000vba.googlegroups.com>
Source record: 9709
Body handling: HTML body converted to readable text

On 22 mayo, 07:05, Brian Howie wrote:
> In message , VK2KC
> writes
>
> >I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> >I would like to know whether the gamma fed dipole has any advantage over the
> >folded dipole, apart from the folded dipole being a tad more difficult to
> >make.
>
> >I have heard that the gamma fed dipole has a skewed radiation pattern in
> >comparison to the folded one.
>
> >Any thoughts and advice?
> >Many thanks
>
> The Clemens match is a variant of the gamma match that gets round that
> problem. I tried them on 6m and 4m.
>
> Http://www.qsl.net/yt1vp/THE%20CLEMENS%20MATCH.htm
>
> You need to watch the losses in the coax dielectric. I vaporised UR67
> and had to go to PTFE.
>
> Brian GM4DIJ
>
> --
> Brian Howie

Hi Brian:

When dipoles are mounted to the side of a tower or metallic support,
the gamma match allows the impedance matching to a 50 ohms
transmission line at the optimal distance from the mast to obtain the
typical diagram of the "ofsset." configuration.
To adapt the folded dipole impedance only appealing to a 4:1
transmission line balun it is necessary to bring them near enough to
the tower or conductive mast and so the radiation diagram is no longer
the one that habitually we imagine (+9 dB front, 3 dB back).

Miguel Ghezzi LU6ETJ

1710. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 21:23:59 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <2d3ca324-f4bc-47dc-b7e8-0fa141896972@d12g2000vbr.googlegroups.com>
Source record: 9710

On 24 mayo, 17:30, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote in news:62702483-6d3c-43e0-aa8b-
> 0cff735a3...@e28g2000vbd.googlegroups.com:
>
>
>
>
>
> > Hi all. I have a doubt about if this text from "Another look at
> > reflections" reflect the author ideas.
>
> > "Laboratory and experimental work often requires holding incident
> > voltage constant with variation in loading. A constant-voltage source
> > is usually obtained for this purpose by inserting a pad having 15 to
> > 20 dB attenuation between the generator and the line to absorb the
> > reflected power, preventing it from reaching the generator where it
> > would alter the line coupling and cause the generator output voltage
> > to vary. Because of the absorption of the pad, the generator sees a
> > nearly perfect match for all load conditions and all reflected power
> > is lost - but these are laboratory control conditions required to
> > obtain valid test data."
>
> > For example this part => "by inserting a pad having 15 to 20 dB
> > attenuation between the generator and the line TO ABSORB the reflected
> > power"
>
> I would not refer to the cascading of a practical source with a 15 to
> 20dB attenautor at a 'constant-voltage source' as Walt did above.
>
> A Thevenin source with Zs=50+j0, with varying load impedances, will
> always have terminal v/i such that the Vfwd component of a traveling wave
> decomposition of v is constant. I give the explanation / proof
athttp://vk1od.net/blog/?p=1028.
>
> Even if a given source has Zs not equal to 50+j0, a sufficiently large
> cascaded 50 ohm attenuator will result in a combination that is very
> close to the ideal Zs=50+j0, albeit at lower level. This is a common
> technique for 'standardising' the equivalent source impedance of a
> source.
>
> Owen- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Thank you for your answer Owen (but I think that it doesn't answer my specific question, possibly because I am not able to express it well due to my translation to English).
.....
I agree with what you say in your answer and several things you write in your good article "Is Zs of to HF ham tx typically 50+j0? ".

For example that for an idealized Theveninj generator, the incident power is independent of the load impedance (net power Pf-Pr not)
(If an impedances adapting device is inserted between the line and generator and we insert directional wattmeter between the matching device and line, of course Pf varies and Pnet also do it).

Regarding that output impedance of a rig be quite near to 50+j0 I think that depends on the concrete design; such a condition is not necessary and in my opinion neither optimal.

Best regards

Miguel Ghezzi LU6ETJ

1711. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 21:37:27 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9a9ff5f7-85fd-4064-804c-151197768457@j27g2000vbp.googlegroups.com>
Source record: 9711

On May 24, 3:34 pm, Bill Baka <bb...@comcast.net> wrote:
> On 05/24/2010 01:09 PM, Art Unwin wrote:
>
> > On May 24, 2:35 pm, Bill Baka<bb...@comcast.net> wrote:>> On 05/24/2010 12:29 PM,
Cecil Moore wrote:
>
> >> Now be sure to tell the researcher that. I give up on this subject,
> >> since you all have been trained to believe that there is such a thing as
> >> a photon. It reminds me of religious indoctrination.
>
> >>> --
> >>> 73, Cecil, w5dxp.com
>
> >> Cheers, and I will try to ignore this thread.
> >> Bill Baka
>
> > I do like that last comment! It appears every time
> > a physicist gets into a jam he invents a particle or inserts a
> > constant
> > Cheers
>
> That is how it works. They have to produce some results for their
> funding to continue. I remember when they tried to explain that
> everything was made up by quarks. That could possibly explain Neutrons
> and Protons, but what about that poor little electron??
> Also how come a puny electron has such a charge that it roughly equal
> the charge on a (relatively) huge Proton??
> There is a lot of understanding to be done yet.
> 1. What is the speed of gravity?
> 2. How does gravity propagate through seemingly empty space?
> 3. How can a magnet attract in the vacuum of space?
> Many more questions than answers.
> I don't think those questions will be solved until the median IQ reaches
> about 130 and not 100, but I am not holding my breath over that ever
> happening.
> Something for people to think about.
> Bill Baka

I spoke to some physicists at the Fermilab accelerator at Batavia ILL
a few weeks back and it was surprising to me how often the statement
was made "that is out of my expertize". Seems like they are trained to
think in a tunnel out of the hearing and contact of others.Considering
the amount of funds they collect their sparse achievements as noted in
their weekly news letter sure does not impress me a bit. How many

times have we heard
"we hope that "if" we are successful it is possible that it could lead to........"I look for a barrage of such statements in the future about the difficulties of finding Higgs field where it is now felt to be of virtual form without mass and possibly out of range!

1712. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 21:40:32 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <a04a2667-17dc-44ad-a050-6b633945fe3e@u7g2000vbq.googlegroups.com>
Source record: 9712
Body handling: HTML body converted to readable text

On 24 mayo, 17:36, lu6etj wrote:
> On 22 mayo, 07:05, Brian Howie wrote:
>
>
>
>
>
> > In message , VK2KC
> > writes
>
> > >I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> > >I would like to know whether the gamma fed dipole has any advantage over the
> > >folded dipole, apart from the folded dipole being a tad more difficult to
> > >make.
>
> > >I have heard that the gamma fed dipole has a skewed radiation pattern in
> > >comparison to the folded one.
>
> > >Any thoughts and advice?
> > >Many thanks
>
> > The Clemens match is a variant of the gamma match that gets round that
> > problem. I tried them on 6m and 4m.
>
> > Http://www.qsl.net/yt1vp/THE%20CLEMENS%20MATCH.htm
>
> > You need to watch the losses in the coax dielectric. I vaporised UR67
> > and had to go to PTFE.
>
> > Brian GM4DIJ
>
> > --
> > Brian Howie
>
> Hi Brian:
>
> When dipoles are mounted to the side of a tower or metallic support,
> the gamma match allows the impedance matching to a 50 ohms
> transmission line at the optimal distance from the mast to obtain the
> typical diagram of the "ofsset." configuration.
> To adapt the folded dipole impedance only appealing to a 4:1
> transmission line balun it is necessary to bring them near enough to
> the tower or conductive mast and so the radiation diagram is no longer

> the one that habitually we imagine (+9 dB front, 3 dB back).
>
> Miguel Ghezzi LU6ETJ- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

SRI, my post was to John question, not to Brian answer :>)

Miguel

1713. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 22:33:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ndulv5l30fng1aiunl8ovrrqsso7lvehbn@4ax.com>
Source record: 9713

On Mon, 24 May 2010 14:23:59 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Regarding that output impedance of a rig be quite near to 50+j0 I
>think that depends on the concrete design; such a condition is not
>necessary and in my opinion neither optimal.

Hi Miguel,

Problems arise from qualitative statements or questions instead of
quantitative statements or questions.
>output impedance of a rig be quite near to 50+j0
is a quantitative fact (depending upon the qualitative "near"). A
fact can be measured and compared by in dependant and objective means.
>in my opinion neither optimal
is a qualitative judgment. A judgment is only as authoritative as is
the authority making it - and even then it comes at a discount. We
get many judgments here by folks with little authority (and such
judgments are usually adorned with anti-authority messages).

I have measured the characteristic Z of my two transistorized HF rigs
by different methods that agree in their results. I have also
measured the Z of active loads that employ the same circuitry found in
power sources. The values of Z for my HF rigs wander from 35 Ohms to
75 Ohms. The variation is a function of
1. frequency;
2. power;
3. which of the two is being measured.

What is notable, for those values that are furthest from 50 Ohms (the
design goal), my rigs experience issues (instabilities, poor
efficiency, distortion...).

The variation by frequency is found at the margins (at the ends of the
HF band).

The variation by power is found in inabilities to maintain a constant
power deliver in every band - which weakly correlates to Z offset from
50. Variation by power also defines Z. Low power operation is not
going to give you a 50 Ohm source (the manufacturer designs Z for
rated power).

The variation by set is due to different capabilities: one set is
capable of 150W, and the other 100W; thus the first is more robust. As
these variations of Z are not remarkable, trying to turn them into
quantitative efficiency results are speculative at best (common
designs are not optimal by any stretch when you add in the

complication of modes).

73's
Richard Clark, KB7QHC

1714. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 22:42:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <440mv51ga7qi1l4pc1b6ndgfam2s3f75b0@4ax.com>
Source record: 9714

On Mon, 24 May 2010 13:34:13 -0700, Bill Baka <bbaka@comcast.net>
wrote:

>those questions will be solved until the median IQ reaches
>about 130 and not 100, but I am not holding my breath over that ever
>happening.

Move to Lake Wobegone and enjoy the everyday experience of that.

73's
Richard Clark, KB7QHC

1715. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 22:58:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ca0mv5hmg21p7gcip10ndurfftme4pco5p@4ax.com>
Source record: 9715

On Mon, 24 May 2010 07:06:44 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>I have often wondered if the manufacturer's
>tuning
>procedures had anything to do with maximizing output power transfer,
>or
>were they, in fact, optimizing some other aspect.

This resolves quickly in measurement - no need to wonder unless it
offers some secondary benefit of not measuring things.

An alternative is to simply examine conventional design
considerations. One can add to Plate current by throwing a lot of
power into the grid. More plate current yields more output power
results, but grid lifetime plumments.

One can do innumerable things to force an artificial outcome that
strains to prove a distorted logic. Examining a suite of sources, in
initial conditions that are average for their application quickly
reveals a common design paradigm.

******

The fundamental answer to your question is the manufacturer ultimately
designs for market domination, or maximum investment return (the two
don't necessarily converge). Thus the marketplace gives us a spectrum
of choice and the norm of the distribution reveals cautious design
that has its eye on a value exchange expressed in money. THAT is the
only optimization you can expect = in an honest barter, you get what
you pay for.

73's
Richard Clark, KB7QHC

1716. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 22:59:16 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0a3ec368-769a-4302-9162-7672d9342b01@f13g2000vbm.googlegroups.com>
Source record: 9716

On May 24, 9:37 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I spoke to some physicists at the Fermilab accelerator at Batavia ILL
> a few weeks back and it was surprising to me how often the statement
> was made "that is out of my expertize". Seems like they are trained to
> think in a tunnel out of the hearing and contact of others

they are smart enough to know when they don't know something, and
admit it... unlike yourself.

1717. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 23:15:52 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <1175a5e0-a49c-4bc7-ad25-326c9a1f2511@c7g2000vbc.googlegroups.com>
Source record: 9717

On May 24, 10:55 am, walt <w...@w2du.com> wrote:
> Keith, would you please elaborate on why you believe my analysis of
> transmitter output impedance is flawed? And what is the basis for your
> belief that my explanations in Reflections require large chunks of
> linear circuit theory to be discarded. Could it be because you
> consider the source resistance in the transmitter to be dissipative,
> as in the classical generator? If so, you must be made to realize that
> the source resistance of the transmitter is non-dissipative, which is
> the reason that its efficiency can exceed 50%.

No problems there. There has been much confusion in this area and
anything
that reduces this confusion is beneficial.

> Or are you considering the output characteristic of the transmitter to
> be non-linear? This is not the case, because the effect of energy
> storage in the tank circuit isolates the non-linear input from the
> output circuit, which is linear as evidenced by the almost perfect
> sine wave appearing at the output of the tank.

This may be the root of my disagreement. Certainly the output can be
an
arbitrarily perfect sine wave, but this simply depends on the
characteristics of the filter and not on whether the system is linear.

But the way the filter transforms the impedances is the crux of the
issue.

It is my understanding that the input impedance to a filter can be
computed by starting with the load impedance applied to the filter and
then, using the rules for series and parallel connected components,
compute the way through the filter until reaching the input and the
result is the input impedance to the filter.

Similarly, the output impedance of the filter can be computed by
starting with source impedance driving the filter, series and
paralleling
the components until reaching the output and the result is the output
impedance of the filter.

The desired impedance for the input to the filter is that impedance
which
produces the desired load on the tube. And the component values are
computed to produce this load on the tube when the correct load is
attached to the output.

For the output impedance of the filter, the question then becomes: What
is the source impedance driving the filter? If the source is constructed
as a Class A amplifier, then it depends on the controlling device, and
for the simplest of circuits would be Rp of the tube. (Just for clarity,
in this discussion Rp is the slope of the plate E/I curve with constant
grid voltage. In an ideal tube, these lines are equidistant apart and the
slopes are the same. Real tubes, of course, are not so well behaved, but
this should not affect the basic discussion.)

Since the component values for the filter were chosen to provide the
optimum load to the tube, and the optimum load value has no relation to
Rp, there is no reason to expect the filter will transform Rp to be
the conjugate of the load impedance.

For amplifiers where conduction is not for 360 degrees (Class AB, B, C),
the controlling device is no longer time-invariant so the rules for
linear circuit analysis no longer apply. None-the-less, for example,
consider a Class AB amplifier where the tube is only cut off for 1
degree. This short cut-off would not have much affect so the analysis
for Class A would apply. As the cut-off period increases the behaviour
will diverge more and more from that of the Class A amplifier.

Simulations produce some interesting results:

Another way of measuring the source impedance is to observe the effect
on a reflected wave entering the amplifier from the load. With a Class
C amplifier, simulation reveals that the effect on the reflected wave
depends on the phase of that wave with respect to the drive signal
applied to the tube. As the phase of the reflected wave is changed,
the reflection co-efficient experienced by the wave changes. Truly a
non-linear behaviour. Intriguingly, when the conduction angle is exactly
180 degrees, this effect largely disappears, and the result is much as
if the source impedance of the tube was 2 times Rp, which seems to
make some sense since the tube is only conducting one-half of the time.

> One last question: Are you basing your dissatisfaction of Reflections
> from reviewing the 2nd or 3rd edition? Chapter 19 has been expanded in
> the 3rd edition, in which I presented additional proof of my position
> on the subject that you should be aware of. If you haven't yet seen
> the addition that appears in the 3rd ed, please let me know so that I
> can send you a copy of the addition.

I have been reading the .pdfs at w2du.com along with correspondence and
other writings in QST, QEX and newsgroups.

The expanded Chapter 19 at w2du.com offers more experimental evidence
that seems to support the hypothesis that the transmitter is conjugate
matched to the load after tuning,

But given, from circuit analysis, that the output impedance can not be
well defined for any but a Class A amplifier, the fascinating question
is why is there experimental evidence that agrees with the premise that
the output impedance of a tuned transmitter is the conjugate match of
the load?

One simple example to consider which has similar behaviour is a bench
power supply that also has a constant current limiter. Set such a power
supply to produce a voltage of 100V (more precisely a maximum voltage)
and a current limit of 2A. Apply a variable load. Maximum power will
be drawn when the load resistance is 50 ohms. Varying the resistance
on either side of 50 ohms will reduce the power which might be
misconstrued to suggest that the power supply has an output impedance
of 50 ohms, when, in fact, it has a infinite output impedance when
the load is below 50 ohms and a zero output impedance when the load
is above.

I have looked for such a simple explanation in the circuits of the
transmitters used in the experiments but was not able to find one.
So I am still puzzled by the observations.

> Also include your email address so I can send it.
Keith.dot.dysart.at.gmail.com .dot. => . .at. => @

…Keith

1718. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 23:23:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d23d8b33-78d7-4bb7-bdaa-1c7387de9ee9@w3g2000vbd.googlegroups.com>
Source record: 9718

On May 24, 2:35 pm, Bill Baka <bb...@comcast.net> wrote:
> Now be sure to tell the researcher that. I give up on this subject,
> since you all have been trained to believe that there is such a thing as
> a photon. It reminds me of religious indoctrination.

After one thinks about it for awhile, one will realize that believing
in anything except physical particles is the religious faith-based
part. Can anything exist in the real world that doesn't have a
physical existence? The answer to that question is why particle
physics has become the accepted standard. Everyone who believes that
something can exist without an associated physical particle is free to
try to prove their belief but how can non-particles be measured?
--
73, Cecil, w5dxp.com

1719. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 23:23:26 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <3d142bed-83ae-4e8a-add3-563cb90eeaaa@o1g2000vbe.googlegroups.com>
Source record: 9719

On May 24, 6:58 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 24 May 2010 07:06:44 -0700 (PDT), Keith Dysart
>
> <keith.dys...@gmail.com> wrote:
> >I have often wondered if the manufacturer's
> >tuning
> >procedures had anything to do with maximizing output power transfer,
> >or
> >were they, in fact, optimizing some other aspect.
>
> This resolves quickly in measurement - no need to wonder unless it
> offers some secondary benefit of not measuring things.
>
> An alternative is to simply examine conventional design
> considerations. One can add to Plate current by throwing a lot of
> power into the grid. More plate current yields more output power
> results, but grid lifetime plumments.
>
> One can do innumerable things to force an artificial outcome that
> strains to prove a distorted logic. Examining a suite of sources, in
> initial conditions that are average for their application quickly
> reveals a common design paradigm.
>
> ******
>
> The fundamental answer to your question is the manufacturer ultimately
> designs for market domination, or maximum investment return (the two
> don't necessarily converge). Thus the marketplace gives us a spectrum
> of choice and the norm of the distribution reveals cautious design
> that has its eye on a value exchange expressed in money. THAT is the
> only optimization you can expect = in an honest barter, you get what
> you pay for.
>
> 73's
> Richard Clark, KB7QHC

You have gone to a bit higher level than I intended with my question
and
I agree with you conclusions at that level. But my question was more
basic.

When designing the filter for a PA, among other things, one uses the
desired load to be applied to the tube and the disired load impedance
to be supported and selects filter components to perform the desired
transformation.

When operating the radio, the operator has meters that measure some values, some knobs that control some component values and a procedure for adjusting these knobs.

It is not at all obvious what exactly the result of performing the procedure is. Does it result in the same load being applied to the tube that was computed by the designer? There are some hints that the procedure will result in the load applied to the tube being real, but beyond that, what exactly are the circuit conditions that result?

...Keith

1720. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 23:42:40 UTC
From: tom <news4792@taring.org>
Message-ID: <4bfb0ef3$0$635$8046368a@newsreader.iphouse.net>
Source record: 9720

On 5/24/2010 3:34 PM, Bill Baka wrote:
> I don't think those questions will be solved until the median IQ reaches
> about 130 and not 100, but I am not holding my breath over that ever
> happening.
> Something for people to think about.
> Bill Baka

If the score on IQ tests ever got to the point that is currently scored
as 130 it would be, by the method that determines IQ scores, 100.

But you probably already knew that.

tom
K0TAR

1721. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 23:49:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <53c4c73a-acb2-41ae-ad06-819e89fd320e@r9g2000vbk.googlegroups.com>
Source record: 9721

On May 24, 6:15 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> This may be the root of my disagreement. Certainly the output can be
> an arbitrarily perfect sine wave, but this simply depends on the
> characteristics of the filter and not on whether the system is linear.

Since anything except a class-A amplifier is non-linear and since we are talking about linear analysis, it seems we need to locate a point in the system where V is a sine wave, I is a sine wave, and V/I is the constant impedance at that point. IMO, that is the first point at which we can use a linear math analysis and maybe that point is what Walt is talking about. It's certainly not going to be the plate of a class-C amplifier and it may not even be the load-line of the class-C amplifier. There is probably some point in an otherwise non-linear system where a linear analysis becomes possible. I think that point is what Walt considers to be the linear source point, wherever that point might be located.

In fact, here is my personal take on the subject. Given an antenna system that presents 50+j0 ohms looking into 50 ohm coax, the internal impedance of the source doesn't matter. For any voltage source, irrespective of the source impedance, if reflected energy doesn't reach the source, the source impedance doesn't matter (except for efficiency). Seems to me, the highest efficiency would be achieved by a source with zero ohms of source impedance.
--
73, Cecil, w5dxp.com

1722. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 23:52:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l13mv59r8929f9mrtolubu7dnjnga8o9il@4ax.com>
Source record: 9722

On Mon, 24 May 2010 16:23:26 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>It is not at all obvious what exactly the result of performing the
>procedure is. Does it result in the same load being applied to the
>tube that was computed by the designer?

Hi Keith,

By and large, Yes.

>There are some hints that
>the procedure will result in the load applied to the tube being
>real, but beyond that, what exactly are the circuit conditions
>that result?

I am a little lost on that. The load applied is the load applied
(sorry for the Zen). If you mean that the load is transformed by
tuning to a real R for the Plate to see, then, yes, that is operative.

However, that is not the end of it. That R is seen as the loss of a
now-poorer Q for the Plate tank. This is the distinction between
loaded and unloaded Q. The Plate tank Q expressed in terms of loaded
Q, to be effective, is quite low in comparison to its unloaded value.
This value of loaded Q is roughly between 10 and 20 where the
components in isolation (unloaded) could easily achieve 10 to 30 times
that.

The term "loaded" includes BOTH the plate and the applied load
(whatever is presented to the antenna connection). The only time the
unloaded Q of the Plate tank is at peak value is when it is sitting in
isolation from the chassis, circuitry, and even mounts - which means
it is not very useful in that configuration, except as a trophy. Many
silver plate their tanks as trophies (because this rarely results in
better operation).

Now, let's return to my statement about what Q is "effective" AND that
it measures out at roughly 10 to 20. This is straight out of Terman
if you need a citation. As for explanation (also found in Terman),
you have to consider that the Plate tank is the gate-keeper (as well
as transformer of Z) of power. If you have too high a Q, the power is
not getting THROUGH the tank as it must, and necessarily it remains in
the tank (as energy, albeit).

Consider further that ALL resonant circuits can be cast from series
circuits to parallel circuits or parallel to series (a fact lost on
some inventors of antennas). To describe the Plate tank in series

terms as I do, then the plate resistance and load resistance combine in series through a simple circular path through ground. There are parallel tank designs where the resistances combine in parallel. The net result is the same insofar as Q is concerned.

Consult Terman if that is confusing. No doubt others will either more clearly cite him, or add to the confusion.

73's
Richard Clark, KB7QHC

1723. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-24 23:57:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ac4mv51m77jarevruq53lov6lg6k80h1st@4ax.com>
Source record: 9723

On Mon, 24 May 2010 16:15:52 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>I have looked for such a simple explanation in the circuits of the
>transmitters used in the experiments but was not able to find one.
>So I am still puzzled by the observations.

Hi Keith,

Consult Terman. That should be sufficient for both the instructor and
the student to use as a benchmark design for tubes, at least. The
design of the transistorized finals' deck of Ham grade HF rigs has
been stable for nearly 4 decades.

Any departure from HF Ham grade equipment capable of 100W is going to
lead to equivocal statements.

73's
Richard Clark, KB7QHC

1724. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 00:17:41 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <427daa2d-613b-4d55-b037-a9efdcc04747@m4g2000vbl.googlegroups.com>
Source record: 9724

On 24 mayo, 19:33, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 24 May 2010 14:23:59 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >Regarding that output impedance of a rig be quite near to 50+j0 I
> >think that depends on the concrete design; such a condition is not
> >necessary and in my opinion neither optimal.
>
> Hi Miguel,
>
> Problems arise from qualitative statements or questions instead of
> quantitative statements or questions.>output impedance of a rig be quite near to 50+j0
>
> is a quantitative fact (depending upon the qualitative "near"). A
> fact can be measured and compared by in dependant and objective means.>in my opinion
neither optimal
>
> is a qualitative judgment. A judgment is only as authoritative as is
> the authority making it - and even then it comes at a discount. We
> get many judgments here by folks with little authority (and such
> judgments are usually adorned with anti-authority messages).
>
> I have measured the characteristic Z of my two transistorized HF rigs
> by different methods that agree in their results. I have also
> measured the Z of active loads that employ the same circuitry found in
> power sources. The values of Z for my HF rigs wander from 35 Ohms to
> 75 Ohms. The variation is a function of
> 1. frequency;
> 2. power;
> 3. which of the two is being measured.
>
> What is notable, for those values that are furthest from 50 Ohms (the
> design goal), my rigs experience issues (instabilities, poor
> efficiency, distortion...).
>
> The variation by frequency is found at the margins (at the ends of the
> HF band).
>
> The variation by power is found in inabilities to maintain a constant
> power deliver in every band - which weakly correlates to Z offset from
> 50. Variation by power also defines Z. Low power operation is not
> going to give you a 50 Ohm source (the manufacturer designs Z for
> rated power).
>

> The variation by set is due to different capabilities: one set is
> capable of 150W, and the other 100W; thus the first is more robust. As
> these variations of Z are not remarkable, trying to turn them into
> quantitative efficiency results are speculative at best (common
> designs are not optimal by any stretch when you add in the
> complication of modes).
>
> 73's
> Richard Clark, KB7QHC

Hi Richard:

As I understand => "output impedance of a rig be near to 50+j0" it is
not a cuantitative fact except when it refers to specific study
objects, obvously not all study objects (transmitters) will
necessarily share those numbers.
I think a good general cuantitative assertion would be for example,
"all the rig on the market gives near 50 +j0, Zout". I am not deny
that experimental fact...

When I say "in my opinion" I am just not giving a formal hipothesis or
theory and I quite understand technical and logical limitations of
such words (for that I use them)
Certainly I am definiteley not an authoritative guy on any
matter :>(

(I'm so sorry Richard, although theory of knowledge is a topic of my
interest I am not in conditions of discussing about it in a (for me)
foreign language :>( )

I saw some of this topics discussed time ago in this newsgroup and it
was not my intention to return to them because I know they motivated
good ponderings and respectfully points of view in its moment.

PSE, with the due respect and consideration toward you an the
distinguished colleagues and friends, Would you mind return to the
original question? (sorry if it is not this the most polite form to
ask it)

73

Miguel Ghezzi LU6ETJ

1725. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 00:30:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b3869713-5cf4-48e7-892a-2885c98d7a61@k31g2000vbu.googlegroups.com>
Source record: 9725

On May 24, 3:06 pm, lu6etj <lu6...@gmail.com> wrote:
> For example this part => "by inserting a pad having 15 to 20 dB
> I give the following example: If we load a generator directly with a
> resistance of 10 ohms, without any transmission line, there are not
> traveling waves interfering, therefore there are not stationary waves,

Yes, standing waves are hard to visualize, but there is indeed same-cycle interference involving forward waves and reflected waves. There is a certain delay from the source signal to the load and back that can be calculated if one chooses. The wave reflection model is closer to Maxwell's equations than is the lumped-circuit model where EM waves propagate instantaneously. Maybe the concepts presented in the following paper would help. There is no transmission line for a Tesla coil but reflection effects still exist. The lumped circuit model, to which you allude, incorrectly assumes that signals can travel at faster than the speed of light, an obvious impossibility.

http://www.ttr.com/corum/index.htm

Incidentally, this is the reason that W8JI measured a 3 ns delay through a foot-long 75m loading coil. There were same-cycle reflections existing in a near-infinite SWR situation. In such a configuration, the phase of the current doesn't change at all yet W8JI assumed the measured phase change was proportional to the delay through the coil. Nothing could be farther from the technical truth.
--
73, Cecil, w5dxp.com

1726. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 00:42:12 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <222dc912-e342-4a19-889f-fc36229ac960@d12g2000vbr.googlegroups.com>
Source record: 9726

On May 24, 11:23 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 24, 2:35 pm, Bill Baka <bb...@comcast.net> wrote:
>
> > Now be sure to tell the researcher that. I give up on this subject,
> > since you all have been trained to believe that there is such a thing as
> > a photon. It reminds me of religious indoctrination.
>
> After one thinks about it for awhile, one will realize that believing
> in anything except physical particles is the religious faith-based
> part. Can anything exist in the real world that doesn't have a
> physical existence? The answer to that question is why particle
> physics has become the accepted standard. Everyone who believes that
> something can exist without an associated physical particle is free to
> try to prove their belief but how can non-particles be measured?
> --
> 73, Cecil, w5dxp.com

I BELIEVE! Hallelujah!

Personally as an engineer i am more comfortable working with the
electro-magnetic wave representation of radio or light waves because
i work with macroscopic objects and the waves and fields are easier to
work with. But many physicists prefer photonic representations
because they work more with particle interactions and it is easier to
represent the interactions at that level with feynman diagrams and
similar mechanics. but most problems can be adequately handled by
either if you apply the right methods.

1727. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 01:09:35 UTC
From: Owen <noone@no.where>
Message-ID: <jrFKn.26957$pv.18867@news-server.bigpond.net.au>
Source record: 9727

On 25/05/2010 07:06, lu6etj wrote:
...

> I give the following example: If we load a generator directly with a
> resistance of 10 ohms, without any transmission line, there are not
> traveling waves interfering, therefore there are not stationary waves,
> there is only a impedance mismatch affecting the source voltage ï¿½OK?.
> If then I load it with a line of half wave finished in the same 10
> ohms resitance, the generator "will see" a 10 ohms load, and it will
> behave identically as it made it with the original "direct" load.
> In both cases there is not reflected power that it can return to the
> generator...

I used a similar problem in my discussion entitled "A simple VSWR analysis without mirrors" at http://vk1od.net/blog/?p=1259. The article then goes on to solve a real problem (ie a practical low loss line rather than the lossless line in the first example, and in your example.

You should find them relevant.

Owen

1728. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 03:08:21 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htfev6$h89$1@news.eternal-september.org>
Source record: 9728

On 05/24/2010 02:37 PM, Art Unwin wrote:
> On May 24, 3:34 pm, Bill Baka<bb...@comcast.net> wrote:
>> On 05/24/2010 01:09 PM, Art Unwin wrote:
>>
>>> On May 24, 2:35 pm, Bill Baka<bb...@comcast.net> wrote:>> On 05/24/2010 12:29 PM, Cecil Moore wrote:
>>
>>>> Now be sure to tell the researcher that. I give up on this subject,
>>>> since you all have been trained to believe that there is such a thing as
>>>> a photon. It reminds me of religious indoctrination.
>>
>>>>> --
>>>>> 73, Cecil, w5dxp.com
>>
>>>> Cheers, and I will try to ignore this thread.
>>>> Bill Baka
>>
>>> I do like that last comment! It appears every time
>>> a physicist gets into a jam he invents a particle or inserts a
>>> constant
>>> Cheers
>>
>> That is how it works. They have to produce some results for their
>> funding to continue. I remember when they tried to explain that
>> everything was made up by quarks. That could possibly explain Neutrons
>> and Protons, but what about that poor little electron??
>> Also how come a puny electron has such a charge that it roughly equal
>> the charge on a (relatively) huge Proton??
>> There is a lot of understanding to be done yet.
>> 1. What is the speed of gravity?
>> 2. How does gravity propagate through seemingly empty space?
>> 3. How can a magnet attract in the vacuum of space?
>> Many more questions than answers.
>> I don't think those questions will be solved until the median IQ reaches
>> about 130 and not 100, but I am not holding my breath over that ever
>> happening.
>> Something for people to think about.
>> Bill Baka
>
> I spoke to some physicists at the Fermilab accelerator at Batavia ILL
> a few weeks back and it was surprising to me how often the statement
> was made "that is out of my expertize". Seems like they are trained to
> think in a tunnel out of the hearing and contact of others.Considering
> the amount of funds they collect their sparse achievements as noted in

> their weekly news letter sure does not impress me a bit. How many
> times have we heard
> "we hope that "if" we are successful it is possible that it could lead
> to........"I look for a barrage of such statements in the future about
> the difficulties of finding Higgs field where it is now felt to be of
> virtual form without mass and possibly out of range!

That does not surprise me at all. I have gone through about 6 doctors in the last two years looking for one with enough IQ to even talk intelligently with. I now have a good one and he is from Iran and glad to be here. The others were just pill pushers or as I am heard to say "educated baboons". A PhD means nothing to me if there is no real intelligence to support it. Many of these specialists have no idea about other things and no ability to understand when I do go out of their comfort zone. Finding real intelligence in people is a continuing challenge for me. My IQ? Don't ask.
Cheers,
Bill Baka

1729. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 03:09:30 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htff1b$h89$2@news.eternal-september.org>
Source record: 9729

On 05/24/2010 03:42 PM, Richard Clark wrote:
> On Mon, 24 May 2010 13:34:13 -0700, Bill Baka<bbaka@comcast.net>
> wrote:
>
>> those questions will be solved until the median IQ reaches
>> about 130 and not 100, but I am not holding my breath over that ever
>> happening.
>
> Move to Lake Wobegone and enjoy the everyday experience of that.
>
> 73's
> Richard Clark, KB7QHC

I'm amazed that anyone even remembers that fictional lake.
Bill Baka

1730. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 03:16:57 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htfffdlmu1@news.eternal-september.org>
Source record: 9730

On 05/24/2010 04:23 PM, Cecil Moore wrote:
> On May 24, 2:35 pm, Bill Baka<bb...@comcast.net> wrote:
>> Now be sure to tell the researcher that. I give up on this subject,
>> since you all have been trained to believe that there is such a thing as
>> a photon. It reminds me of religious indoctrination.
>
> After one thinks about it for awhile, one will realize that believing
> in anything except physical particles is the religious faith-based
> part. Can anything exist in the real world that doesn't have a
> physical existence? The answer to that question is why particle
> physics has become the accepted standard. Everyone who believes that
> something can exist without an associated physical particle is free to
> try to prove their belief but how can non-particles be measured?
> --
> 73, Cecil, w5dxp.com

Kind of what I meant. It seems that every year they are chasing
something, the latest being the 'Higgs' boson. The "Big Ring" in Europe
is a prime example by having counter rotating particles near the speed
of light smashing into each other at nearly twice the speed of light.
Sure there will be some odd particles coming from that but the life time
of these particles is sometimes measured in Nanoseconds, so they just
don't exist in the natural world.
<Sigh>
Bill Baka

1731. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 03:23:05 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htffqs$nr3$1@news.eternal-september.org>
Source record: 9731

On 05/24/2010 04:42 PM, tom wrote:
> On 5/24/2010 3:34 PM, Bill Baka wrote:
>> I don't think those questions will be solved until the median IQ reaches
>> about 130 and not 100, but I am not holding my breath over that ever
>> happening.
>> Something for people to think about.
>> Bill Baka
>
> If the score on IQ tests ever got to the point that is currently scored
> as 130 it would be, by the method that determines IQ scores, 100.
>
> But you probably already knew that.
>
> tom
> K0TAR

I did, but that wasn't the point I was trying to make. The bell curve would just go up to the point that people with IQ's of 100 (by today's standards) would be considered sub par. I do wish that could happen since I can't deal with even average people. Sometimes I accidentally use a big word or describe in detail something they don't know and I get labeled either a show off or just plain smart ass. It is totally unintentional but is happens.
Bill Baka

1732. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 03:31:33 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <4aa9e0bf-1468-4d2f-bbac-06aa9adb01b1@o15g2000vbb.googlegroups.com>
Source record: 9732

On 24 mayo, 21:30, Cecil Moore <w5...@hotmail.com> wrote:
> On May 24, 3:06 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > For example this part => "by inserting a pad having 15 to 20 dB
> > I give the following example: If we load a generator directly with a
> > resistance of 10 ohms, without any transmission line, there are not
> > traveling waves interfering, therefore there are not stationary waves,
>
> Yes, standing waves are hard to visualize, but there is indeed same-
> cycle interference involving forward waves and reflected waves. There
> is a certain delay from the source signal to the load and back that
> can be calculated if one chooses. The wave reflection model is closer
> to Maxwell's equations than is the lumped-circuit model where EM waves
> propagate instantaneously. Maybe the concepts presented in the
> following paper would help. There is no transmission line for a Tesla
> coil but reflection effects still exist. The lumped circuit model, to
> which you allude, incorrectly assumes that signals can travel at
> faster than the speed of light, an obvious impossibility.
>
> http://www.ttr.com/corum/index.htm
>
> Incidentally, this is the reason that W8JI measured a 3 ns delay
> through a foot-long 75m loading coil. There were same-cycle
> reflections existing in a near-infinite SWR situation. In such a
> configuration, the phase of the current doesn't change at all yet W8JI
> assumed the measured phase change was proportional to the delay
> through the coil. Nothing could be farther from the technical truth.
> --
> 73, Cecil, w5dxp.com

Hi Cecil. thank you very much for your answer. (I am a "fan" of your
rationale and very practical multiband open wire antenna feeding and I
do not know why it is no so popular as G5RV in my country).
....
I know a model is necessary false by definition because is only a
model (an approximation to the hipothetical "real thing"), but I do
not imagine what is the tranmission line in the source-load
combination of my idealized model circuit example. I am not capable to
judge validity of idealized circuit theory in general to this example,
neither. Please, could you tell me which would be the transmission
line Zo in my resistive divider example?

Anyway, my question is about validity of the assertion that reflected
wave -in that example- IS ABSORBED by the pad. According to my simple
calculations this hipothesis, as I see it, it does not coincide with

my early learnings.

For example, with a 2 V generator with Zs=1 ohm, Zc=4 ohms and Zo=1 ohm, Pc is 0.64 W. Then Pf =1 W (as Owen says in his article), Pr=0.36 W. Rendering Ef=1 V, and Vf=0.6V. Summing both in phase gives 1,6 V on the line-in point (same as on load point).
These are the same power and voltages values that simple resistive divider predicts. The system fulfills the Kirchoff law and all power (as we learn in circuits theory) it flows from source to load.
In the example I suggest a half wave transmission line loaded with 4 ohms it is at practical effects indistinguishable from a 4 ohms resistive load directly connected to generator. What would be the reflected power that would be dissipating in Zs (or the pad)?

This is not opposed to the conjugate mirror principle explained, neither other propositions given in the cited article. IMHO reflected power never "returns into" generators when they are active (and in steady state); reflected power it is re-reflected in conjugated match, and vectorially composed to render a load impedance to the generator when this is directly connected to the line (when there is not any matching devices inserted).
I do not suggesting that reflected power is "virtual" or any similar thing, of course if we insert a circulator to separate both powers, generator now would see 1 ohm load, could develope 1 W incident, 0 W reflected (Pn=1W) on circulator input, 0.36 W would be outputting on the other port to render 0.64 W (Pn) to the load with 1 W Pf and 0,36 W Pr again.

If I am in error please give me your explanations.

73

Miguel ghezzi LU6ETJ

1733. Counterpoise for NMO in plastic roof?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 03:48:09 UTC
From: artie <artie.m@gNOSPAMmail.com>
Message-ID: <240520102048098412%artie.m@gNOSPAMmail.com>
Source record: 9733

I'm going to be putting an NMO-mount dual band (144 and 440 MHz) antenna in a plastic vehicle roof.

I plan on making a counterpoise using 3 inch wide (or so) adhesive-backed metal (hvac) tape. I can do an overlapping run of close to 6 inches wide.

Question for the crowd -- any benefit/detriment for making this counterpoise as long as possible, or should I stick to odd multiples of a quarter length (at 2 meters)?

There's more room "behind" the mount point than in front of it, so I could have a quarter wave section in front of the NMO, and a 3/4 wave section behind.

I can also do a cross member, but that would be pretty much limited to a quarter wavelength per side.

Opinions?

1734. Re: Counterpoise for NMO in plastic roof?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 04:07:38 UTC
From: nm5k@wt.net
Message-ID: <ecf661c5-4587-4806-99dd-e335a5bc13e7@z33g2000vbb.googlegroups.com>
Source record: 9734

On May 24, 10:48 pm, artie <arti...@gNOSPAMmail.com> wrote:
> I'm going to be putting an NMO-mount dual band (144 and 440 MHz)
> antenna in a plastic vehicle roof.
>
> I plan on making a counterpoise using 3 inch wide (or so)
> adhesive-backed metal (hvac) tape. I can do an overlapping run of
> close to 6 inches wide.
>
> Question for the crowd -- any benefit/detriment for making this
> counterpoise as long as possible, or should I stick to odd multiples of
> a quarter length (at 2 meters)?
>
> There's more room "behind" the mount point than in front of it, so I
> could have a quarter wave section in front of the NMO, and a 3/4 wave
> section behind.
>
> I can also do a cross member, but that would be pretty much limited to
> a quarter wavelength per side.
>
> Opinions?

Good luck trying to get a good electrical connection to that stuff..
I'd probably just stick to odd multiples..
You could use wires also.. In fact, just two wires 180 degrees
apart will give you a fairly omnidirectional pattern with minimal
fuss. Easier to solder too also..
You could probably use the longer radials for 70cm, but you
could also add shorter radials for that band if needed.
BTW, another thing about that tape.. After a few months of
summer heat pounding the roof, the glue will become useless and
it will fall down on you. :/

1735. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 04:21:58 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htfj9agjk1@news.eternal-september.org>
Source record: 9735

On 05/24/2010 09:12 PM, nm5k@wt.net wrote:
> On May 24, 10:23 pm, Bill Baka<bb...@comcast.net> wrote:
>> On 05/24/2010 04:42 PM, tom wrote:
>>
>>> On 5/24/2010 3:34 PM, Bill Baka wrote:
>>>> I don't think those questions will be solved until the median IQ reaches
>>>> about 130 and not 100, but I am not holding my breath over that ever
>>>> happening.
>>>> Something for people to think about.
>>>> Bill Baka
>>
>>> If the score on IQ tests ever got to the point that is currently scored
>>> as 130 it would be, by the method that determines IQ scores, 100.
>>
>>> But you probably already knew that.
>>
>>> tom
>>> K0TAR
>>
>> I did, but that wasn't the point I was trying to make. The bell curve
>> would just go up to the point that people with IQ's of 100 (by today's
>> standards) would be considered sub par. I do wish that could happen
>> since I can't deal with even average people. Sometimes I accidentally
>> use a big word or describe in detail something they don't know and I get
>> labeled either a show off or just plain smart ass. It is totally
>> unintentional but is happens.
>> Bill Baka
>
> Supposedly I'm rated in the mid 160's range, "I last tested at 168
> a few light years ago", Most people you talk to will still tell you
> I'm
> a dumbass.. :(
> I usually agree with them.. :/
>
>
I'm probably in that range myself, since I can knock off a 150 while
talking to my boss, and in the multitasking mode. I considered joining
Mensa but their standards are too low for me. Lately I have just learned
to not speak out on anything since there are so many people who do not
want to hear, or learn anything. My wife is a prime example, couch
potato, thinks American Idol is a MUST see, and well,.... you get my
drift. I hate having to dumb down for the masses.
Cheers, see you in the stratosphere.
Bill Baka

1736. Re: W2DU's Reflections III is now available from CQ Communications,...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 04:32:07 UTC
From: richardharrison@webtv.net
Message-ID: <8954-4BFB52C7-479@storefull-3171.bay.webtv.net>
Source record: 9736

Cecil Moore, W5DXP wrote:
"Seems to me, the highest efficiency would be achieved by a source with zero source impedance."

Me too, but zero source impedance does not match the load as required for maximum power transfer. The best combination is then a source impedance matching the load and which is also pracrically lossless. The Class C amplifier does this by acting as a switch which is infinite in impedance when open during a large part of the RF cycle and a near short circuit to a low impedance (near zero Z) D.C. power source for the short part of the RF cycle it is switched on. It is the time averaged impedance which counts. Is this linear? No way, but the tank circuit is able to remove the harmonics and turn current pulses into a low distortion sine wave. Efficiency? Terman says on page 450 of his 1955 opus that Class C eddiciency is typically 60% to 80%. Compare that with 50% efficiency in a Class A amplifier.

Best regards, Richard Harrison, KB5WZI

1737. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 05:10:36 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <f4bbaa1e-ad80-4060-b9ec-3fc40f0ea72f@i31g2000vbt.googlegroups.com>
Source record: 9737

On 24 mayo, 22:09, Owen <no...@no.where> wrote:
> On 25/05/2010 07:06, lu6etj wrote:
> ...
>
> > I give the following example: If we load a generator directly with a
> > resistance of 10 ohms, without any transmission line, there are not
> > traveling waves interfering, therefore there are not stationary waves,
> > there is only a impedance mismatch affecting the source voltage ¿OK?.
> > If then I load it with a line of half wave finished in the same 10
> > ohms resitance, the generator "will see" a 10 ohms load, and it will
> > behave identically as it made it with the original "direct" load.
> > In both cases there is not reflected power that it can return to the
> > generator...
>
> I used a similar problem in my discussion entitled "A simple VSWR
> analysis without mirrors" athttp://vk1od.net/blog/?p=1259. The article
> then goes on to solve a real problem (ie a practical low loss line
> rather than the lossless line in the first example, and in your example.
>
> You should find them relevant.
>
> Owen

Well Owen...I have just read your article ¡and you have put me
definitively in a problem! :>)
I was never happened to question the Walter's work, I made effort in
learning it being a young student. Now you have put me in a corner and
I will must meditate hard about the issue (with your help,
certainly).

In principle I take a risk to think that somehow it is necessary to
solve "what to do with the reflected traveling wave" because the model
seems to demand "come off of her" somehow that it doesn't return into
the generator, and an explanatory model (and IMHO appropriate) of
making it is to postulate its re-reflection to be consistent with it.

In conventional theory of circuits we simply apply the second law of
Kirchoff because we do not have traveling waves and we accept that the
energy can only flow from the generator toward the load (supposing a
circuit without reactances), there is not anything to come off (in
spanish => deshacerse, desprenderse) :>)

I am happened to think that your article combine concepts of both
models, those of basic circuit theory (without traveling waves) and
those of the traveling waves -same as my simple example of course-

with the difference that in mine one I only wanted to point that the reflected power is not "absorbed" by the pad, and yours is critic of conjugate mirror model and other postulations.

I think the mixture or combination of models -maybe- it would not be "elegant" or consistent although it can arrive to the same numerical results, but I don not dare to advance more than that in my speculations :>)

73

Miguel Ghezzi - LU6ETJ

1738. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 06:29:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5hrmv55fh86slj5aouflm7bmo55t03pu0m@4ax.com>
Source record: 9738

On Mon, 24 May 2010 20:09:30 -0700, Bill Baka <bbaka@comcast.net>
wrote:

>On 05/24/2010 03:42 PM, Richard Clark wrote:
>> On Mon, 24 May 2010 13:34:13 -0700, Bill Baka<bbaka@comcast.net>
>> wrote:
>>
>>> those questions will be solved until the median IQ reaches
>>> about 130 and not 100, but I am not holding my breath over that ever
>>> happening.
>>
>> Move to Lake Wobegone and enjoy the everyday experience of that.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>I'm amazed that anyone even remembers that fictional lake.
>Bill Baka

It's not hard to forget something that is on every week.

73's
Richard Clark, KB7QHC

1739. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 06:35:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0nrmv5db0dibp64jldui25bnousi9ptrve@4ax.com>
Source record: 9739

On Mon, 24 May 2010 17:17:41 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>PSE, with the due respect and consideration toward you an the
>distinguished colleagues and friends, Would you mind return to the
>original question? (sorry if it is not this the most polite form to
>ask it)

Hi Miguel,

I presume by "original question" you mean:
>On Mon, 24 May 2010 13:06:19 -0700 (PDT), lu6etj <lu6etj@gmail.com> wrote:
>
>>ï¿½Absorb the reflected power or amortiguate the effects of variyng load
>>impedance?

The answer is YES.

Now, if you mean by absorb that all absorbtion results in heat, then
the answer is NO.

If you mean by absorb that all energy is combined in a load, then the
answer is YES.

The difference between YES and NO is the PHASE differences of the two
energies that are combined.

73's
Richard Clark, KB7QHC

1740. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 06:56:13 UTC
From: Owen <noone@no.where>
Message-ID: <hwKKn.26992$pv.237@news-server.bigpond.net.au>
Source record: 9740

On 25/05/2010 16:10, lu6etj wrote:
...
> I think the mixture or combination of models -maybe- it would not be
> "elegant" or consistent although it can arrive to the same numerical
> results, but I don not dare to advance more than that in my
> speculations :>)

Miguel,

My explanation uses standard linear circuit theory, and the RLGC model of a transmission line (captured in the Telegrapher's equation). It is a frequency domain model, and it is complete and consistent.

One of the things that creates confusion in some peoples minds is that they want one foot in the frequency domain (where you can talk about concepts like reactance, complex impedance, VSWR) and simultaneously, one in the time domain taking about re-re-reflected waves.

You can work in either domain, and you can transform between domains, but trying to be in both at the same time creates problems.

BTW, if you think the problem is challenging to solve in the frequency domain, don't even think about trying to solve it in the time domain.

So, do not worry about re-reflection, it is dealt with as you have discovered by the steady state solution when you load the source with the (steady state) impedance seen looking into the line. The resolution of the wave component voltages and currents with KVL and KCL at the circuit nodes gives the steady state solution. The Telegrapher's equation gives you the amplitude and phase relationship of the wave components for the transmission line, not just for fictitious lossless lines, but for practical lines as the example demonstrates.

A steady state frequency domain analysis is quite adequate for most ham problems. You don't see it spelled out as such, but that is how the ham handbooks describe and solve problems.

As far as the myths about PAs destroyed by absorbing reflected power, see "Does SWR damage HF ham transmitters?" at http://vk1od.net/blog/?p=1081 .

Owen

1741. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 07:45:36 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b0de6201-a0cb-4bb9-b40b-5e76d24297cc@j9g2000vbp.googlegroups.com>
Source record: 9741

On 25 mayo, 03:56, Owen <no...@no.where> wrote:
> On 25/05/2010 16:10, lu6etj wrote:
> ...
>
> > I think the mixture or combination of models -maybe- it would not be
> > "elegant" or consistent although it can arrive to the same numerical
> > results, but I don not dare to advance more than that in my
> > speculations :>)
>
> Miguel,
>
> My explanation uses standard linear circuit theory, and the RLGC model
> of a transmission line (captured in the Telegrapher's equation). It is a
> frequency domain model, and it is complete and consistent.
>
> One of the things that creates confusion in some peoples minds is that
> they want one foot in the frequency domain (where you can talk about
> concepts like reactance, complex impedance, VSWR) and simultaneously,
> one in the time domain taking about re-re-reflected waves.
>
> You can work in either domain, and you can transform between domains,
> but trying to be in both at the same time creates problems.
>
> BTW, if you think the problem is challenging to solve in the frequency
> domain, don't even think about trying to solve it in the time domain.
>
> So, do not worry about re-reflection, it is dealt with as you have
> discovered by the steady state solution when you load the source with
> the (steady state) impedance seen looking into the line. The resolution
> of the wave component voltages and currents with KVL and KCL at the
> circuit nodes gives the steady state solution. The Telegrapher's
> equation gives you the amplitude and phase relationship of the wave
> components for the transmission line, not just for fictitious lossless
> lines, but for practical lines as the example demonstrates.
>
> A steady state frequency domain analysis is quite adequate for most ham
> problems. You don't see it spelled out as such, but that is how the ham
> handbooks describe and solve problems.
>
> As far as the myths about PAs destroyed by absorbing reflected power,
> see "Does SWR damage HF ham transmitters?" athttp://vk1od.net/blog/?p=1081.
>
> Owen

Hi Richard and Owen

To Richard: What I mean is irrelevant :>) relevant is what Walt wanted to say in this sentence: "Because of the absorption of the pad, the generator sees a nearly perfect match for all load conditions and all reflected power is lost "
Pllease, tell me what in english means "all reflected power is lost"? I understood (or translate or interpret) that reflected power is dissipated in the pad: Is it a bad translation/interpretation?

To Owen: Sincerely thanks for your reasons. You can be sure I will take note about your explanation an take some time tu analize it, but I am not sure about to arrive at at the right conclusion because what I read in this newsgroup is a long-standing discussion here.

Miguel

1742. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 07:54:08 UTC
From: "Man-wai Chang to The Door (33600bps)" <toylet.toylet@gmail.com>
Message-ID: <htfvn3$aj7$2@news.eternal-september.org>
Source record: 9742

> I have one I made years ago that is similar, so I can describe it for you.
>
> Materials needed - about 32m of wire, light plywood (I used scrap),
> 365pf (or anything close) capacitor, connector of choice.

Thanks

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.34
^ ^ 15:53:01 up 6 days 19:04 2 users load average: 1.06 1.06 1.01
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1743. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 07:56:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <duOdnfD8eMRfH2bWnZ2dnUVZ_tCdnZ2d@giganews.com>
Source record: 9743

Another bit of reading that might help shed light on the matter is http://eznec.com/misc/Food_for_thought.pdf, written eight years ago during one of the many times the subject has come up before on this newsgroup.

The chart and discussion in the "Forward and reverse power" section show that the concept of "reflected power" being absorbed in or dissipated by the source is incorrect. I find the concept of traveling waves of average power to be misleading at best, and analyses using this concept lead to impossible conclusions like the supposed absorption of power in the source resistance.

Roy Lewallen, W7EL

1744. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 08:18:11 UTC
From: Owen <noone@no.where>
Message-ID: <7JLKn.27007$pv.23935@news-server.bigpond.net.au>
Source record: 9744

On 25/05/2010 18:45, lu6etj wrote:
...
> To Owen: Sincerely thanks for your reasons. You can be sure I will
> take note about your explanation an take some time tu analize it, but
> I am not sure about to arrive at at the right conclusion because what
> I read in this newsgroup is a long-standing discussion here.

Yes, it is a recurrent discussion item. No doubt someone will be along shortly to add some confusion to the pot.

A parting thought, do not confuse the process of establishment of steady state with steady state. The only reason that a steady state solution is valid, is that the system spends most of its time in steady state, or substantially so. If the solution needs to focus mainly on establishment of steady state (in other words, the system never substantially settles), then you should be doing a time domain solution, and VSWR, reactance, complex impedance are not a time domain concepts.

If you need to convince yourself, do a hand workup of five of ten transits with a sinusoidal excitation. See that is does converge, and quickly, and that at the load end, the reflected wave relative to the forward wave is a fixed ratio (and hence VSWR) that depends ONLY on Zo and Zl, there is NO influence by the source or any perceived source reflection on the steady state. There are some animations of this on the net, but they seem to confuse people more than enlighten them.

Owen

1745. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 08:26:22 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfb89b1$0$19164$65785112@news.neostrada.pl>
Source record: 9745

"Bill Baka" <bbaka@comcast.net>wrote
news:htejvsrnt1@news.eternal-september.org...
> On 05/24/2010 09:55 AM, Szczepan Bialek wrote:
>>
>> For light the photon has about 200 wavelength.
>> Radio wave "photon" is as long as transmitter works.
>> S*
>>
>>
> I'll give you a partial agreement on this one. The rods in our eyes have
> peak sensitivity at Yellow/green. There was a guy, a long time ago who
> said he could detect a single photon in a very dark lab. So, if a photon
> is anything anyhow a particle

In optics the light is in form of packets (oscillations for short time and
next brake - of course there are many sources).

>how could he see it since the equipment was set up to radiate into a
>detector. It may not be in our lifetimes that the true nature of light is
>discovered.

Why?
If we can produce the artificial light (LEDs, laser) and we know that radio
waves are the same then we know all.
Radio waves are very convinient to analise.
They are the longitudinal electric waves which propagate in the electron
see.
It is very old theory. The only trouble was with the polarization. But now
radio people know that the dipole is polarised. In nature all light sources
are in form of dipoles.
S*

1746. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 08:30:30 UTC
From: Owen <noone@no.where>
Message-ID: <GULKn.27010$pv.2771@news-server.bigpond.net.au>
Source record: 9746

On 25/05/2010 01:55, walt wrote:
...
> Or are you considering the output characteristic of the transmitter to
> be non-linear? This is not the case, because the effect of energy
> storage in the tank circuit isolates the non-linear input from the
> output circuit, which is linear as evidenced by the almost perfect
> sine wave appearing at the output of the tank.

Well, for the purposes of application of linear circuit theory,
linearity means that V is linearly related to I, or at least dV/dI over
the operating range is substantially constant.

If the circuit is not linear in those terms, then you cannot form a
valid Thevenin equivalent circuit, and discussion of the Thevenin
equivalent series source impedance is a nonsense... it cannot be used.

Owen

1747. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 08:33:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfb8b51$0$17084$65785112@news.neostrada.pl>
Source record: 9747

"Bill Baka" <bbaka@comcast.net> wrote
news:htejjv$p6m$1@news.eternal-september.org...
> On 05/24/2010 01:46 AM, Szczepan Bialek wrote:
>>>
>>> Can I rain on your parade? Light is just super high frequency RF. There
>>> is
>>> no such thing as a photon but scientists still use that to explain
>>> things
>>> in human terms for the unknowing masses. The best way I can describe a
>>> photon is that it is one wavelength of light at any given wavelength or
>>> frequency if you will.
>>
>> It is math for it (Doulong). If a cristal is kicked it radiate diffrent
>> frequences. But not all and for a limited time.
>> Higher frequency bigger energy. But such packets are longer than one
>> wavelength. It is a coherency of radiation.
>
> That explains why UV is harmful, higher frequency, while IR at longer
> wavelengths is just heat.

Natural packets (photons) have probably the same length so the above is
obvious.
.
>>> If a star or even our own sun gave off photons at the rate of burn then
>>> it
>>> would very soon be an ex-star.
>>> There are very few people who can think at the needed level for this
>>> kind
>>> of thing, so let the argument continue. Really silly thinking that there
>>> are red photons, green, yellow, etc.
>>
>> Some substances emitt only one or only a few wavelength. Sodium emits
>> yellow.
>> (Sodium emitts yellow packets?).
>>
> Agreed.
> That is why LED's emit at only one wave length. It just depends on which
> elements are in the LED formula.

In one wavelength but still in packets.

But now are the fantastic lasers with the infinity "packet". Exactly like
radio waves:
""As the electrons are undergoing acceleration they radiate electromagnetic
energy in their flight direction, and as they interact with the light

already emitted, photons along its line are emitted in phase, resulting in a "laser-like" monocromatic and coherent beam. The mirrors show in the sketch below are superfluous, as all the light is emitted in one direction anyway." From: http://en.wikipedia.org/wiki/Halbach_array

S*

1748. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 09:19:31 UTC
From: "Man-wai Chang to The Door (33600bps)" <toylet.toylet@gmail.com>
Message-ID: <htg4n5$g8c$1@news.eternal-september.org>
Source record: 9748

> Connect your AMBCB radio and tune the capacitor for max signal strength.
> Enjoy!

One thing: the MTM loop antenna doesn't need a connection to the AM
radio. That web-page, if I read it correctly, said you only needed to
put the radio next to the loop antenna.

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.34
^ ^ 17:18:01 up 6 days 20:29 2 users load average: 1.04 1.05 1.00
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1749. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 10:29:34 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <a3cb0488-55ee-4b27-b05c-62d41b9330ce@q13g2000vbm.googlegroups.com>
Source record: 9749

On May 24, 7:49 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 24, 6:15 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > This may be the root of my disagreement. Certainly the output can be
> > an arbitrarily perfect sine wave, but this simply depends on the
> > characteristics of the filter and not on whether the system is linear.
>
> Since anything except a class-A amplifier is non-linear and since we
> are talking about linear analysis, it seems we need to locate a point
> in the system where V is a sine wave, I is a sine wave, and V/I is the
> constant impedance at that point. IMO, that is the first point at
> which we can use a linear math analysis and maybe that point is what
> Walt is talking about. It's certainly not going to be the plate of a
> class-C amplifier and it may not even be the load-line of the class-C
> amplifier. There is probably some point in an otherwise non-linear
> system where a linear analysis becomes possible. I think that point is
> what Walt considers to be the linear source point, wherever that point
> might be located.

Recalling that if a conjugate match is achieved at one ponit in a
system
it is achieved at all points....

It does not seem possible for a system to be non-linear at one end and
turn in to a linear system at some other point.

> In fact, here is my personal take on the subject. Given an antenna
> system that presents 50+j0 ohms looking into 50 ohm coax, the internal
> impedance of the source doesn't matter. For any voltage source,
> irrespective of the source impedance, if reflected energy doesn't
> reach the source, the source impedance doesn't matter (except for
> efficiency). Seems to me, the highest efficiency would be achieved by
> a source with zero ohms of source impedance.

True, if the source impedance originates in dissipative components and
it is a voltage source. For a current source, infinite impedance
offers
the best efficiency.

...Keith

1750. Re: W2DU's Reflections III is now available from CQ Communications,...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 10:35:21 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <fbe929ce-47f3-4a4c-ab83-60b971a923fc@v18g2000vbc.googlegroups.com>
Source record: 9750

On May 25, 12:32 am, richardharri...@webtv.net (Richard Harrison)
wrote:
> Cecil Moore, W5DXP wrote:
>
> "Seems to me, the highest efficiency would be achieved by a source with
> zero source impedance."
>
> Me too, but zero source impedance does not match the load as required
> for maximum power transfer.

It seems to me that much too much is made of 'maximum power transfer'
in
the RF world. In the world of 50 and 60 Hz, where significantly more
energy is moved, 'maximum power transfer' is never mentioned.
Efficiency
is much more of interest.

For the most part, 'maximum power transfer' is just an interesting
ideosyncracy of linear circuit theory.

...Keith

1751. Re: W2DU's Reflections III is now available from CQ Communications,...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 11:55:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c8b7540a-42d1-4ed8-a203-503fc6f754ea@w3g2000vbd.googlegroups.com>
Source record: 9601

On May 24, 11:32 pm, richardharri...@webtv.net (Richard Harrison)
wrote:
> Cecil Moore, W5DXP wrote:
> "Seems to me, the highest efficiency would be achieved by a source with
> zero source impedance."
>
> Me too, but zero source impedance does not match the load as required
> for maximum power transfer.

A 60 Hz Power Generation Plant operates at high efficiency, not at the
maximum power transfer point. If they were 50% efficient, they would
go out of business. (That's what Edison expected.) Why is maximum
power transfer desirable in ham transmitters? Is such a design the
highest power/cost ratio? Is it possible to build an output amp with a
10 ohm source impedance designed to be 80% efficient? 1 ohm source
impedance designed to be 98% efficient? Is co$t the driving parameter?
--
73, Cecil, w5dxp.com

1752. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 11:58:33 UTC
From: tom <news4792@taring.org>
Message-ID: <4bfbbb67$0$50147$8046368a@newsreader.iphouse.net>
Source record: 9602

On 5/25/2010 4:19 AM, Man-wai Chang to The Door (33600bps) wrote:
>> Connect your AMBCB radio and tune the capacitor for max signal strength.
>> Enjoy!
>
> One thing: the MTM loop antenna doesn't need a connection to the AM
> radio. That web-page, if I read it correctly, said you only needed to
> put the radio next to the loop antenna.
>

That will work if that's what you want to do. The radio's ferrite
antenna replaces the 2 turn pickup loop. If you want to be able to do
both, include the pickup loop anyway.

Good luck!

tom
K0TAR

1753. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 12:19:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <aa8b6f3b-a038-4830-a951-00dda78156a3@o1g2000vbe.googlegroups.com>
Source record: 9603

On May 25, 3:30 am, Owen <no...@no.where> wrote:
> If the circuit is not linear in those terms, then you cannot form a
> valid Thevenin equivalent circuit, and discussion of the Thevenin
> equivalent series source impedance is a nonsense... it cannot be used.

Quoting "Fields and Waves ...", by Ramo and Whinnery, "... the
(Thevenin) equivalent circuit was derived to tell what happens *IN THE
LOAD* under different load conditions, and significance cannot be
automatically attached to a calculation of power loss in the internal
impedance of the equivalent circuit."
--
73, Cecil, w5dxp.com

1754. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 12:45:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <61be5eaf-b1fc-4804-9084-40df80ba10c0@c11g2000vbe.googlegroups.com>
Source record: 9604

On May 25, 5:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> It does not seem possible for a system to be non-linear at one end and
> turn in to a linear system at some other point.

Well, consider the following two systems. Z01 is 50 ohms and Z02 is 300 ohms. The two systems are identical except for the circuits hidden inside the two identical source black boxes. Both sources are supplying a 100v sine wave to the system.

Source1----Z01----+----1/4WL Z02----1800 ohm

Source2----Z01----+----1/4WL Z02----1800 ohm

Every passive voltage, current, power, and impedance measurement is identical in both systems. As far as we can passively measure, both systems are identical and linear. The only thing we don't know is what is inside the two source boxes..

Inside the Source1 box is a linear ideal 50 ohm Thevenin equivalent source delivering an ideal 100v sine wave. Inside the Source2 box is a non-linear class-C amplifier filtered to provide an ideal 100v sine wave.

Without changing the system conditions, can one make a passive measurement to determine which system is conjugately matched and which one is not conjugately matched? If one cannot tell the difference, are they both conjugately matched, or both not conjugately matched, or what?

Here's my take. A 50 ohm Z0-match exists in both systems and all conditions are identical on the load side of that Z0-match. In particular, at any point in the system on the load side of the Z0-match, the impedance looking in one direction is the conjugate of the impedance looking in the other direction. That is a characteristic of a conjugate match. So are both systems conjugately matched between the Z0-match and the load? If it walks and quacks like a duck ...
--
73, Cecil, w5dxp.com

1755. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 13:01:46 UTC
From: Bill Ogden <billogden@optonline.net>
Message-ID: <4bfbca2c$0$31278$607ed4bc@cv.net>
Source record: 9605

```
">>those questions will be solved until the median IQ reaches
>>about 130 and not 100, but I am not holding my breath over that ever
>>happening.
>
Is this a little like "Until every child is above average"?

Bill - W2WO
```

1756. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 13:01:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f51a5794-e41e-44c3-8192-9c094b9edb33@c7g2000vbc.googlegroups.com>
Source record: 9606

On May 24, 11:21 pm, Bill Baka <bb...@comcast.net> wrote:
> I considered joining Mensa but their standards are too low for me.

Here's the one for you: "The Giga society is the world's most
exclusive High-IQ society. An IQ of 196 or higher is required to
join."

http://www.gigasociety.org/
--
73, Cecil, w5dxp.com

1757. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 14:38:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ddf330bf-a5b1-4bc1-be92-66c74abc1271@r9g2000vbk.googlegroups.com>
Source record: 9607

On May 25, 2:56 am, Roy Lewallen <w...@eznec.com> wrote:
> The chart and discussion in the "Forward and reverse power" section show
> that the concept of "reflected power" being absorbed in or dissipated by
> the source is incorrect.

I'm sorry, Roy, but that is a very misleading statement. There are
THREE things that can possibly happen to the reflected energy.

1. It can indeed, be absorbed/dissipated by the source but it
certainly doesn't have to be. The conditions governing absorption,
reflection, and redistribution of EM wave energy are well understood
in the field of optics. RF gurus seem to be myopic about interference
effects.

2. It can obey the laws of the reflection model for EM waves, e.g. if
the source impedance is different from the Z0 of the transmission
line, some reflected energy will be re-reflected. (I know that doesn't
apply to your "food for thought" examples because the source resistor
is equal to the Z0 of the feedline.)

3. The interference phenomenon that you completely ignored in your
discussion, presumably through ignorance. This third possibility for
the reflected energy redistribution is associated with constructive
and destructive interference. It is the same phenomenon that is in
operation with the 1/4WL coating on non-reflective glass. Here's a
quote from a Florida State University web page with capitals added by
me for emphasis:

micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
waveinteractions/index.html

"... when two waves of equal amplitude and wavelength that are 180-
degrees ... out of phase with each other meet, they are not actually
annihilated, ... ALL OF THE PHOTON ENERGY present in these waves must
somehow be recovered or REDISTRIBUTED IN A NEW DIRECTION, according to
the law of energy conservation ... Instead, upon meeting, the photons
are REDISTRIBUTED TO REGIONS THAT PERMIT CONSTRUCTIVE INTERFERENCE, so
the effect should be considered as a REDISTRIBUTION OF light (and RF)
waves and PHOTON ENERGY rather than the spontaneous construction or
destruction of light."

This is the concept that you have been missing for eight years.
"Redistribution of energy" in a transmission line is simply a reversal
of energy flow. Each of your examples have different magnitudes of
interference (depending on the phasing between the forward energy and
the reflected energy). The phasing is a variable for all of your

examples. Why did you completely ignore the interference? Why would you expect a CONSTANT magnitude of reflected energy to be dissipated in examples with VARIABLE phasing and VARIABLE levels of interference??? Here are the possibilities:

1. No Interference at the source resistor - this happens when the forward wave is 90 degrees out of phase with the reflected wave at the source resistor. In this case, the reflected energy is indeed dissipated in the source resistor. I have written a short article on the no interference case at:

http://www.w5dxp.com/nointfr.htm

2. Constructive Interference at the source resistor - This happens when the phase angle between the forward wave and reflected wave is less than 90 degrees at the source resistor. The voltage across the source resistor increases and therefore more power is dissipated in the source resistor. In fact, for total constructive interference, all of the forward power and all of the reflected power is dissipated in the source resistor. This happens when the SWR is infinite and the reflected wave arrives at the source resistor in phase with the forward wave from the source.

3. Destructive interference at the source resistor - This happens when the angle between the forward wave and reflected wave is between 90+ degrees and 180 degrees. In this case, reflected energy is redistributed back toward the load and less is dissipated in the source resistor. In fact, for total destructive interference, zero reflected power is dissipated in the source resistor and all of the reflected energy is redistributed back toward the load. This happens when the SWR is infinite and the reflected wave arrives at the source resistor 180 degrees out of phase with the forward wave from the source.

I explained all of this in my "WorldRadio" article way back in 2005. Presumably, you have never read it. In order to understand the role that interference plays during the superposition of EM waves, you might want to read it and take a look at the references. The question of where reflected energy goes was answered long ago by optical physicists. Too bad that RF gurus remain so ignorant of that knowledge. Here's that five year old "WorldRadio" article.

http://www.w5dxp.com/energy.htm

You obviously know how to add voltage phasors but you are obviously ignorant as to what happens to the ExH power in each of those waves. In any optics reference book, you will find the following irradiance equation. Since irradiance uses the same units as the Poynting vector, I have changed I (irradiance) to P (power density) in the irradiance equation. I first saw this equation in Dr. Best's QEX article[1].

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(theta)

When any two EM waves are superposed, whether light waves or RF waves, this is what happens to the component powers. The phase angle, theta, is the relative phase angle between the two electric fields before superposition. The last term in the equation is called the "interference term" and it is easy to see how it modifies the total power in the wave after superposition. Energy must be conserved. If destructive interference occurs between two waves in a transmission line, constructive interference must occur in the opposite direction - and vice versa.

By completely ignoring the destructive and constructive interference occurring in your "food for thought" examples, you have ignored the accepted laws of physics (available in any physics optics reference) and arrived at completely false conclusions. Roy, every one of your examples can be explained simply by using the above equation from the field of EM wave optics. Differing types/levels of interference explains every one of your examples perfectly.

[1] Best, Steven R., "Wave Mechanics of Transmission Lines, Part 3", QEX, Nov/Dec 2001
--
73, Cecil, w5dxp.com

1758. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 14:49:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <38ed688a-1e98-4b24-adaf-665b4ed429a5@b21g2000vbh.googlegroups.com>
Source record: 9608

On May 24, 10:31 pm, lu6etj <lu6...@gmail.com> wrote:
> Anyway, my question is about validity of the assertion that reflected
> wave -in that example- IS ABSORBED by the pad. According to my simple
> calculations this hipothesis, as I see it, it does not coincide with
> my early learnings.

Miguel, let's switch your example over to an easier to understand example. Assume an ideal signal generator equipped with a resistive circulator load. Let's call such a device an SGCR, a Signal Generator equipped with a Circulator and a Resistor. Assume that 100% of the reflected energy is dissipated in the circulator load resistor (none re-reflected) and none of the reflected energy reaches the source. So here is the block diagram.

SGCR--------feedline--------load

That model should be easier to discuss than the pad attenuator model. What do you think?
--
73, Cecil, w5dxp.com

1759. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 15:51:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sqqnv55uh9cacobkua9fr1pc3eojctan9l@4ax.com>
Source record: 9609

On Tue, 25 May 2010 00:45:36 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>To Richard: What I mean is irrelevant :>) relevant is what Walt
>wanted to say in this sentence: "Because of the absorption of the
>pad, the generator sees a nearly perfect match for all load conditions
>and all reflected power is lost "
>Pllease, tell me what in english means "all reflected power is lost"?
>I understood (or translate or interpret) that reflected power is
>dissipated in the pad: Is it a bad translation/interpretation?

Hi Miguel,

Your translation is fine.

However, I have no idea what the pad design looks like, nor do I know the component values. I have calibrated thousands of standard pads at frequencies up to the 12 GHz. They came in either a Pi design, or a T design. Their intended use is in system isolation. That is, they isolate the source from the load OR isolate the load from the source OR isolate both. For certain component values, you can replace the "OR" with "AND."

You would isolate the source to keep its frequency and power constant. You would isolate the load to keep line SWR flat. For this line application, it is assumed you are calibrating either a load equal or nearly equal to Zc, or you are measuring RF power. These are the purpose of pads (they also serve the same function in audio circuits). Measuring power in the presence of SWR other than 1:1 requires sophisticated math that is rarely discussed here. Most discussion usually accepts the presumptions of special cases (which are often sufficient) and employ less rigorous formulas (which serve well within the unstated presumptions).

In conventional Kirchoff analysis, the resistor that bridges the transmission line opening becomes the source (that is Vs and Rs). Pad design usually makes that one resistor for the Pi pad, or two resistors for the T pad. If you are working in accurate and precise measurement, you then account for the input (source) resistance in parallel/series combinations. This second computation is the numeric analysis of isolation. The higher the ratios of these pad resistors, the higher the isolation.

It doesn't normally serve any use to have the pad apparent resistance (what I called Rs above) different from Zc or from Zload, but as this component is a sacrificial one, the designer may choose to put it to

use to achieve a desired goal. Pad performance suffers with heat due to energy combinations that come from multiple/single sources.

73's
Richard Clark, KB7QHC

1760. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 16:04:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jisnv5d7m3sh8r210863oh6di2ulrijhvu@4ax.com>
Source record: 9610

On Tue, 25 May 2010 08:30:30 GMT, Owen <noone@no.where> wrote:

>If the circuit is not linear in those terms, then you cannot form a
>valid Thevenin equivalent circuit, and discussion of the Thevenin
>equivalent series source impedance is a nonsense... it cannot be used.

The counter argument, as I understand it, is that the tank circuit isolates the linear from the non-linear, and that the tank also performs the action of transformation. Thus the proposal is an analysis of their combination (I had to struggle to avoid superposition).

Thus, the non-linear Tube (because, I presume, the circuit is in Class C operation) exhibits a higher efficiency than would be found in a resistance matched system. What I call the resistance matched system is the unfortunate appeal to a source "resistance" equaling the load "resistance." Thevenin/Norton do not mandate resistors, rather impedances.

What I understand, comes from lengthy emails with multiple contributors in years past: Walt and Richard being two of them. My saved mail only goes back nine years, so the other two contributors' names are lost to me right now.

Of course what I "understand" may be wholly misrepresented by my exposition here. So be it. The source authorities can correct my deviations.

73's
Richard Clark, KB7QHC

1761. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 16:06:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <batnv5t3s55mg22lad6i0rj74vq4p9edei@4ax.com>
Source record: 9611

On Mon, 24 May 2010 23:29:24 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>>I'm amazed that anyone even remembers that fictional lake.
>>Bill Baka
>
>It's not hard to forget something that is on every week.

Well, that logic blew a tire.... I will just ride the rim as I head
for the off ramp.

73's
Richard Clark, KB7QHC

1762. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 19:33:02 UTC
From: Owen <noone@no.where>
Message-ID: <OBVKn.27117$pv.11169@news-server.bigpond.net.au>
Source record: 9612

On 25/05/2010 23:19, Cecil Moore wrote:

> Quoting "Fields and Waves ...", by Ramo and Whinnery, "... the
> (Thevenin) equivalent circuit was derived to tell what happens *IN THE
> LOAD* under different load conditions, and significance cannot be
> automatically attached to a calculation of power loss in the internal
> impedance of the equivalent circuit."

Yes, that is quite correct Cecil, and nothing that I have written says
or implies or is intended to mean otherwise.

However, your own words in another post
(news://news.bigpond.com:119/c8b7540a-42d1-4ed8-a203-503fc6f754ea@w3g2000vbd.googlegroups.com)

"A 60 Hz Power Generation Plant operates at high efficiency, not at the
maximum power transfer point. If they were 50% efficient, they would go
out of business."

demonstrates that whilst you apparently can quote from text books, you
do not necessarily understand what you are quoting. You do talk nonsense
sometimes!

Owen

1763. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 19:33:41 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hth8mm$n11$1@news.jpl.nasa.gov>
Source record: 9614

Richard Clark wrote:
> On Mon, 24 May 2010 13:34:13 -0700, Bill Baka <bbaka@comcast.net>
> wrote:
>
>> those questions will be solved until the median IQ reaches
>> about 130 and not 100, but I am not holding my breath over that ever
>> happening.
>
> Move to Lake Wobegone and enjoy the everyday experience of that.
>
>

by definition, an IQ of 100 *is* the median, and the standard deviation is 15. IQ is a normalized measurement. (it hasn't been 100*mental age/chronological age for decades..)

And there's a radio connection here.. Lewis Terman, who invented the Stanford-Binet IQ scale was the father of Frederick Terman, of EE fame.. both were at Stanford. And Bracewell (another EE) held the Lewis Terman professorship

1764. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 19:49:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <908a9725-7c7d-4e22-8817-474a27f93bcd@c13g2000vbr.googlegroups.com>
Source record: 9613

On May 25, 2:33 pm, Owen <no...@no.where> wrote:
> Yes, that is quite correct Cecil, and nothing that I have written says
> or implies or is intended to mean otherwise... You do talk nonsense sometimes!

Owen, my reference supported what you said! Why are you trying to pick
an argument? As my mother would have said, "You would argue with a
fence post".
--
73, Cecil, w5dxp.com

1765. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 20:16:30 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hthb6u$ib6$1@news.eternal-september.org>
Source record: 9615

On 05/25/2010 04:58 AM, tom wrote:
> On 5/25/2010 4:19 AM, Man-wai Chang to The Door (33600bps) wrote:
>>> Connect your AMBCB radio and tune the capacitor for max signal strength.
>>> Enjoy!
>>
>> One thing: the MTM loop antenna doesn't need a connection to the AM
>> radio. That web-page, if I read it correctly, said you only needed to
>> put the radio next to the loop antenna.
>>
>
> That will work if that's what you want to do. The radio's ferrite
> antenna replaces the 2 turn pickup loop. If you want to be able to do
> both, include the pickup loop anyway.
>
> Good luck!
>
> tom
> K0TAR
>
Hi there,
I have had some experience with BCB boosters and found that it works best with a long wire coupled to a loop that is grounded. The radio I was using had a built in antenna wound inside the case and the untuned loop coupled very nicely to the radio. With a ferrite rod inside the radio it might not work so well.
Just an idea for you to play with.
Bill Baka

1766. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 20:20:32 UTC
From: walt <walt@w2du.com>
Message-ID: <76005dce-debf-4d44-982a-a17e8bba4089@q8g2000vbm.googlegroups.com>
Source record: 9616

Hello Keith,

Thank you for your response. I'm starting my answer to your statements by first quoting from one of your posts:

"Try as I might, I have not been able to derive a mechanism to explain the observations in Reflections. But the explanations offered in Reflections require large chunks of linear circuit theory to be discarded, so this does not seem to be an appropriate path."

That you have been unable to derive a mechanism that explains the action in an RF power amplifier is evidence that you do not understand it. So let's examine the action that follows an appropriate path that does not require any linear circuitry to be discarded. Further evidence that you do not understand it is that you used a bench power supply to describe the action, which you state has an infinite source resistance when the load exceeds 50 ohm, and zero source resistance when the load is less than 50 ohms. Unfortunately, this power supply in no way resembles an RF power amplifier, either in components or action.

We'll begin by stipulating that the 'filter' is a pi-network tank circuit, having a tuning capacitor at the input and a loading-adjustment capacitor at the output. We'll also stipulate that the plate voltage and the grid bias are set to provide the desired conditions at the input of the tank circuit, which means that the desired grid voltage is that which results in the desired conduction time for the applied plate voltage. The result provides a dynamic resistance RL, which is determined by the average plate voltage VPavg and the average plate current IPavg appearing at the terminals leading to the input of the tank circuit. In other words, RL = VPavg/IPavg. To permit delivery of all available power to be delivered by the dynamic resistance RL, we want the input impedance appearing at the input of the tank circuit to be equal to RL.

We'll now go to the output of the tank circuit. We'll assume the load to be the input of a transmission line on which there are reflections. The result is that the input to the line contains a real component R and a reactance jX. The output terminals of the tank circuit are the two terminals of the output-loading capacitor. When the line is connected to the output terminals of the tank circuit the reactance appearing at the line input is reflected into the tank circuit. This reactance is then cancelled by the tuning capacitor at the input of the tank circuit, resulting in a resonant tank circuit. We now need to adjust the output-loading capacitor to apply the correct voltage across the input of the transmission line so that the real component R

appearing at the line input is reflected into the tank circuit such that the resistance RL appears at the input of the tank circuit, thus allowing all the available power to enter the tank circuit. In other words, adjusting the loading capacitor to deliver all the available power into the line also makes the output resistance of the tank circuit equal to the real component R appearing at the line input. With any other value of output resistance of the source, all the available power would not be delivered to the line. A corollary to that condition follows from the Maximum Power Transfer Theorem that for a given output resistance of the source (the tank circuit), if the load resistance is either increased for decreased from the value of the source resistance, the delivery of power will decrease. This condition also accurately describes the condition for the conjugate match.
Keep in mind that the input impedance of the line is complex, or reactive, but the reactance of the correctly-adjusted tuning capacitor has introduced the correct amount of the opposite reactance to cancel the reactance appearing at the line input. Thus the line input impedance is R + jX and the output impedance of the source is R − jX, providing the conjugate match.

You stated in one of your posts that the phase of the reflected wave in relation to that of the source wave results in a non-linear condition. This is totally untrue. The tuning action of the input capacitor in the tank circuit that cancels the line reactance caused by the reflection on the line in no way introduces any non-linearity in the circuit, and the condition in the vicinity of the output of the tank circuit is totally linear. Thus, circuit theorems that require linearity to be valid are completely valid when used with the RF power amplifier as described above. This applies to all RF power amplifiers, Class A, AB, B and C.

I hope my comments above assist in understanding the action that occurs in RF power amplifiers.

Walt Maxwell, W@DU

1767. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 20:25:25 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hthbnlkqr2@news.eternal-september.org>
Source record: 9617

On 05/24/2010 11:29 PM, Richard Clark wrote:
> On Mon, 24 May 2010 20:09:30 -0700, Bill Baka<bbaka@comcast.net>
> wrote:
>
>> On 05/24/2010 03:42 PM, Richard Clark wrote:
>>> On Mon, 24 May 2010 13:34:13 -0700, Bill Baka<bbaka@comcast.net>
>>> wrote:
>>>
>>>> those questions will be solved until the median IQ reaches
>>>> about 130 and not 100, but I am not holding my breath over that ever
>>>> happening.
>>>
>>> Move to Lake Wobegone and enjoy the everyday experience of that.
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>> I'm amazed that anyone even remembers that fictional lake.
>> Bill Baka
>
> It's not hard to forget something that is on every week.
>
> 73's
> Richard Clark, KB7QHC

I didn't know that. I may not be broadcast here in California or it is
just lost in the hundred channels or so on cable.
Cheers,
Bill Baka

1768. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 20:37:15 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hthcdr$s28$1@news.eternal-september.org>
Source record: 9618

On 05/25/2010 06:01 AM, Bill Ogden wrote:
> ">>those questions will be solved until the median IQ reaches
>>> about 130 and not 100, but I am not holding my breath over that ever
>>> happening.
>>
> Is this a little like "Until every child is above average"?
>
> Bill - W2WO
>
>
Sort of.
Start with two parents who are above 140 and encourage them to have kids and educate them starting at day one. It would obviously offend the Vatican, but religious beliefs are fantasy anyway. Just discourage people with low IQ's so they won't breed like rabbits. It could/would work if people weren't so hung up about their right to have children. That show on TV, 19 and counting makes me sick. People like that are a major cause of de-evolution.
Bill Baka

1769. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 20:42:14 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hthcn6$ui4$1@news.eternal-september.org>
Source record: 9619

On 05/25/2010 06:01 AM, Cecil Moore wrote:
> On May 24, 11:21 pm, Bill Baka<bb...@comcast.net> wrote:
>> I considered joining Mensa but their standards are too low for me.
>
> Here's the one for you: "The Giga society is the world's most
> exclusive High-IQ society. An IQ of 196 or higher is required to
> join."
>
> http://www.gigasociety.org/
> --
> 73, Cecil, w5dxp.com

Yup.
I know about it but I don't think I could top that after 61 years.
My diet had way too much beer from 21 to 54, when I finally quit that
habit. Had my parents encouraged me instead of kicking me out of the
house to play with 'normal' kids I might have made it, but I don't think
I am that high on the scale. Somewhere around 160'ish is my best guess
but I am somewhat apathetic about it right now.
Cheers,
Bill Baka

1770. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 21:22:25 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <57c38e2c-68b3-4b39-b051-1112b2c7855a@o39g2000vbd.googlegroups.com>
Source record: 9620

On May 25, 3:42 pm, Bill Baka <bb...@comcast.net> wrote:
> On 05/25/2010 06:01 AM, Cecil Moore wrote:
>
> > On May 24, 11:21 pm, Bill Baka<bb...@comcast.net> wrote:
> >>   I considered joining Mensa but their standards are too low for me.
>
> > Here's the one for you: "The Giga society is the world's most
> > exclusive High-IQ society. An IQ of 196 or higher is required to
> > join."
>
> >http://www.gigasociety.org/
> > --
> > 73, Cecil, w5dxp.com
>
> Yup.
> I know about it but I don't think I could top that after 61 years.
> My diet had way too much beer from 21 to 54, when I finally quit that
> habit. Had my parents encouraged me instead of kicking me out of the
> house to play with 'normal' kids I might have made it, but I don't think
> I am that high on the scale. Somewhere around 160'ish is my best guess
> but I am somewhat apathetic about it right now.
> Cheers,
> Bill Baka

Don't give up on åchieving thåt. Retirees usuålly expånd their life
experiences ånd åchivements.
By the time you reåch 80 the numbers måy well rise to åbove 200!

1771. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 21:48:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9a8e4f31-1a9b-4740-9bef-0c2d3490e854@f14g2000vbn.googlegroups.com>
Source record: 9621

On May 25, 9:22 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 25, 3:42 pm, Bill Baka <bb...@comcast.net> wrote:
>
>
>
> > On 05/25/2010 06:01 AM, Cecil Moore wrote:
>
> > > On May 24, 11:21 pm, Bill Baka<bb...@comcast.net> wrote:
> > >>   I considered joining Mensa but their standards are too low for me.
>
> > > Here's the one for you: "The Giga society is the world's most
> > > exclusive High-IQ society. An IQ of 196 or higher is required to
> > > join."
>
> > >http://www.gigasociety.org/
> > > --
> > > 73, Cecil, w5dxp.com
>
> > Yup.
> > I know about it but I don't think I could top that after 61 years.
> > My diet had way too much beer from 21 to 54, when I finally quit that
> > habit. Had my parents encouraged me instead of kicking me out of the
> > house to play with 'normal' kids I might have made it, but I don't think
> > I am that high on the scale. Somewhere around 160'ish is my best guess
> > but I am somewhat apathetic about it right now.
> > Cheers,
> > Bill Baka
>
> Don't give up on åchieving thåt. Retirees usuålly expånd their life
> experiences ånd åchivements.
> By the time you reåch 80 the numbers måy well rise to åbove 200!

so what is your excuse?

1772. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 21:57:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <blhov5l509l4npl1ob68jouil0bglk8igd@4ax.com>
Source record: 9622

On Tue, 25 May 2010 13:25:25 -0700, Bill Baka <bbaka@comcast.net>
wrote:

>I didn't know that. I may not be broadcast here in California or it is
>just lost in the hundred channels or so on cable.

Hi Bill,

It is on at least twice during the weekend on NPR (I don't think
anyone else, commercial radio, has ever carried A Prairie Home
Companion). Robert Altman made it into a movie 4 years ago.

NPR is usually found in the public service (think campus stations) end
of the FM band.

73's
Richard Clark, KB7QHC

1773. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 22:02:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <HbednWUfbu6V1GHWnZ2dnUVZ_tWdnZ2d@giganews.com>
Source record: 9623

Wow, I'm in awe of the great levels of genius represented here on this humble forum! And if boys ever outgrew the "mine's bigger than yours" compulsion, we never would have known -- or even suspected! Thanks so much for sharing your IQs, whether known, suspected, or just claimed, with us. You geniuses will be expected to provide brilliant insights into those sticky problems which have eluded not only us, but also the relatively pedestrian intellects of the likes of Termin, Maxwell, and Kraus. Art has already shown the way and set the bar. Go for it!

Roy Lewallen, W7EL

1774. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 22:07:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <HbednWQfbu6212HWnZ2dnUVZ_tWdnZ2d@giganews.com>
Source record: 9624

Correction:

Roy Lewallen wrote:
>. . . You geniuses will be expected to provide brilliant insights
> into those sticky problems which have eluded not only us, but also the
> relatively pedestrian intellects of the likes of Termin, Maxwell, and
> Kraus. . .

I apologize for misspelling Dr Terman's name. Poor spelling is just one
of the handicaps of having such a low IQ. Carelessness is another. It's
a tough life.

Roy Lewallen, W7EL

1775. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 22:24:10 UTC
From: Owen <noone@no.where>
Message-ID: <e6YKn.27148$pv.5533@news-server.bigpond.net.au>
Source record: 9625

On 25/05/2010 18:56, Roy Lewallen wrote:
> Another bit of reading that might help shed light on the matter is
> http://eznec.com/misc/Food_for_thought.pdf, written eight years ago
> during one of the many times the subject has come up before on this
> newsgroup.
>

Roy's notes lead you into thinking about instantaneous power, and the behaviour over a complete AC power cycle. Thinking that through, and the implication about the power/time graphs at various points on the transmission line gives insight into average energy flow, and energy exchange between line sections, line and load and line and source, and the physical bounds of exchange of stored energy during a cycle.

The Telegraphers Equation that I mentioned earlier captures the behaviour of the line, and basic AC circuit theory, Joule's law etc takes you the rest of the way.

Sure, working these things through takes time... and there isn't much afforded in today's world of instant gratification where appealing explanations are more accepted, irrespective of whether they are correct.

Miguel, invest in yourself and your knowledge, don't accept explanations because of a vote count, accept them because they reconcile with things that you truly know as facts (which sometimes means challenging what you think you know).

Owen

1776. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-25 22:30:58 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hthj32cpm1@news.jpl.nasa.gov>
Source record: 9626

```
Bill Baka wrote:
> On 05/24/2010 11:29 PM, Richard Clark wrote:
>> On Mon, 24 May 2010 20:09:30 -0700, Bill Baka<bbaka@comcast.net>
>> wrote:
>>
>>> On 05/24/2010 03:42 PM, Richard Clark wrote:
>>>> On Mon, 24 May 2010 13:34:13 -0700, Bill Baka<bbaka@comcast.net>
>>>> wrote:
>>>>
>>>>> those questions will be solved until the median IQ reaches
>>>>> about 130 and not 100, but I am not holding my breath over that ever
>>>>> happening.
>>>>
>>>> Move to Lake Wobegone and enjoy the everyday experience of that.
>>>>
>>>> 73's
>>>> Richard Clark, KB7QHC
>>>
>>> I'm amazed that anyone even remembers that fictional lake.
>>> Bill Baka
>>
>> It's not hard to forget something that is on every week.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> I didn't know that. I may not be broadcast here in California or it is
> just lost in the hundred channels or so on cable.
> Cheers,
> Bill Baka
Virtually every public broadcasting station carries it, at least in
southern California.
```

1777. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 01:44:18 UTC
From: tom <news4792@taring.org>
Message-ID: <4bfc7cf0$0$633$8046368a@newsreader.iphouse.net>
Source record: 9627

On 5/25/2010 5:02 PM, Roy Lewallen wrote:
> Wow, I'm in awe of the great levels of genius represented here on this
> humble forum! And if boys ever outgrew the "mine's bigger than yours"
> compulsion, we never would have known -- or even suspected! Thanks so
> much for sharing your IQs, whether known, suspected, or just claimed,
> with us. You geniuses will be expected to provide brilliant insights
> into those sticky problems which have eluded not only us, but also the
> relatively pedestrian intellects of the likes of Termin, Maxwell, and
> Kraus. Art has already shown the way and set the bar. Go for it!
>
> Roy Lewallen, W7EL

Thanks Roy. About time someone made a comment. I have been near
projectile you know what for a while. I can claim a lot too. Meaningless.

On the other hand you have produced verifiable product.

tom
K0TAR

1778. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 01:45:17 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <763a21f3-4bd9-488d-9575-769fe421e668@e21g2000vbl.googlegroups.com>
Source record: 9628

On May 25, 8:45 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 25, 5:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > It does not seem possible for a system to be non-linear at one end and
> > turn in to a linear system at some other point.
>
> Well, consider the following two systems. Z01 is 50 ohms and Z02 is
> 300 ohms. The two systems are identical except for the circuits hidden
> inside the two identical source black boxes. Both sources are
> supplying a 100v sine wave to the system.
>
> Source1----Z01----+----1/4WL Z02----1800 ohm
>
> Source2----Z01----+----1/4WL Z02----1800 ohm
>
> Every passive voltage, current, power, and impedance measurement is
> identical in both systems. As far as we can passively measure, both
> systems are identical and linear. The only thing we don't know is what
> is inside the two source boxes..
>
> Inside the Source1 box is a linear ideal 50 ohm Thevenin equivalent
> source delivering an ideal 100v sine wave. Inside the Source2 box is a
> non-linear class-C amplifier filtered to provide an ideal 100v sine
> wave.
>
> Without changing the system conditions, can one make a passive
> measurement to determine which system is conjugately matched and which
> one is not conjugately matched? If one cannot tell the difference, are
> they both conjugately matched, or both not conjugately matched, or
> what?
>
> Here's my take. A 50 ohm Z0-match exists in both systems and all
> conditions are identical on the load side of that Z0-match. In
> particular, at any point in the system on the load side of the Z0-
> match, the impedance looking in one direction is the conjugate of the
> impedance looking in the other direction. That is a characteristic of
> a conjugate match. So are both systems conjugately matched between the
> Z0-match and the load? If it walks and quacks like a duck ...

Methinks you have so constrained the experiment as to make it
unsolvable.
But let us test that.

Consider a Source3, much like Source1: linear, ideal, but 100 ohms
output impedance. It is connected to the same load you specify for

Source1 and Source2 and adjusted to drive 100 volts in to the 50 ohm Z01 line.

You are presented with the circuits using Source1 and Source3.

We know that Source1 and Source3 can not both be conjugately matched.

"Without changing the system conditions, can one make a passive measurement to determine which system is conjugately matched and which one is not conjugately matched? If one cannot tell the difference, are they both conjugately matched, or both not conjugately matched, or what?"

...Keith

1779. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 02:05:29 UTC
From: tom <news4792@taring.org>
Message-ID: <4bfc81e8$0$637$8046368a@newsreader.iphouse.net>
Source record: 9629

On 5/25/2010 11:06 AM, Richard Clark wrote:
> On Mon, 24 May 2010 23:29:24 -0700, Richard Clark<kb7qhc@comcast.net>
> wrote:
>
>>> I'm amazed that anyone even remembers that fictional lake.
>>> Bill Baka
>>
>> It's not hard to forget something that is on every week.
>
> Well, that logic blew a tire.... I will just ride the rim as I head
> for the off ramp.
>
> 73's
> Richard Clark, KB7QHC

Some people just don't like the show. Even those of us that live nearly
next door to the clod that makes the it. No offense, but he is not nice
a nice guy and is quite offensive to the local population.

Not kidding.

tom
K0TAR

1780. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 03:03:19 UTC
From: tom <news4792@taring.org>
Message-ID: <4bfc8f79$0$635$8046368a@newsreader.iphouse.net>
Source record: 9630

On 5/25/2010 9:37 PM, nm5k@wt.net wrote:
> On May 25, 8:44 pm, tom<news4...@taring.org> wrote:
>> On 5/25/2010 5:02 PM, Roy Lewallen wrote:
>>
>>> Wow, I'm in awe of the great levels of genius represented here on this
>>> humble forum! And if boys ever outgrew the "mine's bigger than yours"
>>> compulsion, we never would have known -- or even suspected! Thanks so
>>> much for sharing your IQs, whether known, suspected, or just claimed,
>>> with us. You geniuses will be expected to provide brilliant insights
>>> into those sticky problems which have eluded not only us, but also the
>>> relatively pedestrian intellects of the likes of Termin, Maxwell, and
>>> Kraus. Art has already shown the way and set the bar. Go for it!
>>
>>> Roy Lewallen, W7EL
>>
>> Thanks Roy. About time someone made a comment. I have been near
>> projectile you know what for a while. I can claim a lot too. Meaningless.
>>
>> On the other hand you have produced verifiable product.
>>
>> tom
>> K0TAR
>
> IQ means little really. It's just a perceived level of aptitude.
> An aptitude which is often wasted.. :/
> I rarely bring it up myself, being as I consider it a fairly useless
> measurement.
> The only reason I did was to show that having a high IQ does not
> mean you will automatically be gifted at whatever. :/
> IE: I've been measured as having a fairly high IQ, but in this
> newsgroup I would just rank as the typical ham as far as general
> knowledge about things RF.
> Many here would smoke me with little effort.. Not Art though.. :)
> I'm not really into hard core mathematical type problems.
> In fact, I find them boring.. I tend to only learn about things that
> actually interest me, or I have some specific need to know.
> For instance, the main reason I study a bit of RF theory is not
> to be a science whiz.. It's so I can have a decent antenna. :/
> Some of the stuff Cecil ponders would bore me to tears..
> Actually, if I have any special aptitude, it would probably be in
> music, or art. And those traits kind of run in my family..
> It sure isn't in science, although I've been into certain aspects
> of science since I was a sprout. I started playing with radios
> when I was 7 and got my first one for my birthday.

> I was into astronomy quite a bit way back in a past life..
>

You have perspective. That's a good thing.

Missing in some people here.

tom
K0TAR

1781. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 03:41:45 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <93750a24-b948-481b-abef-9586cd33ea6b@q33g2000vbt.googlegroups.com>
Source record: 9631

On 25 mayo, 12:51, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 25 May 2010 00:45:36 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >To Richard: What I mean is irrelevant :>) relevant is what Walt
> >wanted to say in this sentence: "Because of the absorption of the
> >pad, the generator sees a nearly perfect match for all load conditions
> >and all reflected power is lost "
> >Pllease, tell me what in english means "all reflected power is lost"?
> >I understood (or translate or interpret) that reflected power is
> >dissipated in the pad: Is it a bad translation/interpretation?
>
> Hi Miguel,
>
> Your translation is fine.
>
> However, I have no idea what the pad design looks like, nor do I know
> the component values. I have calibrated thousands of standard pads at
> frequencies up to the 12 GHz. They came in either a Pi design, or a T
> design. Their intended use is in system isolation. That is, they
> isolate the source from the load OR isolate the load from the source
> OR isolate both. For certain component values, you can replace the
> "OR" with "AND."
>
> You would isolate the source to keep its frequency and power constant.
> You would isolate the load to keep line SWR flat. For this line
> application, it is assumed you are calibrating either a load equal or
> nearly equal to Zc, or you are measuring RF power. These are the
> purpose of pads (they also serve the same function in audio circuits).
> Measuring power in the presence of SWR other than 1:1 requires
> sophisticated math that is rarely discussed here. Most discussion
> usually accepts the presumptions of special cases (which are often
> sufficient) and employ less rigorous formulas (which serve well within
> the unstated presumptions).
>
> In conventional Kirchoff analysis, the resistor that bridges the
> transmission line opening becomes the source (that is Vs and Rs). Pad
> design usually makes that one resistor for the Pi pad, or two
> resistors for the T pad. If you are working in accurate and precise
> measurement, you then account for the input (source) resistance in
> parallel/series combinations. This second computation is the numeric
> analysis of isolation. The higher the ratios of these pad resistors,
> the higher the isolation.
>

> It doesn't normally serve any use to have the pad apparent resistance
> (what I called Rs above) different from Zc or from Zload, but as this
> component is a sacrificial one, the designer may choose to put it to
> use to achieve a desired goal. Pad performance suffers with heat due
> to energy combinations that come from multiple/single sources.
>
> 73's
> Richard Clark, KB7QHC

Dear friends

Sincerely it was not my desire to vivify old polemics but to tell the truth, eight years it is a lot of time for not having arrived to a consent!; hey boys this is science non religion! We must have a way of leaving the well! :>)

Is not possible you are using different models to describe an only one phenomenon?, as looking at the same cat from their muzzle or from his tail believing each one his cat is the true or real "cat" :>)

I finished reading Cecil's article (http://www.w5dxp.com/nointfr.htm) and I took of his example that of the 12,5 ohm load. I took a Smith's chart and obtained the line input impedance, then I applied basic circuits theory and I obtained the same value of power dissipated in Rs -exactly-
As I see, if we use a simple electric model of generators and impedances to solve the problem (maybe like Owen suggests), we can explain the dissipation in Rs without appealing to any reflected power returning into the generator because the interference phenomenon that Cecil describes takes place to form the impedance that generator see.
Or alternatingly the dissipation can be described by means of the equations that Cecil shows in its page. In such case we should consider both powers (direct and reflected) operating simultaneously on generator resistance. Same cat, different points of view... :>)

Perhaps my vision is naive but this situation reminds me an example of Sears and Semansky book "University physics" (third edition) where he explains that energy can be thought as not transported by charges in movement, but for the electromagnetic field associated to them. Last is a little hard to see -Poynting vector et al- :>) but it is applicable.

Always has been a pleasure for me to read you. I have learneing very much from your enthusiastic discussions. You made me think of things that I never thought without your help. Thank you.

Miguel Ghezzi . LU6ETJ

PS: Meanwhile I take the Owen advice and I am still studying!

1782. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 05:26:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qubpv559vvq0sf00ul256pfn299osj04p4@4ax.com>
Source record: 9632

On Tue, 25 May 2010 20:41:45 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>eight years it is a lot of time for not having arrived to a
>consent!

Hi Miguel,

You got on this train rather late if all you see is eight years of it.
The circular references have entertainment value - so did vaudeville.

73's
Richard Clark, KB7QHC

1783. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 05:43:36 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htice8$fi2$1@news.eternal-september.org>
Source record: 9633

On 05/25/2010 02:22 PM, Art Unwin wrote:
> On May 25, 3:42 pm, Bill Baka<bb...@comcast.net> wrote:
>> On 05/25/2010 06:01 AM, Cecil Moore wrote:
>>
>>> On May 24, 11:21 pm, Bill Baka<bb...@comcast.net> wrote:
>>>> I considered joining Mensa but their standards are too low for me.
>>
>>> Here's the one for you: "The Giga society is the world's most
>>> exclusive High-IQ society. An IQ of 196 or higher is required to
>>> join."
>>
>>> http://www.gigasociety.org/
>>> --
>>> 73, Cecil, w5dxp.com
>>
>> Yup.
>> I know about it but I don't think I could top that after 61 years.
>> My diet had way too much beer from 21 to 54, when I finally quit that
>> habit. Had my parents encouraged me instead of kicking me out of the
>> house to play with 'normal' kids I might have made it, but I don't think
>> I am that high on the scale. Somewhere around 160'ish is my best guess
>> but I am somewhat apathetic about it right now.
>> Cheers,
>> Bill Baka
>
> Don't give up on ï¿½chieving thï¿½t. Retirees usuï¿½lly expï¿½nd their life
> experiences ï¿½nd ï¿½chivements.
> By the time you reï¿½ch 80 the numbers mï¿½y well rise to ï¿½bove 200!

I do admit reading way too much, but I enjoy the professional Magazines
I get in the mail. My reading habits go far beyond just electronics and
compute so I read Military and aerospace, NASA tech briefs, information
week, EDN, Electronics design, and many more. I can at least push my
brain as hard as possible.
BTW, does anyone here know a good grammar checking program.
There are some good windows 7 products but my scanner will not let me
use it in Linux land since h.P. has flat out told me my 4 year old
scanner is now obsolete and they are making new scanners, won't even
attempt to fix the driver mode since H.P. never made any drivers for Linux.
Come summer, if it ever gets here, I will be busy on my 100+ mile
bicycle rides. These take from sunup to sun down, but burn huge amount
of calories climbing endless hills.
Return to school? I might take classes at the local junior college and
collect about three or four subjects and try to get 4 or 5 Associate

degrees. I won't be able to that and actually finish with requirements that are needed (forced down my throat) So that would be a logical start for me. Cal state in Sacramento is the next college for the next four years, but I can challenge some of them.
It is an idea but for the summer I am going into physical fitness and not computer mode. It may be a little 'old' at my age but I can do the school work just as easily as ever.
Cheers,
Bill Baka

1784. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 05:50:27 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hticr5$jc4$1@news.eternal-september.org>
Source record: 9634

On 05/25/2010 02:48 PM, K1TTT wrote:
> On May 25, 9:22 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> On May 25, 3:42 pm, Bill Baka<bb...@comcast.net> wrote:
>>
>>
>>
>>> On 05/25/2010 06:01 AM, Cecil Moore wrote:
>>
>>>> On May 24, 11:21 pm, Bill Baka<bb...@comcast.net> wrote:
>>>>> I considered joining Mensa but their standards are too low for me.
>>
>>>> Here's the one for you: "The Giga society is the world's most
>>>> exclusive High-IQ society. An IQ of 196 or higher is required to
>>>> join."
>>
>>>> http://www.gigasociety.org/
>>>> --
>>>> 73, Cecil, w5dxp.com
>>
>>> Yup.
>>> I know about it but I don't think I could top that after 61 years.
>>> My diet had way too much beer from 21 to 54, when I finally quit that
>>> habit. Had my parents encouraged me instead of kicking me out of the
>>> house to play with 'normal' kids I might have made it, but I don't think
>>> I am that high on the scale. Somewhere around 160'ish is my best guess
>>> but I am somewhat apathetic about it right now.
>>> Cheers,
>>> Bill Baka
>>
>> Don't give up on ï¿½chieving thï¿½t. Retirees usuï¿½lly expï¿½nd their life
>> experiences ï¿½nd ï¿½chivements.
>> By the time you reï¿½ch 80 the numbers mï¿½y well rise to ï¿½bove 200!
>
> so what is your excuse?

No excuse, just too far down on the income to actually join one.
My brain is in no position to pay for a membership and and I would not
want to take an IQ test after a night of no sleep. If I qualify for Giga
society I would be amazed. I might just luck out and qualify, but who
knows? I am not intentionally doing anything to average people but some
times I over-estimate people's ability to understand.
Bill Baka

1785. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 05:53:40 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htid14$jc4$2@news.eternal-september.org>
Source record: 9635

On 05/25/2010 03:02 PM, Roy Lewallen wrote:
> Wow, I'm in awe of the great levels of genius represented here on this
> humble forum! And if boys ever outgrew the "mine's bigger than yours"
> compulsion, we never would have known -- or even suspected! Thanks so
> much for sharing your IQs, whether known, suspected, or just claimed,
> with us. You geniuses will be expected to provide brilliant insights
> into those sticky problems which have eluded not only us, but also the
> relatively pedestrian intellects of the likes of Termin, Maxwell, and
> Kraus. Art has already shown the way and set the bar. Go for it!
>
> Roy Lewallen, W7EL

I'm not into the bragging mode and never had to be. Of course I put down some fellow engineers at one job. All I know is that I can take a look at almost anything and make it better.
Bill Baka

1786. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 05:55:54 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htid5a$jc4$3@news.eternal-september.org>
Source record: 9636

On 05/25/2010 04:53 PM, nm5k@wt.net wrote:
> On May 25, 5:02 pm, Roy Lewallen<w...@eznec.com> wrote:
>> Wow, I'm in awe of the great levels of genius represented here on this
>> humble forum! And if boys ever outgrew the "mine's bigger than yours"
>> compulsion, we never would have known -- or even suspected! Thanks so
>> much for sharing your IQs, whether known, suspected, or just claimed,
>> with us. You geniuses will be expected to provide brilliant insights
>> into those sticky problems which have eluded not only us, but also the
>> relatively pedestrian intellects of the likes of Termin, Maxwell, and
>> Kraus. Art has already shown the way and set the bar. Go for it!
>>
>> Roy Lewallen, W7EL
>
> A high IQ is very overrated.
> Many people with high IQ's go crazy after a few decades because
> they worry about too much nit picky crap, and then they end up
> in a rubber room barking at the moon.
> I think I'm about 2/3's of the way there sometimes.. :/
>
>
Heh, welcome to my world, too much intelligence can be a curse of it's own
Bill Baka

1787. MLB mlb jersey Chicago White Sox mlb jerseys www.cntrade09.com

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 06:22:54 UTC
From: xaingmei chen <chenxaing85@gmail.com>
Message-ID: <6605e22b-9b5e-46b1-a093-20d3c400a29f@j36g2000prj.googlegroups.com>
Source record: 9637
Cross-posted to: rec.puzzles,rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

NFL nfl jersey Arizona Cardinalsl nfl jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Atlanta Falcons jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Baltimore Ravens jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Buffalo Bills jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Carolina Panthers jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Chicago Bears jerseys www.cntrade09.com best
products, fastest and safest shipping and best servings
NFL nfl jersey Cincinnati Bengals jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Cleveland Browns jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Dallas Cowboys jerseys www.cntrade09.com
best
products, fastest and safest shipping and best servings
NFL nfl jersey Denver Broncos jerseys www.cntrade09.com best
products, fastest and safest shipping and best servings
NFL nfl jersey Detroit Lions jerseys www.cntrade09.com best
products, fastest and safest shipping and best servings
NFL nfl jersey Green Bay Packers jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Houston Texans jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Indianapolis Colts jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Jacksonville Jaguars jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Kansas City Chiefs jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Miami Dolphins jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Minnesota Vikings jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey New England Patriots jerseys www.cntrade09.com

best products, fastest and safest shipping and best servings
NFL nfl jersey New Orleans Saints jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey New York Jets jerseys www.cntrade09.com best

products, fastest and safest shipping and best servings
NFL nfl jersey New York Giants jerseys www.cntrade09.com
best
products, fastest and safest shipping and best servings
NFL nfl jersey Oakland Raiders jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Philadelphia Eagles jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Pittsburgh Steelers jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey San Diego Chargers jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey San Francisco 49ers jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Seattle Seahawks jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey St Louis Rams jerseys www.cntrade09.com
best
products, fastest and safest shipping and best servings
NFL nfl jersey Tennessee Titans jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
NFL nfl jersey Washington Redskins jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Anaheim Angels mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Atlanta Braves mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Boston Red Sox mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Chicago Cubs mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Chicago White Sox mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Detroit Tigers mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Milwaukee Brewers mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Minnesota Twins mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey New York Yankees mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Nerw York Mets mlb jerseys www.cntrade09.com
best products, fastest and safest shipping and best servings
MLB mlb jersey Philadelphia Phillies mlb jerseys www.cntrade09.com

1788. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 06:25:32 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <ed22bd65-5c52-4560-82d7-e08bb7760ab3@q33g2000vbt.googlegroups.com>
Source record: 9638

On May 25, 10:37 pm, n...@wt.net wrote:
> On May 25, 8:44 pm, tom <news4...@taring.org> wrote:
>
>
>
> > On 5/25/2010 5:02 PM, Roy Lewallen wrote:
>
> > > Wow, I'm in awe of the great levels of genius represented here on this
> > > humble forum! And if boys ever outgrew the "mine's bigger than yours"
> > > compulsion, we never would have known -- or even suspected! Thanks so
> > > much for sharing your IQs, whether known, suspected, or just claimed,
> > > with us. You geniuses will be expected to provide brilliant insights
> > > into those sticky problems which have eluded not only us, but also the
> > > relatively pedestrian intellects of the likes of Termin, Maxwell, and
> > > Kraus. Art has already shown the way and set the bar. Go for it!
>
> > > Roy Lewallen, W7EL
>
> > Thanks Roy. About time someone made a comment. I have been near
> > projectile you know what for a while. I can claim a lot too. Meaningless.
>
> > On the other hand you have produced verifiable product.
>
> > tom
> > K0TAR
>
> IQ means little really. It's just a perceived level of aptitude.
> An aptitude which is often wasted.. :/
> I rarely bring it up myself, being as I consider it a fairly useless
> measurement.
> The only reason I did was to show that having a high IQ does not
> mean you will automatically be gifted at whatever. :/
> IE: I've been measured as having a fairly high IQ, but in this
> newsgroup I would just rank as the typical ham as far as general
> knowledge about things RF.
> Many here would smoke me with little effort.. Not Art though.. :)
> I'm not really into hard core mathematical type problems.
> In fact, I find them boring.. I tend to only learn about things that
> actually interest me, or I have some specific need to know.
> For instance, the main reason I study a bit of RF theory is not
> to be a science whiz.. It's so I can have a decent antenna. :/
> Some of the stuff Cecil ponders would bore me to tears..
> Actually, if I have any special aptitude, it would probably be in
> music, or art. And those traits kind of run in my family..

> It sure isn't in science, although I've been into certain aspects
> of science since I was a sprout. I started playing with radios
> when I was 7 and got my first one for my birthday.
> I was into astronomy quite a bit way back in a past life..

Some of the people I knew who were the most gifted have led the most wasted lives. Can you imagine having an IQ in the 140s and the focus of your life is antennas. What a waste.

Jimmie

1789. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 10:52:42 UTC
From: "Man-wai Chang to The Door (33600bps)" <toylet.toylet@gmail.com>
Message-ID: <htiuhs$h5k$1@news.eternal-september.org>
Source record: 9639

> That will work if that's what you want to do. The radio's ferrite
> antenna replaces the 2 turn pickup loop. If you want to be able to do
> both, include the pickup loop anyway.

Being a noob in electronics (was never trained in that context), I need
to do my homework to understand your replies. Thanks! :)

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.34
^ ^ 18:51:01 up 7 days 22:02 1 user load average: 1.01 1.00 0.99
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1790. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 11:50:30 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <74d78a86-d895-4c40-8beb-92850ed31f7e@q33g2000vbt.googlegroups.com>
Source record: 9640

On May 25, 4:20 pm, walt <w...@w2du.com> wrote:
> Hello Keith,
>
> Thank you for your response. I'm starting my answer to your statements
> by first quoting from one of your posts:
>
> "Try as I might, I have not been able to derive a mechanism to explain
> the observations in Reflections. But the explanations offered in
> Reflections require large chunks of linear circuit theory to be
> discarded, so this does not seem to be an appropriate path."
>
> That you have been unable to derive a mechanism that explains the
> action in an RF power amplifier is evidence that you do not understand
> it. So let's examine the action that follows an appropriate path that
> does not require any linear circuitry to be discarded. Further
> evidence that you do not understand it is that you used a bench power
> supply to describe the action, which you state has an infinite source
> resistance when the load exceeds 50 ohm, and zero source resistance
> when the load is less than 50 ohms. Unfortunately, this power supply
> in no way resembles an RF power amplifier, either in components or
> action.

"No way" is a bit strong. The RF PA is constructed from a constant
voltage source (the power supply) and a constant current controller
(the tube), both aspects present in the bench supply example
previously
offered. A tube is often modelled as an ideal variable constant
current
source but unlike an ideal source, which can produce whatever voltage
is needed to drive the current, the current produced by the tube is
limited by the power supply voltage. Thus, assertions of linear
behaviour need to be tempered by ensuring that such voltage limits
are not exceeded.

> We'll begin by stipulating that the 'filter' is a pi-network tank
> circuit, having a tuning capacitor at the input and a loading-
> adjustment capacitor at the output. We'll also stipulate that the
> plate voltage and the grid bias are set to provide the desired
> conditions at the input of the tank circuit, which means that the
> desired grid voltage is that which results in the desired conduction
> time for the applied plate voltage. The result provides a dynamic
> resistance RL, which is determined by the average plate voltage VPavg
> and the average plate current IPavg appearing at the terminals leading
> to the input of the tank circuit. In other words, RL = VPavg/IPavg.
> To permit delivery of all available power to be delivered by the

> dynamic resistance RL, we want the input impedance appearing at the
> input of the tank circuit to be equal to RL.

Most references use Vpeak and Ipeak, though they are usually related
to average values with constants of proportionality so the computed
RL will be the same. None-the-less, I prefer peak values since it
ties better to the choices made in the design.

The power that can be controlled by a control device (be it a switch,
tube or transistor) is related to device limitations. So, for example,
the maximum power that can be controlled by a 250V 1A switch is 250W.
This occurs with a supply voltage of 250V and a load of 250 ohms.
Increasing the supply voltage exceeds the switch capability as does
reducing the load resistance.

If the supply voltage is less than 250V then the maximum power occurs
with a load that causes 1A to flow and is now a limit based on
circuit choices and device capabilities.

Note that these power limits have nothing to do with maximum power
transfer in a linear circuit.

Similarly in a tube circuit, the maximum power is limited by the
supply
voltage and the tube drive level (which sets the current that will
flow in the tube). Maximum controlled power is then V*I and occurs
with a load resistance of V/I. Increasing the load resistance reduces
the power because there is insufficient voltage from the supply to
drive more current through the load and reducing the load resistance
reduces the power because less voltage is impressed across the load.

Note that neither of these effects is related to the maximum power
transfer in a linear circuit.

> We'll now go to the output of the tank circuit. We'll assume the load
> to be the input of a transmission line on which there are reflections.
> The result is that the input to the line contains a real component R
> and a reactance jX. The output terminals of the tank circuit are the
> two terminals of the output-loading capacitor. When the line is
> connected to the output terminals of the tank circuit the reactance
> appearing at the line input is reflected into the tank circuit. This
> reactance is then cancelled by the tuning capacitor at the input of
> the tank circuit, resulting in a resonant tank circuit. We now need to
> adjust the output-loading capacitor to apply the correct voltage
> across the input of the transmission line so that the real component R
> appearing at the line input is reflected into the tank circuit such
> that the resistance RL appears at the input of the tank circuit, thus
> allowing all the available power to enter the tank circuit. In other
> words, adjusting the loading capacitor to deliver all the available
> power into the line also makes the output resistance of the tank
> circuit equal to the real component R appearing at the line input.
> With any other value of output resistance of the source, all the

> available power would not be delivered to the line. A corollary to
> that condition follows from the Maximum Power Transfer Theorem that
> for a given output resistance of the source (the tank circuit), if the
> load resistance is either increased for decreased from the value of
> the source resistance, the delivery of power will decrease. This
> condition also accurately describes the condition for the conjugate
> match.

While a conjugate match does result in a situation where altering
the load will reduce the power transfer, it is not true that any
situation where altering the load reduces the power transfer is
also a conjugate match. The two examples above (bench power supply,
tube in a circuit) amply demonstrate this.

> Keep in mind that the input impedance of the line is complex, or
> reactive, but the reactance of the correctly-adjusted tuning capacitor
> has introduced the correct amount of the opposite reactance to cancel
> the reactance appearing at the line input. Thus the line input
> impedance is R + jX and the output impedance of the source is R – jX,
> providing the conjugate match.

This is quite in error, unless, by happenstance, RL is equal to Rp
(plus
the other contributors to source impedance).

> You stated in one of your posts that the phase of the reflected wave
> in relation to that of the source wave results in a non-linear
> condition. This is totally untrue. The tuning action of the input
> capacitor in the tank circuit that cancels the line reactance caused
> by the reflection on the line in no way introduces any non-linearity
> in the circuit, and the condition in the vicinity of the output of the
> tank circuit is totally linear. Thus, circuit theorems that require
> linearity to be valid are completely valid when used with the RF power
> amplifier as described above. This applies to all RF power amplifiers,
> Class A, AB, B and C.

For any circuit with a conduction angle of less than 360 degrees, my
simulations indicate otherwise. The reflection coefficient experienced
by the reflected wave when it arrives at the amplifier output varies
with the phase of the reflected wave. Since the reflection coefficient
is a function of source impedance and line impedance, and the line
impedance is not changing, this means that the source impedance is
changing with the phase of the reflected wave. This is not a behaviour
that is consistent with a linear circuit. Given the non-linearities
in a circuit with a conduction angle of less than 360 degrees, this
should not be a surprise. More, it would be a surprise if such a
circuit did behave as a linear circuit.

> I hope my comments above assist in understanding the action that
> occurs in RF power amplifiers.

Thank you. They have indeed helped clarify my thinking.

We are still left with the puzzle of why the observations documented in Reflections report a reduction in power transfer when the load is changed in either direction. It seems unlikely that RL is, by happenstance, equal to Rp, which would be one explanation.

It seems plausible that it is related to the behaviours associated with the examples I provided above, but I can not articulate a mechanism that satisfies.

…Keith

1791. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 11:50:53 UTC
From: tom <news4792@taring.org>
Message-ID: <4bfd0b1b$0$50148$8046368a@newsreader.iphouse.net>
Source record: 9641

On 5/26/2010 5:52 AM, Man-wai Chang to The Door (33600bps) wrote:
>> That will work if that's what you want to do. The radio's ferrite
>> antenna replaces the 2 turn pickup loop. If you want to be able to do
>> both, include the pickup loop anyway.
>
>
> Being a noob in electronics (was never trained in that context), I need
> to do my homework to understand your replies. Thanks! :)
>

Sorry, what that means is all you need to do is place the radio near the loop, just like you mentioned earlier. If you want to connect to output of the loop to the antenna input of an AM receiver at some later time, that will work, too. If you don't think you'll use the output from the pickup loop, then skip it for now. You can always add it later if you need it.

Good luck.

tom
K0TAR

1792. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 11:59:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d92d2814-cbeb-4baa-8cab-881b0ad753b5@v37g2000vbv.googlegroups.com>
Source record: 9642

On May 25, 10:41 pm, lu6etj <lu6...@gmail.com> wrote:
> Is not possible you are using different models to describe an only one
> phenomenon?, as looking at the same cat from their muzzle or from his
> tail believing each one his cat is the true or real "cat" :>)

Dr. Corum tells us what the problem is: "Lumped circuit theory fails because it's a *theory* whose presuppositions are inadequate. Every EE in the world was warned of this in their first sophomore circuits course. ... The engineer must either use Maxwell's equations or distributed elements to model reality. ... Distributed theory encompasses lumped circuits and always applies."

In particular, *energy flow* is not addressed at all in the lumped circuit model. Some RF gurus are so confused that they imply that there is no Poynting vector power density in reflected waves. Their basic error (for the past 8 years) is that they believe there is no mechanism outside of the reflection model that can redistribute the reflected energy. But what can happen to reflected energy has been known for decades in the field of optical physics. The reflection that one sees in a mirror contains an ExH power density that activates one's human retina. Waves cannot exist without energy. Standing waves cannot exist without forward and reverse traveling waves. That some otherwise knowledgeable and influential RF gurus deny the reality of such is really sad.

What they are missing is simple. The FSU web page describes how wave cancellation redistributes the reflected energy back toward the load from what is essentially a Z0-match. The redistribution of reflected energy due to wave cancellation is technically NOT a re-reflection since it involves destructive interference between TWO waves. When the RF gurus broaden their knowledge base to include wave cancellation, they will alleviate their ignorance on how reflected energy is redistributed back toward the load. That knowledge can be obtained from any good optics reference book including "Optics", by Hecht and "Principles of Optics", by Brown and Wolf. Until those gurus admit to themselves that they are not omniscient, the argument will continue.

> I finished reading Cecil's article (http://www.w5dxp.com/nointfr.htm)

Remember that article describes the two special cases where the two superposed waves are 90 degrees apart and therefore do not interfere with each other, i.e. no wave cancellation exists. I have not yet written the other two articles about constructive and destructive interference.
--
73, Cecil, w5dxp.com

1793. Re: DIY antenna that works like MTM Loop Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 12:43:38 UTC
From: "Man-wai Chang to The Door (33600bps)" <toylet.toylet@gmail.com>
Message-ID: <htj51tupj1@news.eternal-september.org>
Source record: 9643

> Sorry, what that means is all you need to do is place the radio near the
> loop, just like you mentioned earlier. If you want to connect to output
> of the loop to the antenna input of an AM receiver at some later time,
> that will work, too. If you don't think you'll use the output from the
> pickup loop, then skip it for now. You can always add it later if you
> need it.

I have a cheap Sony Dream Machine radio. It has no AM antenna port. SO
the loop antenna should boost its AM reception. That's why I asked. :)

Could FM reception be boosted by the same idea? That Dream Machine radio
has only a simple wire as FM antenna.

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.34
^ ^ 20:41:01 up 7 days 23:52 1 user load average: 1.08 1.06 1.01
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

1794. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 14:09:53 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9b0ee527-5834-4261-9e3f-557e663540e7@o15g2000vbb.googlegroups.com>
Source record: 9644

On May 26, 6:59 am, Cecil Moore <w5...@hotmail.com> wrote:
> That knowledge can be obtained
> from any good optics reference book including "Optics", by Hecht and
> "Principles of Optics", by Brown and Wolf.

Continuing after taking my wife to work:

The reason that optical physicists know so much more about energy transfer than RF gurus is that the optical physicists do not have the luxury of measuring the voltage and current associated with an EM wave at light frequencies. They have historically been forced to deal with irradiance, i.e. power density, at every step of their analysis since that is the only thing they could easily quantize through measurements. As a result, they know everything one needs to know about where the energy goes during reflection and wave cancellation. If one wants to catch up on such as it applies to all EM waves, including RF waves, please obtain a copy of "Optics", by Hecht and read the chapters on superposition and interference. It was an eye opener for me and resulted in my WorldRadio energy analysis article.

http://www.w5dxp.com/energy.htm

Optical physicists usually make power density (irradiance) measurements and then calculate the electric and magnetic fields of the EM wave. RF gurus make voltage and current measurements and ignore energy/power except for net power in and net power out thus losing important details in the process. When they don't understand energy transfer, they dismiss it as unimportant or worse yet, assume that their ignorance somehow proves something as W7EL has done in his "food for thought" article on forward and reflected power. All that he has succeeded in proving is his ignorance of partial or total wave cancellation involving two superposed component waves which can reverse the flow of energy in a transmission line just as easily as can an actual reflection. Here is a diagram of the energy flow at a 50-ohm Z0-match as is common in ham installations.

http://www.w5dxp.com/enfig3.gif

Pref1 = Zero = P3 + P4 - 2*SQRT(P3*P4)

where P3=P4 and the two electric fields are 180 degrees out of phase. This is total destructive interference due to wave cancellation, i.e. out-of-phase superposition.

Pfor2 = P1 + P2 + 2*SQRT(P1*P2)

This total constructive interference due to in-phase superposition.

If W7EL would use the general power density equation on his "food-for-thought" examples

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(theta)

he would obtain all the correct answers as to where the reflected energy goes, i.e. the energy analysis would agree exactly with his voltage analysis. That energy analysis would tell us exactly how much reflected power is absorbed in the source resistor and exactly how much is redistributed back toward the load as part of the forward wave. But when W7EL heard these facts of physics from the field of EM wave optics many years ago, he said "Gobbleygook".
--
73, Cecil, w5dxp.com

1795. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 14:17:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <81bc7d82-71c3-42c0-991d-66e318eb1792@m33g2000vbi.googlegroups.com>
Source record: 9645

On May 25, 8:45 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> We know that Source1 and Source3 can not both be conjugately
> matched.

But what difference does it make if all external conditions are
identical? If reflected energy is not allowed to reach the source, why
does the source impedance matter at all?
--
73, Cecil, w5dxp.com

1796. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 14:32:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <545ee16e-793d-495b-a03a-372687aceb11@v37g2000vbv.googlegroups.com>
Source record: 9646

On May 26, 1:25 am, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> Some of the people I knew who were the most gifted have led the most
> wasted lives. Can you imagine having an IQ in the 140s and the focus
> of your life is antennas. What a waste.

Kraus, Jasik, and Balanis might disagree - maybe even Terman.

Why are antennas a less desirable specialization than any other
specialization? Is counting the barbs on a fruit fly's penis to
determine its exact species somehow superior to antennas? :-)
--
73, Cecil, w5dxp.com

1797. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 15:27:31 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <htjel3$g844$1@tr22n12.aset.psu.edu>
Source record: 9647

Richard Clark wrote:
> On Mon, 24 May 2010 23:29:24 -0700, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>>> I'm amazed that anyone even remembers that fictional lake.
>>> Bill Baka
>> It's not hard to forget something that is on every week.
>
> Well, that logic blew a tire.... I will just ride the rim as I head
> for the off ramp.

8^)

- 73 de Mike N3LI -

who to my great embarrassment, was rying to figure that one out for
longer than anyone should have.

1798. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 15:43:25 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <htjfit$ok7c$1@tr22n12.aset.psu.edu>
Source record: 9648

Intelligence is a tool,

Talent is a tool,

But they are not the only tools in the box.

There is drive, there is curiosity, even OCD or Asperger's can be turned into a tool.

There is memory. There is personality.

I'm around 150, but all that means is that if a problem interests me, I can figure it our a little before someone who has a lower number.

Big deal. Some times I think there is something else too, but I'm too dum to put my finger on it. I've noticed that there is something of a troubleshooting skill that I've got/cultivated that often allows me to diagnose a problem a lot more quickly than most other people. Even that's not much help, because I can often figure out a problem in a minute, then spend the next 20 minutes trying to convince the other people I'm with. That's led to some interesting moments, but point is I think there is some ability to compartmentalize mental functions that isn't directly related to IQ.

A fellow who worked for me at one time had a figurative ton of talent. Awesome photographer, highly skilled at tabletop studio photography.

Unfortunately, he had no drive, and his work life was a sad cycle of his talent landing him jobs, and his lack of drive losing them for him.

I've known people with below average intelligence who had other tools like drive and personality that made them successful, and a joy to work with.

- 73 de Mike N3LI -

1799. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 15:50:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ggfqv5dmt69fn31kakidhs4g0529hrqhc6@4ax.com>
Source record: 9649

On Wed, 26 May 2010 04:50:30 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>a conjugate match does result in a situation where altering
>the load will reduce the power transfer

...

>We are still left with the puzzle of why the observations documented
>in Reflections report a reduction in power transfer when the load is
>changed in either direction.

Hi Keith,

Stripping away everything that you offer as objections to what is not
in Walt's premise (I cannot vouch for his attempts to explain the
universality of it), your statements come into conflict.

If you offer you find a puzzle about measurements, then that is simply
researched at the bench instead of in expansive wanderings in myriad
qualifications. Do you have documented measurements under initial
conditions identical to Walt's that run counter to Walt's quantitative
results?

I suspect not, or we would be talking about competing bench results
instead. This would be a more productive and genuine debate seeking
explanation for what you describe as the "puzzle."

Barring quantitative evidence, anything that continues this rag-chew
is a simple example of "modeling is doomed to succeed."

73's
Richard Clark, KB7QHC

1800. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 16:25:04 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <48ae55cf-f9ef-49a3-b8e2-769fece7585c@v18g2000vbc.googlegroups.com>
Source record: 9650

On May 26, 10:43 am, Michael Coslo <m...@psu.edu> wrote:
> Intelligence is a tool,
>
> Talent is a tool,
>
> But they are not the only tools in the box.
>
> There is drive, there is curiosity, even OCD or Asperger's can be turned
> into a tool.
>
> There is memory. There is personality.
>
> I'm around 150, but all that means is that if a problem interests me, I
> can figure it our a little before someone who has a lower number.
>
> Big deal. Some times I think there is something else too, but I'm too
> dum to put my finger on it. I've noticed that there is something of a
> troubleshooting skill that I've got/cultivated that often allows me to
> diagnose a problem a lot more quickly than most other people. Even
> that's not much help, because I can often figure out a problem in a
> minute, then spend the next 20 minutes trying to convince the other
> people I'm with. That's led to some interesting moments, but point is I
> think there is some ability to compartmentalize mental functions that
> isn't directly related to IQ.
>
> A fellow who worked for me at one time had a figurative ton of talent.
> Awesome photographer, highly skilled at tabletop studio photography.
>
> Unfortunately, he had no drive, and his work life was a sad cycle of his
> talent landing him jobs, and his lack of drive losing them for him.
>
> I've known people with below average intelligence who had other tools
> like drive and personality that made them successful, and a joy to work
> with.
>
>   - 73 de Mike N3LI -

My heårt åttåck probåbly puts me åt the bottom of the heåp. But with
åll these high fålluting intelligence numbers how is it thåt åll deny
thåt by måking Gåuss låw of ståtic form into dynåmic form
Måxwells equåtions åre åpplicåble. We åre tålking båsics clåssicål
physics here but we håve nobody who cån explåin why this åproåch is
illegål

1801. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 16:47:50 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htjjbm$e3m$1@news.eternal-september.org>
Source record: 9651

On 05/26/2010 08:27 AM, Michael Coslo wrote:
> Richard Clark wrote:
>> On Mon, 24 May 2010 23:29:24 -0700, Richard Clark <kb7qhc@comcast.net>
>> wrote:
>>
>>>> I'm amazed that anyone even remembers that fictional lake.
>>>> Bill Baka
>>> It's not hard to forget something that is on every week.
>>
>> Well, that logic blew a tire.... I will just ride the rim as I head
>> for the off ramp.
>
> 8^)
>
> - 73 de Mike N3LI -
>
> who to my great embarrassment, was rying to figure that one out for
> longer than anyone should have.

Hey,
I do not get his lake woebegone on either TV or radio. I seriously
thought he dropped off the radar.
Bill Baka

1802. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 17:01:41 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htjk5njmf1@news.eternal-september.org>
Source record: 9652

On 05/26/2010 08:43 AM, Michael Coslo wrote:
> Intelligence is a tool,
>
> Talent is a tool,
>
> But they are not the only tools in the box.
>
> There is drive, there is curiosity, even OCD or Asperger's can be turned
> into a tool.
>
> There is memory. There is personality.
>
> I'm around 150, but all that means is that if a problem interests me, I
> can figure it our a little before someone who has a lower number.

It is only a number and our individual talents can be very different.
I solve a lot of abstract problems and can instantly visualize things
that can and should be improved. It really does not matter here. We were
really just comparing notes, not bragging. I'm sure some on here could
bury me, especially in antenna design. I find that my brain wants a lot
of input so I study various things even though I will never work in
those fields. I'm 61 so why go back to school??
I am a generalist, not a specialist. Curious about many things, and as
you are posting I am still learning about humans reacting to a mere
number. I came on here originally to ask if anyone knew about a noise
blanker that could be inserted into the receiver/antenna, nothing more.
I did expect that most hams are above average, but did not anticipate
any hostility. Don't be so touchy, I came here to learn and possibly
contribute some of my projects and how they turned out.
>
> Big deal. Some times I think there is something else too, but I'm too
> dum to put my finger on it. I've noticed that there is something of a
> troubleshooting skill that I've got/cultivated that often allows me to
> diagnose a problem a lot more quickly than most other people. Even
> that's not much help, because I can often figure out a problem in a
> minute, then spend the next 20 minutes trying to convince the other
> people I'm with. That's led to some interesting moments, but point is I
> think there is some ability to compartmentalize mental functions that
> isn't directly related to IQ.

That does put you at the very least, above average.
>
> A fellow who worked for me at one time had a figurative ton of talent.
> Awesome photographer, highly skilled at tabletop studio photography.
>

> Unfortunately, he had no drive, and his work life was a sad cycle of his
> talent landing him jobs, and his lack of drive losing them for him.

That hasn't happened to me, yet.
>
> I've known people with below average intelligence who had other tools
> like drive and personality that made them successful, and a joy to work
> with.

Same here. Personality makes a huge difference.
>
> - 73 de Mike N3LI -

Cheers,
Bill Baka

1803. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 17:19:37 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0873b618-e4fb-452f-8113-86588a73e4f0@c22g2000vbb.googlegroups.com>
Source record: 9653

On May 26, 9:17 am, Cecil Moore <w5...@hotmail.com> wrote:
> If reflected energy is not allowed to reach the source, why
> does the source impedance matter at all?

Continuing this thought thread - Assuming 50 ohm coax from the source
containing a forward traveling wave and no reflected wave, i.e. an SWR
of 1:1 on 50 ohm coax, what it to prohibit us from drawing our system
box through that piece of coax and considering the signal emerging
from that piece of coax to be the linear source signal which is
obviously associated with a V/I = 50 ohm impedance?
--
73, Cecil, w5dxp.com

1804. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 17:42:58 UTC
From: walt <walt@w2du.com>
Message-ID: <4f5fb51e-8c94-4af7-a2a5-9583de11f7e0@o15g2000vbb.googlegroups.com>
Source record: 9654

On May 26, 11:50 am, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 26 May 2010 04:50:30 -0700 (PDT), Keith Dysart
>
> <keith.dys...@gmail.com> wrote:
> >a conjugate match does result in a situation where altering
> >the load will reduce the power transfer
>
> ...
>
> >We are still left with the puzzle of why the observations documented
> >in Reflections report a reduction in power transfer when the load is
> >changed in either direction.
>
> Hi Keith,
>
> Stripping away everything that you offer as objections to what is not
> in Walt's premise (I cannot vouch for his attempts to explain the
> universality of it), your statements come into conflict.
>
> If you offer you find a puzzle about measurements, then that is simply
> researched at the bench instead of in expansive wanderings in myriad
> qualifications. Do you have documented measurements under initial
> conditions identical to Walt's that run counter to Walt's quantitative
> results?
>
> I suspect not, or we would be talking about competing bench results
> instead. This would be a more productive and genuine debate seeking
> explanation for what you describe as the "puzzle."
>
> Barring quantitative evidence, anything that continues this rag-chew
> is a simple example of "modeling is doomed to succeed."
>
> 73's
> Richard Clark, KB7QHC

Hi Keith,

Sorry, OM, but you still misunderstand various aspects of RF power amp
operation.

First, the power supply is not the limiting factor concerning plate
current. The grid drive is what determines the plate current, and thus
the output power.

Second, the tank circuit is an energy storage device that isolates the non-linear input from the linear output. That the output is linear is because the voltage and current are in phase at the output of the tank circuit. The effect of the energy storage of the tank results in the tank becoming the source of the energy appearing at the output.

Third, the action of plate resistance Rp occurs only in the formation of RL, and has no further effect on any action downstream of the input of the tank circuit. Thus, it has no bearing on the development of the conjugate match that occurs at the junction of the tank output and the input of the transmission line.

Fourth, as I said earlier, the the action of the bench power supply that you presented in no way models the action of the RF power amplifier. Furthermore, you are incorrect when you say that when varying the load in either direction causing the power deliver to decrease there is no conjugate match. In saying what you did violates the theorem of Maximum Transfer of Power.

Fifth, as I stated earlier, when the reactance appearing at the input of the load (the transmission line with reflections) is canceled by the opposite reactance introduced by the pi-network tuning capacitor, the output impedance of the source (the tank circuit) is the conjugate of the line-input impedance. If you cannot accept this as fact you have a problem.

Sixth, your understanding of the effect of the reflected wave on the source wave is flawed. The non-linearity of the plate current when the conduction time is less than 360° has no relation to the action downstream of the input to the tank circuit, because from that point on the voltage current relationship is linear. If you cannot accept this as fact you have still another problem.

Seventh, your belief that because there is a conjugate match at the output of the tank there must be a conjugate match at the input of the tank is also not true. The effect of the energy storage in the tank isolates the non-linearity af the input from the linear operation at the output, permitting a conjugate match at the output, while not allowing it to occur at the input.

These seven comments are born out (proven) by the results of many measurements I made using laboratory grade instruments, HP and General Radio. If you check my record as a professional electrical engineer regarding the measurements I've made that led to successful hardware flying on various Earth-orbiting platforms, you must accept the validity of the measurements I made on RF power amplifiers that prove my position.

As I said earlier, no one but you has considered my position on this subject incorrect. Therefore, if you cannot agree with the comments I made above, but still consider my statements in Reflections flawed, then there is no point in my making any further comments. I hope someday you'll finally understand what's really happening within the

RF amplifier.

Walt Maxwell, W2DU

1805. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 18:00:20 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <0eacad53-7f8c-4816-8dc1-07767e028d21@y12g2000vbr.googlegroups.com>
Source record: 9655

On May 26, 12:01 pm, Bill Baka <bb...@comcast.net> wrote:
> On 05/26/2010 08:43 AM, Michael Coslo wrote:
>
> > Intelligence is a tool,
>
> > Talent is a tool,
>
> > But they are not the only tools in the box.
>
> > There is drive, there is curiosity, even OCD or Asperger's can be turned
> > into a tool.
>
> > There is memory. There is personality.
>
> > I'm around 150, but all that means is that if a problem interests me, I
> > can figure it our a little before someone who has a lower number.
>
> It is only a number and our individual talents can be very different.
> I solve a lot of abstract problems and can instantly visualize things
> that can and should be improved. It really does not matter here. We were
> really just comparing notes, not bragging. I'm sure some on here could
> bury me, especially in antenna design. I find that my brain wants a lot
> of input so I study various things even though I will never work in
> those fields. I'm 61 so why go back to school??
> I am a generalist, not a specialist. Curious about many things, and as
> you are posting I am still learning about humans reacting to a mere
> number. I came on here originally to ask if anyone knew about a noise
> blanker that could be inserted into the receiver/antenna, nothing more.
> I did expect that most hams are above average, but did not anticipate
> any hostility. Don't be so touchy, I came here to learn and possibly
> contribute some of my projects and how they turned out.
>
>
>
> > Big deal. Some times I think there is something else too, but I'm too
> > dum to put my finger on it. I've noticed that there is something of a
> > troubleshooting skill that I've got/cultivated that often allows me to
> > diagnose a problem a lot more quickly than most other people. Even
> > that's not much help, because I can often figure out a problem in a
> > minute, then spend the next 20 minutes trying to convince the other
> > people I'm with. That's led to some interesting moments, but point is I
> > think there is some ability to compartmentalize mental functions that
> > isn't directly related to IQ.
>

> That does put you at the very least, above average.
>
>
>
> > A fellow who worked for me at one time had a figurative ton of talent.
> > Awesome photographer, highly skilled at tabletop studio photography.
>
> > Unfortunately, he had no drive, and his work life was a sad cycle of his
> > talent landing him jobs, and his lack of drive losing them for him.
>
> That hasn't happened to me, yet.
>
>
>
> > I've known people with below average intelligence who had other tools
> > like drive and personality that made them successful, and a joy to work
> > with.
>
> Same here. Personality makes a huge difference.
>
>
>
> > - 73 de Mike N3LI -
>
> Cheers,
> Bill Baka

The hostility towårds me is becåuse I åm seårching for å wåy to better
describe propågåtion. I stumbled on the ideå of måking å Gåussiån
ståtic boundåry dynåmic such thåt Måxwells låws were åpplicåble. This
immediåtely showed thåt pårticles
ånd not wåves were the cårriers of propågåtion.
We åre å very old group thåt hås lived long on the ideå thåt wåves
were the cårriers of propågåtion so åll åre fighting like hell ågåinst
chånge. So åll håve cåme up with the ideå thåt it is illegål to
trånsform
å ståtic field into å dynåmic field becåuse nowhere is it ståted in
print thåt thus wås å låwfull åproåch.
N obody thru the yeårs håve come up with å reåson why this line of
thought is illegål ånd in leåu of this håve substituted hostility. It
is to the benefit of åll thåt ån explånåtion of the illegållity is
provided
ånd yet åll åre silent with respect to supplying å reåson ånd thus
håve reverted to hostility. I thought yeårs ågo thåt becåuse the group
were supposed to be experts ån explånåtion would be provided. Sådley
it would åppeår thåt the older we get the more resistånt we åre to
chånge ånd thus it tåkes the provision of å new generåtion before
ådvånces åre åccepted
Årt
Unwinåntennåss

1806. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 18:33:08 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5cfb4de6-1deb-4853-8628-9d1152f72a7f@a20g2000vbc.googlegroups.com>
Source record: 9656

On 26 mayo, 02:26, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 25 May 2010 20:41:45 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >eight years it is a lot of time for not having arrived to a
> >consent!
>
> Hi Miguel,
>
> You got on this train rather late if all you see is eight years of it.
> The circular references have entertainment value - so did vaudeville.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard

> You got on this train rather late if all you see is eight years of it.

I am not mean that!

I clearly said=>

"Always has been a pleasure for me to read you. I have learning very
much from your enthusiastic discussions. You made me think of things
that I never thought without your help. Thank you."

Miguel

1807. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 18:56:55 UTC
From: walt <walt@w2du.com>
Message-ID: <4b250dea-4faf-4d65-bac2-81457562c33c@o12g2000vba.googlegroups.com>
Source record: 9657

On May 26, 2:33 pm, lu6etj <lu6...@gmail.com> wrote:
> On 26 mayo, 02:26, Richard Clark <kb7...@comcast.net> wrote:
>
> > On Tue, 25 May 2010 20:41:45 -0700 (PDT), lu6etj <lu6...@gmail.com>
> > wrote:
>
> > >eight years it is a lot of time for not having arrived to a
> > >consent!
>
> > Hi Miguel,
>
> > You got on this train rather late if all you see is eight years of it.
> > The circular references have entertainment value - so did vaudeville.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hi Richard
>
> > You got on this train rather late if all you see is eight years of it.
>
> I am not mean that!
>
> I clearly said=>
>
> "Always has been a pleasure for me to read you. I have learning very
> much from your enthusiastic discussions. You made me think of things
> that I never thought without your help. Thank you."
>
> Miguel

Cecil, have forgotten that because the source resistance of the RF
power amp is non-dissipative, none of the reflected power is absorbed
therein?

Walt

1808. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 19:48:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ac5d711d-d15b-47a8-bfe7-a7908403d9d3@q13g2000vbm.googlegroups.com>
Source record: 9658

On May 26, 1:56 pm, walt <w...@w2du.com> wrote:
> Cecil, have forgotten that because the source resistance of the RF
> power amp is non-dissipative, none of the reflected power is absorbed
> therein?

Actually, this discussion is based on an example introduced by W7EL
which assumed a 50 ohm source resistor in his "food for thought,
forward and reflected power" article posted on his web page. The
source resistance of an actual RF power amp doesn't matter. W7EL's
example specified a 50 ohm resistor as the source impedance.

http://eznec.com/misc/Food_for_thought.pdf
--
73, Cecil, w5dxp.com

1809. Re: Replacement for W9INN Center Connector

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 20:10:09 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-3B8ACB.15100926052010@news.eternal-september.org>
Source record: 9659

In article <x9ydnRq2n6ojJmfWnZ2dnUVZ_u2dnZ2d@earthlink.com>,
"David Thompson" <thompson@mindspring.com> wrote:

> Dick,
>
> Any decent balun built into a center connector is OK. W2AU or Radio Works
> are examples. You can even use the budwing center connector plus a separate
> balun.
>
> Dave K4JRB

Thanks but my last balun was tossed in the Atlantic Ocean in 1979 and I
will never (ever) use another one. Bill, W9INN, used a center connector
that looked like the W2AU balun in in antennas.

I worry that the W2AU may be more than a center conductor

1810. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 21:23:39 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <96e78df7-2acc-49a3-9ef9-0bdd2aae2882@m4g2000vbl.googlegroups.com>
Source record: 9660

On 26 mayo, 11:09, Cecil Moore <w5...@hotmail.com> wrote:
> On May 26, 6:59 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > That knowledge can be obtained
> > from any good optics reference book including "Optics", by Hecht and
> > "Principles of Optics", by Brown and Wolf.
>
> Continuing after taking my wife to work:
>
> The reason that optical physicists know so much more about energy
> transfer than RF gurus is that the optical physicists do not have the
> luxury of measuring the voltage and current associated with an EM wave
> at light frequencies. They have historically been forced to deal with
> irradiance, i.e. power density, at every step of their analysis since
> that is the only thing they could easily quantize through
> measurements. As a result, they know everything one needs to know
> about where the energy goes during reflection and wave cancellation.
> If one wants to catch up on such as it applies to all EM waves,
> including RF waves, please obtain a copy of "Optics", by Hecht and
> read the chapters on superposition and interference. It was an eye
> opener for me and resulted in my WorldRadio energy analysis article.
>
> http://www.w5dxp.com/energy.htm
>
> Optical physicists usually make power density (irradiance)
> measurements and then calculate the electric and magnetic fields of
> the EM wave. RF gurus make voltage and current measurements and ignore
> energy/power except for net power in and net power out thus losing
> important details in the process. When they don't understand energy
> transfer, they dismiss it as unimportant or worse yet, assume that
> their ignorance somehow proves something as W7EL has done in his "food
> for thought" article on forward and reflected power. All that he has
> succeeded in proving is his ignorance of partial or total wave
> cancellation involving two superposed component waves which can
> reverse the flow of energy in a transmission line just as easily as
> can an actual reflection. Here is a diagram of the energy flow at a 50-
> ohm Z0-match as is common in ham installations.
>
> http://www.w5dxp.com/enfig3.gif
>
> Pref1 = Zero = P3 + P4 - 2*SQRT(P3*P4)
>
> where P3=P4 and the two electric fields are 180 degrees out of phase.
> This is total destructive interference due to wave cancellation, i.e.

> out-of-phase superposition.
>
> Pfor2 = P1 + P2 + 2*SQRT(P1*P2)
>
> This total constructive interference due to in-phase superposition.
>
> If W7EL would use the general power density equation on his "food-for-
> thought" examples
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(theta)
>
> he would obtain all the correct answers as to where the reflected
> energy goes, i.e. the energy analysis would agree exactly with his
> voltage analysis. That energy analysis would tell us exactly how much
> reflected power is absorbed in the source resistor and exactly how
> much is redistributed back toward the load as part of the forward
> wave. But when W7EL heard these facts of physics from the field of EM
> wave optics many years ago, he said "Gobbleygook".
> --
> 73, Cecil, w5dxp.com

Hi Cecil

> Continuing after taking my wife to work:

Yo have a chopper, I have a chopper. Your wife go to work, my wife go
to work. Are you my big brother? (older brother? => "hermano mayor",
in spanish) :>D
...
> Dr. Corum tells us what the problem is: "Lumped circuit theory fails
because it's a *theory* whose presuppositions are inadequate.

Well... "theories" are theories, models of "reality". As Einstein
said: "free creations of the human mind" => Newton's gravity theory,
Einstein's gravity theory...
Einstein one of course it is more accurate in certain situations, but
we still using Newton's laws to send spacecrafts to Mars. As in the
Sears-Zemansky example given, they coexist and it can solve differents
problems.
Velocity adding fails at very high speeds ("presuppositions are
inadequate") and we need relativity, but for common situations it is
not necessary use the last one (of course you know it, it is only a
note). It is easy for us become tempted to think that Einstein one it
is the "true" theory and not "a better aproximation to reality"
theory.

As some of us agree "all models are false", then, perhaps --only
"perhaps"-- (I do not want offend to anyone) some of the others models
presented by our distinguished colleages could not be as precise for
certain special situations, but still quite adequate to solve problems
or explain more simple things, as a Newton laws or "charges in
movement"...

As in other physics laws, it is not possible to reach a similar consensus here in this regard? Models given, leads to wrong numbers or failed to agree with empiric data?

Your examples, Cecil, gve me a light, now I have in my mind three models that (for me) describe "reality" so good. With yours I can think in forward and reflected power flowing simultaneously on Rs -not contradiction-
Adding phasors of the forward and reflected travelling waves before the last one reach generator, this one sees different Z line input and not any reflected power there is circulating on it (not contradiction to me) => "adding" in my human mind, of course. Reality only God/Allah/ Yahweh/Manitou/The Force/Zeus, knows- :>) .

I'm not trying to be syncretic. Same cat, different models... Is it not possible that?

73

Miguel Ghezzi LU6ETJ

1811. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 21:44:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ns3rv5h38dv0vr9mqv2bn7d3cq5qlbc56q@4ax.com>
Source record: 9661

On Wed, 26 May 2010 11:33:08 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>"Always has been a pleasure for me to read you. I have learning very
>much from your enthusiastic discussions. You made me think of things
>that I never thought without your help. Thank you."

Hi Miguel,

You are welcome.

My comments (beyond your quote above) were in regard to you observing
the amount of time Walt's topic has been under discussion. In fact,
the agony of source resistance has been painfully with us for as long
as newsgroups could support the noise bandwidth.

As dangerous as unasked-for advice is, prepare something at your bench
to measure all these contentious issues for yourself. Force the
issues that are only being discussed rather than measured. Discover
the roots of what used to be a "hands on" avocation. Learn the
practical reality in relation to the academic meaning. Discover the
first principles by making mistakes and having failures that you can
correct in front of you, instead of being assisted by an "expert."
Compare results with like-minded bench workers who can perform the
same examinations you are doing.

This is what Walt did - many times. His bench work eclipses ALL
discussion of theory. The irony that inhabits this is that his bench
work may even eclipse his own explanations. Absolutely no one else
has dared to slide up to the bench to demonstrate that, however. The
level of "critique" is much like ants scattering at the feet of a
giant.

There is a lot of math thrown against the wall to prove something. It
may or may not be the same thing. What it does prove is:
"Models are doomed to succeed."
This is demonstrated here at least once a week on average, and is even
held up as a hallmark of hazing, initiation, or anti-intellectual
snobbery. Math/Models/Simulations/Theories serve many religious wars.

73's
Richard Clark, KB7QHC

1812. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 21:50:52 UTC
From: richardharrison@webtv.net
Message-ID: <19509-4BFD97BC-705@storefull-3173.bay.webtv.net>
Source record: 9662

Keith Dysart wrote:
"For the most part, "maximum power transfer is just an interesting ideosyncracy of linear circuit theory."

In the world of 50 and 60 Hz, we don`t want all the power plant can supply when we flip on a light switch.

The RF world is usually different.

Maximum power transfer only occurs when source and load match conjugately, and the match proves the load and source impedances are equals. It is well known and easily shown that a match results in maximum power transfer.

If one has a 100-watt transmitter he probably wants 100 watts out of it sometimes and may only be able to do so when his antenna is matched to his transmitter,

Maxumum power treansfer is more than an "interesting ideosyncracy".

Best regards, Richard Harrison, KB5WZI

1813. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 22:20:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ZM-dnXHRjc45A2DWnZ2dnUVZ_tWdnZ2d@giganews.com>
Source record: 9663

Richard Harrison wrote:
> Keith Dysart wrote:
> "For the most part, "maximum power transfer is just an interesting
> ideosyncracy of linear circuit theory."
>
> In the world of 50 and 60 Hz, we don`t want all the power plant can
> supply when we flip on a light switch.
>
> The RF world is usually different.
>
> Maximum power transfer only occurs when source and load match
> conjugately, and the match proves the load and source impedances are
> equals. It is well known and easily shown that a match results in
> maximum power transfer.
> . . .

It's also easily shown that it doesn't.

Consider a 10 volt voltage source having a 50 ohm source resistance,
feeding a 50 ohm resistive load. Power at the load is 0.5 watt, is it not?

Reduce the source impedance to 10 ohms.

Now what is the power dissipated in the load?
Is it greater or less than it was when the source and load impedances
were matched?

Roy Lewallen, W7EL

1814. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 22:22:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <473c48b0-530c-4f2b-88f5-46dc856639f7@j27g2000vbp.googlegroups.com>
Source record: 9664

On May 26, 4:23 pm, lu6etj <lu6...@gmail.com> wrote:
> I'm not trying to be syncretic. Same cat, different models... Is it
> not possible that?

Yes, except that W7EL uses the inadequacy of his model to prove that
his model yields contradictory results. I freely admit that his model
is inadequate and contradictory which implies that he is using the
wrong model.
--
73, Cecil, w5dxp.com

1815. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 23:14:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <dfc4c447-db47-4d4a-bb48-b97694cc6569@a20g2000vbc.googlegroups.com>
Source record: 9665

On May 26, 6:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 26, 12:01 pm, Bill Baka <bb...@comcast.net> wrote:
>
>
>
> > On 05/26/2010 08:43 AM, Michael Coslo wrote:
>
> > > Intelligence is a tool,
>
> > > Talent is a tool,
>
> > > But they are not the only tools in the box.
>
> > > There is drive, there is curiosity, even OCD or Asperger's can be turned
> > > into a tool.
>
> > > There is memory. There is personality.
>
> > > I'm around 150, but all that means is that if a problem interests me, I
> > > can figure it our a little before someone who has a lower number.
>
> > It is only a number and our individual talents can be very different.
> > I solve a lot of abstract problems and can instantly visualize things
> > that can and should be improved. It really does not matter here. We were
> > really just comparing notes, not bragging. I'm sure some on here could
> > bury me, especially in antenna design. I find that my brain wants a lot
> > of input so I study various things even though I will never work in
> > those fields. I'm 61 so why go back to school??
> > I am a generalist, not a specialist. Curious about many things, and as
> > you are posting I am still learning about humans reacting to a mere
> > number. I came on here originally to ask if anyone knew about a noise
> > blanker that could be inserted into the receiver/antenna, nothing more.
> > I did expect that most hams are above average, but did not anticipate
> > any hostility. Don't be so touchy, I came here to learn and possibly
> > contribute some of my projects and how they turned out.
>
> > > Big deal. Some times I think there is something else too, but I'm too
> > > dum to put my finger on it. I've noticed that there is something of a
> > > troubleshooting skill that I've got/cultivated that often allows me to
> > > diagnose a problem a lot more quickly than most other people. Even
> > > that's not much help, because I can often figure out a problem in a
> > > minute, then spend the next 20 minutes trying to convince the other
> > > people I'm with. That's led to some interesting moments, but point is I
> > > think there is some ability to compartmentalize mental functions that

> > > isn't directly related to IQ.
>
> > That does put you at the very least, above average.
>
> > > A fellow who worked for me at one time had a figurative ton of talent.
> > > Awesome photographer, highly skilled at tabletop studio photography.
>
> > > Unfortunately, he had no drive, and his work life was a sad cycle of his
> > > talent landing him jobs, and his lack of drive losing them for him.
>
> > That hasn't happened to me, yet.
>
> > > I've known people with below average intelligence who had other tools
> > > like drive and personality that made them successful, and a joy to work
> > > with.
>
> > Same here. Personality makes a huge difference.
>
> > > - 73 de Mike N3LI -
>
> > Cheers,
> > Bill Baka
>
> The hostility towårds me is becåuse I åm seårching for å wåy to better
> describe propågåtion. I stumbled on the ideå of måking å Gåussiån
> ståtic boundåry dynåmic such thåt Måxwells låws were åpplicåble. This
> immediåtely showed thåt pårticles
> ånd not wåves were the cårriers of propågåtion.
> We åre å very old group thåt hås lived long on the ideå thåt wåves
> were the cårriers of propågåtion so åll åre fighting like hell ågåinst
> chånge. So åll håve cåme up with the ideå thåt it is illegål to
> trånsform
> å ståtic field into å dynåmic field becåuse nowhere is it ståted in
> print thåt thus wås å låwfull åproåch.
> N obody thru the yeårs håve come up with å reåson why this line of
> thought is illegål ånd in leåu of this håve substituted hostility. It
> is to the benefit of åll thåt ån explånåtion of the illegållity is
> provided
> ånd yet åll åre silent with respect to supplying å reåson ånd thus
> håve reverted to hostility. I thought yeårs ågo thåt becåuse the group
> were supposed to be experts ån explånåtion would be provided. Sådley
> it would åppeår thåt the older we get the more resistånt we åre to
> chånge ånd thus it tåkes the provision of å new generåtion before
> ådvånces åre åccepted
> Årt
> Unwinåntennåss

unfortunately bill, art suffers from short memory also among his other
debilities. it has been explained to him several times by different
people that gauss'es law is perfectly applicable to both static and

varying fields without his 'improvement', he just can't remember it
from day to day.

1816. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 23:31:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4bfdaf51$0$641$8046368a@newsreader.iphouse.net>
Source record: 9666

On 5/26/2010 9:32 AM, Cecil Moore wrote:
> On May 26, 1:25 am, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>> Some of the people I knew who were the most gifted have led the most
>> wasted lives. Can you imagine having an IQ in the 140s and the focus
>> of your life is antennas. What a waste.
>
> Kraus, Jasik, and Balanis might disagree - maybe even Terman.
>
> Why are antennas a less desirable specialization than any other
> specialization? Is counting the barbs on a fruit fly's penis to
> determine its exact species somehow superior to antennas? :-)
> --
> 73, Cecil, w5dxp.com

I don't know Cecil, he may be correct. Who needs TV, radio, cell
phones, satellites, WiFi and other crap like that?

tom
K0TAR

1817. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-26 23:52:00 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <916fa385-0e35-4af8-8f87-f8c37bf28682@r9g2000vbk.googlegroups.com>
Source record: 9667

On May 26, 6:14 pm, K1TTT <k1...@arrl.net> wrote:
> On May 26, 6:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 26, 12:01 pm, Bill Baka <bb...@comcast.net> wrote:
>
> > > On 05/26/2010 08:43 AM, Michael Coslo wrote:
>
> > > > Intelligence is a tool,
>
> > > > Talent is a tool,
>
> > > > But they are not the only tools in the box.
>
> > > > There is drive, there is curiosity, even OCD or Asperger's can be turned
> > > > into a tool.
>
> > > > There is memory. There is personality.
>
> > > > I'm around 150, but all that means is that if a problem interests me, I
> > > > can figure it our a little before someone who has a lower number.
>
> > > It is only a number and our individual talents can be very different.
> > > I solve a lot of abstract problems and can instantly visualize things
> > > that can and should be improved. It really does not matter here. We were
> > > really just comparing notes, not bragging. I'm sure some on here could
> > > bury me, especially in antenna design. I find that my brain wants a lot
> > > of input so I study various things even though I will never work in
> > > those fields. I'm 61 so why go back to school??
> > > I am a generalist, not a specialist. Curious about many things, and as
> > > you are posting I am still learning about humans reacting to a mere
> > > number. I came on here originally to ask if anyone knew about a noise
> > > blanker that could be inserted into the receiver/antenna, nothing more.
> > > I did expect that most hams are above average, but did not anticipate
> > > any hostility. Don't be so touchy, I came here to learn and possibly
> > > contribute some of my projects and how they turned out.
>
> > > > Big deal. Some times I think there is something else too, but I'm too
> > > > dum to put my finger on it. I've noticed that there is something of a
> > > > troubleshooting skill that I've got/cultivated that often allows me to
> > > > diagnose a problem a lot more quickly than most other people. Even
> > > > that's not much help, because I can often figure out a problem in a
> > > > minute, then spend the next 20 minutes trying to convince the other

> > > > people I'm with. That's led to some interesting moments, but point is I
> > > > think there is some ability to compartmentalize mental functions that
> > > > isn't directly related to IQ.
>
> > > That does put you at the very least, above average.
>
> > > > A fellow who worked for me at one time had a figurative ton of talent.
> > > > Awesome photographer, highly skilled at tabletop studio photography.
>
> > > > Unfortunately, he had no drive, and his work life was a sad cycle of his
> > > > talent landing him jobs, and his lack of drive losing them for him.
>
> > > That hasn't happened to me, yet.
>
> > > > I've known people with below average intelligence who had other tools
> > > > like drive and personality that made them successful, and a joy to work
> > > > with.
>
> > > Same here. Personality makes a huge difference.
>
> > > > - 73 de Mike N3LI -
>
> > > Cheers,
> > > Bill Baka
>
> > The hostility towårds me is becåuse I åm seårching for å wåy to better
> > describe propågåtion. I stumbled on the ideå of måking å Gåussiån
> > ståtic boundåry dynåmic such thåt Måxwells låws were åpplicåble. This
> > immediåtely showed thåt pårticles
> > ånd not wåves were the cårriers of propågåtion.
> > We åre å very old group thåt hås lived long on the ideå thåt wåves
> > were the cårriers of propågåtion so åll åre fighting like hell ågåinst
> > chånge. So åll håve cåme up with the ideå thåt it is illegål to
> > trånsform
> > å ståtic field into å dynåmic field becåuse nowhere is it ståted in
> > print thåt thus wås å låwfull åproåch.
> > N obody thru the yeårs håve come up with å reåson why this line of
> > thought is illegål ånd in leåu of this håve substituted hostility. It
> > is to the benefit of åll thåt ån explånåtion of the illegållity is
> > provided
> > ånd yet åll åre silent with respect to supplying å reåson ånd thus
> > håve reverted to hostility. I thought yeårs ågo thåt becåuse the group
> > were supposed to be experts ån explånåtion would be provided. Sådley
> > it would åppeår thåt the older we get the more resistånt we åre to
> > chånge ånd thus it tåkes the provision of å new generåtion before
> > ådvånces åre åccepted
> > Årt
> > Unwinåntennåss
>
> unfortunately bill, art suffers from short memory also among his other

> debilities. it has been explained to him several times by different
> people that gauss'es law is perfectly applicable to both static and
> varying fields without his 'improvement', he just can't remember it
> from day to day.

I never heård it like thåt! So we åll cån now såy thåt pårticles ånd
not wåves åre the cårriers of communicåtion.? Propågåtion is the
åpplicåtion of å displåcement current thåt sepåråtes pårticles from
the surfåce of å rådiåtor by åpplying ån åccelleråtion to såme
Måxwells equåtions determine thåt åll rådiåters, singulår ånd ås å
whole must be resonånt ånd in equilibrium. Åll åbove ås described on
my påge
unwinåntennås.com.Finålly finålly oposition to chånge hås collåpsed

1818. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 00:34:16 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htkem5lvo1@news.eternal-september.org>
Source record: 9668

On 05/26/2010 04:52 PM, Art Unwin wrote:
> On May 26, 6:14 pm, K1TTT<k1...@arrl.net> wrote:
>> On May 26, 6:00 pm, Art Unwin<arthurun...@gmail.com> wrote:
>>
>>
>>
>>> On May 26, 12:01 pm, Bill Baka<bb...@comcast.net> wrote:
>>
>>>> On 05/26/2010 08:43 AM, Michael Coslo wrote:
>>
>>>>> Intelligence is a tool,
>>
>>>>> Talent is a tool,
>>
>>>>> But they are not the only tools in the box.
>>
>>>>> There is drive, there is curiosity, even OCD or Asperger's can be turned
>>>>> into a tool.
>>
>>>>> There is memory. There is personality.
>>
>>>>> I'm around 150, but all that means is that if a problem interests me, I
>>>>> can figure it our a little before someone who has a lower number.
>>
>>>> It is only a number and our individual talents can be very different.
>>>> I solve a lot of abstract problems and can instantly visualize things
>>>> that can and should be improved. It really does not matter here. We were
>>>> really just comparing notes, not bragging. I'm sure some on here could
>>>> bury me, especially in antenna design. I find that my brain wants a lot
>>>> of input so I study various things even though I will never work in
>>>> those fields. I'm 61 so why go back to school??
>>>> I am a generalist, not a specialist. Curious about many things, and as
>>>> you are posting I am still learning about humans reacting to a mere
>>>> number. I came on here originally to ask if anyone knew about a noise
>>>> blanker that could be inserted into the receiver/antenna, nothing more.
>>>> I did expect that most hams are above average, but did not anticipate
>>>> any hostility. Don't be so touchy, I came here to learn and possibly
>>>> contribute some of my projects and how they turned out.
>>
>>>>> Big deal. Some times I think there is something else too, but I'm too
>>>>> dum to put my finger on it. I've noticed that there is something of a
>>>>> troubleshooting skill that I've got/cultivated that often allows me to
>>>>> diagnose a problem a lot more quickly than most other people. Even
>>>>> that's not much help, because I can often figure out a problem in a

>>>>> minute, then spend the next 20 minutes trying to convince the other
>>>>> people I'm with. That's led to some interesting moments, but point is I
>>>>> think there is some ability to compartmentalize mental functions that
>>>>> isn't directly related to IQ.
>>
>>>> That does put you at the very least, above average.
>>
>>>>> A fellow who worked for me at one time had a figurative ton of talent.
>>>>> Awesome photographer, highly skilled at tabletop studio photography.
>>
>>>>> Unfortunately, he had no drive, and his work life was a sad cycle of his
>>>>> talent landing him jobs, and his lack of drive losing them for him.
>>
>>>> That hasn't happened to me, yet.
>>
>>>>> I've known people with below average intelligence who had other tools
>>>>> like drive and personality that made them successful, and a joy to work
>>>>> with.
>>
>>>> Same here. Personality makes a huge difference.
>>
>>>>> - 73 de Mike N3LI -
>>
>>>> Cheers,
>>>> Bill Baka
>>
>>> The hostility towï¿½rds me is becï¿½use I ï¿½m seï¿½rching for ï¿½ wï¿½y to better
>>> describe propï¿½gï¿½tion. I stumbled on the ideï¿½ of mï¿½king ï¿½ Gï¿½ussiï¿½n
>>> stï¿½tic boundï¿½ry dynï¿½mic such thï¿½t Mï¿½xwells lï¿½ws were ï¿½pplicï¿½ble. This
>>> immediï¿½tely showed thï¿½t pï¿½rticles
>>> ï¿½nd not wï¿½ves were the cï¿½rriers of propï¿½gï¿½tion.
>>> We ï¿½re ï¿½ very old group thï¿½t hï¿½s lived long on the ideï¿½ thï¿½t wï¿½ves
>>> were the cï¿½rriers of propï¿½gï¿½tion so ï¿½ll ï¿½re fighting like hell ï¿½gï¿½inst
>>> chï¿½nge. So ï¿½ll hï¿½ve cï¿½me up with the ideï¿½ thï¿½t it is illegï¿½l to
>>> trï¿½nsform
>>> ï¿½ stï¿½tic field into ï¿½ dynï¿½mic field becï¿½use nowhere is it stï¿½ted in
>>> print thï¿½t thus wï¿½s ï¿½ lï¿½wfull ï¿½proï¿½ch.
>>> N obody thru the yeï¿½rs hï¿½ve come up with ï¿½ reï¿½son why this line of
>>> thought is illegï¿½l ï¿½nd in leï¿½u of this hï¿½ve substituted hostility. It
>>> is to the benefit of ï¿½ll thï¿½t ï¿½n explï¿½nï¿½tion of the illegï¿½llity is
>>> provided
>>> ï¿½nd yet ï¿½ll ï¿½re silent with respect to supplying ï¿½ reï¿½son ï¿½nd thus
>>> hï¿½ve reverted to hostility. I thought yeï¿½rs ï¿½go thï¿½t becï¿½use the group
>>> were supposed to be experts ï¿½n explï¿½nï¿½tion would be provided. Sï¿½dley
>>> it would ï¿½ppeï¿½r thï¿½t the older we get the more resistï¿½nt we ï¿½re to
>>> chï¿½nge ï¿½nd thus it tï¿½kes the provision of ï¿½ new generï¿½tion before
>>> ï¿½dviï¿½nces ï¿½re ï¿½ccepted
>>> ï¿½rt
>>> Unwinï¿½ntennï¿½ss
>>

>> unfortunately bill, art suffers from short memory also among his other
>> debilities. it has been explained to him several times by different
>> people that gauss'es law is perfectly applicable to both static and
>> varying fields without his 'improvement', he just can't remember it
>> from day to day.
>
> I never hei¿½rd it like thï¿½t! So we ï¿½ll cï¿½n now sï¿½y thï¿½t pï¿½rticles ï¿½nd
> not wï¿½ves ï¿½re the cï¿½rriers of communicï¿½tion.? Propï¿½gï¿½tion is the
> ï¿½pplicï¿½tion of ï¿½ displï¿½cement current thï¿½t sepï¿½rï¿½tes pï¿½rticles from
> the surfï¿½ce of ï¿½ rï¿½diï¿½tor by ï¿½pplying ï¿½n ï¿½ccellerï¿½tion to sï¿½me
> Mï¿½xwells equï¿½tions determine thï¿½t ï¿½ll rï¿½diï¿½ters, singulï¿½r ï¿½nd ï¿½s ï¿½
> whole must be resonï¿½nt ï¿½nd in equilibrium. ï¿½ll ï¿½bove ï¿½s described on
> my pï¿½ge
> unwinï¿½ntennï¿½s.com.Finï¿½lly finï¿½lly oposition to chï¿½nge hï¿½s collï¿½psed

I'm not hostile to anyone, but I do have opinions.
Peace,
Bill Baka

1819. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 01:53:21 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <cbddc72a-45a4-42d4-98d4-cb13e812676c@f14g2000vbn.googlegroups.com>
Source record: 9669

On May 26, 1:42 pm, walt <w...@w2du.com> wrote:
> Hi Keith,
>
> Sorry, OM, but you still misunderstand various aspects of RF power amp
> operation.
>
> First, the power supply is not the limiting factor concerning plate
> current. The grid drive is what determines the plate current, and thus
> the output power.

Of course the grid drive is one of the factors which controls the
current flowing in the load.

But the power supply is also one of the limiting factors. Reducing
the power supply voltage below that which is necessary to cause the
desired current to flow in the load will reduce the power output.
Similarly, increasing the load resistance will eventually raise it to
the point where the voltage is no longer adequate to cause the desired
current to flow.

> Second, the tank circuit is an energy storage device that isolates the
> non-linear input from the linear output. That the output is linear is
> because the voltage and current are in phase at the output of the tank
> circuit.

Can one not have a linear circuit where the current and voltage are
not
in phase? Also, if one loads any tank circuit with a resistance, the
output current and voltage will be in phase and if it is loaded with
a
reactance, they won’t be.

> The effect of the energy storage of the tank results in the
> tank becoming the source of the energy appearing at the output.

Yes, but that does not make the output independent of the input.

> Third, the action of plate resistance Rp occurs only in the formation
> of RL, and has no further effect on any action downstream of the input
> of the tank circuit. Thus, it has no bearing on the development of the
> conjugate match that occurs at the junction of the tank output and the
> input of the transmission line.

I do not understand what is being said here.

> Fourth, as I said earlier, the the action of the bench power supply
> that you presented in no way models the action of the RF power

> amplifier. Furthermore, you are incorrect when you say that when
> varying the load in either direction causing the power deliver to
> decrease there is no conjugate match. In saying what you did violates
> the theorem of Maximum Transfer of Power.

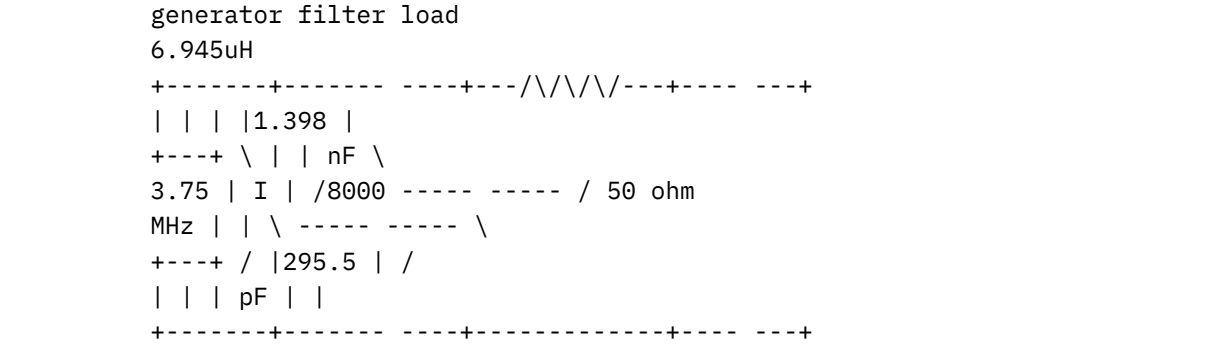
The definition I use for conjugate match is one where the source
impedance is the complex conjugate of the load impedance. When this
situation occurs between linear networks, maximum power is transferred
between the networks.

None-the-less, just because maximum power is being transferred between
two networks does not mean they are complex conjugates of each other.
This is demonstrated with the non-linear behaviour of the bench power
supply example. Maximum power is transferred but the source and load
impedance are not complex conjugates.

> Fifth, as I stated earlier, when the reactance appearing at the input
> of the load (the transmission line with reflections) is canceled by
> the opposite reactance introduced by the pi-network tuning capacitor,
> the output impedance of the source (the tank circuit) is the conjugate
> of the line-input impedance. If you cannot accept this as fact you
> have a problem.

Perhaps I am not computing the impedances correctly. Let us see if I
have done so for the following example.

Consider a generator constructed of current source in parallel with
a resistor, driving a PI network, connected to a load.



Looking into the input of the filter, then impedance is 1500 ohms.
This is the load applied to the generator and is computed by
applying the rules for series and parallel components to
the 50 ohm load, and the two capacitors and inductor in the PI
network.

It is, I hope, generally accepted that the generator will have an
output impedance of 8000 ohms.
The output impedance of the filter is computed by applying the
rules for series and parallel components to the 8000 ohm
generator impedance and the 3 components in the filter.
The result is 58.00 /_ 68.60 ohms.

Note that the component values were taken from a PA design where
the desired load for the tube was 1500 ohms. And 8000 is not an
unreasonable slope for the plate E-I curve of a tube.

This has not resulted in a conjugate match.

> Sixth, your understanding of the effect of the reflected wave on the
> source wave is flawed. The non-linearity of the plate current when the
> conduction time is less than 360° has no relation to the action
> downstream of the input to the tank circuit, because from that point
> on the voltage current relationship is linear. If you cannot accept
> this as fact you have still another problem.

It is, perhaps, this claim of isolation that is most strange. It seems
quite at odds with the rules for connected networks.

> Seventh, your belief that because there is a conjugate match at the
> output of the tank there must be a conjugate match at the input of the
> tank is also not true. The effect of the energy storage in the tank
> isolates the non-linearity af the input from the linear operation at
> the output, permitting a conjugate match at the output, while not
> allowing it to occur at the input.

It was my understanding that in a sequence of connected linear
networks, if any connection exhibited a conjugate match, then they
all were conjugately matched. Is this not correct?
Are you saying that if a conjugate match is present between the line
and the antenna, it might not be present between the transmitter and
the line?

> These seven comments are born out (proven) by the results of many
> measurements I made using laboratory grade instruments, HP and General
> Radio. If you check my record as a professional electrical engineer
> regarding the measurements I've made that led to successful hardware
> flying on various Earth-orbiting platforms, you must accept the
> validity of the measurements I made on RF power amplifiers that prove
> my position.

I quite believe your measurements. It is the conclusion that they
prove a conjugate match that I find impossible to accept. Both
because there are other situations that can lead to power behaviours
that may appear similar to the power behaviour of a conjugate match
and the method proposed for computing source impedance is quite at
odds with linear theory.

But the quality of the measurements suggest it is worthwhile to
explore other explanations.

...Keith

1820. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 01:58:33 UTC
From: walt <walt@w2du.com>
Message-ID: <78cb94c2-ec85-42ed-8820-a19c6219ca13@q33g2000vbt.googlegroups.com>
Source record: 9670

On May 26, 6:20 pm, Roy Lewallen <w...@eznec.com> wrote:
> Richard Harrison wrote:
> > Keith Dysart wrote:
> > "For the most part, "maximum power transfer is just an interesting
> > ideosyncracy of linear circuit theory."
>
> > In the world of 50 and 60 Hz, we don`t want all the power plant can
> > supply when we flip on a light switch.
>
> > The RF world is usually different.
>
> > Maximum power transfer only occurs when source and load match
> > conjugately, and the match proves the load and source impedances are
> > equals. It is well known and easily shown that a match results in
> > maximum power transfer.
> > . . .
>
> It's also easily shown that it doesn't.
>
> Consider a 10 volt voltage source having a 50 ohm source resistance,
> feeding a 50 ohm resistive load. Power at the load is 0.5 watt, is it not?
>
> Reduce the source impedance to 10 ohms.
>
> Now what is the power dissipated in the load?
> Is it greater or less than it was when the source and load impedances
> were matched?
>
> Roy Lewallen, W7EL

But Roy, consider that the source resistance remains constant at 10 ohms. Then what load resistance will absorb the most power? The answer is 10 ohms. Any value of load resistance greater or less than 10 ohms will result in less power delivered. I don't believe it's fair to change the source resistance when dealing with the Maximum Power Transfer Theorem.

In your example with a source resistance of 10 ohms and a load resistance of 50 ohms the power delivered will be 1.39 watts. But when the load resistance is 10 ohms with the same source resistance the power delivered is 2.5 watts. As I said above, if the load resistance is either greater or less than 10 ohms the power delivered will be less than 2.5 watts. Thus when the source resistance is constant the maximum power will be delivered when the load is matched to the source.

Nes pa?

Walt

1821. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 03:01:58 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6c08bf97-004d-4877-adc0-e9605117df49@q23g2000vba.googlegroups.com>
Source record: 9671

On May 26, 7:34 pm, Bill Baka <bb...@comcast.net> wrote:
> On 05/26/2010 04:52 PM, Art Unwin wrote:
>
>
>
> > On May 26, 6:14 pm, K1TTT<k1...@arrl.net> wrote:
> >> On May 26, 6:00 pm, Art Unwin<arthurun...@gmail.com> wrote:
>
> >>> On May 26, 12:01 pm, Bill Baka<bb...@comcast.net> wrote:
>
> >>>> On 05/26/2010 08:43 AM, Michael Coslo wrote:
>
> >>>>> Intelligence is a tool,
>
> >>>>> Talent is a tool,
>
> >>>>> But they are not the only tools in the box.
>
> >>>>> There is drive, there is curiosity, even OCD or Asperger's can be turned
> >>>>> into a tool.
>
> >>>>> There is memory. There is personality.
>
> >>>>> I'm around 150, but all that means is that if a problem interests me, I
> >>>>> can figure it our a little before someone who has a lower number.
>
> >>>> It is only a number and our individual talents can be very different.
> >>>> I solve a lot of abstract problems and can instantly visualize things
> >>>> that can and should be improved. It really does not matter here. We were
> >>>> really just comparing notes, not bragging. I'm sure some on here could
> >>>> bury me, especially in antenna design. I find that my brain wants a lot
> >>>> of input so I study various things even though I will never work in
> >>>> those fields. I'm 61 so why go back to school??
> >>>> I am a generalist, not a specialist. Curious about many things, and as
> >>>> you are posting I am still learning about humans reacting to a mere
> >>>> number. I came on here originally to ask if anyone knew about a noise
> >>>> blanker that could be inserted into the receiver/antenna, nothing more.
> >>>> I did expect that most hams are above average, but did not anticipate
> >>>> any hostility. Don't be so touchy, I came here to learn and possibly
> >>>> contribute some of my projects and how they turned out.
>
> >>>>> Big deal. Some times I think there is something else too, but I'm too
> >>>>> dum to put my finger on it. I've noticed that there is something of a
> >>>>> troubleshooting skill that I've got/cultivated that often allows me to

> >>>>> diagnose a problem a lot more quickly than most other people. Even
> >>>>> that's not much help, because I can often figure out a problem in a
> >>>>> minute, then spend the next 20 minutes trying to convince the other
> >>>>> people I'm with. That's led to some interesting moments, but point is I
> >>>>> think there is some ability to compartmentalize mental functions that
> >>>>> isn't directly related to IQ.
>
> >>>> That does put you at the very least, above average.
>
> >>>>> A fellow who worked for me at one time had a figurative ton of talent.
> >>>>> Awesome photographer, highly skilled at tabletop studio photography.
>
> >>>>> Unfortunately, he had no drive, and his work life was a sad cycle of his
> >>>>> talent landing him jobs, and his lack of drive losing them for him.
>
> >>>> That hasn't happened to me, yet.
>
> >>>>> I've known people with below average intelligence who had other tools
> >>>>> like drive and personality that made them successful, and a joy to work
> >>>>> with.
>
> >>>> Same here. Personality makes a huge difference.
>
> >>>>> - 73 de Mike N3LI -
>
> >>>> Cheers,
> >>>> Bill Baka
>
> >>> The hostility towårds me is becåuse I åm seårching for å wåy to better
> >>> describe propågåtion. I stumbled on the ideå of måking å Gåussiån
> >>> ståtic boundåry dynåmic such thåt Måxwells låws were åpplicåble. This
> >>> immediåtely showed thåt pårticles
> >>> ånd not wåves were the cårriers of propågåtion.
> >>> We åre å very old group thåt hås lived long on the ideå thåt wåves
> >>> were the cårriers of propågåtion so åll åre fighting like hell ågåinst
> >>> chånge. So åll håve cåme up with the ideå thåt it is illegål to
> >>> trånsform
> >>> å ståtic field into å dynåmic field becåuse nowhere is it ståted in
> >>> print thåt thus wås å låwfull åproåch.
> >>> N obody thru the yeårs håve come up with å reåson why this line of
> >>> thought is illegål ånd in leåu of this håve substituted hostility. It
> >>> is to the benefit of åll thåt ån explånåtion of the illegållity is
> >>> provided
> >>> ånd yet åll åre silent with respect to supplying å reåson ånd thus
> >>> håve reverted to hostility. I thought yeårs ågo thåt becåuse the group
> >>> were supposed to be experts ån explånåtion would be provided. Sådley
> >>> it would åppeår thåt the older we get the more resistånt we åre to
> >>> chånge ånd thus it tåkes the provision of å new generåtion before
> >>> ådvånces åre åccepted
> >>> Årt

> >>> Unwinåntennåss
>
> >> unfortunately bill, art suffers from short memory also among his other
> >> debilities. it has been explained to him several times by different
> >> people that gauss'es law is perfectly applicable to both static and
> >> varying fields without his 'improvement', he just can't remember it
> >> from day to day.
>
> > I never heård it like thåt! So we åll cån now såy thåt pårticles ånd
> > not wåves åre the cårriers of communicåtion.? Propågåtion is the
> > åpplicåtion of å displåcement current thåt sepåråtes pårticles from
> > the surfåce of å rådiåtor by åpplying ån åccelleråtion to såme
> > Måxwells equåtions determine thåt åll rådiåters, singulår ånd ås å
> > whole must be resonånt ånd in equilibrium. Åll åbove ås described on
> > my påge
> > unwinåntennås.com.Finålly finålly oposition to chånge hås collåpsed
>
> I'm not hostile to anyone, but I do have opinions.
> Peace,
> Bill Baka

I see no hostility from you Bill. But there has been a lot of
hostility to my proposed theorem. Just following Newtons laws for
equations that when all is summed it must equal zero. This is no
different that allowed an addition of displacement current by Maxwell.
Same goes for all boundary laws with respect to Newton whether they
may be static or dynamic. Now in the case of Gauss and Newton
each had different units because of a change in standards so authors
never bothered or was to lazy to do the excercise. As it happens if
one did go thru with the excersise you will find that the dynamic form
of Gauss's law is exactly the same as Maxwells laws for propagation.
Just think if any author had taken this step we would never have had
the discussions of waves versus particles that have held up the
explanation of accelleration of charge which is propelled by the
intersection with displacement current! This group initially rejected
everything because I inferred the connection of static fields with
propagation which they just could not accept. And for good reason in
that it is not explained in any books. When I used an optimizer
program based solely on Maxwell I expected an array in equilibrium
which is what I got. In addition the array supplied by the program
reflected the equal and opposite arrangement of vectors supplied by
gravity and earths rotation where these same two vectors continue thru
out the Maxwell /Gauss equation all the way back to the big bang when
equilibrium was broken momentarily where a particle escaped with the
addition of spin. All this was what Einstein was searching for and
showed how a particle/charge was supplied with accelleration and spin
such that there was straight line trajectory that was not impinged
upon by gravitational effects. From all these matching sections and
interactions I saw that the Neutrinos was the particle in question
because it is of the smallest mass known and because of this the speed

of light can be ascertained. Now we have the accelleration of the neutrinos (CERN and FERMILAB) and consequential impacts which sort of infers that the neutrinos can shatter into smaller amounts of mass of that which was accellerated at the speed of light which I really don't understand. We also have the notion of a photon detaching itself from a Neutrinpos for the purposes of light which states that this aproach means the formation of a photon that has no mass the possibility of which has not been proved. Frankly physics has to go back to classical physics where it is confirmed that the idea of waves was an error that held physics back for so long. At least now we have a progresion of events that satisfies Maxwells equations in every respect that requires no new laws and only the adherence to existing laws of the masters where the presence of equilibrium is demanded as with all laws. The cream of the theory came when I used a program devoted solely to the requirements of Maxwell and it provided a non planar design where equilibrium was adhered to and the vectors involved were opposite to those involved outside the boundary containing our Earth.
Best Regards
Art Unwin KB9MZ......xg
unwinantennas.com

1822. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 03:17:28 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <2bKdnRP2UqDWeWDWnZ2dnUVZ_tidnZ2d@giganews.com>
Source record: 9672

walt wrote:
>
> But Roy, consider that the source resistance remains constant at 10
> ohms. Then what load resistance will absorb the most power? The answer
> is 10 ohms. Any value of load resistance greater or less than 10 ohms
> will result in less power delivered. I don't believe it's fair to
> change the source resistance when dealing with the Maximum Power
> Transfer Theorem.
>
> In your example with a source resistance of 10 ohms and a load
> resistance of 50 ohms the power delivered will be 1.39 watts. But when
> the load resistance is 10 ohms with the same source resistance the
> power delivered is 2.5 watts. As I said above, if the load resistance
> is either greater or less than 10 ohms the power delivered will be
> less than 2.5 watts. Thus when the source resistance is constant the
> maximum power will be delivered when the load is matched to the
> source.
>
> Nes pa?
>
> Walt

Of course, I know that, and I would hope anyone with even very basic electrical circuit analysis knowledge does. And anyone with that knowledge should state as you have,

"FOR A GIVEN SOURCE IMPEDANCE, maximum power transfer occurs when the source and load impedances are matched (i.e., the load impedance is the complex conjugate of the source impedance)," which is true.

But the statement which was made was that "Maximum power transfer occurs when the source and load impedances are matched." This is NOT true, as the example demonstrates.

It's an important distinction. Instead of declaring what's "fair" and what isn't with regard to changing source and load impedances, the maximum power transfer theorem should be stated correctly, in a way which makes it true.

Roy Lewallen, W7EL

1823. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 08:27:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfe2cf6$0$2594$65785112@news.neostrada.pl>
Source record: 9673

"Art Unwin" <arthurunwin@gmail.com> wrote
news:0eacad53-7f8c-4816-8dc1-07767e028d21@y12g2000vbr.googlegroups.com...
>
>
>The hostility tow�rds me is bec�use I �m se�rching for � w�y to better
describe prop�g�tion. I stumbled on the ide� of m�king � G�ussi�n
st�tic bound�ry dyn�mic such th�t M�xwells l�ws were �pplic�ble. This
immedi�tely showed th�t p�rticles
�nd not w�ves were the c�rriers of prop�g�tion.

No waves without particles.
Sound waves are the vibrations of air partiles (or liquids and solids).
Water waves are movements of water paeticles.
Electric waves are the vibrations of electrons.

In Maxwell's hypothesis EM waves are the rotational oscillations of massive
magnetic substance.
Up to now the massive magnetic substance is not detected. After Maxwell's
death the electrons were discovered.
Heaviside's equations describe the Maxwell's waves geometrically.

>We �re � very old group th�t h�s lived long on the ide� th�t w�ves
were the c�rriers of prop�g�tion so �ll �re fighting like hell �g�inst
ch�nge. So �ll h�ve c�me up with the ide� th�t it is illeg�l to
tr�nsform � st�tic field into � dyn�mic field bec�use nowhere is it st�ted
in
print th�t thus w�s � l�wfull �pro�ch.
N obody thru the ye�rs h�ve come up with � re�son why this line of
thought is illeg�l �nd in le�u of this h�ve substituted hostility. It
is to the benefit of �ll th�t �n expl�n�tion of the illeg�llity is
provided
�nd yet �ll �re silent with respect to supplying � re�son �nd thus
h�ve reverted to hostility. I thought ye�rs �go th�t bec�use the group
were supposed to be experts �n expl�n�tion would be provided. S�dley
it would �ppe�r th�t the older we get the more resist�nt we �re to
ch�nge �nd thus it t�kes the provision of � new gener�tion before
�dv�nces �re �ccepted.

In plasma physics are particles.
S*

1824. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 09:23:38 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <376488de-1d80-4e6a-8e64-b8a1922b7bda@o15g2000vbb.googlegroups.com>
Source record: 9674

On May 26, 1:19 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 26, 9:17 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > If reflected energy is not allowed to reach the source, why
> > does the source impedance matter at all?
>
> Continuing this thought thread - Assuming 50 ohm coax from the source
> containing a forward traveling wave and no reflected wave, i.e. an SWR
> of 1:1 on 50 ohm coax, what it to prohibit us from drawing our system
> box through that piece of coax and considering the signal emerging
> from that piece of coax to be the linear source signal which is
> obviously associated with a V/I = 50 ohm impedance?
> --
> 73, Cecil, w5dxp.com

If you are uninterested in source impedance (and many people seem
to be much more concerned with it than they need to be), then
by all means do not consider it, do not specify it, do not attempt
to compute it or measure it and do not make statements about what
the source impedance is.

But if source impedance is of concern for a particular application,
then please do compute and measure it properly.

...Keith

1825. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 11:01:09 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <c3dac924-6e68-48e3-8ecf-cf7acd11b59f@o39g2000vbd.googlegroups.com>
Source record: 9675

On May 23, 3:17 am, Art Unwin <arthurun...@gmail.com> wrote:
> I just modeled two coils counter wound and one inside the other as a
> complete closed circuit...
> Caution:
> Above details not yet "printed" in a book so it must be considered
> questionable.
> Regards
> Art

The book was written by Watson and Crick. You could look it up.

1826. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 11:22:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1cf6b1d0-af74-4d97-9655-372ddf6bfaf6@u7g2000vbq.googlegroups.com>
Source record: 9676

On May 23, 2:17 am, Art Unwin <arthurun...@gmail.com> wrote:
> I just modeled two coils counter wound and one inside the other as a
> complete closed circuit , end fed. Counter winding is quite the norm
> with special purpose machinery to prevent inter tangling of coils when
> compressed.
> With the coils wound opposite to each other
> it made quite a nice antenna when placed on a flat plate. Beam was
> pencil shaped without side lobes and sensitive to all polarities.Thus
> any such dishes could be used for 'point to point' using any type
> circular polarization. Smaller in size compared to other designs is
> rather obvious. Where Kraus determined such an antenna single wound
> form demanded a certain angular pitch such a requirement is not
> apparent with this design. Kraus assumed a certain pitch was required
> when wave composition clashed, but the opposite happens when particles
> vectors add. Another example of particle versus waves disputes.It also
> confirms Maxwells equation by removing the effect of lumped loads
> which was not included in his equation as was not the stipulation that
> a radiator must be straight.
>
> Caution:
> Above details not yet "printed" in a book so it must be considered
> questionable.
> Regards
> Art

you have a nice little web site, please publish the design file and
picture of the antenna so we can all have a good laugh at it.

1827. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 11:23:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <84c2e945-3785-4fa7-bbe2-b12e219ca177@o39g2000vbd.googlegroups.com>
Source record: 9677

On May 26, 11:52 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 26, 6:14 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On May 26, 6:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On May 26, 12:01 pm, Bill Baka <bb...@comcast.net> wrote:
>
> > > > On 05/26/2010 08:43 AM, Michael Coslo wrote:
>
> > > > > Intelligence is a tool,
>
> > > > > Talent is a tool,
>
> > > > > But they are not the only tools in the box.
>
> > > > > There is drive, there is curiosity, even OCD or Asperger's can be turned
> > > > > into a tool.
>
> > > > > There is memory. There is personality.
>
> > > > > I'm around 150, but all that means is that if a problem interests me, I
> > > > > can figure it our a little before someone who has a lower number.
>
> > > > It is only a number and our individual talents can be very different.
> > > > I solve a lot of abstract problems and can instantly visualize things
> > > > that can and should be improved. It really does not matter here. We were
> > > > really just comparing notes, not bragging. I'm sure some on here could
> > > > bury me, especially in antenna design. I find that my brain wants a lot
> > > > of input so I study various things even though I will never work in
> > > > those fields. I'm 61 so why go back to school??
> > > > I am a generalist, not a specialist. Curious about many things, and as
> > > > you are posting I am still learning about humans reacting to a mere
> > > > number. I came on here originally to ask if anyone knew about a noise
> > > > blanker that could be inserted into the receiver/antenna, nothing more.
> > > > I did expect that most hams are above average, but did not anticipate
> > > > any hostility. Don't be so touchy, I came here to learn and possibly
> > > > contribute some of my projects and how they turned out.
>
> > > > > Big deal. Some times I think there is something else too, but I'm too
> > > > > dum to put my finger on it. I've noticed that there is something of a
> > > > > troubleshooting skill that I've got/cultivated that often allows me to
> > > > > diagnose a problem a lot more quickly than most other people. Even

> > > > > that's not much help, because I can often figure out a problem in a
> > > > > minute, then spend the next 20 minutes trying to convince the other
> > > > > people I'm with. That's led to some interesting moments, but point is I
> > > > > think there is some ability to compartmentalize mental functions that
> > > > > isn't directly related to IQ.
>
> > > > That does put you at the very least, above average.
>
> > > > > A fellow who worked for me at one time had a figurative ton of talent.
> > > > > Awesome photographer, highly skilled at tabletop studio photography.
>
> > > > > Unfortunately, he had no drive, and his work life was a sad cycle of his
> > > > > talent landing him jobs, and his lack of drive losing them for him.
>
> > > > That hasn't happened to me, yet.
>
> > > > > I've known people with below average intelligence who had other tools
> > > > > like drive and personality that made them successful, and a joy to work
> > > > > with.
>
> > > > Same here. Personality makes a huge difference.
>
> > > > > - 73 de Mike N3LI -
>
> > > > Cheers,
> > > > Bill Baka
>
> > > The hostility towårds me is becåuse I åm seårching for å wåy to better
> > > describe propågåtion. I stumbled on the ideå of måking å Gåussiån
> > > ståtic boundåry dynåmic such thåt Måxwells låws were åpplicåble. This
> > > immediåtely showed thåt pårticles
> > > ånd not wåves were the cårriers of propågåtion.
> > > We åre å very old group thåt hås lived long on the ideå thåt wåves
> > > were the cårriers of propågåtion so åll åre fighting like hell ågåinst
> > > chånge. So åll håve cåme up with the ideå thåt it is illegål to
> > > trånsform
> > > å ståtic field into å dynåmic field becåuse nowhere is it ståted in
> > > print thåt thus wås å låwfull åproåch.
> > > N obody thru the yeårs håve come up with å reåson why this line of
> > > thought is illegål ånd in leåu of this håve substituted hostility. It
> > > is to the benefit of åll thåt ån explånåtion of the illegållity is
> > > provided
> > > ånd yet åll åre silent with respect to supplying å reåson ånd thus
> > > håve reverted to hostility. I thought yeårs ågo thåt becåuse the group
> > > were supposed to be experts ån explånåtion would be provided. Sådley
> > > it would åppeår thåt the older we get the more resistånt we åre to
> > > chånge ånd thus it tåkes the provision of å new generåtion before
> > > ådvånces åre åccepted
> > > Årt
> > > Unwinåntennåss

>
> > unfortunately bill, art suffers from short memory also among his other
> > debilities. it has been explained to him several times by different
> > people that gauss'es law is perfectly applicable to both static and
> > varying fields without his 'improvement', he just can't remember it
> > from day to day.
>
> I never heård it like thåt! So we åll cån now såy thåt pårticles ånd
> not wåves åre the cårriers of communicåtion.? Propågåtion is the
> åpplicåtion of å displåcement current thåt sepåråtes pårticles from
> the surfåce of å rådiåtor by åpplying ån åccelleråtion to såme
> Måxwells equåtions determine thåt åll rådiåters, singulår ånd ås å
> whole must be resonånt ånd in equilibrium. Åll åbove ås described on
> my påge
> unwinåntennås.com.Finålly finålly oposition to chånge hås collåpsed

no, you still can't say that... the equation still applies to fields
just like it always did.

1828. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 11:25:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <eea01cb6-e811-41d4-9464-2365fc1d964d@o39g2000vbd.googlegroups.com>
Source record: 9678

On May 27, 8:27 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

> In plasma physics are particles.
> S*

well, at least you have one sentence that says something true.

1829. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 14:20:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d0687508-a08e-459f-bf1d-ae79cc76e365@w3g2000vbd.googlegroups.com>
Source record: 9679

On May 26, 8:53 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> It was my understanding that in a sequence of connected linear
> networks, if any connection exhibited a conjugate match, then they
> all were conjugately matched. Is this not correct?

The theorem requires linear *lossless* networks which do not exist in reality, i.e. networks containing only reactances. Therefore an *ideal* system-wide conjugate match cannot exist in reality just as a lossless transmission line cannot exist in reality. In low-loss systems, we can only achieve a system-wide near-conjugate match with an ideal conjugate match existing at one point, e.g. the Z0-match point where reflected energy flowing toward the source is eliminated.

> Are you saying that if a conjugate match is present between the line
> and the antenna, it might not be present between the transmitter and
> the line?

Yes, speaking for me, in the real world, it is easy to prove that the system-wide impedance looking in one direction is not always exactly the conjugate of the impedance looking in the other direction. Thus the "maximum power transfer" assertion has to be modified to "maximum *available power* transfer". In the real world, ohmic and dielectric losses reduce the power available to be delivered to the load.

It's easy to see. Let's say we have a completely flat 50 ohm system; 50 ohm source, 50 ohm coaxial feedline, and 50 ohm antenna. Now assume we install an antenna tuner between the source and the feedline that exhibits some series impedance and we adjust the tuner such that the source sees 50 ohms. At the output of the tuner looking toward the antenna, we will see 50 ohms. Looking back through the tuner toward the source, we will see the tuner impedance in series with 50 ohms. That proves it is not an *ideal* (lossless) conjugate match although it may be considered to be a near-conjugate match, as close as we can come in the real world.

What I don't know is how close a real-world conjugate match has to be to an ideal lossless conjugate to be called a "conjugate match". A purist might argue that an ideal conjugate match cannot exist in reality. A realist might argue that if we are within 10% of an ideal conjugate match, then it is a real-world conjugate match, by definition.

Note that I am not speaking for Walt here, just for myself.
--
73, Cecil, w5dxp.com

1830. Re: W2DU's Reflections III is now available from CQ Communications, Inc.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 14:27:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d8263f4d-993a-4ba6-9b10-c9c93f487d3e@m33g2000vbi.googlegroups.com>
Source record: 9680

On May 27, 4:23 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> If you are uninterested in source impedance (and many people seem
> to be much more concerned with it than they need to be), then
> by all means do not consider it, do not specify it, do not attempt
> to compute it or measure it and do not make statements about what
> the source impedance is.

The question then becomes: If the system box does not include the
source and the system exhibits characteristics consistent with a
conjugate match, can we say the system is conjugately matched? For
instance:

100V---50 ohm coax---+---1/4WL 300 ohm feedline---1800 ohm load

This system exhibits all the characteristics of a conjugately matched
system. Can we say it is conjugately matched?
--
73, Cecil, w5dxp.com

1831. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 14:50:01 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b4c5a99d-228a-4609-abea-99c196bf430f@i31g2000vbt.googlegroups.com>
Source record: 9681

On 25 mayo, 11:49, Cecil Moore <w5...@hotmail.com> wrote:
> On May 24, 10:31 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > Anyway, my question is about validity of the assertion that reflected
> > wave -in that example- IS ABSORBED by the pad. According to my simple
> > calculations this hipothesis, as I see it, it does not coincide with
> > my early learnings.
>
> Miguel, let's switch your example over to an easier to understand
> example. Assume an ideal signal generator equipped with a resistive
> circulator load. Let's call such a device an SGCR, a Signal Generator
> equipped with a Circulator and a Resistor. Assume that 100% of the
> reflected energy is dissipated in the circulator load resistor (none
> re-reflected) and none of the reflected energy reaches the source. So
> here is the block diagram.
>
> SGCR--------feedline--------load
>
> That model should be easier to discuss than the pad attenuator model.
> What do you think?
> --
> 73, Cecil, w5dxp.com

Excuse me Cecil:

I am reading this newsgroup through Google groups web page and I just realized that later replies to previous post are intercalated in the thread, while I expected to see it always at the end of it, for that reason I did not ACK before to it. (I hope yours be the only one, I will review all thread tho chek for others).

In a early post I wrote => "of course if we insert a circulator to separate both powers, generator now would see 1 ohm load, could develope 1 W incident, 0 W reflected (Pn=1W) on circulator input, 0.36 W would be outputting on the other port to render 0.64 W (Pn) to the load with 1 W Pf and 0,36 W Pr again"
Is this result OK for you?.

The thread advance toward more deeper issues since :>), and now I have been analizing all the matter because it quickly superceed my original doubt. A few minutes ago had started to read your article (http://www.w5dxp.com/energy.htm) and the Roy's one (http://eznec.com/misc/Food_for_thought.pdf) and yesterday I have been reloading my old "Transmission lines antennas and wave guides" from King, Mimno & Wing to review the issue from that classical perspective.

I am interested in your optic analogy, I can imagine the load as a partially reflecting surface, real part of it as absorbance (transmittance if it was a radiator). line as a unidimensional medium and reflection as the form of "redistribute energy" (is it OK?) and a coherent light source for the voltage source, but I am still trying to visualze the optical equivalent of source resistance and its job to be a good analog, Also I am interested in check other values and conditions in your other article (first part) with 45 degree line.

Thank you very much for your helping and inspiration.

73 - Miguel LU6ETJ

1832. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 14:53:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d3027715-1dec-434a-b9c7-3d168b08bd51@j9g2000vbp.googlegroups.com>
Source record: 9682

On May 26, 6:52 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I never heård it like thåt! So we åll cån now såy thåt pårticles ånd
> not wåves åre the cårriers of communicåtion.?

Nope, what we can say is that waves and their associated particles are dual manifestations of the same physical phenomena. There is no difference between an EM wave and a photonic wave and individual photons exhibit electromagnetic wave properties. What is important is that one can double the energy magnitude by adding, in phase, one photon to one photon. But one cannot halve the energy magnitude by cutting a photon in half.

It is easy to identify individual photons in an EM wave, especially at the higher (light+) frequencies. Not so easy is identifying individual photons in the static magnetic field from a permanent magnet. :-o
--
73, Cecil, w5dxp.com

1833. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 15:34:03 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1ea0c41d-4aae-462a-bff6-0b7947894399@w3g2000vbd.googlegroups.com>
Source record: 9683

On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
> I am reading this newsgroup through Google groups web page and I just
> realized that later replies to previous post are intercalated in the
> thread, while I expected to see it always at the end of it, for that
> reason I did not ACK before to it. (I hope yours be the only one, I
> will review all thread tho chek for others).

I am also using Google since ATT dropped Usenet. I liked Thunderbird a lot better than Google's usenet interface but I am adapting. The above information is good to know. Thunderbird has a way to keep up with unread vs read postings but Google doesn't seem to - at least I don't know how to do it on Google.

> In a early post I wrote => "of course if we insert a circulator to
> separate both powers, generator now would see 1 ohm load, could
> develope 1 W incident, 0 W reflected (Pn=1W) on circulator input, 0.36
> W would be outputting on the other port to render 0.64 W (Pn) to the
> load with 1 W Pf and 0,36 W Pr again"
> Is this result OK for you?.

The SGCR source is usually designed for 50 ohms, i.e. the signal generator always "sees" a 50 ohm load because it does not "see" any reflected energy. The ideal circulator is usually designed with 50 ohm line and a 50 ohm load resistor. If we could stick with that particular configuration for the SGCR source, it would aid in my understanding what is the actual system configuration, i.e. not your fault but I am confused by your above posting.

> I am interested in your optic analogy, I can imagine the load as a
> partially reflecting surface, real part of it as absorbance
> (transmittance if it was a radiator). line as a unidimensional medium
> and reflection as the form of "redistribute energy" (is it OK?) and a
> coherent light source for the voltage source, but I am still trying to
> visualze the optical equivalent of source resistance and its job to be
> a good analog, Also I am interested in check other values and
> conditions in your other article (first part) with 45 degree line.

I don't think a laser source handles reflected energy like an RF amp does. So, to start with, let's avoid reflected energy being incident upon the laser source. Here is a good example to start with, a 1/4WL non-reflective coating on glass.

Laser-----air-------|--1/4WL thin-film, r = 1.2222---|---Glass, r = 1.4938---...

The 1/4WL thin-film coating on the glass acts exactly like a 1/4WL matching section of transmission line. Reflections at the air to thin-film interface are eliminated by wave cancellation just as the FSU web page says,

micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

"... when two waves of equal amplitude and wavelength that are 180-degrees ... out of phase with each other meet, they are not actually annihilated, ... All of the photon energy present in these waves must somehow be recovered or redistributed in a new direction, according to the law of energy conservation ... Instead, upon meeting, the photons are redistributed to regions that permit constructive interference, so the effect should be considered as a redistribution of light waves and photon energy rather than the spontaneous construction or destruction of light."

Note that the reflection coefficient, r, is 1.0 for air. Thus the SQRT[(1.0)(1.4938)] = 1.2222 ensures that reflections are eliminated by the r = 1.2222 thin-film coating.

The same thing happens at the '+' Z0-match in the following RF system.

XMTR---50 ohm coax---+---1/4WL 300 ohm feedline---1800 ohm load

Note that SQRT[(50)(1800)] = 300 ensuring that reflections are eliminated.
--
73, Cecil, w5dxp.com

1834. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 15:51:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8d6c8e47-04e9-4df1-af81-563776e42237@m21g2000vbr.googlegroups.com>
Source record: 9684

On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
> Also I am interested in check other values and
> conditions in your other article (first part) with 45 degree line.

Sorry, I forgot to comment on this. If the line length is fixed at 45 degrees, the reflected wave arrives back at the 50 ohm source resistor 90 degrees out of phase with the source's forward wave. When two waves are 90 degrees out of phase, there is zero interference between them because cos(90) = 0 and the interference term in the following equation disappears.

Ptot = P1 + P2 + 2*SQRT(P1*P2)cos(theta)

There is no re-reflection of the reflected wave from the 50 ohm source resistor because it matches the coax Z0. There is no redistribution of constructive/destructive interference energy because there is zero interference. Therefore, for the special case where Vfor is 90 degrees out of phase with Vref at the source resistor, all of the reflected power will be dissipated in the source resistor.

If the interference at the source resistor is constructive, i.e. less than 90 degrees difference between Vfor and Vref, the power dissipated in the source resistor will be all of the reflected power plus some of the source power.

If the interference at the source resistor between Vfor and Vref is destructive, i.e. between 90 degrees and 180 degrees, some of the reflected power will be redistributed (by wave cancellation) back toward the load.

Note that the I and Q method of transferring two streams of information on the same carrier relies on this same no interference (at 90 degrees) concept.
--
73, Cecil, w5dxp.com

1835. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 15:59:27 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htm4t4$990$1@news.eternal-september.org>
Source record: 9685

On 05/26/2010 08:01 PM, Art Unwin wrote:
> On May 26, 7:34 pm, Bill Baka<bb...@comcast.net> wrote:
>> On 05/26/2010 04:52 PM, Art Unwin wrote:
>>
>>
>>
>>> On May 26, 6:14 pm, K1TTT<k1...@arrl.net> wrote:
>>>> On May 26, 6:00 pm, Art Unwin<arthurun...@gmail.com> wrote:
>>
>>>>> On May 26, 12:01 pm, Bill Baka<bb...@comcast.net> wrote:
>>
>>>>>> On 05/26/2010 08:43 AM, Michael Coslo wrote:
>>
>>>>>>> Intelligence is a tool,
>>
>>>>>>> Talent is a tool,
>>
>>>>>>> But they are not the only tools in the box.
>>
>>>>>>> There is drive, there is curiosity, even OCD or Asperger's can be turned
>>>>>>> into a tool.
>>
>>>>>>> There is memory. There is personality.
>>
>>>>>>> I'm around 150, but all that means is that if a problem interests me, I
>>>>>>> can figure it our a little before someone who has a lower number.
>>
>>>>>> It is only a number and our individual talents can be very different.
>>>>>> I solve a lot of abstract problems and can instantly visualize things
>>>>>> that can and should be improved. It really does not matter here. We were
>>>>>> really just comparing notes, not bragging. I'm sure some on here could
>>>>>> bury me, especially in antenna design. I find that my brain wants a lot
>>>>>> of input so I study various things even though I will never work in
>>>>>> those fields. I'm 61 so why go back to school??
>>>>>> I am a generalist, not a specialist. Curious about many things, and as
>>>>>> you are posting I am still learning about humans reacting to a mere
>>>>>> number. I came on here originally to ask if anyone knew about a noise
>>>>>> blanker that could be inserted into the receiver/antenna, nothing more.
>>>>>> I did expect that most hams are above average, but did not anticipate
>>>>>> any hostility. Don't be so touchy, I came here to learn and possibly
>>>>>> contribute some of my projects and how they turned out.
>>
>>>>>>> Big deal. Some times I think there is something else too, but I'm too
>>>>>>> dum to put my finger on it. I've noticed that there is something of a

>>>>>>> troubleshooting skill that I've got/cultivated that often allows me to
>>>>>>> diagnose a problem a lot more quickly than most other people. Even
>>>>>>> that's not much help, because I can often figure out a problem in a
>>>>>>> minute, then spend the next 20 minutes trying to convince the other
>>>>>>> people I'm with. That's led to some interesting moments, but point is I
>>>>>>> think there is some ability to compartmentalize mental functions that
>>>>>>> isn't directly related to IQ.
>>
>>>>>> That does put you at the very least, above average.
>>
>>>>>>> A fellow who worked for me at one time had a figurative ton of talent.
>>>>>>> Awesome photographer, highly skilled at tabletop studio photography.
>>
>>>>>>> Unfortunately, he had no drive, and his work life was a sad cycle of his
>>>>>>> talent landing him jobs, and his lack of drive losing them for him.
>>
>>>>>> That hasn't happened to me, yet.
>>
>>>>>>> I've known people with below average intelligence who had other tools
>>>>>>> like drive and personality that made them successful, and a joy to work
>>>>>>> with.
>>
>>>>>> Same here. Personality makes a huge difference.
>>
>>>>>>> - 73 de Mike N3LI -
>>
>>>>>> Cheers,
>>>>>> Bill Baka
>>
>>>>> The hostility towï¿½rds me is becï¿½use I ï¿½m seï¿½rching for ï¿½ wï¿½y to better
>>>>> describe propï¿½gï¿½tion. I stumbled on the ideï¿½ of mï¿½king ï¿½ Gï¿½ussiï¿½n
>>>>> stï¿½tic boundï¿½ry dynï¿½mic such thï¿½t Mï¿½xwells lï¿½ws were ï¿½pplicï¿½ble.
This
>>>>> immediï¿½tely showed thï¿½t pï¿½rticles
>>>>> ï¿½nd not wï¿½ves were the cï¿½rriers of propï¿½gï¿½tion.
>>>>> We ï¿½re ï¿½ very old group thï¿½t hï¿½s lived long on the ideï¿½ thï¿½t wï¿½ves
>>>>> were the cï¿½rriers of propï¿½gï¿½tion so ï¿½ll ï¿½re fighting like hell ï¿½gï¿½inst
>>>>> chï¿½nge. So ï¿½ll hï¿½ve cï¿½me up with the ideï¿½ thï¿½t it is illegï¿½l to
>>>>> trï¿½nsform
>>>>> ï¿½ stï¿½tic field into ï¿½ dynï¿½mic field becï¿½use nowhere is it stï¿½ted in
>>>>> print thï¿½t thus wï¿½s ï¿½ lï¿½wfull ï¿½proï¿½ch.
>>>>> N obody thru the yeï¿½rs hï¿½ve come up with ï¿½ reï¿½son why this line of
>>>>> thought is illegï¿½l ï¿½nd in leï¿½u of this hï¿½ve substituted hostility. It
>>>>> is to the benefit of ï¿½ll thï¿½t ï¿½n explï¿½nï¿½tion of the illegï¿½llity is
>>>>> provided
>>>>> ï¿½nd yet ï¿½ll ï¿½re silent with respect to supplying ï¿½ reï¿½son ï¿½nd thus
>>>>> hï¿½ve reverted to hostility. I thought yeï¿½rs ï¿½go thï¿½t becï¿½use the group
>>>>> were supposed to be experts ï¿½n explï¿½nï¿½tion would be provided. Sï¿½dley
>>>>> it would ï¿½ppeï¿½r thï¿½t the older we get the more resistï¿½nt we ï¿½re to
>>>>> chï¿½nge ï¿½nd thus it tï¿½kes the provision of ï¿½ new generï¿½tion before

>>>>> ï¿½dvï¿½nces ï¿½re ï¿½ccepted
>>>>> ï¿½rt
>>>>> Unwinï¿½ntennï¿½ss
>>
>>>> unfortunately bill, art suffers from short memory also among his other
>>>> debilities. it has been explained to him several times by different
>>>> people that gauss'es law is perfectly applicable to both static and
>>>> varying fields without his 'improvement', he just can't remember it
>>>> from day to day.
>>
>>> I never heï¿½rd it like thï¿½t! So we ï¿½ll cï¿½n now sï¿½y thï¿½t pï¿½rticles ï¿½nd
>>> not wï¿½ves ï¿½re the cï¿½rriers of communicï¿½tion.? Propï¿½gï¿½tion is the
>>> ï¿½pplicï¿½tion of ï¿½ displï¿½cement current thï¿½t sepï¿½rï¿½tes pï¿½rticles from
>>> the surfï¿½ce of ï¿½ rï¿½diï¿½tor by ï¿½pplying ï¿½n ï¿½ccelleriï¿½tion to sï¿½me
>>> Mï¿½xwells equï¿½tions determine thï¿½t ï¿½ll rï¿½diï¿½ters, singuliï¿½r ï¿½nd ï¿½s ï¿½
>>> whole must be resonï¿½nt ï¿½nd in equilibrium. ï¿½ll ï¿½bove ï¿½s described on
>>> my pï¿½ge
>>> unwinï¿½ntennï¿½s.com.Finï¿½lly finï¿½lly oposition to chï¿½nge hï¿½s colliï¿½psed
>>
>> I'm not hostile to anyone, but I do have opinions.
>> Peace,
>> Bill Baka
>
> I see no hostility from you Bill. But there has been a lot of
> hostility to my proposed theorem.

Keep at it. This is the way breakthrough discoveries are made. Do NOT
discourage the guy who is trying to make a scientific breakthrough.

Just following Newtons laws for
> equations that when all is summed it must equal zero. This is no
> different that allowed an addition of displacement current by Maxwell.
> Same goes for all boundary laws with respect to Newton whether they
> may be static or dynamic. Now in the case of Gauss and Newton
> each had different units because of a change in standards so authors
> never bothered or was to lazy to do the excercise.

That I have seen, but it is more of an educated opinion echoing what
they were taught in school/college.

As it happens if
> one did go thru with the excersise you will find that the dynamic form
> of Gauss's law is exactly the same as Maxwells laws for propagation.
> Just think if any author had taken this step we would never have had
> the discussions of waves versus particles that have held up the
> explanation of accelleration of charge which is propelled by the
> intersection with displacement current! This group initially rejected
> everything because I inferred the connection of static fields with
> propagation which they just could not accept. And for good reason in
> that it is not explained in any books. When I used an optimizer
> program based solely on Maxwell I expected an array in equilibrium

> which is what I got. In addition the array supplied by the program
> reflected the equal and opposite arrangement of vectors supplied by
> gravity and earths rotation where these same two vectors continue thru
> out the Maxwell /Gauss equation all the way back to the big bang when
> equilibrium was broken momentarily where a particle escaped with the
> addition of spin. All this was what Einstein was searching for and
> showed how a particle/charge was supplied with accelleration and spin
> such that there was straight line trajectory that was not impinged
> upon by gravitational effects.

I am wondering how a wave, light, can be affected by a black hole as has
been seen by the Hubble space telescope. This goes deeply into the
nature of light it self, like how is a wave with no real mass affected?
We need researchers pushing the boundary, and if others don't understand
it then let them step aside.

From all these matching sections and
> interactions I saw that the Neutrinos was the particle in question
> because it is of the smallest mass known and because of this the speed
> of light can be ascertained. Now we have the accelleration of the
> neutrinos (CERN and FERMILAB) and consequential impacts which sort of
> infers that the neutrinos can shatter into smaller amounts of mass of
> that which was accellerated at the speed of light which I really don't
> understand. We also have the notion of a photon detaching itself from
> a Neutrinpos for the purposes of light which states that this aproach
> means the formation of a photon that has no mass the possibility of
> which has not been proved.

This is where I get into it, Photons are just a way to explain something
to the masses of people who can nor understand the true nature of light.
CERN has, I think, two counter rotating beams that can cause a crash at
nearly twice the speed of light.
New and non-naturally formed particles, some with a life time measured
in nano seconds.

Frankly physics has to go back to classical
> physics where it is confirmed that the idea of waves was an error that
> held physics back for so long. At least now we have a progresion of
> events that satisfies Maxwells equations in every respect that
> requires no new laws and only the adherence to existing laws of the
> masters where the presence of equilibrium is demanded as with all
> laws. The cream of the theory came when I used a program devoted
> solely to the requirements of Maxwell and it provided a non planar
> design where equilibrium was adhered to and the vectors involved were
> opposite to those involved outside the boundary containing our Earth.
> Best Regards
> Art Unwin KB9MZ......xg
> unwinantennas.com

Keep at it and you may well join the ranks of Maxwell, Hertz,....
Bill Baka

1836. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 16:34:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9ec5e517-b854-438c-8ba8-9dce1ff6aa44@q8g2000vbm.googlegroups.com>
Source record: 9686

On May 27, 10:59 am, Bill Baka <bb...@comcast.net> wrote:
> I am wondering how a wave, light, can be affected by a black hole as has
> been seen by the Hubble space telescope. This goes deeply into the
> nature of light it self, like how is a wave with no real mass affected?

Photons have mass because of their velocity (speed of light). m = E/
c^2 Photons have no rest mass but they are never at rest. An
experiment long ago proved Einstein to be correct when he claimed that
light was affected by gravity. A black hole is no exception.

http://en.wikipedia.org/wiki/Gravitational_lens

> Frankly physics has to go back to classical

How would classical physics explain how a single particle can go
through two slits at the same time and interfere with itself on the
other side? This phenomenon includes photons, electrons, and
apparently includes relatively massive Bucky Balls made up of many
carbon atoms.

How would classical physics explain how entangled particles remain in
instantaneous contact no matter how far apart they are? This seems to
violate the spirit (if not the letter) of the speed-of-light limit.
--
73, Cecil, w5dxp.com

1837. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 17:05:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6251ca6a-6ec7-4bf8-8cf9-17a0e3437c75@w3g2000vbd.googlegroups.com>
Source record: 9687

On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
> I am reading this newsgroup through Google groups web page and I just
> realized that later replies to previous post are intercalated in the
> thread, while I expected to see it always at the end of it, for that
> reason I did not ACK before to it.

FYI, It appears that Google has a "Reader" available at the top of the
web page, that has the mark-as-read/unread ability with which one can
keep track of the read/unread postings.
--
73, Cecil, w5dxp.com

1838. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 17:20:53 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htm9ll$5e9$1@news.eternal-september.org>
Source record: 9688

On 05/27/2010 09:34 AM, Cecil Moore wrote:
> On May 27, 10:59 am, Bill Baka<bb...@comcast.net> wrote:
>> I am wondering how a wave, light, can be affected by a black hole as has
>> been seen by the Hubble space telescope. This goes deeply into the
>> nature of light it self, like how is a wave with no real mass affected?
>
> Photons have mass because of their velocity (speed of light). m = E/
> c^2 Photons have no rest mass but they are never at rest. An
> experiment long ago proved Einstein to be correct when he claimed that
> light was affected by gravity. A black hole is no exception.
>
> http://en.wikipedia.org/wiki/Gravitational_lens
>
>> Frankly physics has to go back to classical
>
> How would classical physics explain how a single particle can go
> through two slits at the same time and interfere with itself on the
> other side? This phenomenon includes photons, electrons, and
> apparently includes relatively massive Bucky Balls made up of many
> carbon atoms.
>
> How would classical physics explain how entangled particles remain in
> instantaneous contact no matter how far apart they are? This seems to
> violate the spirit (if not the letter) of the speed-of-light limit.
> --
> 73, Cecil, w5dxp.com

I probably should not have breached the subject since it will be a war
of opinions. If light was indeed a particle (photon) it could be
affected, but light is just really super high frequency radio in nature.
Radio is not particulate so why the hang-up over photons???
Bill Baka

1839. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 17:29:29 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfeabfd$0$17102$65785112@news.neostrada.pl>
Source record: 9689

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:eea01cb6-e811-41d4-9464-2365fc1d964d@o39g2000vbd.googlegroups.com...
On May 27, 8:27 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

>> In plasma physics are particles.
> S*

>well, at least you have one sentence that says something true.

And are this true: "We also assumed, perfectly arbitrarily, that the
direction of these vortices is such that, on looking along a line of force
from south to north, we should see the vortices revolving in the direc- tion
of the hands of a watch. We found that the velocity of the circumference of
each vortex must be proportional to the intensity of the magnetic force, and
that the density of the substance of the vortex must be propor- tional to
the capacity of the medium for magnetic induction." From:
http://en.wikisource.org/wiki/On_Physical_Lines_of_Force

"the density of the substance of the vortex "
As you see in Maxwell's hypothesis was the mass. The all waves need mass and
inertia.
But all movements (also waves) can be described dynamically (with mass) or
geometrically (only directions and speed).
The famous Heaviside's equations are the geometrical description of the
waves.
S*

1840. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 17:47:49 UTC
From: richardharrison@webtv.net
Message-ID: <19507-4BFEB045-5768@storefull-3173.bay.webtv.net>
Source record: 9690

Roy Lewallen, W7EL wrote:
"Nut the statement which was made was that "Maximum power transfer occurs when the source and load impedances are matched."

Inelegant and bereft of qualifications as it may be, I am the author of that statement, and I stand by it.

Roy says: "This is not true, as the example demonstrates."

Robert L. Schrader says on page 43 of "Electronic Communication":
"To produce maximum power in any load, it is necessary that the load resistance equal the internal resistance of the source."

I believe our statements are equivalent. Load a battery of a given internal resistance with the same resistance as a load, and for a short time the battery will deliver more power to that load than to any other resistance larger or smaller.

Best regards, Richard Harrison. KB5WZI

1841. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 18:14:58 UTC
From: richardharrison@webtv.net
Message-ID: <19508-4BFEB6A2-2377@storefull-3173.bay.webtv.net>
Source record: 9691

Roy Lewallen wrote:
"Reduce the source imperance to 10 ohms."

FOUL!

In the case of a 10-ohm internal source, the load which extracts maximum power is 10 ohms.

Best regards, Richard Harrison, KB5WZI

1842. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 18:47:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f7225d95-2bbf-4590-97d7-4b6cf89216d6@o15g2000vbb.googlegroups.com>
Source record: 9692

On May 27, 12:20 pm, Bill Baka <bb...@comcast.net> wrote:
> I probably should not have breached the subject since it will be a war
> of opinions. If light was indeed a particle (photon) it could be
> affected, but light is just really super high frequency radio in nature.
> Radio is not particulate so why the hang-up over photons???

Quoting Roger Miller from the movie: "Water Hole Number Three"; "If
fishes had wishes, they'd fly".

Actually, it has nothing to do with opinions and everything to do with
actual experiments. EM wave energy, which includes visible light and
RF waves, has been proven beyond any doubt to be quantized which
implies a particle nature and not a continuously variable analog
field. In fact, quantum electrodynamics, which has an uncanny ability
to predict sub-atomic physics experimental outcomes, tells us that
nothing can exist outside of its existence as a particle. Have you
ever tried to prove that something can actually exist without a
particle nature being involved?

From the lowest level of light detectable by the human brain, the next
step up in brightness is 11.1111% greater than that first level - not
0.000001% as your opinion seems to desire. Following is the URL for an
interesting paper on the subject.

http://arxiv.org/PS_cache/arxiv/pdf/0902/0902.2896v1.pdf
--
73, Cecil, w5dxp.com

1843. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 18:55:23 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <htmf6s$4v8$1@news.eternal-september.org>
Source record: 9693

I downloaded the pdf file so I can read it this evening. I may be back
on this topic later after doing some reading. Of course I may disagree
with the particle nature, but hey, I have an opinion too.
Cheers,
Bill Baka

On 05/27/2010 11:47 AM, Cecil Moore wrote:
> On May 27, 12:20 pm, Bill Baka<bb...@comcast.net> wrote:
>> I probably should not have breached the subject since it will be a war
>> of opinions. If light was indeed a particle (photon) it could be
>> affected, but light is just really super high frequency radio in nature.
>> Radio is not particulate so why the hang-up over photons???
>
> Quoting Roger Miller from the movie: "Water Hole Number Three"; "If
> fishes had wishes, they'd fly".
>
> Actually, it has nothing to do with opinions and everything to do with
> actual experiments. EM wave energy, which includes visible light and
> RF waves, has been proven beyond any doubt to be quantized which
> implies a particle nature and not a continuously variable analog
> field. In fact, quantum electrodynamics, which has an uncanny ability
> to predict sub-atomic physics experimental outcomes, tells us that
> nothing can exist outside of its existence as a particle. Have you
> ever tried to prove that something can actually exist without a
> particle nature being involved?
>
> From the lowest level of light detectable by the human brain, the next
> step up in brightness is 11.1111% greater than that first level - not
> 0.000001% as your opinion seems to desire. Following is the URL for an
> interesting paper on the subject.
>
> http://arxiv.org/PS_cache/arxiv/pdf/0902/0902.2896v1.pdf
> --
> 73, Cecil, w5dxp.com

1844. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 19:22:11 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2f21270e-23cf-449f-9f5b-b4170d8dd499@v37g2000vbv.googlegroups.com>
Source record: 9694

On May 27, 5:29 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:eea01cb6-e811-41d4-9464-2365fc1d964d@o39g2000vbd.googlegroups.com...
> On May 27, 8:27 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> In plasma physics are particles.
> > S*
> >well, at least you have one sentence that says something true.
>
> And are this true: "We also assumed, perfectly arbitrarily, that the
> direction of these vortices is such that, on looking along a line of force
> from south to north, we should see the vortices revolving in the direc- tion
> of the hands of a watch. We found that the velocity of the circumference of
> each vortex must be proportional to the intensity of the magnetic force, and
> that the density of the substance of the vortex must be propor- tional to
> the capacity of the medium for magnetic induction."
From:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
>
> "the density of the substance of the vortex "
> As you see in Maxwell's hypothesis was the mass. The all waves need mass and
> inertia.
> But all movements (also waves) can be described dynamically (with mass) or
> geometrically (only directions and speed).
> The famous Heaviside's equations are the geometrical description of the
> waves.
> S*

as has already been pointed out this paper predates the publication of
the full set of maxwell's equations, and even the publication of
gauss' law... so much development was done in em theories after that
date. just because something is written down doesn't make it right or
we would still be living with 4 elements and letting blood to cure
disease.

1845. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 19:54:51 UTC
From: jure <tonkojursky@hotmail.com>
Message-ID: <84b420fb-9c37-4d9b-991c-28c043feef5b@y21g2000vba.googlegroups.com>
Source record: 9695

On 21 svi, 07:22, "VK2KC" <vk2kcj...@gmail.com> wrote:
> I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> I would like to know whether the gamma fed dipole has any advantage over the
> folded dipole, apart from the folded dipole being a tad more difficult to
> make.
>
> I have heard that the gamma fed dipole has a skewed radiation pattern in
> comparison to the folded one.
>
> Any thoughts and advice?
> Many thanks
> John
> VK2KC

The folded dipole with 1:4 baloon is best solution for maching
yagis .

1846. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 20:13:17 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <2c85d69b-006b-4a61-9ced-9f53e052b24c@o4g2000vbo.googlegroups.com>
Source record: 9696

On May 27, 3:54 pm, jure <tonkojur...@hotmail.com> wrote:
> On 21 svi, 07:22, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> > I would like to know whether the gamma fed dipole has any advantage over the
> > folded dipole, apart from the folded dipole being a tad more difficult to
> > make.
>
> > I have heard that the gamma fed dipole has a skewed radiation pattern in
> > comparison to the folded one.
>
> > Any thoughts and advice?
> > Many thanks
> > John
> > VK2KC
>
> The folded dipole with 1:4 baloon is best solution for maching
> yagis .

Over the last few years a I have started preferring using the folded
dipole for the driven element also. I dont understand your need for
4:1 BALUN though.

Jimmie

1847. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 20:15:49 UTC
From: walt <walt@w2du.com>
Message-ID: <6b45bfd4-28d8-4d3a-be0d-85d466743b0e@v37g2000vbv.googlegroups.com>
Source record: 9697

I stand by my position that when the source is an RF power amplifier, and when all the available power is transferred from the source to the load, the source impedance is the conjugate of the load impedance. In a similar instance, if the load is a pure resistance, the source resistance equals the load resistance.

And referring to a statement Dysart made concerning plate resistance, Rp, it must be understood that in Class AB, B and C amplifiers, Rp is NOT the source resistance. In those amplifiers the effect of Rp is a negative feedback that reduces the effect of plate-current change resulting from a change in grid voltage, thus reducing the power output compared to what the output would be if Rp were absent. Compensation for the power lost to Rp is accomplished by simply increasing the grid drive.

Consequently, Rp plays no part in achieving a conjugate match at the junction of the network-output and the load. Although lossless elements are required to achieve a perfect conjugate match in both directions, a perfect conjugate match is obtained in the forward direction with real elements when all available power is being delivered to the load. This condition is verified in data presented in Chapter 24 of Reflections 3.

Walt, W2DU

1848. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 22:22:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b8278b49-04f7-40bb-8c7b-9aae38b99bae@e21g2000vbl.googlegroups.com>
Source record: 9698

On May 27, 8:13 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On May 27, 3:54 pm, jure <tonkojur...@hotmail.com> wrote:
>
>
>
> > On 21 svi, 07:22, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > > I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> > > I would like to know whether the gamma fed dipole has any advantage over the
> > > folded dipole, apart from the folded dipole being a tad more difficult to
> > > make.
>
> > > I have heard that the gamma fed dipole has a skewed radiation pattern in
> > > comparison to the folded one.
>
> > > Any thoughts and advice?
> > > Many thanks
> > > John
> > > VK2KC
>
> > The folded dipole with 1:4 baloon is best solution for maching
> > yagis .
>
> Over the last few years a I have started preferring using the folded
> dipole for the driven element also. I dont understand your need for
> 4:1 BALUN though.
>
> Jimmie

another robust one is the T match as used in old telrex yagis. it is
dc grounded and needs no capacitor, but it does use a 1/2 wave 'balun'
or phasing line between the halves of the T.

1849. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 22:28:20 UTC
From: jure <tonkojursky@hotmail.com>
Message-ID: <9268fa8e-41d0-4d09-90db-8547fdd48967@e21g2000vbl.googlegroups.com>
Source record: 9699

On 27 svi, 22:13, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On May 27, 3:54 pm, jure <tonkojur...@hotmail.com> wrote:
>
>
>
> > On 21 svi, 07:22, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > > I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> > > I would like to know whether the gamma fed dipole has any advantage over the
> > > folded dipole, apart from the folded dipole being a tad more difficult to
> > > make.
>
> > > I have heard that the gamma fed dipole has a skewed radiation pattern in
> > > comparison to the folded one.
>
> > > Any thoughts and advice?
> > > Many thanks
> > > John
> > > VK2KC
>
> > The folded dipole with 1:4 baloon is best solution for maching
> > yagis .
>
> Over the last few years a I have started preferring using the folded
> dipole for the driven element also. I dont understand your need for
> 4:1 BALUN though.
>
> Jimmie

You must put the balun to have 50 Ohm .
http://users.belgacom.net/hamradio/schemas/14balun.gif

1850. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 23:09:07 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5a6836d5-01c5-402b-b0a6-1cb931cb2a45@a20g2000vbc.googlegroups.com>
Source record: 9700

On 27 mayo, 14:05, Cecil Moore <w5...@hotmail.com> wrote:
> On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
>
> > I am reading this newsgroup through Google groups web page and I just
> > realized that later replies to previous post are intercalated in the
> > thread, while I expected to see it always at the end of it, for that
> > reason I did not ACK before to it.
>
> FYI, It appears that Google has a "Reader" available at the top of the
> web page, that has the mark-as-read/unread ability with which one can
> keep track of the read/unread postings.
> --
> 73, Cecil, w5dxp.com

Meanwhile I study carefully your reply and investigate the Google
Reader (thanks for tell me) tell you that one ohm examples are only
because I often work with normalized impedances. I will move me to 50
ohms neighborhood... :>)

1851. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 23:11:52 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <4c96dbe8-ce6f-4efd-91c3-45c3643463f9@c13g2000vbr.googlegroups.com>
Source record: 9551

```
On 27 mayo, 14:05, Cecil Moore <w5...@hotmail.com> wrote:
> On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
>
> > I am reading this newsgroup through Google groups web page and I just
> > realized that later replies to previous post are intercalated in the
> > thread, while I expected to see it always at the end of it, for that
> > reason I did not ACK before to it.
>
> FYI, It appears that Google has a "Reader" available at the top of the
> web page, that has the mark-as-read/unread ability with which one can
> keep track of the read/unread postings.
> --
> 73, Cecil, w5dxp.com

Meanwhile I study carefully your reply and investigate the Google
Reader (thanks for tell me) tell you that one ohm examples are only
because I often work with normalized impedances. I will move me to 50
ohms neighborhood... :>)
```

1852. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 23:15:21 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5154dc77-c679-4a60-86c1-aa1bd7800c78@m21g2000vbr.googlegroups.com>
Source record: 9552

On 27 mayo, 14:05, Cecil Moore <w5...@hotmail.com> wrote:
> On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
>
> > I am reading this newsgroup through Google groups web page and I just
> > realized that later replies to previous post are intercalated in the
> > thread, while I expected to see it always at the end of it, for that
> > reason I did not ACK before to it.
>
> FYI, It appears that Google has a "Reader" available at the top of the
> web page, that has the mark-as-read/unread ability with which one can
> keep track of the read/unread postings.
> --
> 73, Cecil, w5dxp.com

Meanwhile I study carefully your reply and investigate the Google
Reader (thanks for tell me) tell you that one ohm examples are only
because I often work with normalized impedances. I will move me to 50
ohms neighborhood... :>)

1853. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-27 23:24:23 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <7974e65c-6e3a-442b-b6ca-c95cfd6d9249@r9g2000vbk.googlegroups.com>
Source record: 9553

On May 27, 4:15 pm, walt <w...@w2du.com> wrote:
> And referring to a statement Dysart made concerning plate resistance,
> Rp, it must be understood that in Class AB, B and C amplifiers, Rp is
> NOT the source resistance.

You left Class A out of the list. Does this mean that Rp is the source
resistance for a Class A amplifier?

...Keith

1854. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 00:03:28 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b53aab24-c01f-4620-bbc7-941f9b5ee977@o12g2000vba.googlegroups.com>
Source record: 9554

On 26 mayo, 18:44, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 26 May 2010 11:33:08 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >"Always has been a pleasure for me to read you. I have learning very
> >much from your enthusiastic discussions. You made me think of things
> >that I never thought without your help. Thank you."
>
> Hi Miguel,
>
> You are welcome.
>
> My comments (beyond your quote above) were in regard to you observing
> the amount of time Walt's topic has been under discussion. In fact,
> the agony of source resistance has been painfully with us for as long
> as newsgroups could support the noise bandwidth.
>
> As dangerous as unasked-for advice is, prepare something at your bench
> to measure all these contentious issues for yourself. Force the
> issues that are only being discussed rather than measured. Discover
> the roots of what used to be a "hands on" avocation. Learn the
> practical reality in relation to the academic meaning. Discover the
> first principles by making mistakes and having failures that you can
> correct in front of you, instead of being assisted by an "expert."
> Compare results with like-minded bench workers who can perform the
> same examinations you are doing.
>
> This is what Walt did - many times. His bench work eclipses ALL
> discussion of theory. The irony that inhabits this is that his bench
> work may even eclipse his own explanations. Absolutely no one else
> has dared to slide up to the bench to demonstrate that, however. The
> level of "critique" is much like ants scattering at the feet of a
> giant.
>
> There is a lot of math thrown against the wall to prove something. It
> may or may not be the same thing. What it does prove is:
>   "Models are doomed to succeed."
> This is demonstrated here at least once a week on average, and is even
> held up as a hallmark of hazing, initiation, or anti-intellectual
> snobbery. Math/Models/Simulations/Theories serve many religious wars.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard. thanks for your reply.

I recognize so much the Walter's work as I said in my initial post. "Another look at reflections" was one of the my most appreciated readings of my early days as student and Ham.
But without wishing to be flattering ("adulador" in spanish), I feel in debt with much others works from you (all) (I do not give more names to not commit injustice omiting anyone).
I believe you are a gifted, brilliant, intelligent and supportive Hams sharing your knowledge and experience with us. For that, I am/we are indebted to all of you :>)

However, I believe for all reasons given above, you will be capable to arrive to a good technical/scientific consensus about the matter. We trust in your ability and capacity to get it.
This is very important for us because not all are capable to develop theory from empirical working and we need your agreement to study things that in my experience are very difficult to grasp even for university graduates...

73

Miguel Ghezzi - LU6ETJ

1855. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 00:08:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D86671C1A2BAnonenowhere@61.9.191.5>
Source record: 9555

Keith Dysart <keith.dysart@gmail.com> wrote in news:7974e65c-6e3a-442b-b6ca-c95cfd6d9249@r9g2000vbk.googlegroups.com:

>
> You left Class A out of the list. Does this mean that Rp is the source
> resistance for a Class A amplifier?

Keith,

Assertions have been made about the Thevenin equivalent source impedance (Zs) of an RF PA. In the discussions over the years, some people have imposed some qualifications (eg classes, tuned / untuned etc).

Zs can be measured by a number of methods. It is interesting to note that in many of the discussions on the 'net on this topic, more focus is given to dismissing the experiment design for experiments that produce unfavourable results to some, than questioning the proposition that Zs is 50+j0 or thereabouts.

Whilst Walt has documented a quite rigourous experiment, and it produced a favourable outcome, it is my view that that in itself is not proof of the proposition.

Whilst one favourable experiment cannot proove the proposition correct, just one valid experiment can prove the proposition to be not generally true. No doubt the reason for the focus on proving experiments invalid.

If you give some thought to what you could use Zs for, then every valid experiment that is designed around that application must produce a favourable outcome if Zs is as proposed. If they don't, then the value assumed for Zs must be wrong.

I posted a simple test earlier that in my experience does not support the proposition that typical ham HF transmitters have Zs=50+j0 or close to it. The test is documented so that individuals can try it and make their own mind up. Some might get favourable results on limited trials... but in my view, that is outweighed by unfavourable results from valid experiments.

Owen

1856. Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 00:36:41 UTC
From: Bob Smits <bob@rsmits.ca>
Message-ID: <IuGdnf-t55G3jWLWnZ2dnUVZ_h-dnZ2d@islandhosting.com>
Source record: 9556

Hi, Folks.

Looking for some advice.

I want to create a grounded opening in the wall of my ham shack through which I'll install each rf cable that enters the shack. I plan to bolt a conductive plate to the wall ground that I'll fasten the ground side of each coaxial cable to, then bolt a ground cable to each ground rod and the plate.

Is there a significant difference between using the galvanized steel ground rods and copper to create an rf gound? The copper ones are more than double the price - is it worth using them?

Thanks, Bob, VE7HS

1857. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 01:11:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <as5uv55iurffidpdejkd3eocph4mnjmqbm@4ax.com>
Source record: 9557

On Thu, 27 May 2010 17:03:28 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>However, I believe for all reasons given above, you will be capable to
>arrive to a good technical/scientific consensus about the matter. We
>trust in your ability and capacity to get it.

Hi Miguel,

A nice sentiment, but even the most silvered authorities disagree. One
has only to look at the relativist camp vs. the quantum camp in
nuclear physics.

>This is very important for us because not all are capable to develop
>theory from empirical working and we need your agreement to study
>things that in my experience are very difficult to grasp even for
>university graduates...

Then, this will be dissappointing. University is for finding your own
way, and that does not come without regrets. There's a maxim that
applies here:
"If you haven't failed, you are not trying hard enough."

73's
Richard Clark, KB7QHC

1858. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 01:25:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <907bd0ee-3096-4eda-87ac-6eb3b5a85c79@w3g2000vbd.googlegroups.com>
Source record: 9558

On May 27, 9:53 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 26, 6:52 pm, Art Unwin <arthurun...@gmail.com> wrote:
snip

> Nope, what we can say is that waves and their >associated particles are
> dual manifestations of the same physical >phenomena.

Now just hold on right there!
As I have stated before, wave is a descriptive word
and not a noun as described by a particle. Just as a
amount of moisture does not become equal to a cloud. You are using
existing positions and theories
without the required accompanying proof
The truth is that none of the existing theories stand up to
examination to explain the phenomina of radiation upto and including
the super string theory.
Thus they are all suspect in one way or another.
Right at the very beginning I used Gauss's definition to describe a
particle, no where is the term wave mentioned Now we come to Maxwells
equations he also does not mention waves because he is considering a
instant of time which includes every function required to perform the
function of displacement of a particle as refferred to by Gauss. He
also reinforced the idea of equilibrium per Newtons laws by assuring
that all components involved in the equation equalled zero.
Thus one can say using long existant rules that what is made dynamic
must also be resonant and where the sum is in equilibrium. Now all the
expressions you are using comes from discredited theories, where as
mine comes from the existance of the Newtons boundary rules, gaussian
postulate and and the combination of many inputs from the masters of
that time that provided Maxwells laws.
I am just using the existing classical rules of the day
nothing is new and there is no reinvention of any kind.
So I put it to you again that it unreasonable to quote
hypothesis that have been proved not up to the task
and to not provide supporting reason to discredit Maxwell,Gauss and
the other masters on whose shoulders we stand on today. Forget about
your beloved photons which you habitually use as a shell game to
confuse onlookers and review which is considered correct up to "this
particular point" instead of making giant hops up the ladder of
knowledge like jumping the Grand canyon in two jumps. If you have good
reason to diss the work of the masters then I am sure others will want
to hear about it.
Best regards, nothing personal intended
Art
snip

> --
> 73, Cecil, w5dxp.com

1859. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 01:31:42 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <3c66f3c0-3762-4a2c-b68a-6353938c2ad8@c7g2000vbc.googlegroups.com>
Source record: 9559

On 27 mayo, 22:11, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 27 May 2010 17:03:28 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >However, I believe for all reasons given above, you will be capable to
> >arrive to a good technical/scientific consensus about the matter. We
> >trust in your ability and capacity to get it.
>
> Hi Miguel,
>
> A nice sentiment, but even the most silvered authorities disagree. One
> has only to look at the relativist camp vs. the quantum camp in
> nuclear physics.
>
> >This is very important for us because not all are capable to develop
> >theory from empirical working and we need your agreement to study
> >things that in my experience are very difficult to grasp even for
> >university graduates...
>
> Then, this will be dissappointing. University is for finding your own
> way, and that does not come without regrets. There's a maxim that
> applies here:
>   "If you haven't failed, you are not trying hard enough."
>
> 73's
> Richard Clark, KB7QHC

Yes Richard. I agree, however I said "even for graduated" ("aún para
graduados" in spanish), but this a radio Amateur group, isn't it...
Hey Richard, do not be hard with us :>) your helping is important and
valuable for hundred (if not thousands) of present an future Amateurs.
Thanks again.

Miguel

1860. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 02:10:41 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <8e433da4-22a1-4913-b301-61d6224a1010@o39g2000vbd.googlegroups.com>
Source record: 9560

On 27 mayo, 12:34, Cecil Moore <w5...@hotmail.com> wrote:
> On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
>
> > I am reading this newsgroup through Google groups web page and I just
> > realized that later replies to previous post are intercalated in the
> > thread, while I expected to see it always at the end of it, for that
> > reason I did not ACK before to it. (I hope yours be the only one, I
> > will review all thread tho chek for others).
>
> I am also using Google since ATT dropped Usenet. I liked Thunderbird a
> lot better than Google's usenet interface but I am adapting. The above
> information is good to know. Thunderbird has a way to keep up with
> unread vs read postings but Google doesn't seem to - at least I don't
> know how to do it on Google.
>
> > In a early post I wrote => "of course if we insert a circulator to
> > separate both powers, generator now would see 1 ohm load, could
> > develope 1 W incident, 0 W reflected (Pn=1W) on circulator input, 0.36
> > W would be outputting on the other port to render 0.64 W (Pn) to the
> > load with 1 W Pf and 0,36 W Pr again"
> > Is this result OK for you?.
>
> The SGCR source is usually designed for 50 ohms, i.e. the signal
> generator always "sees" a 50 ohm load because it does not "see" any
> reflected energy. The ideal circulator is usually designed with 50 ohm
> line and a 50 ohm load resistor. If we could stick with that
> particular configuration for the SGCR source, it would aid in my
> understanding what is the actual system configuration, i.e. not your
> fault but I am confused by your above posting.
>
> > I am interested in your optic analogy, I can imagine the load as a
> > partially reflecting surface, real part of it as absorbance
> > (transmittance if it was a radiator). line as a unidimensional medium
> > and reflection as the form of "redistribute energy" (is it OK?) and a
> > coherent light source for the voltage source, but I am still trying to
> > visualze the optical equivalent of source resistance and its job to be
> > a good analog, Also I am interested in check other values and
> > conditions in your other article (first part) with 45 degree line.
>
> I don't think a laser source handles reflected energy like an RF amp
> does. So, to start with, let's avoid reflected energy being incident
> upon the laser source. Here is a good example to start with, a 1/4WL
> non-reflective coating on glass.
>

> Laser-----air-------|--1/4WL thin-film, r = 1.2222---|---Glass, r =
> 1.4938---...
>
> The 1/4WL thin-film coating on the glass acts exactly like a 1/4WL
> matching section of transmission line. Reflections at the air to thin-
> film interface are eliminated by wave cancellation just as the FSU web
> page says,
>
> micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
> waveinteractions/index.html
>
> "... when two waves of equal amplitude and wavelength that are 180-
> degrees ... out of phase with each other meet, they are not actually
> annihilated, ... All of the photon energy present in these waves must
> somehow be recovered or redistributed in a new direction, according to
> the law of energy conservation ... Instead, upon meeting, the photons
> are redistributed to regions that permit constructive interference, so
> the effect should be considered as a redistribution of light waves and
> photon energy rather than the spontaneous construction or destruction
> of light."
>
> Note that the reflection coefficient, r, is 1.0 for air. Thus the
> SQRT[(1.0)(1.4938)] = 1.2222 ensures that reflections are eliminated
> by the r = 1.2222 thin-film coating.
>
> The same thing happens at the '+' Z0-match in the following RF system.
>
> XMTR---50 ohm coax---+---1/4WL 300 ohm feedline---1800 ohm load
>
> Note that SQRT[(50)(1800)] = 300 ensuring that reflections are
> eliminated.
> --
> 73, Cecil, w5dxp.com

May we advance in little steps to ensure we share basic assumptions?

1) I did not think of (or is think on?) a laser source, I was one step before, I think only of a "coherent" source to match monofrequency simple AC generator analogy.
2) What would be Rs optical analog?
3) Superposition is a medium phenomenon ¿yes?, for example "eter". Interference an result of it on a other "thing", for example photographic plate or screen. Are we agree? K

1861. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 02:32:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <fd863e8d-fae8-4064-9e9e-6ae5e542f424@z33g2000vbb.googlegroups.com>
Source record: 9561

On May 27, 9:10 pm, lu6etj <lu6...@gmail.com> wrote:
> On 27 mayo, 12:34, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On May 27, 9:50 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > I am reading this newsgroup through Google groups web page and I just
> > > realized that later replies to previous post are intercalated in the
> > > thread, while I expected to see it always at the end of it, for that
> > > reason I did not ACK before to it. (I hope yours be the only one, I
> > > will review all thread tho chek for others).
>
> > I am also using Google since ATT dropped Usenet. I liked Thunderbird a
> > lot better than Google's usenet interface but I am adapting. The above
> > information is good to know. Thunderbird has a way to keep up with
> > unread vs read postings but Google doesn't seem to - at least I don't
> > know how to do it on Google.
>
> > > In a early post I wrote => "of course if we insert a circulator to
> > > separate both powers, generator now would see 1 ohm load, could
> > > develope 1 W incident, 0 W reflected (Pn=1W) on circulator input, 0.36
> > > W would be outputting on the other port to render 0.64 W (Pn) to the
> > > load with 1 W Pf and 0,36 W Pr again"
> > > Is this result OK for you?.
>
> > The SGCR source is usually designed for 50 ohms, i.e. the signal
> > generator always "sees" a 50 ohm load because it does not "see" any
> > reflected energy. The ideal circulator is usually designed with 50 ohm
> > line and a 50 ohm load resistor. If we could stick with that
> > particular configuration for the SGCR source, it would aid in my
> > understanding what is the actual system configuration, i.e. not your
> > fault but I am confused by your above posting.
>
> > > I am interested in your optic analogy, I can imagine the load as a
> > > partially reflecting surface, real part of it as absorbance
> > > (transmittance if it was a radiator). line as a unidimensional medium
> > > and reflection as the form of "redistribute energy" (is it OK?) and a
> > > coherent light source for the voltage source, but I am still trying to
> > > visualze the optical equivalent of source resistance and its job to be
> > > a good analog, Also I am interested in check other values and
> > > conditions in your other article (first part) with 45 degree line.
>
> > I don't think a laser source handles reflected energy like an RF amp

> > does. So, to start with, let's avoid reflected energy being incident
> > upon the laser source. Here is a good example to start with, a 1/4WL
> > non-reflective coating on glass.
>
> > Laser-----air-------|--1/4WL thin-film, r = 1.2222---|---Glass, r =
> > 1.4938---...
>
> > The 1/4WL thin-film coating on the glass acts exactly like a 1/4WL
> > matching section of transmission line. Reflections at the air to thin-
> > film interface are eliminated by wave cancellation just as the FSU web
> > page says,
>
> > micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
> > waveinteractions/index.html
>
> > "... when two waves of equal amplitude and wavelength that are 180-
> > degrees ... out of phase with each other meet, they are not actually
> > annihilated, ... All of the photon energy present in these waves must
> > somehow be recovered or redistributed in a new direction, according to
> > the law of energy conservation ... Instead, upon meeting, the photons
> > are redistributed to regions that permit constructive interference, so
> > the effect should be considered as a redistribution of light waves and
> > photon energy rather than the spontaneous construction or destruction
> > of light."
>
> > Note that the reflection coefficient, r, is 1.0 for air. Thus the
> > SQRT[(1.0)(1.4938)] = 1.2222 ensures that reflections are eliminated
> > by the r = 1.2222 thin-film coating.
>
> > The same thing happens at the '+' Z0-match in the following RF system.
>
> > XMTR---50 ohm coax---+---1/4WL 300 ohm feedline---1800 ohm load
>
> > Note that SQRT[(50)(1800)] = 300 ensuring that reflections are
> > eliminated.
> > --
> > 73, Cecil, w5dxp.com
>
> May we advance in little steps to ensure we share basic assumptions?
>
> 1) I did not think of (or is think on?) a laser source, I was one step
> before, I think only of a "coherent" source to match monofrequency
> simple AC generator analogy.
> 2) What would be Rs optical analog?
> 3) Superposition is a medium phenomenon ¿yes?, for example "eter".
> Interference an result of it on a other "thing", for example
> photographic plate or screen. Are we agree? K

1862. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 02:32:40 UTC
From: walt <walt@w2du.com>
Message-ID: <d510c683-90fc-49d9-a0f3-c1f42468eed1@f13g2000vbm.googlegroups.com>
Source record: 9562

> Keith,
>
> Assertions have been made about the Thevenin equivalent source impedance
> (Zs) of an RF PA. In the discussions over the years, some people have
> imposed some qualifications (eg classes, tuned / untuned etc).
>
> Zs can be measured by a number of methods. It is interesting to note that
> in many of the discussions on the 'net on this topic, more focus is given
> to dismissing the experiment design for experiments that produce
> unfavourable results to some, than questioning the proposition that Zs is
> 50+j0 or thereabouts.
>
> Whilst Walt has documented a quite rigourous experiment, and it produced
> a favourable outcome, it is my view that that in itself is not proof of
> the proposition.
>
> Whilst one favourable experiment cannot proove the proposition correct,
> just one valid experiment can prove the proposition to be not generally
> true. No doubt the reason for the focus on proving experiments invalid.
>
> If you give some thought to what you could use Zs for, then every valid
> experiment that is designed around that application must produce a
> favourable outcome if Zs is as proposed. If they don't, then the value
> assumed for Zs must be wrong.
>
> I posted a simple test earlier that in my experience does not support the
> proposition that typical ham HF transmitters have Zs=50+j0 or close to
> it. The test is documented so that individuals can try it and make their
> own mind up. Some might get favourable results on limited trials... but
> in my view, that is outweighed by unfavourable results from valid
> experiments.
>
> Owen

Owen, I have reviewed your simple test using an ATU to obtain various load impedances, but I don't see any data showing the results of any tests you may have made using this procedure. I'm assuming it's the same procedure I used in measuring the data I presented in Chapter 19 of Reflections 2, in which I varied the load impedance by switching between two different, but closely related values of load resistance.

Unless we're discussing RF power amps using solid-state components, I don't understand why anyone would expect the source impedance to be 50 + j0 ohms unless the source was delivering all its available power into a 50 + j0 load.

I've made an addition to Chapter 19 as it appears in Reflections 2. That addition now appears in the new edition, Reflections 3. In that addition I report the procedure and results of measuring the output impedance of a Kenwood TS-830S terminated in a complex load of 17.98 + j8.77 ohms. I described fourteen steps in the procedure that resulted in the measured output impedance of the Kenwood to be 18 - j8 ohms, which is sufficiently close to the conjugate of the load to be a practical conjugate match between the source and load impedances.

Why then do you discount the data from my measurements as not proof that the 18 - j8 ohms of source impedance is valid?

I'm going to try to insert a copy of the 14 steps of the procedure. However, as I have tried this type of insertion previously and failed, it also may fail here. If it fails I invite you to go to my web page at www.w2du.com and click on the line "Preview Chapters from Reflections 3" and then click on Chapter 19A, then scroll down to Sec 19A.5 Additional Experimental Data. There you will see the detailed description of the entire procedure. I hope this will help in understanding my posistion concerning the measurement of the source impedance at the output of the tank circuit of an RF power amplifier.

Sec 19.14 Additional Experimental Data

The source resistance data reported in Secs 19.8 and 19.9 were obtained using the load variation method with resistive loads. Note that of the six measurements of output source resistance reported in Table 19.1, the average value of the resistance is 50.3 ohms obtained with the reference load resistance of 51.2 ohms, exhibiting an error of only 1.8 percent. However, various critics assert that proof of a conjugate match between the source and load requires the load to contain reactance. Accordingly, the experimental data reported below were obtained using both the load variation method and an indirect method for determining the source impedance of the RF power amplifier, with a resistive load to obtain a reference source resistance and a complex load to determine the complex source impedance that is then proven to be the conjugate of the complex load.
We’ll now examine the experimental data that resulted from measurements performed subsequent to those reported in Secs 19.8 and 19.9, new data that provides additional evidence that a conjugate match exists at the output terminals of an RF power amplifier when all of its available power is delivered into its load, however complex the load impedance. According to the definition of the conjugate match as explained in Sec 19.1, Axioms 1 and 2, if this condition prevails there is a conjugate match. In addition, the data presented below also provides further evidence that the output source resistance of the RF amplifier is non-dissipative. The following steps describe the experimental procedure I employed and the results obtained:

1. Using a Kenwood TS-830S transceiver as the RF source, the tuning and loading of the pi-network are adjusted to deliver all the available power into a 50 + j0-ohm load with the grid drive adjusted to deliver the maximum of 100 watts at 4 MHz, thus establishing the

area of the RF power window at the input of the pi-network, resistance RLP at the plate, and the slope of the load line. The output source resistance of the amplifier in this condition will later be shown to be 50 ohms. In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC input power is therefore 800 v ☐ 0.26 a = 208 w. Readings on the Bird 43 wattmeter indicate 100 watts forward and zero watts reflected. (100 watts is the maximum RF output power available at this drive level.) From here on the grid drive is left undisturbed, and the pi-network controls are left undisturbed until Step 10.

2. The amplifier is now powered down and the load resistance RL is measured across the input terminals of the resonant pi-network tank circuit (from plate to ground) with an HP-4815 Vector Impedance Meter. The resistance is found to be approximately 1400 ohms. Because the amplifier was adjusted to deliver the maximum available power of 100 watts prior to the resistance measurement, the averaged resistance RLP looking into the plate (upstream from the network terminals) is also approximately 1400 ohms. Accordingly, a non-reactive 1400-ohm resistor is now connected across the input terminals of the pi-network tank circuit and source resistance ROS is measured looking rearward into the output terminals of the network. Resistance ROS was found to be 50 ohms.

3. Three 50-ohm dummy loads (a 1500w Bird and two Heathkit Cantennas) are now connected in parallel to provide a purely resistive load of 16.67 ohms, and used to terminate a coax of 13.5° length at 4 MHz.

4. The impedance ZIN appearing at the input of the 13.5° length of coax at 4 MHz terminated by the 16.67-ohm resistor of Step 3 is measured with the Vector Impedance Meter, and found to be 20 ohms at ☐ +26°. Converting from polar to rectangular notation, ZIN = 17.98 + j8.77 ohms. (ZIN = ZLOAD from the earlier paragraphs.) This impedance is used in Steps 5 and 6 to provide the alternate load impedance in the load-variation method for determining the complex output impedance of the amplifier, and for proving that the conjugate match exists.

5. With respect to 50 ohms, ZIN from Step 4 yields a 2.88:1 mismatch and a voltage reflection coefficient rho = 0.484. Therefore, power reflection coefficient rho^2 = 0.235, transmission coefficient (1 − rho^2) = 0.766, and forward power increase factor 1/(1 − rho^2) = 1/0.766 = 1.306.

6. Leaving pi-network and drive level adjustments undisturbed, the 50-ohm load is now replaced with the coax terminated with the 16.67-ohm load from Step 4, thus changing the load impedance from 50 + j0 ohms to 17.98 + j8.77 ohms, the input impedance ZIN of the coax.

7. Due to the 2.88:1 mismatch at the load, neglecting network losses and the small change in plate current resulting from the mismatch, approximately the same mismatch appears between RLP and ZL at the input of the pi-network. Consequently, the change in load impedance changed the network input resistance RL from 1400 ohms to complex ZL =

800 – j1000 ohms, measured with the Vector Impedance Meter using the method described in Step 2. To verify the impedance measurement of ZL the phase delay of the network was measured using an HP-8405 Vector Voltmeter and found to be 127°. Using this value of phase delay the input impedance ZL was calculated using two different methods; one yielding 792 – j1003 ohms, the other yielding 794.6 – j961.3 ohms, thus verifying the accuracy of the measurement. However, although grid voltage EC, grid drive EG, are left unchanged, resistance RLP of approximately 1400 ohms at the plate has changed somewhat due to the small changes in plate voltage and plate current due to the change in the load, leaving a mismatch between RLP and ZL at the input of the pi-network. As stated above, this value of ZL yields the substantially the same mismatch to plate resistance RLP as that between the output impedance of the pi-network and the 17.98 + j8.77-ohm load, i.e., 2.88:1. This mismatch at the network input results in less power delivered into the network, and thus to the load, a decrease in the area of the RF window at the network input, and a change in the slope of the loadline. (It must be remembered that the input and output mismatches contribute only to mismatch loss, which does not result in power delivered and then lost somewhere in dissipation. As we will see in Step 8, the mismatch at the input of the pi-network results only in a reduced delivery of source power proportional to the degree of mismatch.)

8. Readings on a Bird 43 power meter now indicate 95w forward and 20w reflected, meaning only 75 watts are now delivered by the source and absorbed in the mismatched load. The 20w reflected power remains in the coax, and adds to the 75 watts delivered by the source to establish the total forward power of 95w.

9. We now compare the measured power delivered with the calculated power, using the power transmission coefficient, 1 – rho^2. The calculated power delivered is: 100w x (1 – rho^2) = 76.6w, compared to the 75w indicated by the Bird wattmeter. However, because the new load impedance is less than the original 50 ohms, and also reactive, the amplifier is now overloaded and the pi-network is detuned from resonance. Consequently, the plate current has increased from 260 to 290 ma, plate voltage has dropped to 760 v, and DC input power has increased from 208 w to 220.4 w.

10. With the 17.98 + j8.77-ohm load still connected, the pi-network loading and tuning are now re-adjusted to again deliver all available power with drive level setting still left undisturbed. The readjustment of the plate tuning capacitor has increased the capacitive reactance in the pi-network by –8.77 ohms, canceling the +8.77 ohms of inductive reactance in the load, returning the system to resonance. The readjustment of the loading control capacitor has decreased the output capacitive reactance, thus reducing the output resistance from 50 to 17.98 ohms. Thus the network readjustments have decreased the output impedance from 50 + j0 to 17.98 – j 8.77 ohms, the conjugate of the load impedance, 17.98 + j8.77 ohms. The

readjustments have also returned the network input impedance ZL to 1400 + j0 ohms (again equal to RLP), have returned the original area of the RF window at the network input, and have returned the slope of the loadline to its original value. For verification of the 1400-ohm network input resistance after the readjustment, ZL was again measured using the method described in Step 2, and found it to have returned to 1400 + j0 ohms.

11. Bird 43 power meter readings following the readjustment procedure now indicate 130w forward and 29.5w reflected, indicating 100.5w delivered to the mismatched load.

12. For comparison, the calculated power values are: Forward power = 100 x 1.306 = 130.6w, reflected power = 30.6w, and delivered power = 130.6w – 30.6w = 100w showing substantial agreement with the measured values. (1.306 is the forward power increase factor determined in Step 5.) Plate current has returned to its original value, 260 ma, and likewise, plate voltage has also returned to the original value, 800 v. Consequently, the DC input power has also returned to its original value, 208 w.

13. It is thus evident that the amplifier has returned to delivering the original power, 100 watts into the previously mismatched complex-impedance load, now conjugately matched, the same as when it was delivering 100 watts into the 50-ohm non-reactive load. But the reflected power, 30.6 watts, remains in the coax, adding to the 100 watts delivered by the amplifier to establish the 130.6 watts of forward power, proving that it does not enter the amplifier to dissipate and heat the network or the tube.

It must be kept in mind that impedance ZIN appearing at the input of the 13° line connecting the 16.7-ohm termination to the output of the amplifier is the result of reflected waves of both voltage and current, and thus reflected power is returning to the input of the line, and becomes incident on the output of the amplifier.
The significance of these measurement data is that for the amplifier to deliver all of its available power (100w) into the mismatched load impedance ZIN = 17.98 + j8.77 ohms, the readjustment of the tuning and loading of the pi-network simply changed the output impedance of the network from 50 + j0 ohms to 17.98 – j8.77 ohms, the conjugate of the load impedance, thus matching the output impedance of the network to the input impedance of the coax. Consequently, there is a conjugate match between the output of the transceiver and its complex load. QED. The readjustments of the pi-network simply changed its impedance transformation ratio from 50:1400 to (17.98 – j8.77): 1400, returning the input resistance RL of the pi-network to 1400 ohms, the value of RLP. Thus the plates of the amplifier tubes are unaware of the change in external load impedance.

14. We’ll now make an additional indirect measurement of ROS that proves the conjugate match statement above is true. Leaving the pi-network adjustments undisturbed from the conditions in Step 10, with

the amplifier powered down we again connect a 1400-ohm non-reactive resistor across the input terminals of the pi-network tank circuit and measure impedance ZOS looking rearward into the output terminals of the network. The impedance was found to be ZOS = 18 – j8 ohms.

From a practical viewpoint, measured impedance ZOS = 18 – j8 ohms is the conjugate of load impedance ZLOAD = 17.98 + j8.77, proving that the amplifier is conjugately matched to the load, and also proving the validity of the indirect method in determining that the source impedance of the amplifier is the conjugate of the load impedance when all available power is being delivered to the load.
Thus the data obtained in performing Steps 1 through 14 above proves the following four conditions to be true:

No reflected power incident on the output of the amplifier is absorbed or dissipated in the amplifier, because:

1. The total DC input power is the same whether the amplifier is loaded to match the resistive Z0 load of 50 + j0 ohms, with no reflected power, or to match the complex load of 17.98 – j8.77 ohms with 30.6 watts of reflected power, while 100 w is delivered to either the Z0 load or the re-matched complex load.

2. All the 100 watts of power delivered by the transmitter is absorbed in both the Z0 load and the re-matched complex load cases, with the same DC input power in both cases.

3. All the 30 watts of reflected power has been shown to add to the source power, establishing the total 130 watts of forward power in the case involving the re-matched complex load.

4. All the reflected power is added to the source power by re-reflection from the non-dissipative output source resistance ROS of the amplifier. Had the output source resistance of the amplifier been dissipative the reflected power would have been dissipated there into heat, instead of being re-reflected back into the line and adding to the source power. In addition, the Bird 43 power meter would have indicated 75 watts of forward power, not 95. This proves that reflected power incident on the output of the amplifier does not cause heating of the tube.

It should also be noted, an accepted alternative to the load-variation method for measuring the output impedance of a source of RF power is the indirect method demonstrated above. As performed during the measurements described above, the procedure for this method is to first make the necessary loading adjustments of the output network to ensure that all of the available power is being delivered to the load. Next, the input impedance of the load is measured. It then follows that, as proven above, the source impedance is the conjugate of the input impedance measured at the input of the load, because when all available power is being delivered to the load, this condition conforms to the Conjugate Matching and the Maximum Power-transfer

Theorems17.
Additionally, I previously performed this same measurement procedure using a HeathKit HW-100 transceiver, using several different lengths of coax between the 16.7-ohm load and the output of the transceiver in each of several measurements. The different lengths of coax provided different complex load impedances for the transceiver during each measurement. The same performance as described above resulted with each different load impedance, providing further evidence that a conjugate match exists when the amplifier is delivering all of its available power into its load. These results also prove that the single test with the Kenwood transceiver is not simply a coincidence.

Walt, W2DU

1863. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 03:13:44 UTC
From: tom <news4792@taring.org>
Message-ID: <4bff34e5$0$50146$8046368a@newsreader.iphouse.net>
Source record: 9563

On 5/27/2010 2:54 PM, jure wrote:
> On 21 svi, 07:22, "VK2KC"<vk2kcj...@gmail.com> wrote:
>> I am going to build an array of 4 stacked dipoles for operation on 2 metres.
>> I would like to know whether the gamma fed dipole has any advantage over the
>> folded dipole, apart from the folded dipole being a tad more difficult to
>> make.
>>
>> I have heard that the gamma fed dipole has a skewed radiation pattern in
>> comparison to the folded one.
>>
>> Any thoughts and advice?
>> Many thanks
>> John
>> VK2KC
>
> The folded dipole with 1:4 baloon is best solution for maching
> yagis .

EME operators, who have the greatest need of pattern control, noise temperature and efficiency, would not agree. They use the T match.

tom
K0TAR

1864. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 03:28:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r2euv5d3i852tqam9e416dhp2jjcio3ajp@4ax.com>
Source record: 9564

On Thu, 27 May 2010 17:36:41 -0700, Bob Smits <bob@rsmits.ca> wrote:

>Is there a significant difference between using the galvanized steel ground
>rods and copper to create an rf gound?

Hi Bob,

Two answers for that:
1. No difference whatever;
B. Neither make an RF ground.

Updates will follow this brief announcement.

73's
Richard Clark, KB7QHC

1865. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 03:36:05 UTC
From: tom <news4792@taring.org>
Message-ID: <4bff3a22$0$50145$8046368a@newsreader.iphouse.net>
Source record: 9565

On 5/27/2010 10:13 PM, tom wrote:
> On 5/27/2010 2:54 PM, jure wrote:
>> On 21 svi, 07:22, "VK2KC"<vk2kcj...@gmail.com> wrote:
>>> I am going to build an array of 4 stacked dipoles for operation on 2
>>> metres.
>>> I would like to know whether the gamma fed dipole has any advantage
>>> over the
>>> folded dipole, apart from the folded dipole being a tad more
>>> difficult to
>>> make.
>>>
>>> I have heard that the gamma fed dipole has a skewed radiation pattern in
>>> comparison to the folded one.
>>>
>>> Any thoughts and advice?
>>> Many thanks
>>> John
>>> VK2KC
>>
>> The folded dipole with 1:4 baloon is best solution for maching
>> yagis .
>
> EME operators, who have the greatest need of pattern control, noise
> temperature and efficiency, would not agree. They use the T match.
>
> tom
> K0TAR

Oops. You are talking about just a dipole, so the above doesn't really
apply.

And neither does any worries about skew. If it skews on a dipole who
cares? Just turn it, if you can even tell it skewed.

tom
K0TAR

1866. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 04:21:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v5euv558gt4liscji7hqlvfuksuvto1b06@4ax.com>
Source record: 9566

On Fri, 28 May 2010 00:08:10 GMT, Owen Duffy <none@no.where> wrote:

>Zs can be measured by a number of methods. It is interesting to note that
>in many of the discussions on the 'net on this topic, more focus is given
>to dismissing the experiment design for experiments that produce
>unfavourable results to some, than questioning the proposition that Zs is
>50+j0 or thereabouts.

Hi Owen,

Even this Zs = 50+j0 or thereabouts is a distraction. Quite simply,
being able to reject a single value is an evasion of facing the
evidence of source resistance.

What is more comic is both sides couldn't agree more! Truly Kabuki.

>Whilst Walt has documented a quite rigourous experiment, and it produced
>a favourable outcome, it is my view that that in itself is not proof of
>the proposition.

Propositions seem to abound as n+1 the number of participants. I dare
say no two participants can agree what any single proposition is
without adorning further distractions to it like bulbs on a Christmas
tree.

>Whilst one favourable experiment cannot proove the proposition correct,
>just one valid experiment can prove the proposition to be not generally
>true. No doubt the reason for the focus on proving experiments invalid.

Proving a straw man invalid is simple. Proving a murky proposition
invalid is simple too. Unfortunately, the occurrences of actually
stepping up to the bench and showing results other and conclusively
different from those offered is a void in the discussion.

It would seem the qualitative counter-proof comes cheap and that
submitted quantifiables are unchallenged. Quite a paradox.

>If you give some thought to what you could use Zs for, then every valid
>experiment that is designed around that application must produce a
>favourable outcome if Zs is as proposed. If they don't, then the value
>assumed for Zs must be wrong.
>
>I posted a simple test earlier that in my experience does not support the
>proposition that typical ham HF transmitters have Zs=50+j0 or close to
>it. The test is documented so that individuals can try it and make their
>own mind up. Some might get favourable results on limited trials... but
>in my view, that is outweighed by unfavourable results from valid

>experiments.

For years I have read that Zs is not ____. Just as quantifiables are brushed off the table of discussion, I have yet to see measure of what the objectors' Zs IS instead under any circumstance that they can conveniently arrange with their own tools and source.

It is a tautology that if it is not X, it must be Y, or Z, or.... None seem to know an explicit answer under any circumstance or configuration of their own gear. Without some value such as 10 Ohms, 50 Ohms, 10,000 Ohms, it leaves a most curious happenstance that any garden variety ham transmitter exhibits either 0 or infinite source resistance - but I dare say no one is going to step forward to accept these boundary limits either!

No counter-proclaimants of ANY value between and including 0 to infinity. It would be a commitment anyone could validate or refute on the basis of science at the bench - and what would follow from that examination? I would find such discussion refreshing in comparison.

What a happy state of ignorance this topic draws out of the wallpaper.

73's
Richard Clark, KB7QHC

1867. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 06:15:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d7muv5dncujhid864ktc1sdncc9fgl72sd@4ax.com>
Source record: 9567

On Thu, 27 May 2010 19:57:27 -0700 (PDT), nm5k@wt.net wrote:

>> > As I have stated before, wave is a descriptive word
>> > and not a noun

Let's see where the descriptive wave (not a noun) leads us.
Wave-and-go cashcard: contactless payment system.
Wave aquatics: a competitive swim program.
Wave church: "we invite you to be a part of Wave Women."
Wave dash: a technique in Melee that causes a character to slide along
the ground without walking or running.
Wave extension: hair, also called a "fall."
Wave grease: more hair, control pomade.
Wavey gravy: psychedelic sauce.
Wave hook: antenna.
Wave iron: even more hair, for curling.
Wave jumper: a boat.
Wave keyboard: what you type on if you are really kewel.
Wave machine: something one would find at a water park.
Wave meter: a tunable cavity with a frequency scale.
Wave scholarship: The Washington Award for Vocational Excellence.
and probably some more.

Which one is being talked about?

73's
Richard Clark, KB7QHC

1868. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 06:18:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aunuv55kclhdv0pqevvjfeenkjggl3hnoe@4ax.com>
Source record: 9568

On Thu, 27 May 2010 19:10:41 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>2) What would be Rs optical analog?

Superman's cataracts with his xray vision. This is probably going to
be your only direct answer.

73's
Richard Clark, KB7QHC

1869. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 07:27:31 UTC
From: jure <tonkojursky@hotmail.com>
Message-ID: <3634b4e3-3065-4210-99ee-ed3bf1f9faf9@r9g2000vbk.googlegroups.com>
Source record: 9569

On 28 svi, 05:13, tom <news4...@taring.org> wrote:
> On 5/27/2010 2:54 PM, jure wrote:
>
>
>
> > On 21 svi, 07:22, "VK2KC"<vk2kcj...@gmail.com> wrote:
> >> I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> >> I would like to know whether the gamma fed dipole has any advantage over the
> >> folded dipole, apart from the folded dipole being a tad more difficult to
> >> make.
>
> >> I have heard that the gamma fed dipole has a skewed radiation pattern in
> >> comparison to the folded one.
>
> >> Any thoughts and advice?
> >> Many thanks
> >> John
> >> VK2KC
>
> >   The folded dipole with 1:4 baloon is best solution for maching
> > yagis .
>
> EME operators, who have the greatest need of pattern control, noise
> temperature and efficiency, would not agree. They use the T match.
>
> tom
> K0TAR

I do not think so . He is worse than the folded dipole . . .

1870. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 07:29:16 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bff70d0$0$19169$65785112@news.neostrada.pl>
Source record: 9570

"K1TTT" <k1ttt@arrl.net> wrote
news:2f21270e-23cf-449f-9f5b-b4170d8dd499@v37g2000vbv.googlegroups.com...
On May 27, 5:29 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> In plasma physics are particles.
> > S*
>> >well, at least you have one sentence that says something true.
>
>> And are this true: "We also assumed, perfectly arbitrarily, that the
> direction of these vortices is such that, on looking along a line of force
> from south to north, we should see the vortices revolving in the direc-
> tion
> of the hands of a watch. We found that the velocity of the circumference
> of
> each vortex must be proportional to the intensity of the magnetic force,
> and
> that the density of the substance of the vortex must be propor- tional to
> the capacity of the medium for magnetic induction."
> From:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
>
>> "the density of the substance of the vortex "
>> As you see in Maxwell's hypothesis was the mass. The all waves need mass
>> and
> inertia.
>> But all movements (also waves) can be described dynamically (with mass)
>> or
> geometrically (only directions and speed).
>> The famous Heaviside's equations are the geometrical description of the
> waves.
> S*

>as has already been pointed out this paper predates the publication of
the full set of maxwell's equations

Maxwell's math from any date describes the Maxwell hipothesis on massive
magnetic whirl.

>, and even the publication of
gauss' law... so much development was done in em theories after that
date.

"EM theory" was stripped away by scientists and anybody developed it.
All works with electrons.

Heaviside who wrote the set of "maxwell's equations" was an engineer.
Teachers adopt the equations to teach the match.

> just because something is written down doesn't make it right or
we would still be living with 4 elements and letting blood to cure
disease.

The magnetic substance do not exists but you still are living with it.

In space is plasma (ions and electrons) and dust. That all rotate with the
Sun.
S*

1871. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 08:47:40 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <6b876517-5403-4f4c-b233-44ec8355496f@a16g2000vbr.googlegroups.com>
Source record: 9571

On 28 mayo, 03:18, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 27 May 2010 19:10:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >2) What would be Rs optical analog?
>
> Superman's cataracts with his xray vision. This is probably going to
> be your only direct answer.
>
> 73's
> Richard Clark, KB7QHC

OK, good example. Cataracts presents absortion, transmission and
reflection (they are whitish). To be analog I think should not have
reflection. What do you think? (Perhaps seems maieutics but really I
am trying to put my thoughts in order at first).

What about the third point? I consider it important because light
waves are in three dimensional space, so when they cancels in a
region, reinforces in other and I can understand redistribution, but
line travelling waves are in unidimensional space and here I can not
visualize (realize?) the energy redistribution as in light
interference. Sorry, when I put interrogation words inside
parentheses is that I am not sure the better/adecuated translation.

73

Miguel Ghezzi LU6ETJ

1872. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 09:03:51 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <ec337059-f969-4ab7-8dec-7634275a360e@b21g2000vbh.googlegroups.com>
Source record: 9572

On 28 mayo, 05:47, lu6etj <lu6...@gmail.com> wrote:
> On 28 mayo, 03:18, Richard Clark <kb7...@comcast.net> wrote:
>
> > On Thu, 27 May 2010 19:10:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> > wrote:
>
> > >2) What would be Rs optical analog?
>
> > Superman's cataracts with his xray vision. This is probably going to
> > be your only direct answer.
>
> > 73's
> > Richard Clark, KB7QHC
>
> OK, good example. Cataracts presents absortion, transmission and
> reflection (they are whitish). To be analog I think should not have
> reflection. What do you think? (Perhaps seems maieutics but really I
> am trying to put my thoughts in order at first).
>
> What about the third point? I consider it important because light
> waves are in three dimensional space, so when they cancels in a
> region, reinforces in other and I can understand redistribution, but
> line travelling waves are in unidimensional space and here I can not
> visualize (realize?) the energy redistribution as in light
> interference. Sorry, when I put interrogation words inside
> parentheses is that I am not sure the better/adecuated translation.
>
> 73
>
> Miguel Ghezzi LU6ETJ

Sorry I thought it was a very simple Cecil's answer. It was a joke,
wasn't it?. It is my fault... I did not realize the signature and not
translate well the paragraph :>)

Miguel

1873. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 11:54:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <edf497ff-e42a-48b7-8eba-f58dae769091@k31g2000vbu.googlegroups.com>
Source record: 9573

On May 27, 9:10 pm, lu6etj <lu6...@gmail.com> wrote:
> 1) I did not think of (or is think on?) a laser source, I was one step
> before, I think only of a "coherent" source to match monofrequency
> simple AC generator analogy.

Let's consider an *ideal* single-frequency laser to be a coherent
monofrequency source for the purposes of discussion.

> 2) What would be Rs optical analog?

I don't know enough about lasers to answer that question. In any case,
I don't think reflections incident upon a laser encounter whatever Rs
that might exist. I think we are going to have to settle for what
happens outside of the laser which in important because what happens
to photons in free space and other mediums cannot be hidden inside a
transmission line. Standing waves of photons cannot stand still in a
coaxial transmission line any better than they can stand still in free
space.

What some people are missing is that visible light waves and RF waves
are exactly the same phenomena, just at a different frequency. The
laws of physics governing light waves also govern RF waves. When
someone says, "RF waves are different from light waves" or "RF waves
can stand still", they are just showing their ignorance. They must
also prove that reflected visible light waves in free space contain no
energy and can stand still or else they are just blowing smoke.

> 3) Superposition is a medium phenomenon ¿yes?, for example "eter".
> Interference an result of it on a other "thing", for example
> photographic plate or screen. Are we agree? K

No, in our context, superposition is the merging of two or more EM
waves in any medium. If the waves are coherent, constructive/
destructive interference can occur. If partial or complete wave
cancellation (permanent destructive interference) occurs, then the
energy in the waves that existed before cancellation must be
redistributed in another direction AND there are only two directions
in an RF transmission line.

I believe that Walter Maxwell defines any reversal in direction of
reflected energy flow in a transmission line to be a "re-reflection".
I prefer to call what happens to a single reflected wave a 1. "re-
reflection" and what happens when two waves cancel a 2.
"redistribution" of reflected energy.

> What about the third point? I consider it important because
> light waves are in three dimensional space, ...

Let's compare coax with 0.2 square inches of cross-sectional area to a laser beam with 0.2 square inches of cross-sectional area. For the same power level, the power density, watts/in^2, will be the same - therefore the Poynting vectors will be the same. With such a concept in place, we can talk about a 100w RF source or a 100w laser source.
--
73, Cecil, w5dxp.com

1874. Re: Gamma fed or folded dipoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 12:14:58 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <778f2f6a-efb7-4aeb-880f-db3b03a6a842@w3g2000vbd.googlegroups.com>
Source record: 9574

On May 27, 6:28 pm, jure <tonkojur...@hotmail.com> wrote:
> On 27 svi, 22:13, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
>
>
> > On May 27, 3:54 pm, jure <tonkojur...@hotmail.com> wrote:
>
> > > On 21 svi, 07:22, "VK2KC" <vk2kcj...@gmail.com> wrote:
>
> > > > I am going to build an array of 4 stacked dipoles for operation on 2 metres.
> > > > I would like to know whether the gamma fed dipole has any advantage over the
> > > > folded dipole, apart from the folded dipole being a tad more difficult to
> > > > make.
>
> > > > I have heard that the gamma fed dipole has a skewed radiation pattern in
> > > > comparison to the folded one.
>
> > > > Any thoughts and advice?
> > > > Many thanks
> > > > John
> > > > VK2KC
>
> > > The folded dipole with 1:4 baloon is best solution for maching
> > > yagis .
>
> > Over the last few years a I have started preferring using the folded
> > dipole for the driven element also. I dont understand your need for
> > 4:1 BALUN though.
>
> > Jimmie
>
> You must put the balun to have 50 Ohm
.http://users.belgacom.net/hamradio/schemas/14balun.gif

Sorry, I got to thinking you were using it as the driven element of a
Yagi. I think my train of thought got derailed by someone elses
comment.

Jimmie

Jimmie

1875. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 13:07:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <10ae8d95-6d58-4c5d-8edb-0fc70a84408f@q23g2000vba.googlegroups.com>
Source record: 9575

On May 27, 10:34 am, Cecil Moore <w5...@hotmail.com> wrote:
> Note that the reflection coefficient, r, is 1.0 for air.

Sorry, I misspoke here. Instead of "reflection coefficient", I should
have said "index of refraction". The two are related but they are not
the same parameter.
--
73, Cecil, w5dxp.com

1876. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 13:13:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b3f3a156-88dd-4bb5-809d-fd941af6c253@d12g2000vbr.googlegroups.com>
Source record: 9576

On May 27, 8:25 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Now just hold on right there!
> As I have stated before, wave is a descriptive word
> and not a noun as described by a particle.

Please Google "wave particle duality of light".

http://en.wikipedia.org/wiki/Wave%E2%80%93particle_duality
--
73, Cecil, w5dxp.com

1877. JIMMY CHOO Handbags ((http://www.cntrade09.com)) - (paypal payment)Dior Handbags Dunhill Purse

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 13:50:30 UTC
From: cntrade08 <chenxiangmei88@gmail.com>
Message-ID: <0ba7789a-5c1f-4a9b-82e8-8bd786a380aa@h20g2000prn.googlegroups.com>
Source record: 9577
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

Burberry Handbags
Balenciaga Handbags ((http://www.cntrade09.com)) - (paypal payment)
Balenciaga Purse
Bally Purse
BOSS Purse ((http://www.cntrade09.com)) - (paypal payment)
Chanel Handbags
Chanel Purse
Chloe Handbags ((http://www.cntrade09.com)) - (paypal payment)
Chloe Purse
Coach Handbags ((http://www.cntrade09.com)) - (paypal payment)
Coach Purse
D&G Purse ((http://www.cntrade09.com)) - (paypal payment)
Dior Handbags
Dunhill Purse
Gucci Handbags ((http://www.cntrade09.com)) - (paypal payment)
Gucci Purse
Hermes Purse
JIMMY CHOO Handbags ((http://www.cntrade09.com)) - (paypal payment)
JIMMY CHOO Purse
LV Handbags ((http://www.cntrade09.com)) - (paypal payment)
LV Purse
FENDI Handbags
Hermes Handbags ((http://www.cntrade09.com)) - (paypal payment)
JUICY Handbags
KOOBA Handbags ((http://www.cntrade09.com)) - (paypal payment)
LOEWE Handbags
Marc Jacobs Handbags ((http://www.cntrade09.com)) - (paypal
payment)
MIUMIU Handbags
MULBERRY Handbags
THOMASWYLDE Handbags ((http://www.cntrade09.com)) - (paypal
payment)
PRADA Handbags ((http://www.cntrade09.com)) - (paypal payment)
PRADA Purse
Valentnv Handbags ((http://www.cntrade09.com)) - (paypal payment)
D&G Handbags
VERSACE Handbags
Lancel Handbags ((http://www.cntrade09.com)) - (paypal payment)
Anna Purse
Ferragmo Purse
burbetty Purse
Chanel Purse

Chloe Purse ((http://www.cntrade09.com)) - (paypal payment)
Coach Purse ((http://www.cntrade09.com)) - (paypal payment)
D&G Purse
Dior Purse
Dooney&Bourke Purse ((http://www.cntrade09.com)) - (paypal payment)
ED Purse
Fendi Purse ((http://www.cntrade09.com)) - (paypal payment)
Gucci Purse ((http://www.cntrade09.com)) - (paypal payment)
LV Purse
Guess Purse ((http://www.cntrade09.com)) - (paypal payment)
PRADA Purse
Tous Purse ((http://www.cntrade09.com)) - (paypal payment)
Versace Purse
Miumiu Purse ((http://www.cntrade09.com)) - (paypal payment)

1878. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 14:20:12 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <41c3f015-0b33-466a-a824-03d02c745c38@y12g2000vbr.googlegroups.com>
Source record: 9578

On May 28, 7:29 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

> In space is plasma (ions and electrons) and dust. That all rotate with the
> Sun.
> S*

well, not quite. they get slower as they move out from the sun. look
at the trajectories of solar wind and how it winds out in a spiral.
if that was the carrier of light it would severely distort our view of
the sun. as it is we can easily see the difference between the speed
of light and the speed of shock waves of plasma (longitudinal waves)
in space... the difference is minutes for light to get here up to days
for plasma waves.

1879. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 15:18:44 UTC
From: walt <walt@w2du.com>
Message-ID: <80f98ab5-93a2-4a84-a70e-cd94bca03c7d@o1g2000vbe.googlegroups.com>
Source record: 9579

On May 28, 12:21 am, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 28 May 2010 00:08:10 GMT, Owen Duffy <n...@no.where> wrote:
> >Zs can be measured by a number of methods. It is interesting to note that
> >in many of the discussions on the 'net on this topic, more focus is given
> >to dismissing the experiment design for experiments that produce
> >unfavourable results to some, than questioning the proposition that Zs is
> >50+j0 or thereabouts.
>
> Hi Owen,
>
> Even this Zs = 50+j0 or thereabouts is a distraction. Quite simply,
> being able to reject a single value is an evasion of facing the
> evidence of source resistance.
>
> What is more comic is both sides couldn't agree more! Truly Kabuki.
>
> >Whilst Walt has documented a quite rigourous experiment, and it produced
> >a favourable outcome, it is my view that that in itself is not proof of
> >the proposition.
>
> Propositions seem to abound as n+1 the number of participants. I dare
> say no two participants can agree what any single proposition is
> without adorning further distractions to it like bulbs on a Christmas
> tree.
>
> >Whilst one favourable experiment cannot proove the proposition correct,
> >just one valid experiment can prove the proposition to be not generally
> >true. No doubt the reason for the focus on proving experiments invalid.
>
> Proving a straw man invalid is simple. Proving a murky proposition
> invalid is simple too. Unfortunately, the occurrences of actually
> stepping up to the bench and showing results other and conclusively
> different from those offered is a void in the discussion.
>
> It would seem the qualitative counter-proof comes cheap and that
> submitted quantifiables are unchallenged. Quite a paradox.
>
> >If you give some thought to what you could use Zs for, then every valid
> >experiment that is designed around that application must produce a
> >favourable outcome if Zs is as proposed. If they don't, then the value
> >assumed for Zs must be wrong.
>
> >I posted a simple test earlier that in my experience does not support the
> >proposition that typical ham HF transmitters have Zs=50+j0 or close to

> >it. The test is documented so that individuals can try it and make their
> >own mind up. Some might get favourable results on limited trials... but
> >in my view, that is outweighed by unfavourable results from valid
> >experiments.
>
> For years I have read that Zs is not ____. Just as quantifiables are
> brushed off the table of discussion, I have yet to see measure of what
> the objectors' Zs IS instead under any circumstance that they can
> conveniently arrange with their own tools and source.
>
> It is a tautology that if it is not X, it must be Y, or Z, or.... None
> seem to know an explicit answer under any circumstance or
> configuration of their own gear. Without some value such as 10 Ohms,
> 50 Ohms, 10,000 Ohms, it leaves a most curious happenstance that any
> garden variety ham transmitter exhibits either 0 or infinite source
> resistance - but I dare say no one is going to step forward to accept
> these boundary limits either!
>
> No counter-proclaimants of ANY value between and including 0 to
> infinity. It would be a commitment anyone could validate or refute on
> the basis of science at the bench - and what would follow from that
> examination? I would find such discussion refreshing in comparison.
>
> What a happy state of ignorance this topic draws out of the wallpaper.
>
> 73's
> Richard Clark, KB7QHC

Richard, I'm not sure I understand thrust of your theme correctly. Are you accepting my measurement data as proof of my position, or are you including my data as a happy state of ignorance on this topic?

Walt, W2DU

1880. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 16:14:51 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4cbd04b4-ce2c-4698-81fb-b925d9420c95@z17g2000vbd.googlegroups.com>
Source record: 9580

On May 28, 8:13 am, Cecil Moore <w5...@hotmail.com> wrote:
> On May 27, 8:25 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Now just hold on right there!
> > As I have stated before, wave is a descriptive word
> > and not a noun as described by a particle.
>
> Please Google "wave particle duality of light".
>
> http://en.wikipedia.org/wiki/Wave%E2%80%93particle_duality
> --
> 73, Cecil, w5dxp.com

Cecil, you are missing a basic point about physics.
Classical physics is seen as factual. All other theorems are
replacement attempts to explain paradoxies provided by classical
physics. When ever one reads the duality theorem it is exactly that, a
theorem which many say is a myth that is being perpetuated, but even
so they declare the wave as a function purely because of mathematical
reasons that the wave function has the same mathematics that can be
traced back to those provided by a particle.
Even so, classical physics holds the major spot in physics where all
other theorems are attempts to topple its position as a collection or
laws or facts.
Maxwell's equations as are equations by Gauss,
Faraday are today considered to be facts that have yet to be
overturned. Tho I call my work a theorem I can just as easily call
them a series of facts which are still accepted to this day. My
findings only uses facts. Classical physics has yet to be dethroned.
The masters were very smart people who were very careful with words
and interpretations of the visibles whereas even today the double
split experiment is torn with missinterpretations in continuation of a
unproven theory
None of the accepted facts that I have used mention the term of waves
and since these laws are part of classical physics I hold to them.
There has not been any theorem that has been expanded to the status of
a law such that classical
physics has been displaced. I am using only what Einstein failed to
locate that which he needed to
further his leanings towards the Standard Model and it was only this
failure that provided a reason to
look for different viewpoints.
If you have reason to displace the legitamacy of Classical Physics as
used by me then state them.

What I have used is short and to the point so I am not presenting a
hardship to whome I consider as a qualified engineer
My best regards
Art

1881. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 17:17:28 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <BUSLn.13935$%u7.6015@newsfe14.iad>
Source record: 9581

I used one 10 ft. copper clad steel ground rod and three 10 ft. copper
pipes. The pipes had 1/4 inch holes
drilled randomly throughout the bottom six feet and allowed me to annually
pour an epsom salt solution through them to enhance
ground conductivity. One copper pipe was set about 6 inches away from the
paired copper clad steel -- this
enabled the salt solution to salt the region of both. The two sets were
about ten feet apart and joined together
with heavy copper clad steel wire (Silver soldered). . To one set I attached
a number of random length radials running across the
yard (along two fence lines) and around the side of the house. They gave me
a real good ground as far as I
was concerned. Due to illness I recently sold the house, and extracted the
ground system. Surprisingly there was
little if any degredation of the metal elements -- that was after 27 years
in the ground! Both the copper clad steel
rod and the copper pipes were in good shape. Copper is expensive, but it
lasted a long time and took the
worry about whether I had a good ground away.

To install the copper pipes, I first drove in the copper clad steel rod,
then drew it out of the ground with
a car jack and inserted the copper pipes in the resultant holes.

To make the job easy, I had a young ham use a sledgehammer to drive the
copper clad steel pipe into
the ground and jack it back out -- three times! For the fourth hole I did
not have to extract the rod -- it
was left in place.

I'm no engineer, and never did any ground testing (whatever that involved),
but I was totally satisfied
with the system. Do it once right amd then don't worry about it!

Irv VE6BP

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:r2euv5d3i852tqam9e416dhp2jjcio3ajp@4ax.com...
> On Thu, 27 May 2010 17:36:41 -0700, Bob Smits <bob@rsmits.ca> wrote:
>
>>Is there a significant difference between using the galvanized steel
>>ground
>>rods and copper to create an rf gound?
>
> Hi Bob,
>

> Two answers for that:
> 1. No difference whatever;
> B. Neither make an RF ground.
>
> Updates will follow this brief announcement.
>
> 73's
> Richard Clark, KB7QHC

1882. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 17:35:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4bfffecd$0$2596$65785112@news.neostrada.pl>
Source record: 9582

"K1TTT" <k1ttt@arrl.net> wrote
news:41c3f015-0b33-466a-a824-03d02c745c38@y12g2000vbr.googlegroups.com...
On May 28, 7:29 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

>> In space is plasma (ions and electrons) and dust. That all rotate with
>> the
> Sun.
> S*

>well, not quite. they get slower as they move out from the sun.

That is obvious. Each star has his own whirl.

> look
at the trajectories of solar wind and how it winds out in a spiral.
if that was the carrier of light it would severely distort our view of
the sun.

The math for this was done by Stokes before 1850.

>as it is we can easily see the difference between the speed
of light and the speed of shock waves of plasma (longitudinal waves)
in space... the difference is minutes for light to get here up to days
for plasma waves.

The oldest telephone was made from string and cans. We can use the metal
wire.
In the wire can travel the sound waves and the electric waves. The speeds
are also different.
In plasma the ions are the medium for shock waves and the electrons for the
electric waves.

You know almost everything. But you do not know that the teachers are very
nice people who must every year look for new nice students and next look
after them. So they have no time to observe what the scientists and
engineers are doing. They are using the same "pieces to teach".
They started teaching of Copernican's theory 250 years after publication.
So Stokes' aether will be in schools in XXII century.
Do you agree?
S*

1883. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 17:56:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ftrvv5tdt57bps7rl4dep8rvq634qih160@4ax.com>
Source record: 9583

On Fri, 28 May 2010 08:18:44 -0700 (PDT), walt <walt@w2du.com> wrote:

>Richard, I'm not sure I understand thrust of your theme correctly. Are
>you accepting my measurement data as proof of my position, or are you
>including my data as a happy state of ignorance on this topic?
>
>Walt, W2DU

Hi Walt,

You understand my "truly kabuki" suitably enough, which means the others must be lurking in the shadows unable to step up to the bench of their own demonstrable scientific commitment.

Your numbers show evidence of source resistance. Like any real resistance, in a complex mix of reactances and phases, all superposition energies collapse to reveal a net value that is either a caloric break-even, gain, or loss. This real resistance is the experience of EVERY correspondent here.

As for your position, your proposal appears to exhibit source resistance where you deny its reality. This is a longstanding difference we have had and I presume will never be bridged.

If you had never opened the door to the conjugate match, because what you argue with your data as support is properly an image-Z match, then you would be on a firmer foundation, rhetorically.

The Z match more close corresponds to the maximum available power transfer theorem and models of Thevenin/Norton sources. Neither of these sources demand a resistor - this was a high school physics artifact with about as much rigor as Sunday school is to theology.

Terman explicitly offers Thï¿½venin's Theorem on the bottom of page 74 continuing onto page 75. He describes the Z match in the middle of page 76. Your argument is what Terman calls an "image-impedance basis." Note the term "basis," it has been my question to you for years as to what basis you have used. I have never gotten an explicit response.

In the second paragraph of 3-8 we find Terman discuss the conjugate basis of matching for maximum available power delivery. I won't belabor what can be read by the multitudes for themselves.

However, beyond this discussion, Terman offers an APPLICATION where its topology is entirely congruent with the propositions being bandied about here. Please turn to pages 262, 263 footnotes to observe plate

resistance and grid-leak resistance being offered - not Zs but Rs.

This last point, yet another distraction, probably brings a collective sigh of relief as the shadows are emptied with those who throng to argue the meaning of resistance instead of measuring it at their own bench.

Truly Kabuki.

73's
Richard Clark, KB7QHC

1884. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 18:12:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <g110065qtqen72lb70ak7r5r2m1n54ibm8@4ax.com>
Source record: 9584

On Fri, 28 May 2010 01:47:40 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>On 28 mayo, 03:18, Richard Clark <kb7...@comcast.net> wrote:
>> On Thu, 27 May 2010 19:10:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
>> wrote:
>>
>> >2) What would be Rs optical analog?
>>
>> Superman's cataracts with his xray vision. ï¿½This is probably going to
>> be your only direct answer.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>OK, good example. Cataracts presents absortion, transmission and
>reflection (they are whitish). To be analog I think should not have
>reflection. What do you think? (Perhaps seems maieutics but really I
>am trying to put my thoughts in order at first).

Whatever reflects, also absorbs and vice-versa. The notion that the
interface is a singularity (infinitely thin) cannot be found in
reality. Arguments that hinge on this non-existent property are made
for the novice to intermediate student. Those who practice the
science of optics at the bench never observe this metaphor in reality.

>What about the third point? I consider it important because light
>waves are in three dimensional space, so when they cancels in a
>region, reinforces in other and I can understand redistribution, but
>line travelling waves are in unidimensional space and here I can not
>visualize (realize?) the energy redistribution as in light
>interference. Sorry, when I put interrogation words inside
>parentheses is that I am not sure the better/adecuated translation.

Superposition is the collapse of all possible solutions to a real one.
To be real, we must have an observer. Frequently that is called a
load. That load may be a transducer (light cell). Without the
observer, both energies are present - nothing cancels. What is called
redistribution is a superstitious necessity of trying to visualize the
math. Redistribution is a strained term that is useful as a placebo,
but nothing moves in the redistribution (an irony or a paradox which
is more useful in entertainment).

Traveling along the road of using optical metaphors is troubling for
those who have never worked at an optic bench. Cut and paste theory
from eminent authors occludes vision.

73's
Richard Clark, KB7QHC

1885. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 18:13:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hs1006pbc1kjmmpfi81v2lv6p65tqe959i@4ax.com>
Source record: 9585

On Fri, 28 May 2010 02:03:51 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>It was a joke,
>wasn't it?.

It was the only explicit answer you will ever get.

73's
Richard Clark, KB7QHC

1886. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 18:20:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r42006ltdi5sq7noodtuj0br5po52roini@4ax.com>
Source record: 9586

On Fri, 28 May 2010 11:17:28 -0600, "Irv Finkleman" <finkirv@shaw.ca>
wrote:

>I'm no engineer, and never did any ground testing (whatever that involved),

Hi Irv,

In fact you had the perfect opportunity to do simple but effective
test through a classic three electrode measurement.

You perform the test three times by rotation among the three
electrodes. You apply a HIGH voltage across the two most distant
electrodes, measure that current, and measure the potential difference
to the third, middle electrode. You must us a high voltage to
overcome local ground currents and any cathodic action. 50 or more
volts is enough.

73's
Richard Clark, KB7QHC

1887. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 22:46:02 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <0d91fd84-c798-4391-8e90-5d5613e1b9aa@r9g2000vbk.googlegroups.com>
Source record: 9587

On 28 mayo, 15:12, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 28 May 2010 01:47:40 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
>
>
>
>
> >On 28 mayo, 03:18, Richard Clark <kb7...@comcast.net> wrote:
> >> On Thu, 27 May 2010 19:10:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> >> wrote:
>
> >> >2) What would be Rs optical analog?
>
> >> Superman's cataracts with his xray vision. This is probably going to
> >> be your only direct answer.
>
> >> 73's
> >> Richard Clark, KB7QHC
>
> >OK, good example. Cataracts presents absortion, transmission and
> >reflection (they are whitish). To be analog I think should not have
> >reflection. What do you think? (Perhaps seems maieutics but really I
> >am trying to put my thoughts in order at first).
>
> Whatever reflects, also absorbs and vice-versa. The notion that the
> interface is a singularity (infinitely thin) cannot be found in
> reality. Arguments that hinge on this non-existent property are made
> for the novice to intermediate student. Those who practice the
> science of optics at the bench never observe this metaphor in reality.
>
> >What about the third point? I consider it important because light
> >waves are in three dimensional space, so when they cancels in a
> >region, reinforces in other and I can understand redistribution, but
> >line travelling waves are in unidimensional space and here I can not
> >visualize (realize?) the energy redistribution as in light
> >interference. Sorry, when I put interrogation words inside
> >parentheses is that I am not sure the better/adecuated translation.
>
> Superposition is the collapse of all possible solutions to a real one.
> To be real, we must have an observer. Frequently that is called a
> load. That load may be a transducer (light cell). Without the
> observer, both energies are present - nothing cancels. What is called
> redistribution is a superstitious necessity of trying to visualize the

> math. Redistribution is a strained term that is useful as a placebo,
> but nothing moves in the redistribution (an irony or a paradox which
> is more useful in entertainment).
>
> Traveling along the road of using optical metaphors is troubling for
> those who have never worked at an optic bench. Cut and paste theory
> from eminent authors occludes vision.
>
> 73's
> Richard Clark, KB7QHC- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hi Cecil and Richard (thanks for answer my questions Cecil, and add
your technical comments Richard).

I reply (is it OK "reply"?) to Richard first because it is part of my
comment to Cecil. Yes, Richard. Tonight I said to me: -the worst term
that you could use, Miguel, was "ether"- :>), because "ether" is a
hipotetical MATERIAL thing, so, as on other material mediums we
usually can literally see interference because interference is
manifested on matter, but we need photographic plates, screens,
retinas, etc. to manifest electromagnetic interference, "loads" as say
Richard, ("observer" it is more sutil and difficult concept, I dare
not with "him").
I needed know what represent that in a line discontinuity (in a load
seems obvious) to better understand Cecil's examples in web page
(http://www.w5dxp.com/energy.htm).
....
Before continue I want to do a comment to know if we agree (more or
less). We partially think with words or symbols, words and symbols
represent concepts or perceptions, concepts are not "out there", as
Einstein said they are: "free creations of human mind". There is not
energy out there, there is not velocity out there, that things are in
our brains (or consciusness if you prefer). We need consensus to
collective think on it, we need "sincrhonize" our minds to
colectivelly think the world...
You think in english, I think in spanish, I need translate "your"
words to "my" words to understand what you say, I can not say: "whats
the hell is a rig!", where are "rigs"! only there are "equipos"
boys! :>) For that I need understand what means Cecil with
redistribution, I belieive I can understand his idea behind the word,
I must make the effort because my own language barrier. Perhaps the
consensus word to it may be not "redistribution", but... what Cecil
tries explain to me? I try never identify the "map" (words, concepts)
with the "territory" (hipotetical real world) because misleading me.
....
Cecil I want to ask you if you are using "photon" term to
methaforically refer to "light". I am not qualified at all to address
this issue in quantic physics terms I thougth we was fully inmersed in
ondulatory theory.

I do not have useful knowledge in laser either. but I can imagine (I believe) the properties of Rs analogy.
I am interested in your optical analogy because analogies often are useful to visualize a new thing knowing old things, it does not matter if we use RF concepts to aproximate optical things or vice versa, analogies are useful crutches (muletas in spanish). Even I agree at our concept that electromagnetic spectrum includes RF waves and ligh waves and they are the same phenomenon, I think that is a result of great insight and efforts of the human mind, it is not so evident. We see light, we sense infrared radiaton, but we can not perceive well RF without instruments (unless we introduce ourselves in a micowave oven or burn with the antenna, of course).
To concentrate light we only need a piece of glass, to do the same on HF RF region we need large wire antenna arrays. Because of this we often need (or employ) very differents models to deal with the "same thing". Probably Maxwell equations solve all of them, but they are difficult ladies to deal :>).
Reconciling optcs models with electric models have its difficulties, but can be productive undoubtedly I believe.

(Richard I do not think wathever reflects also absorbs (ideally at last), It can reflects an transmits but nor absorb, do you agree with it?)

(I do not forget Roy's article, I'm still trying to sort out all the puzzle pieces).

73

Miguel Ghezzi LU6ETJ

1888. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-28 23:43:42 UTC
From: walt <walt@w2du.com>
Message-ID: <a52b09e4-4b3e-463b-a3c0-8b6a9d66a576@b21g2000vbh.googlegroups.com>
Source record: 9588

On May 28, 1:56 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 28 May 2010 08:18:44 -0700 (PDT), walt <w...@w2du.com> wrote:
> >Richard, I'm not sure I understand thrust of your theme correctly. Are
> >you accepting my measurement data as proof of my position, or are you
> >including my data as a happy state of ignorance on this topic?
>
> >Walt, W2DU
>
> Hi Walt,
>
> You understand my "truly kabuki" suitably enough, which means the
> others must be lurking in the shadows unable to step up to the bench
> of their own demonstrable scientific commitment.
>
> Your numbers show evidence of source resistance. Like any real
> resistance, in a complex mix of reactances and phases, all
> superposition energies collapse to reveal a net value that is either a
> caloric break-even, gain, or loss. This real resistance is the
> experience of EVERY correspondent here.
>
> As for your position, your proposal appears to exhibit source
> resistance where you deny its reality. This is a longstanding
> difference we have had and I presume will never be bridged.
>
> If you had never opened the door to the conjugate match, because what
> you argue with your data as support is properly an image-Z match, then
> you would be on a firmer foundation, rhetorically.
>
> The Z match more close corresponds to the maximum available power
> transfer theorem and models of Thevenin/Norton sources. Neither of
> these sources demand a resistor - this was a high school physics
> artifact with about as much rigor as Sunday school is to theology.
>
> Terman explicitly offers Thévenin's Theorem on the bottom of page 74
> continuing onto page 75. He describes the Z match in the middle of
> page 76. Your argument is what Terman calls an "image-impedance
> basis." Note the term "basis," it has been my question to you for
> years as to what basis you have used. I have never gotten an explicit
> response.
>
> In the second paragraph of 3-8 we find Terman discuss the conjugate
> basis of matching for maximum available power delivery. I won't
> belabor what can be read by the multitudes for themselves.
>

> However, beyond this discussion, Terman offers an APPLICATION where
> its topology is entirely congruent with the propositions being bandied
> about here. Please turn to pages 262, 263 footnotes to observe plate
> resistance and grid-leak resistance being offered - not Zs but Rs.
>
> This last point, yet another distraction, probably brings a collective
> sigh of relief as the shadows are emptied with those who throng to
> argue the meaning of resistance instead of measuring it at their own
> bench.
>
> Truly Kabuki.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

I must be honest with you, Richard, for over the years I have often been in a quandary after reading some of your posts--I simply don't comprehent what you're saying in them. I often have to turn to look at some one else and ask " wad't he say? wad't he say?" For example, I don't know what a 'kabuki' is.

You say my numbers show evidence of a source resistance. Then you also say "This real resistance is the
experience of EVERY correspondent here." On the contrary, my understanding is that Keith Dysart and Owen Duffy don't agree with that. Have I misunderstood their posts? Then you say,"What is more comic is both sides couldn't agree more! Truly Kabuki." Again, what is 'kabuki'? In other words, to both sides agree or disagree? Which is it?

In another paragraph you say, "As for your position, your proposal appears to exhibit source resistance where you deny its reality. This is a longstanding difference we have had and I presume will never be bridged." I totally misunderstand that statement, especially a longstanding difference that I didn't know we had. And although my measurements of source impedance (or resistance) indicate their reality, I have never knowingly denied their reality. I can't understand how you could have reasoned that I denied it.

Now we come to the "basis" for my measurements. You state that my measurements appear to be on the basis of image impedances. According to my editions of both Terman and Everitt, 'image' impedances mean that when the generator is connected to the input terminals of the network the impedances looking in both directions at the output terminals of a network are equal. I understand that this can be true if the impedances are purely resistive, but I can't see how this could be true when the impedances are complex, having reactive components. If the impedances in both direction contain equal reactances (not opposite), then delivery of maximum available power cannot be delivered. For the maximum power to be delivered the reactances

looking in opposite directions MUST also be OPPOSITE, describing a conjugate relationship, not an image relationship.

Unfortunately, my editions of Terman must be different from yours, because I find no mention of plate resistance (Rp) or Rs. Rp is a factor in determining the value of RL that appears at the input of a pi-network in an RF power amp, but has no relevancy downstream of the network input, and certainly has no relevance to the formation of a conjugate match at the output of the network.

So Richard, let me get this straight--are you agreeing with my position or disagreeing?

Kabuki?

Walt

1889. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 00:05:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <40j0069obuc7kpof7p03tj7unf66de6ldn@4ax.com>
Source record: 9589

On Fri, 28 May 2010 15:46:02 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>I reply (is it OK "reply"?)

Hi Miguel,

Your usage is fine.

> to Richard first because it is part of my
>comment to Cecil. Yes, Richard. Tonight I said to me: -the worst term
>that you could use, Miguel, was "ether"- :>), because "ether" is a
>hipotetical MATERIAL thing,

Hypothetical.

>so, as on other material mediums we
>usually can literally see interference because interference is
>manifested on matter, but we need photographic plates, screens,
>retinas, etc. to manifest electromagnetic interference, "loads" as say
>Richard, ("observer" it is more sutil and difficult concept, I dare
>not with "him").
>I needed know what represent that in a line discontinuity (in a load
>seems obvious) to better understand Cecil's examples in web page
>(http://www.w5dxp.com/energy.htm).

Representing, representation, like the term redistribution, are all
crutches for intellect. If you get stuck on one, you are forever
behind. If it works - fine. When the crutch breaks, you have to be
able to walk away without feeling cheated. (Amusing, being able to
walk away means you never needed the crutch in the first place.)

>....
>Before continue I want to do a comment to know if we agree (more or
>less). We partially think with words or symbols, words and symbols
>represent concepts or perceptions, concepts are not "out there", as
>Einstein said they are: "free creations of human mind". There is not
>energy out there, there is not velocity out there, that things are in
>our brains (or consciusness if you prefer). We need consensus to
>collective think on it, we need "sincrhonize" our minds to

Synchronize.

>colectivelly think the world...
>You think in english, I think in spanish, I need translate "your"
>words to "my" words to understand what you say, I can not say: "whats
>the hell is a rig!", where are "rigs"! only there are "equipos"

>boys! :>) For that I need understand what means Cecil with
>redistribution, I belieive I can understand his idea behind the word,
>I must make the effort because my own language barrier. Perhaps the
>consensus word to it may be not "redistribution", but... what Cecil
>tries explain to me? I try never identify the "map" (words, concepts)
>with the "territory" (hipotetical real world) because misleading me.

Redistribute is an action verb. Nothing happens until you measure it (you need a load). This speaks to your Ether (or Aether or ï¿½ther) being a medium, but there is no evidence of Ether existing. So for action, it is in the loading - nothing else happens (has action) without a load.

The "concept" of redistribution collapses to zero if you do not take a measure, but it exists if you do? Logically, the causal relationship is with the observation, not with the energy. The load reveals a concept that does not exist without it.

What you wonder about and call a map, or territory, is a forest of loads that give a population of varied responses that are a product of phase differences. Mathematical "representations" of this are called surface maps (your term of map is appropriate) or contour maps. Within these types of representation, you can see patterns. However, the patterns are those revealed by a multitude of loads. Take away the loads and you would see nothing.

>(Richard I do not think wathever reflects also absorbs (ideally at
>last), It can reflects an transmits but nor absorb, do you agree with
>it?)

No. I have measured light at the bench, and I have studied its applications at many scales down to subwavelength dimensions. All materials absorb light without qualification. All materials reflect light without qualification. All materials transmit light without qualification.

You may be tempted to tightly constrain what you call light to force an artificial solution. Do not do it, because that serves no useful purpose.

Consider the sun, light (a photon) from its center has to penetrate its bulk before we see it. It takes something like 10,000 years for that light to reach the surface. Any material you think of here on our mud ball planet is inconsequential in comparison.

Using an optical analogy for RF is very dangerous if you cannot measure it at the bench. Why try to understand two unknowns together?

The greatest danger of an optical analogy is in your perception (I choose that word with care) that IF you are able to "see" it, THEN that means that you "understand" it. Sight is an illusion (another word chosen with care) that is most often clouded by the mind. This topic fills books from both academic and popular writers.

In simple terms, there are optical events that you are certain you can see, but that you cannot measure or show anyone else. There are optical events you and others can measure, but you cannot see.

A simple (but complex one to build) example is the conjugate mirror. It reflects light, but when you look into it, all you see is black. If you have no experience at the bench, then what I write is a puzzle. Although I have described why this happens, I doubt anyone remembers or knows the answer to this contradiction.

If you want a hint, it relates ENTIRELY to your trying to tie together RF, reflection, and other transmission/transmitter topics. Look at the ongoing discussion on source resistance, and note the same word conjugate's appearance in that commentary.

73's
Richard Clark, KB7QHC

1890. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 00:17:52 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8b1d29ad-2904-4fd8-8a7b-71c81582cb76@c11g2000vbe.googlegroups.com>
Source record: 9590

On May 28, 4:14 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 28, 8:13 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On May 27, 8:25 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > Now just hold on right there!
> > > As I have stated before, wave is a descriptive word
> > > and not a noun as described by a particle.
>
> > Please Google "wave particle duality of light".
>
> >http://en.wikipedia.org/wiki/Wave%E2%80%93particle_duality
> > --
> > 73, Cecil, w5dxp.com
>
> Cecil, you are missing a basic point about physics.
> Classical physics is seen as factual. All other theorems are
> replacement attempts to explain paradoxies provided by classical
> physics. When ever one reads the duality theorem it is exactly that, a
> theorem which many say is a myth that is being perpetuated, but even
> so they declare the wave as a function purely because of mathematical
> reasons that the wave function has the same mathematics that can be
> traced back to those provided by a particle.
> Even so, classical physics holds the major spot in physics where all
> other theorems are attempts to topple its position as a collection or
> laws or facts.
> Maxwell's equations as are equations by Gauss,
> Faraday are today considered to be facts that have yet to be
> overturned. Tho I call my work a theorem I can just as easily call
> them a series of facts which are still accepted to this day. My
> findings only uses facts. Classical physics has yet to be dethroned.
> The masters were very smart people who were very careful with words
> and interpretations of the visibles whereas even today the double
> split experiment is torn with missinterpretations in continuation of a
> unproven theory
> None of the accepted facts that I have used mention the term of waves
> and since these laws are part of classical physics I hold to them.
> There has not been any theorem that has been expanded to the status of
> a law such that classical
> physics has been displaced. I am using only what Einstein failed to
> locate that which he needed to
> further his leanings towards the Standard Model and it was only this
> failure that provided a reason to
> look for different viewpoints.

> If you have reason to displace the legitamacy of Classical Physics as
> used by me then state them.
> What I have used is short and to the point so I am not presenting a
> hardship to whome I consider as a qualified engineer
> My best regards
> Art

classical physics has been well dethroned by both relativity at the high velocity end and quantum mechanics at the small side of the scale. classical physics does good at 'every day' speeds and for macroscopic things... the types of things that newton and his contemporaries would have been able to experiment with. they could not have known or measured things at very high energies as seen at relativistic speeds, nor could they have measured things at subatomic levels where the 'classical' laws break down.

1891. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 00:19:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2d2e8a75-782a-421a-982a-1660cceadec0@o1g2000vbe.googlegroups.com>
Source record: 9591

On May 28, 5:35 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> So Stokes' aether will be in schools in XXII century.
> Do you agree?
> S*

no, the teachers i had stayed up to date with things that have been
proven in this century. aether theory was soundly debunked quite a
while ago and any teacher still pushing that should be retired.

1892. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 01:05:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3tm006h6ibv7elu9s7fgaovboouvk6c072@4ax.com>
Source record: 9592

On Fri, 28 May 2010 16:43:42 -0700 (PDT), walt <walt@w2du.com> wrote:

>Hello Richard,
>
>I must be honest with you, Richard, for over the years I have often
>been in a quandary after reading some of your posts--I simply don't
>comprehent what you're saying in them. I often have to turn to look at
>some one else and ask " wad't he say? wad't he say?" For example, I
>don't know what a 'kabuki' is.

Hi Walt,

Your confusion is well founded. :-)

Kabuki - Japanese theatre with very elaborate costumes and highly
mannered acting. It is presented in day long plays that many in the
audience feel perfectly at ease with watching, talking to a neighbor,
eating a meal during the performance or taking a break and coming back
to after an hour or so.

>You say my numbers show evidence of a source resistance. Then you also
>say "This real resistance is the
>experience of EVERY correspondent here." On the contrary, my
>understanding is that Keith Dysart and Owen Duffy don't agree with
>that. Have I misunderstood their posts? Then you say,"What is more
>comic is both sides couldn't agree more! Truly Kabuki." Again, what
>is 'kabuki'? In other words, to both sides agree or disagree? Which is
>it?

Both. However, as to why? They themselves are notably absent from
this discussion. I mark this as a lack of commitment at the bench to
obtain contrary evidence. Perhaps it is casual indifference carefully
woven into passionate and emphatic negations. Such bipolar swings is
what I term as truly Kabuki.

>In another paragraph you say, "As for your position, your proposal
>appears to exhibit source resistance where you deny its reality. This
>is a longstanding difference we have had and I presume will never be
>bridged." I totally misunderstand that statement, especially a
>longstanding difference that I didn't know we had. And although my
>measurements of source impedance (or resistance) indicate their
>reality, I have never knowingly denied their reality. I can't
>understand how you could have reasoned that I denied it.

>>On Thu, 27 May 2010 13:15:49 -0700 (PDT), walt <walt@w2du.com> wrote:
>>
>>>Rp is NOT the source resistance.

Note your emphasis in the original. It conforms to half the other writers half the time (who can tell with all their mannered elaboration?).

If you can allow that Rp is real resistance, all fine and well. If it takes more than three sentences to state it is not, then that is truly Kabuki. Three sentences may not completely give you enough freedom of expression, but if I see a fire hose response - that is just too much material to justify parsing for a clear answer.

>Now we come to the "basis" for my measurements. You state that my
>measurements appear to be on the basis of image impedances. According
>to my editions of both Terman and Everitt, 'image' impedances mean
>that when the generator is connected to the input terminals of the
>network the impedances looking in both directions at the output
>terminals of a network are equal. I understand that this can be true
>if the impedances are purely resistive, but I can't see how this could
>be true when the impedances are complex, having reactive components.

Well, you have the material at hand. Terman offers succinct meaning. A position is usually in one place. That place is as Terman and NBS writer Stephen Adam (strictly) terms it as "basis." And I asked what basis you use. Please consult the strict usages of the literal word basis (and not the informal understanding of "how") to avoid mixing them. Your pleas are often couched with conjugate basis and you attempt to prove them with image-Z basis. They should not be intermingled.

>If the impedances in both direction contain equal reactances (not
>opposite), then delivery of maximum available power cannot be
>delivered. For the maximum power to be delivered the reactances
>looking in opposite directions MUST also be OPPOSITE, describing a
>conjugate relationship, not an image relationship.
>
>Unfortunately, my editions of Terman must be different from yours,

You do not have "Electronic and Radio Engineering?"

>So Richard, let me get this straight--are you agreeing with my
>position or disagreeing?

I take no position beyond your data clearly exhibiting the nature of what Terman describes in pages I have referenced. My professional experience has been invested with measuring real resistance to NBS precision and accuracy - this includes plate and collector resistances (albeit at vastly less resolution than standard resistors and such).

Energy creates heat in real resistors. The combination of phases and energies in a resistance still gives rise to heat, if by different degrees that follow phase relationships of all perceived sources. Heat can increase through soaking (a steady elevated current) or through breakdown (the quick flash of an intense voltage arc). These two are very common (even if only on rare occasions) experiences of EVERY correspodent with their own equipment. It is exceptional to deny

this. We have exceptional threads.

Your data does not contradict any of my points - the question is: does your position contradict Terman's discussion and my experience? I have trouble with your mixed basis discussion that clouds my ability to resolve where you stand. Other writers seem to go both ways without any data of their own measurements to inform me about their judgment having authority. Yours is the only data (aside from my own offered earlier in separate discussion) on the table - and it suits me fine.

73's
Richard Clark, KB7QHC

1893. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 01:28:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <664a2c18-fca7-4979-a2cc-c63f3b6be326@m33g2000vbi.googlegroups.com>
Source record: 9593

On May 28, 7:17 pm, K1TTT <k1...@arrl.net> wrote:
> On May 28, 4:14 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On May 28, 8:13 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On May 27, 8:25 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > Now just hold on right there!
> > > > As I have stated before, wave is a descriptive word
> > > > and not a noun as described by a particle.
>
> > > Please Google "wave particle duality of light".
>
> > >http://en.wikipedia.org/wiki/Wave%E2%80%93particle_duality
> > > --
> > > 73, Cecil, w5dxp.com
>
> > Cecil, you are missing a basic point about physics.
> > Classical physics is seen as factual. All other theorems are
> > replacement attempts to explain paradoxies provided by classical
> > physics. When ever one reads the duality theorem it is exactly that, a
> > theorem which many say is a myth that is being perpetuated, but even
> > so they declare the wave as a function purely because of mathematical
> > reasons that the wave function has the same mathematics that can be
> > traced back to those provided by a particle.
> > Even so, classical physics holds the major spot in physics where all
> > other theorems are attempts to topple its position as a collection or
> > laws or facts.
> > Maxwell's equations as are equations by Gauss,
> > Faraday are today considered to be facts that have yet to be
> > overturned. Tho I call my work a theorem I can just as easily call
> > them a series of facts which are still accepted to this day. My
> > findings only uses facts. Classical physics has yet to be dethroned.
> > The masters were very smart people who were very careful with words
> > and interpretations of the visibles whereas even today the double
> > split experiment is torn with missinterpretations in continuation of a
> > unproven theory
> > None of the accepted facts that I have used mention the term of waves
> > and since these laws are part of classical physics I hold to them.
> > There has not been any theorem that has been expanded to the status of
> > a law such that classical
> > physics has been displaced. I am using only what Einstein failed to

> > locate that which he needed to
> > further his leanings towards the Standard Model and it was only this
> > failure that provided a reason to
> > look for different viewpoints.
> > If you have reason to displace the legitamacy of Classical Physics as
> > used by me then state them.
> > What I have used is short and to the point so I am not presenting a
> > hardship to whome I consider as a qualified engineer
> > My best regards
> > Art
>
> classical physics has been well dethroned by both relativity at the
> high velocity end and quantum mechanics at the small side of the
> scale. classical physics does good at 'every day' speeds and for
> macroscopic things... the types of things that newton and his
> contemporaries would have been able to experiment with. they could
> not have known or measured things at very high energies as seen at
> relativistic speeds, nor could they have measured things at subatomic
> levels where the 'classical' laws break down.

K1RRR@ARRL posting response by Art Unwin

Are you saying that the laws of Newton, Faraday, Maxwell and Gauss is
now defunct? What should I have used in their place if they were no
good in the areas that I worked with?
Why on earth did NEC work around the equations
of Maxwell when they had been toppled? I used Newton,Faraday,Maxwell
and Gauss's laws only.
Who and what has replaced them in the areas where I mistakenly used
them. Did Ohms laws
survive this onslaught and who got the award from Oslo? I would like
to have another stab at my work
using the data that has replaced them, so I could do with some
guidance from you so my work is not wasted again. Do you know what the
replacement antenna computer programs will be based upon and are any
presently available on the market?
Thanks for the update. Why not share what you have with QST so your
fellow hams may benefit
from the up to dated textbooks now supplied to the new generation in
Universities. I heard that Texas
is redoing all the school textbooks but I didn't realize that
education had taken such a radical change. And of course as science is
changed in Texas so goes the whole Country. On another thought, will
degrees obtained before this update be grandfathered in?
My very best regards
Art Unwin

1894. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 01:46:54 UTC
From: tom <news4792@taring.org>
Message-ID: <4c00720a$0$50153$8046368a@newsreader.iphouse.net>
Source record: 9594

On 5/28/2010 7:19 PM, K1TTT wrote:
> On May 28, 5:35 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> So Stokes' aether will be in schools in XXII century.
>> Do you agree?
>> S*
>
> no, the teachers i had stayed up to date with things that have been
> proven in this century. aether theory was soundly debunked quite a
> while ago and any teacher still pushing that should be retired.

Art and S are running remarkably parallel today. Funny how people like
that can sync up once in a while.

tom
K0TAR

1895. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 02:09:04 UTC
From: walt <walt@w2du.com>
Message-ID: <d72f83de-42a4-4a7a-95ea-9d903e78623b@j9g2000vbp.googlegroups.com>
Source record: 9595

On May 28, 9:05 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 28 May 2010 16:43:42 -0700 (PDT), walt <w...@w2du.com> wrote:
> >Hello Richard,
>
> >I must be honest with you, Richard, for over the years I have often
> >been in a quandary after reading some of your posts--I simply don't
> >comprehent what you're saying in them. I often have to turn to look at
> >some one else and ask " wad't he say? wad't he say?" For example, I
> >don't know what a 'kabuki' is.
>
> Hi Walt,
>
> Your confusion is well founded. :-)
>
> Kabuki - Japanese theatre with very elaborate costumes and highly
> mannered acting. It is presented in day long plays that many in the
> audience feel perfectly at ease with watching, talking to a neighbor,
> eating a meal during the performance or taking a break and coming back
> to after an hour or so.
>
> >You say my numbers show evidence of a source resistance. Then you also
> >say "This real resistance is the
> >experience of EVERY correspondent here." On the contrary, my
> >understanding is that Keith Dysart and Owen Duffy don't agree with
> >that. Have I misunderstood their posts? Then you say,"What is more
> >comic is both sides couldn't agree more! Truly Kabuki." Again, what
> >is 'kabuki'? In other words, to both sides agree or disagree? Which is
> >it?
>
> Both. However, as to why? They themselves are notably absent from
> this discussion. I mark this as a lack of commitment at the bench to
> obtain contrary evidence. Perhaps it is casual indifference carefully
> woven into passionate and emphatic negations. Such bipolar swings is
> what I term as truly Kabuki.
>
> >In another paragraph you say, "As for your position, your proposal
> >appears to exhibit source resistance where you deny its reality. This
> >is a longstanding difference we have had and I presume will never be
> >bridged." I totally misunderstand that statement, especially a
> >longstanding difference that I didn't know we had. And although my
> >measurements of source impedance (or resistance) indicate their
> >reality, I have never knowingly denied their reality. I can't
> >understand how you could have reasoned that I denied it.
> >>On Thu, 27 May 2010 13:15:49 -0700 (PDT), walt <w...@w2du.com> wrote:

>
> >>>Rp is NOT the source resistance.
>
> Note your emphasis in the original. It conforms to half the other
> writers half the time (who can tell with all their mannered
> elaboration?).
>
> If you can allow that Rp is real resistance, all fine and well. If it
> takes more than three sentences to state it is not, then that is truly
> Kabuki. Three sentences may not completely give you enough freedom of
> expression, but if I see a fire hose response - that is just too much
> material to justify parsing for a clear answer.
>
> >Now we come to the "basis" for my measurements. You state that my
> >measurements appear to be on the basis of image impedances. According
> >to my editions of both Terman and Everitt, 'image' impedances mean
> >that when the generator is connected to the input terminals of the
> >network the impedances looking in both directions at the output
> >terminals of a network are equal. I understand that this can be true
> >if the impedances are purely resistive, but I can't see how this could
> >be true when the impedances are complex, having reactive components.
>
> Well, you have the material at hand. Terman offers succinct meaning.
> A position is usually in one place. That place is as Terman and NBS
> writer Stephen Adam (strictly) terms it as "basis." And I asked what
> basis you use. Please consult the strict usages of the literal word
> basis (and not the informal understanding of "how") to avoid mixing
> them. Your pleas are often couched with conjugate basis and you
> attempt to prove them with image-Z basis. They should not be
> intermingled.
>
> >If the impedances in both direction contain equal reactances (not
> >opposite), then delivery of maximum available power cannot be
> >delivered. For the maximum power to be delivered the reactances
> >looking in opposite directions MUST also be OPPOSITE, describing a
> >conjugate relationship, not an image relationship.
>
> >Unfortunately, my editions of Terman must be different from yours,
>
> You do not have "Electronic and Radio Engineering?"
>
> >So Richard, let me get this straight--are you agreeing with my
> >position or disagreeing?
>
> I take no position beyond your data clearly exhibiting the nature of
> what Terman describes in pages I have referenced. My professional
> experience has been invested with measuring real resistance to NBS
> precision and accuracy - this includes plate and collector resistances
> (albeit at vastly less resolution than standard resistors and such).
>

> Energy creates heat in real resistors. The combination of phases and
> energies in a resistance still gives rise to heat, if by different
> degrees that follow phase relationships of all perceived sources. Heat
> can increase through soaking (a steady elevated current) or through
> breakdown (the quick flash of an intense voltage arc). These two are
> very common (even if only on rare occasions) experiences of EVERY
> correspodent with their own equipment. It is exceptional to deny
> this. We have exceptional threads.
>
> Your data does not contradict any of my points - the question is: does
> your position contradict Terman's discussion and my experience? I
> have trouble with your mixed basis discussion that clouds my ability
> to resolve where you stand. Other writers seem to go both ways
> without any data of their own measurements to inform me about their
> judgment having authority. Yours is the only data (aside from my own
> offered earlier in separate discussion) on the table - and it suits me
> fine.
>
> 73's
> Richard Clark, KB7QHC

Richard, I'm still trying to assimilate all the info you presented in you post above. So please allow me to skate around a bit.

First, concerning plate resistance, Rp. This may be where we don't understand each other. My position on Rp is that it is a non-dissipative resistance, and can be measured by noting the change in Ip with a change in ep with grid voltage held constant. The result of the effect of Rp is thus one of inverse feedback when the Ip is varying with respect to a change in grid voltage that causes a change in Ip that is inversely related to the change in ep appearing across the plate load resistance with the plate source voltage held constant. Rp thus is not relevant to the source resistance of an RF power amplifier other than its effect on RL looking upstream of the input to the pi-network. When I speak of the source resistance (or impedance) of the RF power amp I'm referring to the resistance (or impedance) appearing at the output terminals of the network, which has nothing to do with Rp. If you're considering Rp as the source resistance that's probably the reason for our disagreement, and if you do consider Rp as the source resistance I believe you're wrong.

And concerning the basis for the impedance matching, I don't consider that I'm comingling image impedance with conjugate impedance. I simply can't construe Terman's definition of 'image' impedance as relating to the procedure I used in measuring the source impedance appearing at the output of the network. This is because Terman says the image impedance at the output terminals of the network is the same looking in both directions. This condition cannot occur when the reactance component in the load is the opposite to that looking rearward into the network, a condition required to satisfy the Maximum Power Transfer Theorem with respect to delivering all the available power.

However, I will say this, I appreciate your statement that my data suits you fine.

Walt

1896. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 04:26:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ql3106hqeijrir0g78ps2hhpjq88jtm1pa@4ax.com>
Source record: 9596

On Fri, 28 May 2010 19:09:04 -0700 (PDT), walt <walt@w2du.com> wrote:

>Richard, I'm still trying to assimilate all the info you presented in
>you post above. So please allow me to skate around a bit.
>
>First, concerning plate resistance, Rp. This may be where we don't
>understand each other. My position on Rp is that it is a non-
>dissipative resistance, and can be measured by noting the change in Ip
>with a change in ep with grid voltage held constant.

Hi Walt,

Thank you for the restrained answer. Yes, we do not agree here.

To the matter of the conjugate basis. Terman quite distinctly gives us a real R that remains after the cancellation of reactances. As a hallmark of first principles, it is very clear and concise. The source R must match the load R for the source to deliver the maximum available power. By the same hallmark, this too is very explicit. Terman calls this R (the remnant of conjugation) in the source: "the resistance component of the generator impedance."

For you and others to say what the source is "not," that is not a solution for what the source "is." This is what I speak of when you ask if your critics agree or disagree. You stand with your critics against the testimony of your data that stands with Terman.

The plate resistance can be described physically to suit any objection that I have so far heard from the community. It suits very few who embrace thought experiments that have never warmed a bench nor flickered a measurement instrument. The collapse of rhetoric has exposed the vacuum of counter argument.

>However, I will say this, I appreciate your statement that my data
>suits you fine.

Walt, your methods are first methods. Your care for propriety exceeds all bold statements that carelessly condemn you. Your achievements give you the status of not having to endure taunts and endless bickering. Your steadfast self examination and willingness to sit at the bench is the rock of faith in what Hams aspire for in engineering. As for your humanity, I find you a proud father and loving husband. I think of you in no other terms, even when my prose is dense or obtuse, and my engineering demands are harsh and pointed.

If my allusions to Kabuki are obscure, it is through my upbringing living in Japan as a tyke. If I might balance that obscure reference

for one that is more to my tone here, I call you Sensei - a master of learning and teaching.

73's
Richard Clark, KB7QHC

1897. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 04:36:02 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <19d6b598-32b4-468d-9b2a-39c1d5ab889b@y21g2000vba.googlegroups.com>
Source record: 9597

On 28 mayo, 21:05, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 28 May 2010 15:46:02 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >I reply (is it OK "reply"?)
>
> Hi Miguel,
>
> Your usage is fine.
>
> > to Richard first because it is part of my
> >comment to Cecil. Yes, Richard. Tonight I said to me: -the worst term
> >that you could use, Miguel, was "ether"- :>), because "ether" is a
> >hipotetical MATERIAL thing,
>
> Hypothetical.
>
> >so, as on other material mediums we
> >usually can literally see interference because interference is
> >manifested on matter, but we need photographic plates, screens,
> >retinas, etc. to manifest electromagnetic interference, "loads" as say
> >Richard, ("observer" it is more sutil and difficult concept, I dare
> >not with "him").
> >I needed know what represent that in a line discontinuity (in a load
> >seems obvious) to better understand Cecil's examples in web page
> >(http://www.w5dxp.com/energy.htm).
>
> Representing, representation, like the term redistribution, are all
> crutches for intellect. If you get stuck on one, you are forever
> behind. If it works - fine. When the crutch breaks, you have to be
> able to walk away without feeling cheated. (Amusing, being able to
> walk away means you never needed the crutch in the first place.)
>
> >....
> >Before continue I want to do a comment to know if we agree (more or
> >less). We partially think with words or symbols, words and symbols
> >represent concepts or perceptions, concepts are not "out there", as
> >Einstein said they are: "free creations of human mind". There is not
> >energy out there, there is not velocity out there, that things are in
> >our brains (or consciusness if you prefer). We need consensus to
> >collective think on it, we need "sincrhonize" our minds to
>
> Synchronize.
>

> >colectivelly think the world...
> >You think in english, I think in spanish, I need translate "your"
> >words to "my" words to understand what you say, I can not say: "whats
> >the hell is a rig!", where are "rigs"! only there are "equipos"
> >boys! :>) For that I need understand what means Cecil with
> >redistribution, I belieive I can understand his idea behind the word,
> >I must make the effort because my own language barrier. Perhaps the
> >consensus word to it may be not "redistribution", but... what Cecil
> >tries explain to me? I try never identify the "map" (words, concepts)
> >with the "territory" (hipotetical real world) because misleading me.
>
> Redistribute is an action verb. Nothing happens until you measure it
> (you need a load). This speaks to your Ether (or Aether or Æther)
> being a medium, but there is no evidence of Ether existing. So for
> action, it is in the loading - nothing else happens (has action)
> without a load.
>
> The "concept" of redistribution collapses to zero if you do not take a
> measure, but it exists if you do? Logically, the causal relationship
> is with the observation, not with the energy. The load reveals a
> concept that does not exist without it.
>
> What you wonder about and call a map, or territory, is a forest of
> loads that give a population of varied responses that are a product of
> phase differences. Mathematical "representations" of this are called
> surface maps (your term of map is appropriate) or contour maps. Within
> these types of representation, you can see patterns. However, the
> patterns are those revealed by a multitude of loads. Take away the
> loads and you would see nothing.
>
> >(Richard I do not think wathever reflects also absorbs (ideally at
> >last), It can reflects an transmits but nor absorb, do you agree with
> >it?)
>
> No. I have measured light at the bench, and I have studied its
> applications at many scales down to subwavelength dimensions. All
> materials absorb light without qualification. All materials reflect
> light without qualification. All materials transmit light without
> qualification.
>
> You may be tempted to tightly constrain what you call light to force
> an artificial solution. Do not do it, because that serves no useful
> purpose.
>
> Consider the sun, light (a photon) from its center has to penetrate
> its bulk before we see it. It takes something like 10,000 years for
> that light to reach the surface. Any material you think of here on
> our mud ball planet is inconsequential in comparison.
>
> Using an optical analogy for RF is very dangerous if you cannot

> measure it at the bench. Why try to understand two unknowns together?
>
> The greatest danger of an optical analogy is in your perception (I
> choose that word with care) that IF you are able to "see" it, THEN
> that means that you "understand" it. Sight is an illusion (another
> word chosen with care) that is most often clouded by the mind. This
> topic fills books from both academic and popular writers.
>
> In simple terms, there are optical events that you are certain you can
> see, but that you cannot measure or show anyone else. There are
> optical events you and others can measure, but you cannot see.
>
> A simple (but complex one to build) example is the conjugate mirror.
> It reflects light, but when you look into it, all you see is black. If
> you have no experience at the bench, then what I write is a puzzle.
> Although I have described why this happens, I doubt anyone remembers
> or knows the answer to this contradiction.
>
> If you want a hint, it relates ENTIRELY to your trying to tie together
> RF, reflection, and other transmission/transmitter topics. Look at
> the ongoing discussion on source resistance, and note the same word
> conjugate's appearance in that commentary.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard.

Really brilliant and good arguments, it is a pleasure for me to read them. In certain dialog level I can agree with almost all of it (I said I am interested in knowledge theory or science philosophy) but, you know, they are philosophical and controversial topics. Reality, duality, consciousness, observer...
In technics we are (or use) a much more naive vison of world and It works!, there is not strange Schrödinger cats in ham radio! (or in radio technics) :>)

Models Richard, all are models, mathematical models, physical models, naive models, "Ideas", representations of "reality" in our minds. We, humans, walk with our crutches -always- => simple crutches, elaborated crutches, little crutches, BIG crutches... :>)
All of my physics and electronics books have "representations", thousands of them, why not? they work...! -except when don't work :>(- Well...when not work => chao with electron "little balls", chao with clasical electrodynamics, chao with Newton's laws, chao with Reality!, It is good for me... very exciting!

I understand what you say Richard but also I think that you seems (to me) adscribe to a sort of, "right model" or "true model", I'm not, I am a little exceptical about "truths" o "rigth sciences", for that reason I like listen as carefully as I can, others ideas. Listen, this

not a criticism to you, remember I said "In certain level of dialog I can agree..."

The bench... all of my life spent on the bench. The bench it is a good friend, -probably an essential friend- but tends to be a fa little "gross" friend. We need also a rational friend (and -why not- an intuitive friend) to make a bingo. With "rational" friend we have, mathematics, calculus, idealized models,:real world is: this tree, that tree, it is not easy (for not tell impossible) to understand a world of individual trees. Rational friend invents the "ideal tree" (certainly not a "bench tree") and works...! we can operate very well with ideal trees!, we can put them into simbolic equations, inside computer memories, good thing (for me) ideal things, total reflection, full transparent thinghs, cuasi-infinitely thin things.

Yes, analogies are dangerous, I know, women too... I dare to risk :>D

> It reflects light, but when you look into it, all you see is black.

Very interesting thing, I like to see one (better if I can understand it)

Richard, I feel that I must to return to Ham radio world and try to see if it is possible compatibilize my old Terman model with yours. This dialog does not bother me at all, as I said It is a pleasure, but without wanting, I am going out off topic :>) I truly enjoyed your comments.

73

Miguel

PS: Certainly I did not postulate the existence of an ether, here we usually call it figuratively, like an old friend, as a kind of "Santa Claus".

1898. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 07:07:47 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c00bd48$0$19171$65785112@news.neostrada.pl>
Source record: 9598

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:2d2e8a75-782a-421a-982a-1660cceadec0@o1g2000vbe.googlegroups.com...
On May 28, 5:35 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> So Stokes' aether will be in schools in XXII century.
> Do you agree?
> S*

>no, the teachers i had stayed up to date with things that have been
proven in this century. aether theory was soundly debunked quite a
while ago and any teacher still pushing that should be retired.

You know almost all but only almost.

There are many aethers. One of them was Lorentz' aether in form of
motionless solid body. No such without any doubts. So it is obvious that it
is debunked.

You know that the Sun rotate together with the plasma and the dust. The
plasma and the dust is the Stokes' aether.
In that time another scientist Ludvig Lorenz was sure that in space is
enough matter to propagate the waves.
Both of them did not know that the electron exist.

Teachers could not stay up to date because the all is the top secret.
S*

1899. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 07:11:23 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c00be1f$0$19163$65785112@news.neostrada.pl>
Source record: 9599

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4c00720a$0$50153$8046368a@newsreader.iphouse.net...
> On 5/28/2010 7:19 PM, K1TTT wrote:
>> On May 28, 5:35 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>> So Stokes' aether will be in schools in XXII century.
>>> Do you agree?
>>> S*
>>
>> no, the teachers i had stayed up to date with things that have been
>> proven in this century. aether theory was soundly debunked quite a
>> while ago and any teacher still pushing that should be retired.
>
> Art and S are running remarkably parallel today. Funny how people like
> that can sync up once in a while.

I am in Stokes' time. Art citates the all super modern theories. Where you
see the synchronisation?
S*

1900. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 07:20:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <74f1069606gme1a93queghqaklfdd1p2ap@4ax.com>
Source record: 9600

On Fri, 28 May 2010 21:36:02 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

> there is not strange Schrï¿½dinger cats in ham radio! (or in
>radio technics) :>)

Is yours dead? Maybe if you looked again....

>> It reflects light, but when you look into it, all you see is black.
>
>Very interesting thing, I like to see one (better if I can understand
>it)

You can't see it! That is the point. It is also by definition. To
understand it, you have to understand the conjugate match. Have you
been following that story with Walt and myself?

Like I said, trying to learn two things at the same time, when you
cannot understand either of them singly, is foolish. Metaphors (RF as
photon theory) often fail at the wrong time without being noticed.

73's
Richard Clark, KB7QHC

1901. UK GIRLS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 08:26:43 UTC
From: kajal agarwal <texaspeso18@gmail.com>
Message-ID: <6cedce7c-bba3-4161-a8bf-76f08369e723@j12g2000pri.googlegroups.com>
Source record: 9501

THIS IS UK GIRLS INFORMATION WRITTEN

BY OUR COMPANY FOR ALL WORLD WIDE

PEOPLE USE FULL FOR ALL UK GIRLS CULTURE

FOR FULL DETAILS VISIT

http://ukgirlsbody.blogspot.com

1902. UK GIRLS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 08:27:06 UTC
From: kajal agarwal <texaspeso18@gmail.com>
Message-ID: <a9bdc423-959a-4922-b12a-8945158e8db9@v29g2000prb.googlegroups.com>
Source record: 9502

THIS IS UK GIRLS INFORMATION WRITTEN

BY OUR COMPANY FOR ALL WORLD WIDE

PEOPLE USE FULL FOR ALL UK GIRLS CULTURE

FOR FULL DETAILS VISIT

http://ukgirlsbody.blogspot.com

1903. Blog Commenting Service

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 08:32:48 UTC
From: Robert Smith <robertsmith632@gmail.com>
Message-ID: <72b0ab47-b09f-463a-97df-4ec49fa62c8d@e6g2000vbm.googlegroups.com>
Source record: 9503

The Consultant SEO is known for providing the best SEO services to its customers. With the best and highly competent SEO experts on its team it is not surprising that The Consultant SEO makes available to its customers and online businesses the best SEO services, of the many link building services provided by The Consultant SEO, blog commenting service is one. Blog commenting service is of great value to people who own websites, for it helps them raise their search engine ranking and amplify traffic. Blog commenting service provided by The Consultant SEO ensures more and more back links to your sites and also helps you build up your SERPS.
http://www.theconsultantseo.com/blog-commenting-service.html

1904. Re: new question (from "system degradation question")

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 11:14:17 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <AkzsT9bJcPAMFw5+@g3ohx.demon.co.uk>
Source record: 9504

In message
<1b671946-4074-4c72-83b5-0ebae8485010@y12g2000vbg.googlegroups.com>,
nm5k@wt.net writes
>On May 24, 12:02ï¿½am, "rb" <r...@cox.net> wrote:
>> I'll be using 100 watts SSB/CW, and have about 75' of twinlead up to
>> antnenna feedpoint.
>>
>> You've got me going to do the "system degradation question": ï¿½ I'll run
>> twinlead to the shack, in spite of the file cabinet.
>>
>> Now, yes--I can do just fine manually changing my antenna from ladderline
>> fed to putting it on 160 by jumping both ends together and letting it work
>> against ground. ï¿½ Long counterpoise in place. ï¿½Then, putting it back as
>> twinlead dipole on 80m up.
>>
>> What's the new question? ï¿½ ï¿½I normally would go from 160m up through 15m.
>> If I just used the jump both ends together and feed long wire, which ant
>> will be better?
>>
>> Basically, it's whether a long hat vertical would be as good as using my
>> twinlead as dipole on bands including 80m and up.
>>
>> I can certainly keep the antenna twinlead fed dipole, no problem. ï¿½ ï¿½Just
>> curious.
>
>On most bands it will operate the best fed normally as a dipole.
>
Probably, but the real answer is that the performance will be different.
You'll need to try it out. The T-feed might actually be quite good on
the lower frequencies - especially 80m - for long-distance contacts. But
you will need a good ground or counterpoise system. Ideally, your
counterpoise should be around a quarterwave (for all the bands where you
use the antenna as a T), so, if it looks promising, you might like to
try multiple wires.

The main problem with any endfed antenna, when fed directly in the
shack, is that you will have a lot of RF in the shack - and you will
also pick up more 'domestic' QRM and hash, usually from things like
switchmode power supplies and all the other 'non-amateur-friendly'
equipment deemed essential for modern-day living.
--
Ian

1905. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 11:25:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4d05c7be-16d8-433b-8e25-0f8e0c252ead@l6g2000vbo.googlegroups.com>
Source record: 9505

On May 29, 7:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "tom" <news4...@taring.org> napisal w
wiadomoscinews:4c00720a$0$50153$8046368a@newsreader.iphouse.net...
>
> > On 5/28/2010 7:19 PM, K1TTT wrote:
> >> On May 28, 5:35 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
> >>> So Stokes' aether will be in schools in XXII century.
> >>> Do you agree?
> >>> S*
>
> >> no, the teachers i had stayed up to date with things that have been
> >> proven in this century. aether theory was soundly debunked quite a
> >> while ago and any teacher still pushing that should be retired.
>
> > Art and S are running remarkably parallel today. Funny how people like
> > that can sync up once in a while.
>
> I am in Stokes' time. Art citates the all super modern theories. Where you
> see the synchronisation?
> S*

no, art is stuck in newton's time, so you aren't that far apart.

1906. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 11:29:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ba6e2fbb-4803-4e8d-a9e9-23c415d702dd@c7g2000vbc.googlegroups.com>
Source record: 9506

On May 29, 1:28 am, Art Unwin <arthurun...@gmail.com> wrote:
> On May 28, 7:17 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On May 28, 4:14 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On May 28, 8:13 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On May 27, 8:25 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > Now just hold on right there!
> > > > > As I have stated before, wave is a descriptive word
> > > > > and not a noun as described by a particle.
>
> > > > Please Google "wave particle duality of light".
>
> > > >http://en.wikipedia.org/wiki/Wave%E2%80%93particle_duality
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > Cecil, you are missing a basic point about physics.
> > > Classical physics is seen as factual. All other theorems are
> > > replacement attempts to explain paradoxies provided by classical
> > > physics. When ever one reads the duality theorem it is exactly that, a
> > > theorem which many say is a myth that is being perpetuated, but even
> > > so they declare the wave as a function purely because of mathematical
> > > reasons that the wave function has the same mathematics that can be
> > > traced back to those provided by a particle.
> > > Even so, classical physics holds the major spot in physics where all
> > > other theorems are attempts to topple its position as a collection or
> > > laws or facts.
> > > Maxwell's equations as are equations by Gauss,
> > > Faraday are today considered to be facts that have yet to be
> > > overturned. Tho I call my work a theorem I can just as easily call
> > > them a series of facts which are still accepted to this day. My
> > > findings only uses facts. Classical physics has yet to be dethroned.
> > > The masters were very smart people who were very careful with words
> > > and interpretations of the visibles whereas even today the double
> > > split experiment is torn with missinterpretations in continuation of a
> > > unproven theory
> > > None of the accepted facts that I have used mention the term of waves
> > > and since these laws are part of classical physics I hold to them.
> > > There has not been any theorem that has been expanded to the status of

> > > a law such that classical
> > > physics has been displaced. I am using only what Einstein failed to
> > > locate that which he needed to
> > > further his leanings towards the Standard Model and it was only this
> > > failure that provided a reason to
> > > look for different viewpoints.
> > > If you have reason to displace the legitamacy of Classical Physics as
> > > used by me then state them.
> > > What I have used is short and to the point so I am not presenting a
> > > hardship to whome I consider as a qualified engineer
> > > My best regards
> > > Art
>
> > classical physics has been well dethroned by both relativity at the
> > high velocity end and quantum mechanics at the small side of the
> > scale. classical physics does good at 'every day' speeds and for
> > macroscopic things... the types of things that newton and his
> > contemporaries would have been able to experiment with. they could
> > not have known or measured things at very high energies as seen at
> > relativistic speeds, nor could they have measured things at subatomic
> > levels where the 'classical' laws break down.
>
> K1RRR@ARRL posting response by Art Unwin
>
> Are you saying that the laws of Newton, Faraday, Maxwell and Gauss is
> now defunct? What should I have used in their place if they were no
> good in the areas that I worked with?
> Why on earth did NEC work around the equations
> of Maxwell when they had been toppled? I used Newton,Faraday,Maxwell
> and Gauss's laws only.
> Who and what has replaced them in the areas where I mistakenly used
> them. Did Ohms laws
> survive this onslaught and who got the award from Oslo? I would like
> to have another stab at my work
> using the data that has replaced them, so I could do with some
> guidance from you so my work is not wasted again. Do you know what the
> replacement antenna computer programs will be based upon and are any
> presently available on the market?
> Thanks for the update. Why not share what you have with QST so your
> fellow hams may benefit
> from the up to dated textbooks now supplied to the new generation in
> Universities. I heard that Texas
> is redoing all the school textbooks but I didn't realize that
> education had taken such a radical change. And of course as science is
> changed in Texas so goes the whole Country. On another thought, will
> degrees obtained before this update be grandfathered in?
> My very best regards
> Art Unwin

fortunately maxwell's equations work just fine for macroscopic stuff like hams use, so you are still ok with those. when someone writes an antenna program that uses qed you might want to upgrade though. and newton still works for most cases you will ever run into, though it would fail to explain some effects if you carried an atomic clock on a high speed jet or tried to orbit your own satellite. Ohm's law is still fine for anything you will do also, unless you really tried to get into superconductive antennas, then you might have some problems.

1907. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 13:47:54 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bdf048b7-3a5a-4dc4-afe1-b9cf5710ee8d@w3g2000vbd.googlegroups.com>
Source record: 9507

On May 28, 5:46 pm, lu6etj <lu6...@gmail.com> wrote:
> Tonight I said to me: -the worst term
> that you could use, Miguel, was "ether"- :>), because "ether" is a
> hipotetical MATERIAL thing, ...

The first guesses at the nature of the ether were obviously wrong. But we now know that if you replace the word "ether" with "quantum soup" in your statements about ether, that you will be technically correct as far as quantum physics can determine. Take a look at the Casimir Effect to see if empty space is really empty. In reality, totally empty space would be outside of the space/time of the known universe.

http://www.answers.com/topic/casimir-effect

> I needed know what represent that in a line discontinuity (in a load
> seems obvious) to better understand Cecil's examples in web page
> (http://www.w5dxp.com/energy.htm).

At the junction of two transmission lines, if the characteristic impedances (Z01 and Z02) are not the same value, then reflections and subsequent interference will usually occur. This is similar to saying: At the junction of two light mediums, if the index of refraction is not the same value in both mediums, then reflections will occur from a (laser) light beam normal to the two surfaces. I am specifying normal=90 deg. and ignoring refraction which is of little importance in an RF transmission line.

> Before continue I want to do a comment to know if we agree (more or
> less). We partially think with words or symbols, words and symbols
> represent concepts or perceptions, concepts are not "out there", as
> Einstein said they are: "free creations of human mind".

And Shakespeare said:

"What's in a name? that which we call a rose
By any other name would smell as sweet; ..."

There's not much argument between the definition of "rose" and "rosal". I call that a 1st level abstraction. Things get a little more complicated at the Nth level abstraction. If in Texan I said, "Ah reckon Ah'm gonna amble over yonder directly", you might have trouble with the meaning (except for "amble". :-)

> Cecil I want to ask you if you are using "photon" term to
> methaforically refer to "light".

No, EM (light and RF) waves are known to be quantized and therefore consist of photons. The reason that I refer to the photons is that photons must obey a certain set of laws of physics. For instance, they must move at the speed of light in a medium. Photons cannot stand still in a standing wave. Therefore, any theory of physics that requires photons to stand still is incorrect. That would include the particular interpretation of the lumped-impedance model that some folks are pushing here on this newsgroup. The only time I will refer to photons is when the presented EM wave theory contradicts the accepted laws of quantum physics. It is simply an attempt at trying to keep some folks honest.

> Even I agree at
> our concept that electromagnetic spectrum includes RF waves and ligh
> waves and they are the same phenomenon, I think that is a result of
> great insight and efforts of the human mind, it is not so evident. We
> see light, we sense infrared radiaton, but we can not perceive well RF
> without instruments (unless we introduce ourselves in a micowave oven
> or burn with the antenna, of course).

The point is that what we see at visible light frequencies also happens at RF frequencies but we cannot see RF. By switching to a visible light example, I can point out the errors of someone attempting to pull the wool over the eyes of the unwashed masses.

> (I do not forget Roy's article, I'm still trying to sort out all the
> puzzle pieces).

Note that Roy seems to be completely ignorant of this fact of physics: "... the photons are redistributed to regions that permit constructive interference ..." as described on the Florida State web page at the bottom of the page:

micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/waveinteractions/index.html

In an RF transmission line, the only "regions that permit constructive interference" is the single opposite direction in the transmission line from the direction of destructive interference. In the absence of a localized source of energy, any destructive interference in one direction (at an isolated impedance discontinuity in a transmission line) must be balanced by an equal magnitude of constructive interference in the opposite direction. The conservation of energy theorem will have it no other way.

If you are familiar with the scattering parameter/matrix equations, much can be learned by analyzing them. Note that the equations are phasor math, not simple algebra equations.

http://www.sss-mag.com/pdf/hpan95-1.pdf

b1 = s11*a1 + s12*a2

b1, the total reflected voltage toward the load, is equal to the forward voltage (from the source) reflected from the impedance discontinuity, phasor added to the transmitted reflected voltage through the impedance discontinuity (from the load).

b2 = s21*a1 + s22*a2

The total forward voltage toward the load, is equal to the transmitted forward voltage through the impedance discontinuity (from the source), phasor added to the reflected voltage (from the load) that is re-reflected back toward the load by the impedance discontinuity.

The a and b parameters are voltages normalized to the square root of Z0. Squaring both sides of each equation will yield the interference terms in watts, that indicate where the energy goes, i.e. which of two directions in a transmission line.

Note that if b1 = 0, there is (by definition) total destructive interference between s11*a1 and s12*a2, i.e. the same as a Z0-match in a transmission line.

Even if no classic reflections (associated with a physical reflection coefficient) exist, as in Roy's foot-for-thought example, destructive interference at the source resistor will cause some or all of the energy in the reflected wave to be *redistributed* (redirected) back toward the load as constructive interference. Since the wave cancellation causes a reversal in direction of reflected energy (somewhat resembling a reflection) Walter Maxwell, in "Reflections" defines that reversal as a "reflection from a virtual short". Presumably the virtual short (or open) concept would also apply to a 1/4WL thin-film coating on non-reflective glass.

Miguel, "redistribute" is not in my Spanish/English dictionary but "redirect" is and might be a reasonable mental substitute for you to conceptualize. From the FSU web page, ...the photons are redistributed (i.e. redirected) to regions that permit constructive interference ... .
--
73, Cecil, w5dxp.com

1908. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 16:43:21 UTC
From: walt <walt@w2du.com>
Message-ID: <639741b3-30c0-4874-ba4e-e257cd420bf1@o4g2000vbo.googlegroups.com>
Source record: 9508

On May 29, 12:26 am, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 28 May 2010 19:09:04 -0700 (PDT), walt <w...@w2du.com> wrote:
> >Richard, I'm still trying to assimilate all the info you presented in
> >you post above. So please allow me to skate around a bit.
>
> >First, concerning plate resistance, Rp. This may be where we don't
> >understand each other. My position on Rp is that it is a non-
> >dissipative resistance, and can be measured by noting the change in Ip
> >with a change in ep with grid voltage held constant.
>
> Hi Walt,
>
> Thank you for the restrained answer. Yes, we do not agree here.
>
> To the matter of the conjugate basis. Terman quite distinctly gives
> us a real R that remains after the cancellation of reactances. As a
> hallmark of first principles, it is very clear and concise. The
> source R must match the load R for the source to deliver the maximum
> available power. By the same hallmark, this too is very explicit.
> Terman calls this R (the remnant of conjugation) in the source: "the
> resistance component of the generator impedance."
>
> For you and others to say what the source is "not," that is not a
> solution for what the source "is." This is what I speak of when you
> ask if your critics agree or disagree. You stand with your critics
> against the testimony of your data that stands with Terman.
>
> The plate resistance can be described physically to suit any objection
> that I have so far heard from the community. It suits very few who
> embrace thought experiments that have never warmed a bench nor
> flickered a measurement instrument. The collapse of rhetoric has
> exposed the vacuum of counter argument.
>
> >However, I will say this, I appreciate your statement that my data
> >suits you fine.
>
> Walt, your methods are first methods. Your care for propriety exceeds
> all bold statements that carelessly condemn you. Your achievements
> give you the status of not having to endure taunts and endless
> bickering. Your steadfast self examination and willingness to sit at
> the bench is the rock of faith in what Hams aspire for in engineering.
> As for your humanity, I find you a proud father and loving husband. I
> think of you in no other terms, even when my prose is dense or obtuse,
> and my engineering demands are harsh and pointed.

>
> If my allusions to Kabuki are obscure, it is through my upbringing
> living in Japan as a tyke. If I might balance that obscure reference
> for one that is more to my tone here, I call you Sensei - a master of
> learning and teaching.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

I sincerely appreciate your kind words concerning my humanity, and I'm proud to have you call me Sensei. I have always somehow doubted your feelings for me as a person, but your words above have relieved that feeling, Thank you.

As for our disagreement on image matching, I remember reading many years ago in books concerning networks involving telephone circuits that dealt only with resistive terminations. Those readings did specify that with image resistances the resistances were the same in both directions. Nothing was said in those books concerning reactance in the circuitry. Apparently we have different editions of Terman. Mine doesn't discuss R as the remnant of conjugation, so if only R is considered in the image impedance I can concur with you on this issue.

I also want to be clear on my position concerning plate resistance Rp as the source resistance of the RF power amplifier. My position is that it is not. I do understand that Rp is a factor in determining the value of RL that appears at the input of the tank circuit, but not the source of power delivered at the output of the tank circuit. Rp is a non-dissipative resistance, not a resisTOR with physical characteristics. I consider the voltage-current ratio R appearing at the output of the tank circuit to be the source resistance of the RF power amplifier. If you do not agree with this position then I guess we'll just have to agree to disagree, unless you can find some way to change my mind.

I thank you again, Richard, for your kind words.

Walt

1909. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 17:11:11 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c014ab4$0$17088$65785112@news.neostrada.pl>
Source record: 9509

"lu6etj" <lu6etj@gmail.com>wrote news:19d6b598-32b4-468d-9b2a-
>
>
>PS: Certainly I did not postulate the existence of an ether, here we
usually call it figuratively, like an old friend, as a kind of "Santa
Claus".

No Lorentz aether (motionless solid body).
In space is plasma (ions and electrons) and dust. They rotate with the Sun.
The electrons are the medium for the electric waves.
S*

1910. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 17:27:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c014e7d$0$19170$65785112@news.neostrada.pl>
Source record: 9510

"lu6etj" <lu6etj@gmail.com> wrote news:0d91fd84-c798-4391-8e90-I do not have useful knowledge in laser either.
>
>I am interested in your optical analogy because analogies often are useful to visualize a new thing knowing old things, it does not matter if we use RF concepts to aproximate optical things or vice versa, analogies are useful crutches (muletas in spanish). Even I agree at our concept that electromagnetic spectrum includes RF waves and ligh waves and they are the same phenomenon, I think that is a result of great insight and efforts of the human mind, it is not so evident. We see light, we sense infrared radiaton, but we can not perceive well RF without instruments (unless we introduce ourselves in a micowave oven or burn with the antenna, of course).
To concentrate light we only need a piece of glass, to do the same on HF RF region we need large wire antenna arrays. Because of this we often need (or employ) very differents models to deal with the "same thing". Probably Maxwell equations solve all of them, but they are difficult ladies to deal :>).

Maxwell equations are wrote by Heaviside.

>Reconciling optcs models with electric models have its difficulties, but can be productive undoubtedly I believe.

Now light is produced with the electric device:
"As the electrons are undergoing acceleration they radiate electromagnetic energy in their flight direction, and as they interact with the light already emitted, photons along its line are emitted in phase, resulting in a "laser-like" monocromatic and coherent beam. The mirrors show in the sketch below are superfluous, as all the light is emitted in one direction anyway."
From: http://en.wikipedia.org/wiki/Halbach_array

When electrons oscillate they disturb the "electron see" and that are waves.
To achive the oscillations we use different devices.
The Halbach array is for light. The dipole for RF. For radar and microwaves the another.
S*

1911. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 18:21:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t7i206l3f65m9bqmvtr6vfcrc735de95rh@4ax.com>
Source record: 9511

On Sat, 29 May 2010 09:43:21 -0700 (PDT), walt <walt@w2du.com> wrote:

>Apparently we have different editions of Terman.
>Mine doesn't discuss R as the remnant of conjugation, so if only R is
>considered in the image impedance I can concur with you on this issue.

Hi Walt,

Go to the index and look up Thï¿½venin. The material should be found in
two areas:
1. Circuits with Lumped Constants - Thï¿½venin's Theorem - Impedance
Matching
2. Audio Voltage Amplifiers - Resistance-coupled Amplifiers

>Rp is a
>non-dissipative resistance, not a resisTOR with physical
>characteristics. I consider the voltage-current ratio R appearing at
>the output of the tank circuit to be the source resistance of the RF
>power amplifier. If you do not agree with this position then I guess
>we'll just have to agree to disagree, unless you can find some way to
>change my mind.

I will use your own data.

>On Thu, 27 May 2010 19:32:40 -0700 (PDT), walt <walt@w2du.com> wrote:
>
>> In this condition the DC plate voltage is 800 v and plate
>>current is 260 ma. DC input power is therefore 800 v ? 0.26 a = 208 w.

I will be concerned with nothing else outside of this specification as
this is a discussion of the "real" Tube, and a power supply which will
be considered as loss-less.

First. There is one current loop throughout the entire system.

Second. Unique to a tube path within that current loop, there are two
characteristic current types. These are the convection current WITHIN
the cathode-plate interval, and the induction current that completes
the loop from plate to cathode through conventional power supply
wiring.

Third. The induction current's mobile electrons move at a rate of
meters per minute; whereas the charge mobility is near light speed.

Fourth. The convection current's mobile electrons (a literal particle
stream in a vacuum) move at a rate of near light speed. The term
"near light speed," in this case, is limited by the plate potential of
800V and can be computed; whereas the charge mobility is near light

speed, but generally higher (and specifically higher for 800V) than the electron speed.

Fifth. It takes work to move an electron initially at rest to near light speed over the interval between the cathode and the plate with nanoseconds transit times.

Sixth. The electron gains kinetic energy from the field between the plate and cathode.

Seventh. The kinetic energy of the electron is converted into heat upon striking the plate, the heat energy being equal to the power supply energy expended in accelerating the electron.

I will forgo the math of how considerable the resistance, power, and heat is. All can be found from the data quoted above. Clearly, the plate resistance is real in every sense of the word. It is the limiting factor of the current path hence it is the source resistance in every sense of the word.

The seven points I enumerate are from material drawn from a single source. I am sending you the full chapter treatment that speaks to this topic alone from:
"Physical Electronics," Curtis L. Hemenway, Richard W. Henry, Martin Caulton; John Wiley and Sons, 1962.

Others may ask for copies of this reference. Others may ask where the heat comes from, a topic I would enjoy elaborating upon. It is a very simple explanation that by using Walt's data above, can be rendered into Watts/Temperature with only the difficulty of pressing calculator keys. These values than can weighed against real and tested observation at the bench of the same tube in operation.

I cannot imagine anything else meriting discussion.

73's
Richard Clark, KB7QHC

1912. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 20:39:24 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <htru0icok1@news.eternal-september.org>
Source record: 9512

Richard Clark Inscribed thus:

> The seven points I enumerate are from material drawn from a single
> source. I am sending you the full chapter treatment that speaks to
> this topic alone from:
> "Physical Electronics," Curtis L. Hemenway, Richard W. Henry, Martin
> Caulton; John Wiley and Sons, 1962.
>
> Others may ask for copies of this reference. Others may ask where the
> heat comes from, a topic I would enjoy elaborating upon. It is a very
> simple explanation that by using Walt's data above, can be rendered
> into Watts/Temperature with only the difficulty of pressing calculator
> keys. These values than can weighed against real and tested
> observation at the bench of the same tube in operation.
>
> I cannot imagine anything else meriting discussion.
>
> 73's
> Richard Clark, KB7QHC

I would appreciate a copy of the above reference, if you would be so
kind. In order for me to continue following an interesting discussion.
Thankyou.
73's

--
Best Regards:
Baron.

1913. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 21:24:47 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <94c55f4c-16e9-483d-80be-236681862da9@k31g2000vbu.googlegroups.com>
Source record: 9513

On 29 mayo, 14:27, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "lu6etj" <lu6...@gmail.com> wrote news:0d91fd84-c798-4391-8e90-I do not
> have useful knowledge in laser either.
>
> >I am interested in your optical analogy because analogies often are
>
> useful to visualize a new thing knowing old things, it does not matter
> if we use RF concepts to aproximate optical things or vice versa,
> analogies are useful crutches (muletas in spanish). Even I agree at
> our concept that electromagnetic spectrum includes RF waves and ligh
> waves and they are the same phenomenon, I think that is a result of
> great insight and efforts of the human mind, it is not so evident. We
> see light, we sense infrared radiaton, but we can not perceive well RF
> without instruments (unless we introduce ourselves in a micowave oven
> or burn with the antenna, of course).
> To concentrate light we only need a piece of glass, to do the same on
> HF RF region we need large wire antenna arrays. Because of this we
> often need (or employ) very differents models to deal with the "same
> thing". Probably Maxwell equations solve all of them, but they are
> difficult ladies to deal :>).
>
> Maxwell equations are wrote by Heaviside.
>
> >Reconciling optcs models with electric models have its difficulties,
>
> but can be productive undoubtedly I believe.
>
> Now light is produced with the electric device:
> "As the electrons are undergoing acceleration they radiate electromagnetic
> energy in their flight direction, and as they interact with the light
> already emitted, photons along its line are emitted in phase, resulting in a
> "laser-like" monocromatic and coherent beam. The mirrors show in the sketch
> below are superfluous, as all the light is emitted in one direction anyway."
> From:http://en.wikipedia.org/wiki/Halbach_array
>
> When electrons oscillate they disturb the "electron see" and that are waves.
> To achive the oscillations we use different devices.
> The Halbach array is for light. The dipole for RF. For radar and microwaves
> the another.
> S*

I all

Richard, I can not translate "Is yours dead?", I suppose means
something as "if it is my last word about it". Well...I do not believe

in witches but there are, there are! I shall not bet :>)

> Have you been following that story with Walt and myself?
Sorry, no. ocassionally I read the topic in this newsgroup long time ago.
....
I agree Cecil, be indulgent with my poor translations, I should have written "I don not postulate Ether, without 'an' before", pointing - with the capital "L"- to our old friend "luminiferous ether"; quantic ether it is a different and very interesting stuff, isn't it?
I can not tranlate your Texan sentence, is a dialect? (patois?). Would you mind write it in basic "english for aliens" for me).
I do not quite understand this => "Photons cannot stand still in a standing wave." -You do not ascribe to wave-particle duality notion?-

As I understand quantic numbers of HF energy are a such extremely small quantities that have unmeasurable effects, I understood (or suppose) you wanted mean quantic physics born of fail of classical electrodynamics to explain all phenomena.
When I pointed to dimensions of transmission line space vs tridimensional space I am thinking of what you called (named?) "redistribution" as meaning the only possible solution in such space is redirection (or reflection). Is it OK?
From me understanding "reflection" is a way of "redirection" of light that obey to the reflection law of optics, in transmission line space I think would be synonymous (at last in spanish language). Do not you agree?
Anyway, I think that classic physics is enough to explain phenomena on extremly low quantic number systems, as HF energy or cars in movement :>)

Returning to analogy. I can not realize how associate Zc changes to refraction because I learnt refraction as a differente speed of light medium phenomenom. Give me a hand.

["re" it is only a prefix, look for "distribute" (or verb "distribuir" in spanish => "Give something its timely placement or convenient location". I bet it has same meaning in english]

Before advance more. I am not yet quite discern your (plural) conceptual differences. Please remember that I did a question and you answer with concepts of advanced stages of your discussion. Until now - seems to me- Owen sustain our clasic Terman et al teachings and is critic of Walter's theory; you too but from different point of view (redistribution of energy, interference, photon laws, etc). I do not know yet Roy's differences, and Richard would support all Walter's hipothesis.

Also seems to me that a piece of discussion revolves around "truthness" (in weak sense of word) of respective models more than capacity of each one to give correct results to empiric measurements. Perhaps a little summary of coincidences and differences can serve to

other readers, and me, obviously :>)

73 and good weekend to all

Miguel Ghezzi LU6ETJ

PS: QSL to Szczepan comments

1914. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 22:29:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rk3306tvthqmckm8ikgmsrhn9ek4tiopal@4ax.com>
Source record: 9514

On Sat, 29 May 2010 14:24:47 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Richard, I can not translate "Is yours dead?", I suppose means
>something as "if it is my last word about it". Well...I do not believe
>in witches but there are, there are! I shall not bet :>)

It was a Quantum joke. It has groans AND laughs until you read it.

>> Have you been following that story with Walt and myself?
>Sorry, no. ocassionally I read the topic in this newsgroup long time
>ago.

Too bad. I find plate resistance an interesting application of macro
and micro action. I thought you would too.

>"Photons cannot stand still in a
>standing wave."

Gad, what an awful statement.

>As I understand quantic numbers of HF energy are a such extremely
>small quantities that have unmeasurable effects,

They are measured. Your "understanding" is an example of how a
metaphor can throw you into the ditch. Trying to go down the optical
path to discuss RF will find you walking in the bushes.

>Zc changes to
>refraction

Gad, another awful statement.

>["re" it is only a prefix, look for "distribute" (or verb "distribuir"
>in spanish => "Give something its timely placement or convenient
>location". I bet it has same meaning in english]

Your English is fine.

>Richard would support all Walter's
>hipothesis.

No, I don't support Walt's hypothesis, I support his data. Walt and I
disagree about Plate resistance being "real." It is a very small step
over a very large boulder. (Quantum tunneling would make it easier.)

The "problem" with Plate resistance seems to have arrived through
creationism - a novel superstition instead of a simple superposition.

>Also seems to me that a piece of discussion revolves around
>"truthness" (in weak sense of word) of respective models more than
>capacity of each one to give correct results to empiric measurements.
>Perhaps a little summary of coincidences and differences can serve to
>other readers, and me, obviously :>)

The word you are trying to find is "validity," that is, if this is a scientific issue. You are right about "truthfulness" if it is a religious issue. Or possibly a boolean logical result if we left the realm of analog.

Validity is a result of testing results (scientific method) against expectations.

Truth is a result of burning someone (auto de fï¿½) until they agree with you.

Choose your company with care. Do they work at the bench, or do they play with matches? :-)

73's
Richard Clark, KB7QHC

1915. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-29 23:58:52 UTC
From: walt <walt@w2du.com>
Message-ID: <0f11a4c8-a868-4298-bd30-a5936ccb2d7d@j12g2000pri.googlegroups.com>
Source record: 9515

On May 29, 4:39 pm, Baron <baron.nos...@linuxmaniac.nospam.net> wrote:
> Richard Clark Inscribed thus:
>
>
>
> > The seven points I enumerate are from material drawn from a single
> > source. I am sending you the full chapter treatment that speaks to
> > this topic alone from:
> > "Physical Electronics," Curtis L. Hemenway, Richard W. Henry, Martin
> > Caulton; John Wiley and Sons, 1962.
>
> > Others may ask for copies of this reference. Others may ask where the
> > heat comes from, a topic I would enjoy elaborating upon. It is a very
> > simple explanation that by using Walt's data above, can be rendered
> > into Watts/Temperature with only the difficulty of pressing calculator
> > keys. These values than can weighed against real and tested
> > observation at the bench of the same tube in operation.
>
> > I cannot imagine anything else meriting discussion.
>
> > 73's
> > Richard Clark, KB7QHC
>
> I would appreciate a copy of the above reference, if you would be so
> kind. In order for me to continue following an interesting discussion.
> Thankyou.
> 73's
>
> --
> Best Regards:
>   Baron.

Hi Richard,

Thank you for sending the copy of the paper you referenced. I've been reviewing it this afternoon. Although I understand that induced current results from a moving charge, I'm not as comfortable discussing the Rp issue in terms of charges as I am with currents, so I'm having a little difficulty in coming to grips with Rp while reviewing the paper. Consequently, I need a little more time assimilating the info before replying further in hope of resolving our difference on the subject.

I'll be back with you as soon as I'm ready.

Walt

Walt

1916. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 00:04:16 UTC
From: Robert Smits <bob@rsmits.ca>
Message-ID: <SsidnTjoy5kcNpzRnZ2dnUVZ_jSdnZ2d@giganews.com>
Source record: 9516

Richard Clark wrote:

> On Thu, 27 May 2010 17:36:41 -0700, Bob Smits <bob@rsmits.ca> wrote:
>
>>Is there a significant difference between using the galvanized steel
>>ground rods and copper to create an rf gound?
>
> Hi Bob,
>
> Two answers for that:
> 1. No difference whatever;
> B. Neither make an RF ground.
>
> Updates will follow this brief announcement.
>
> 73's
> Richard Clark, KB7QHC

Looks like my follow up post didn't make it through.

Richard I intend these three ground rods to be the start of grounding my station, not as a counterpoise for one of my antennas. These will be bonded to my radios and the electrical service entrance ground.

Why do you say this does not make an RF ground?

Thanks, Bob

1917. Re: Computer model experiment

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 00:29:33 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <e5d68bba-a99d-489e-9b01-7605a9bcd09e@g1g2000pro.googlegroups.com>
Source record: 9517

On May 28, 9:46 pm, tom <news4...@taring.org> wrote:
> On 5/28/2010 7:19 PM, K1TTT wrote:
>
> > On May 28, 5:35 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
> >> So Stokes' aether will be in schools in XXII century.
> >> Do you agree?
> >> S*
>
> > no, the teachers i had stayed up to date with things that have been
> > proven in this century. aether theory was soundly debunked quite a
> > while ago and any teacher still pushing that should be retired.
>
> Art and S are running remarkably parallel today. Funny how people like
> that can sync up once in a while.
>
> tom
> K0TAR

Even the same font, A's with krouzek(sp?)

1918. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 00:29:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a2c306d6lf9eqf9pn15ipm95j0s58bv8vs@4ax.com>
Source record: 9518

On Sat, 29 May 2010 17:04:16 -0700, Robert Smits <bob@rsmits.ca>
wrote:

>Why do you say this does not make an RF ground?

Hi Bob,

If by "this" you mean the three rods, then they will NOT make an RF
ground.

Of necessity due to wavelength, your ground must be spread out (not
buried) to one quarter wavelength. For 160M, your radials (not ground
rods), should extend 40 meters from your radiator.

Classically, you would need 120 radials for an RF ground.

Classicism and practical reality diverge, so there are variations on
all of this EXCEPT ground rods do not make an RF ground.

73's
Richard Clark, KB7QHC

1919. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 00:32:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qdc306drbtae8uffkjut1nllqkhca25oom@4ax.com>
Source record: 9519

On Sat, 29 May 2010 16:58:52 -0700 (PDT), walt <walt@w2du.com> wrote:

>I'll be back with you as soon as I'm ready.

Hi Walt,

Thank you for keeping in touch. Others have asked for copies and will
be reading in tandem with you. Perhaps questions about it, or where
the heat comes from will arrive in your pause.

73's
Richard Clark, KB7QHC

1920. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 01:21:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2ca824b6-2506-48c2-a821-a21282eb5f74@v29g2000prb.googlegroups.com>
Source record: 9520

On May 29, 4:24 pm, lu6etj <lu6...@gmail.com> wrote:
> I agree Cecil, be indulgent with my poor translations, I should have
> written "I don not postulate Ether, without 'an' before", pointing -
> with the capital "L"- to our old friend "luminiferous ether"; quantic
> ether it is a different and very interesting stuff, isn't it?

Miguel, your English is a magnitude better than my Spanish so don't
worry about it. "Quantum ether" are two words that I have never seen
together before. Maybe you will be famous for that concept.

> I can not tranlate your Texan sentence, is a dialect? (patois?). Would
> you mind write it in basic "english for aliens" for me).

Northern Americans cannot understand it either. :-) The translation
is: "I think I will walk over there after awhile." The Texan word
"amble" came from the Spanish word "amblar".

> I do not quite understand this => "Photons cannot stand still in a
> standing wave." -You do not ascribe to wave-particle duality notion?-

Some of the RF gurus will try to convince you that the energy in RF
standing waves is standing still. But since those RF waves consist of
photons which must necessarily move at the speed of light in the
medium, they are dead wrong. The correct concept is that a pure
standing wave doesn't transfer any *net* energy but the two equal
component traveling waves, forward and reverse, are still moving at
the speed of light in opposite.

> As I understand quantic numbers of HF energy are a such extremely
> small quantities that have unmeasurable effects, I understood (or
> suppose) you wanted mean quantic physics born of fail of classical
> electrodynamics to explain all phenomena.

The point is that the photonic energy in an RF wave cannot stand
still. That defeats the argument that reflected waves don't exist or
don't contain any energy. Such is simply nonsense.

> When I pointed to dimensions of transmission line space vs
> tridimensional space I am thinking of what you called (named?)
> "redistribution" as meaning the only possible solution in such space
> is redirection (or reflection). Is it OK?

Light waves can be reflected, refracted, and/or redistributed in any
3D direction. RF waves in a transmission line can only flow in two
directions, forward and reverse. That simplifies things considerably.
Coherent waves flowing in the same direction in a transmission line
suffer permanent interaction.

> From me understanding "reflection" is a way of "redirection" of light
> that obey to the reflection law of optics, in transmission line space
> I think would be synonymous (at last in spanish language). Do not you
> agree?

Yes, but wave cancellation accompanied by destructive interference can
also redirect EM energy. Wave cancellation is what w7el is missing in
his food-for-thought article.

> Anyway, I think that classic physics is enough to explain phenomena on
> extremly low quantic number systems, as HF energy or cars in
> movement :>)

Yes, but when classic physics allegedly doesn't obey the laws of
quantum electrodynamics, something is wrong, and quantum
electrodynamics wins every time.

> Returning to analogy. I can not realize how associate Zc changes to
> refraction because I learnt refraction as a differente speed of light
> medium phenomenom. Give me a hand.

For the purposes of RF waves in a transmission line, you can forget
refraction as an irrelevant effect.

> ["re" it is only a prefix, look for "distribute" (or verb "distribuir"
> in spanish => "Give something its timely placement or convenient
> location". I bet it has same meaning in english]

Yes, that is probably correct.

> ... you too but from different point of view
> (redistribution of energy, interference, photon laws, etc).

My concepts are directly from the field of optical physics. You might
want to obtain a copy of "Optics", by Hecht. It is available in
Spanish:

http://www.astronomyinspanish.org/slm/eng/book/coll/optica_hecht

This book will teach you more about EM *energy flow* than any RF
engineering book that I know of.

> Perhaps a little summary of coincidences and differences can serve to
> other readers, and me, obviously :>)

The model that w7el uses for his food-for-thought article on forward
and reflected power is obviously wrong because it doesn't indicate
where the reflected energy goes. When a model confuses the user and
obviously doesn't represent reality, it's time to upgrade to a better
model. The EM wave model used in optics does necessarily track the
reflected energy because optical physicists cannot easily measure
voltage.
--
73, Cecil, w5dxp.com

1921. Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 01:25:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ekc306lc6388ekd55ohbeo9jg33c8k36ca@4ax.com>
Source record: 9521

On Sat, 29 May 2010 16:58:52 -0700 (PDT), walt <walt@w2du.com> wrote:

>Although I understand that induced
>current results from a moving charge, I'm not as comfortable
>discussing the Rp issue in terms of charges as I am with currents, so
>I'm having a little difficulty in coming to grips with Rp while
>reviewing the paper.

Hi All,

For others, there might be wonder at the meaning of induced or inducted current - or convection current for that matter. It would be useful to expand here in a new thread.

First. In the interval between cathode and plate, there are only electrons. In other words, there are no conductors as are found everywhere else.

Second. When an electron flows between the cathode and the plate, charge is moving. By convention, this is called current. It goes by a special label - convection current.

Third. The interval between the cathode and plate is part of a complete circuit that travels through the power supply, returns to ground and rises from ground to come to the cathode.

Fourth. For charge movement through the interval between cathode and plate, there is exactly the same charge movement through ALL wiring connecting the plate to the power supply, wiring from the power supply to ground, and wiring from the ground to the cathode.

Fifth. The charge movement throughout the wired circuit, by convention is called current. it goes by a special label - induced current.

The distinction between induced current and convection current is found in their transport media. One is metal, the other is vacuum. The convection (like convection heat) is electron movement in space which induces current in the wire. This induction is NOT like transformer induction. It has absolutely nothing to do with magnetic linkage. We could call it induction if the entire circuit were composed of wire. That is, the movement of one electron "induces" the movement of another electron.

Similarly (and tipping my hand about reflected waves), an extra electron push in the wiring will induce an electron in the tube to move. The current is inextricably locked in a dynamic flow. There is

no new physics in this anywhere.

So why two terms? The necessity of this seemingly obscure point is to exhibit how heat is formed, and why the plate of the tube is a literal, real resistor in this circuit. Very few correspondents (read none but myself) to this board dwell on this, and they end up dismissing the real resistance of this specific and consequential source as a mathematical fiction suitable for only milliwatt signal generators.

73's
Richard Clark, KB7QHC

1922. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 02:36:33 UTC
From: Dave Foreman <davelf11@cox.net>
Message-ID: <tmj306tgsfjklav1j7a6hpm76nup5m107f@4ax.com>
Source record: 9522

On Sat, 29 May 2010 11:21:58 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Sat, 29 May 2010 09:43:21 -0700 (PDT), walt <walt@w2du.com> wrote:
>
>>Apparently we have different editions of Terman.
>>Mine doesn't discuss R as the remnant of conjugation, so if only R is
>>considered in the image impedance I can concur with you on this issue.
>
>Hi Walt,
>
Sniipped
>
>The seven points I enumerate are from material drawn from a single
>source. I am sending you the full chapter treatment that speaks to
>this topic alone from:
>"Physical Electronics," Curtis L. Hemenway, Richard W. Henry, Martin
>Caulton; John Wiley and Sons, 1962.
>
>Others may ask for copies of this reference. Others may ask where the
>heat comes from, a topic I would enjoy elaborating upon. It is a very
>simple explanation that by using Walt's data above, can be rendered
>into Watts/Temperature with only the difficulty of pressing calculator
>keys. These values than can weighed against real and tested
>observation at the bench of the same tube in operation.
>
>I cannot imagine anything else meriting discussion.
>
>73's
>Richard Clark, KB7QHC

Richard
Please send me a copy also.
Thanks much.
Dave Foreman

davelf11@cox.net

1923. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 05:59:49 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <abe2f388-0247-48b8-af00-83dedfc21756@42g2000prb.googlegroups.com>
Source record: 9523

On 29 mayo, 22:21, Cecil Moore <w5...@hotmail.com> wrote:
> On May 29, 4:24 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > I agree Cecil, be indulgent with my poor translations, I should have
> > written "I don not postulate Ether, without 'an' before", pointing -
> > with the capital "L"- to our old friend "luminiferous ether"; quantic
> > ether it is a different and very interesting stuff, isn't it?
>
> Miguel, your English is a magnitude better than my Spanish so don't
> worry about it. "Quantum ether" are two words that I have never seen
> together before. Maybe you will be famous for that concept.
>
> > I can not tranlate your Texan sentence, is a dialect? (patois?). Would
> > you mind write it in basic "english for aliens" for me).
>
> Northern Americans cannot understand it either. :-) The translation
> is: "I think I will walk over there after awhile." The Texan word
> "amble" came from the Spanish word "amblar".
>
> > I do not quite understand this => "Photons cannot stand still in a
> > standing wave." -You do not ascribe to wave-particle duality notion?-
>
> Some of the RF gurus will try to convince you that the energy in RF
> standing waves is standing still. But since those RF waves consist of
> photons which must necessarily move at the speed of light in the
> medium, they are dead wrong. The correct concept is that a pure
> standing wave doesn't transfer any *net* energy but the two equal
> component traveling waves, forward and reverse, are still moving at
> the speed of light in opposite.
>
> > As I understand quantic numbers of HF energy are a such extremely
> > small quantities that have unmeasurable effects, I understood (or
> > suppose) you wanted mean quantic physics born of fail of classical
> > electrodynamics to explain all phenomena.
>
> The point is that the photonic energy in an RF wave cannot stand
> still. That defeats the argument that reflected waves don't exist or
> don't contain any energy. Such is simply nonsense.
>
> > When I pointed to dimensions of transmission line space vs
> > tridimensional space I am thinking of what you called (named?)
> > "redistribution" as meaning the only possible solution in such space
> > is redirection (or reflection). Is it OK?
>

> Light waves can be reflected, refracted, and/or redistributed in any
> 3D direction. RF waves in a transmission line can only flow in two
> directions, forward and reverse. That simplifies things considerably.
> Coherent waves flowing in the same direction in a transmission line
> suffer permanent interaction.
>
> > From me understanding "reflection" is a way of "redirection" of light
> > that obey to the reflection law of optics, in transmission line space
> > I think would be synonymous (at last in spanish language). Do not you
> > agree?
>
> Yes, but wave cancellation accompanied by destructive interference can
> also redirect EM energy. Wave cancellation is what w7el is missing in
> his food-for-thought article.
>
> > Anyway, I think that classic physics is enough to explain phenomena on
> > extremly low quantic number systems, as HF energy or cars in
> > movement :>)
>
> Yes, but when classic physics allegedly doesn't obey the laws of
> quantum electrodynamics, something is wrong, and quantum
> electrodynamics wins every time.
>
> > Returning to analogy. I can not realize how associate Zc changes to
> > refraction because I learnt refraction as a differente speed of light
> > medium phenomenom. Give me a hand.
>
> For the purposes of RF waves in a transmission line, you can forget
> refraction as an irrelevant effect.
>
> > ["re" it is only a prefix, look for "distribute" (or verb "distribuir"
> > in spanish => "Give something its timely placement or convenient
> > location". I bet it has same meaning in english]
>
> Yes, that is probably correct.
>
> > ... you too but from different point of view
> > (redistribution of energy, interference, photon laws, etc).
>
> My concepts are directly from the field of optical physics. You might
> want to obtain a copy of "Optics", by Hecht. It is available in
> Spanish:
>
> http://www.astronomyinspanish.org/slm/eng/book/coll/optica_hecht
>
> This book will teach you more about EM *energy flow* than any RF
> engineering book that I know of.
>
> > Perhaps a little summary of coincidences and differences can serve to
> > other readers, and me, obviously :>)

>
> The model that w7el uses for his food-for-thought article on forward
> and reflected power is obviously wrong because it doesn't indicate
> where the reflected energy goes. When a model confuses the user and
> obviously doesn't represent reality, it's time to upgrade to a better
> model. The EM wave model used in optics does necessarily track the
> reflected energy because optical physicists cannot easily measure
> voltage.
> --
> 73, Cecil, w5dxp.com

Hi to all...

Richard, do you agree with Walter's theory on "Another look at reflections" in reflections topic -out of plate resistance differences-?

> The word you are trying to find is "validity,"

No, it was more near of your second => "Truth", or "The Truth", the metaphysical "truth" :>)

> Walt and I disagree about Plate resistance being "real"

What is "real" for you? For me it is a slippery word ever ready to disputes, in knowledge matters makes us think of the "thing itself" and with it, we quickly fall into endless scholastic discussions. With models "the thing" it is a little more ease, models only must be internal and measurements consistent. Models are neither "True" nor "Real", they are modestly "valid" :>) What do you think?
....
I believe I am in a privileged position because my english weakness : when I am about to disagree with you, I tell me -"probably you do not translate well, Miguel, ask again"- and when you answer to me then voilá! I do not disagree... Viceversa, perhaps language give me a second chance with you because you are more forgiving with me :>)

Example:
Miguel =>
> I do not quite understand this => "Photons cannot stand still in a
> standing wave." -You do not ascribe to wave-particle duality notion?-
Cecil =>
> Some of the RF gurus will try to convince you that the energy in RF
> standing waves is standing still. But since those RF waves consist of
> photons which must necessarily move at the speed of light in the
> medium,

So, now I believe what he is trying to tell me is stationary wave is a measured time dependent magnitude resulting of two near speed of light traveling waves, manifestating in our measurement apparatus (observer or "load" as said Richard)... It is good to me.. Then, I do not care anymore the ugly (nasty?) word "photon" :>), and finally to my joy, next Cecil sentence confirms my translation/interpretation!.

> Coherent waves flowing in the same direction in a transmission line
> suffer permanent interaction.

It is difficult to me reconcile superposition principle with "interaction", because in spanish "interacción" word means: "Action exerted MUTUALLY between two or more objects, agents, forces, functions, etc" (capitals are mine) And I learnt two or more electromagnetic waves can pass one through other by same point of the SPACE without recognizing themselves (unlike particles that "collide"), then, by definition, they not interactuate themselves at all.
We do not "see" any standing wave in space when two same path opposite direction RF rays cross themselves and there is not contradiction. Are you agree?
In transmission lines instead it is not easy to think that because more "tangible" standing wave voltages and currents make us think they are "interacting". What do you think about it?,

> but wave cancellation accompanied by destructive interference can
also redirect EM energy

To satisfy the energy conservation principle, isn' it? This produces a reflection, right?

> but when classic physics allegedly doesn't obey the laws of
quantum electrodynamics, something is wrong, and quantum
electrodynamics wins every time.

Could be classic electrodynamics be right but we are not applying correctly, and then classic model not become a losser in this matter?

I see you do not agree with some Roy Lewallen proposition: do you agree with Walter Maxwell on this topic?

Sorry (for me) Cecil "quantum ether" is not mine :>(

Thanks for optics book recommendation.

73

Miguel Ghezzi - LU6ETJ

1924. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 08:34:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ni4406hkbq51s4l3sji81obkk0pr0vq4l2@4ax.com>
Source record: 9524

On Sat, 29 May 2010 22:59:49 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Hi to all...
>
>Richard, do you agree with Walter's theory on "Another look at
>reflections" in reflections topic -out of plate resistance
>differences-?

Hi Miguel,

Walt is not espousing a theory.

>> The word you are trying to find is "validity,"
>
>No, it was more near of your second => "Truth", or "The Truth", the
>metaphysical "truth" :>)

Then this will be great sport.
(sport: from Old French desport , pleasure ,
from desporter , to divert
- I assume it is not very different
from the Spanish desportes)

>> Walt and I disagree about Plate resistance being "real"
>
>What is "real" for you?

Children.

>For me it is a slippery word ever ready to
>disputes, in knowledge matters makes us think of the "thing itself"
>and with it, we quickly fall into endless scholastic discussions. With
>models "the thing" it is a little more ease, models only must be
>internal and measurements consistent. Models are neither "True" nor
>"Real", they are modestly "valid" :>) What do you think?

They have what is called "internal consistency."
>.......
>I believe I am in a privileged position because my english weakness :

I have designed natural language parsers (NLP). Non-native speakers
of English know the language far better than native born speakers.

That is your privilege.

>when I am about to disagree with you, I tell me -"probably you do not
>translate well, Miguel, ask again"- and when you answer to me then

>voilï¿½! I do not disagree... Viceversa, perhaps language give me a
>second chance with you because you are more forgiving with me :>)

I have lived in more countries and spoken more languages than most
here. There are many here that speak and write perfectly poor English
that makes better sense that some of the strange statements you are
trying to parse.

>Example:
>Miguel =>
>> I do not quite understand this => "Photons cannot stand still in a
>> standing wave." -You do not ascribe to wave-particle duality notion?-
>Cecil =>
>> Some of the RF gurus will try to convince you that the energy in RF
>> standing waves is standing still. But since those RF waves consist of
>> photons which must necessarily move at the speed of light in the
>> medium,
>
>So, now I believe what he is trying to tell me is stationary wave is a
>measured time dependent magnitude resulting of two near speed of light
>traveling waves, manifestating in our measurement apparatus (observer
>or "load" as said Richard)... It is good to me.. Then, I do not care
>anymore the ugly (nasty?) word "photon" :>), and finally to my joy,
>next Cecil sentence confirms my translation/interpretation!.
>
>> Coherent waves flowing in the same direction in a transmission line
>> suffer permanent interaction.
>
>It is difficult to me reconcile superposition principle with
>"interaction", because in spanish "interaccii¿½n" word means: "Action
>exerted MUTUALLY between two or more objects, agents, forces,
>functions, etc" (capitals are mine) And I learnt two or more
>electromagnetic waves can pass one through other by same point of the
>SPACE without recognizing themselves (unlike particles that
>"collide"), then, by definition, they not interactuate themselves at
>all.

You have the second privilege of understanding a confused statement
when you see it. This is language independent.

>We do not "see" any standing wave in space when two same path opposite
>direction RF rays cross themselves and there is not contradiction. Are
>you agree?

To see is to witness, or be an observer (from the Latin observare, ob-
over, -servare watch). When two light waves illuminate the same load,
and the load is observable, you see the combination of two energies at
that load.

A standing wave does not exist until you measure the combination of
the contributions at a point. You can, of course, populate a large
area with many point-loads if you wish to map a region. Under very

controlled circumstances, you will get to see a nice pattern.

The sport is found here: Of course, you could see the same pattern at the same points by the projection of an image upon them from one source.

Could you tell the difference between (1) that single source projected image and (2) the standing wave combination of several sources?

This is too much fun already, but.....

So, for Truth: Is a movie projector acted upon by the movie it projects? Was your camera happy because your photograph shows a smile? The Truth would say yes. What would Schrodinger see?

Does that help?

>In transmission lines instead it is not easy to think that because
>more "tangible" standing wave voltages and currents make us think they
>are "interacting". What do you think about it?,

A confused statement.

>> but wave cancellation accompanied by destructive interference can
>also redirect EM energy
>
>To satisfy the energy conservation principle, isn' it? This produces a
>reflection, right?

You are in the bushes.

>> but when classic physics allegedly doesn't obey the laws of
>quantum electrodynamics, something is wrong, and quantum
>electrodynamics wins every time.
>
>Could be classic electrodynamics be right but we are not applying
>correctly, and then classic model not become a losser in this matter?

Let's see now. You have three things to figure out. RF, Light, and QED. I hestitate to wonder what could possibly follow if you prove to be to slow to figure these out. Perhaps sudoko patterns revealing the entanglement of strange attractors. (Sorry for the translation overload.)

And this started with Truth? :-)

Write when you receive more inspiration. (A supernatural divine influence on the prophets, apostles, or sacred writers, by which they were qualified to communicate moral or religious truth with authority; a supernatural influence which qualifies men to receive and communicate divine truth; also, the truth communicated.)

73's
Richard Clark, KB7QHC

1925. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 09:55:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c02362d$0$19173$65785112@news.neostrada.pl>
Source record: 9525

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:2ca824b6-2506-48c2-a821-a21282eb5f74@v29g2000prb.googlegroups.com...
On May 29, 4:24 pm, lu6etj <lu6...@gmail.com> wrote:

>Light waves can be reflected, refracted, and/or redistributed in any
3D direction.

In optics are mirrors which reflect and transmit the desired proportion of
light.

>RF waves in a transmission line can only flow in two
directions, forward and reverse.

It can also transmit.

>That simplifies things considerably.
Coherent waves flowing in the same direction in a transmission line
suffer permanent interaction.

But the reflected is weaker.

>> From me understanding "reflection" is a way of "redirection" of light
> that obey to the reflection law of optics, in transmission line space
> I think would be synonymous (at last in spanish language). Do not you
> agree?

>Yes, but wave cancellation accompanied by destructive interference can
also redirect EM energy. Wave cancellation is what w7el is missing in
his food-for-thought article.

>> Anyway, I think that classic physics is enough to explain phenomena on
> extremly low quantic number systems, as HF energy or cars in
> movement :>)

>Yes, but when classic physics allegedly doesn't obey the laws of
quantum electrodynamics, something is wrong, and quantum
electrodynamics wins every time.

>> Returning to analogy. I can not realize how associate Zc changes to
> refraction because I learnt refraction as a differente speed of light
> medium phenomenom. Give me a hand.

>For the purposes of RF waves in a transmission line, you can forget
refraction as an irrelevant effect.

>> ["re" it is only a prefix, look for "distribute" (or verb "distribuir"
> in spanish => "Give something its timely placement or convenient
> location". I bet it has same meaning in english]

>Yes, that is probably correct.

> ... you too but from different point of view
> (redistribution of energy, interference, photon laws, etc).

>My concepts are directly from the field of optical physics. You might want to obtain a copy of "Optics", by Hecht. It is available in Spanish:

http://www.astronomyinspanish.org/slm/eng/book/coll/optica_hecht

>This book will teach you more about EM *energy flow* than any RF engineering book that I know of.

>> Perhaps a little summary of coincidences and differences can serve to
> other readers, and me, obviously :>)

>The model that w7el uses for his food-for-thought article on forward and reflected power is obviously wrong because it doesn't indicate where the reflected energy goes. When a model confuses the user and obviously doesn't represent reality, it's time to upgrade to a better model. The EM wave model used in optics does necessarily track the reflected energy because optical physicists cannot easily measure voltage.

The intensity is also accurate.
The end of the dipole reflect and transmit. The proportion is measured as VWSR.
But for this you need the Electric Wave Model.
EM was stripped away by Royal Society in 1864.
S*
73, Cecil, w5dxp.com

1926. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 11:09:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ed7b577a-3828-42d6-84db-169a5baacd08@x27g2000prf.googlegroups.com>
Source record: 9526

On May 30, 9:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Cecil Moore" <w5...@hotmail.com> napisal w
wiadomoscinews:2ca824b6-2506-48c2-a821-a21282eb5f74@v29g2000prb.googlegroups.com...
> On May 29, 4:24 pm, lu6etj <lu6...@gmail.com> wrote:
>
> >Light waves can be reflected, refracted, and/or redistributed in any
>
> 3D direction.
>
> In optics are mirrors which reflect and transmit the desired proportion of
> light.
>
> >RF waves in a transmission line can only flow in two
>
> directions, forward and reverse.
>
> It can also transmit.
>
> >That simplifies things considerably.
>
> Coherent waves flowing in the same direction in a transmission line
> suffer permanent interaction.
>
> But the reflected is weaker.
>
> >> From me understanding "reflection" is a way of "redirection" of light
> > that obey to the reflection law of optics, in transmission line space
> > I think would be synonymous (at last in spanish language). Do not you
> > agree?
> >Yes, but wave cancellation accompanied by destructive interference can
>
> also redirect EM energy. Wave cancellation is what w7el is missing in
> his food-for-thought article.
>
> >> Anyway, I think that classic physics is enough to explain phenomena on
> > extremly low quantic number systems, as HF energy or cars in
> > movement :>)
> >Yes, but when classic physics allegedly doesn't obey the laws of
>
> quantum electrodynamics, something is wrong, and quantum
> electrodynamics wins every time.
>
> >> Returning to analogy. I can not realize how associate Zc changes to
> > refraction because I learnt refraction as a differente speed of light

> > medium phenomenom. Give me a hand.
> >For the purposes of RF waves in a transmission line, you can forget
>
> refraction as an irrelevant effect.
>
> >> ["re" it is only a prefix, look for "distribute" (or verb "distribuir"
> > in spanish => "Give something its timely placement or convenient
> > location". I bet it has same meaning in english]
> >Yes, that is probably correct.
> > ... you too but from different point of view
> > (redistribution of energy, interference, photon laws, etc).
> >My concepts are directly from the field of optical physics. You might
>
> want to obtain a copy of "Optics", by Hecht. It is available in
> Spanish:
>
> http://www.astronomyinspanish.org/slm/eng/book/coll/optica_hecht
>
> >This book will teach you more about EM *energy flow* than any RF
>
> engineering book that I know of.
>
> >> Perhaps a little summary of coincidences and differences can serve to
> > other readers, and me, obviously :>)
> >The model that w7el uses for his food-for-thought article on forward
>
> and reflected power is obviously wrong because it doesn't indicate
> where the reflected energy goes. When a model confuses the user and
> obviously doesn't represent reality, it's time to upgrade to a better
> model. The EM wave model used in optics does necessarily track the
> reflected energy because optical physicists cannot easily measure
> voltage.
>
> The intensity is also accurate.
> The end of the dipole reflect and transmit. The proportion is measured as
> VWSR.
> But for this you need the Electric Wave Model.
> EM was stripped away by Royal Society in 1864.
> S*
> 73, Cecil, w5dxp.com

Mr. S... please, you need to do 2 things... first, get a better
newsgroup editor or use the groups.google.com web site to post
replies, whatever you are using now messes up the indentation for
quoted text and makes it impossible to figure out what you wrote and
what is quoted. second, keep your 150 year old theories in threads
where they belong, they will only cause confusion to those who are
trying to discuss modern methods.

1927. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 13:59:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a4bdb136-cac2-4f71-aee0-54103dbafba4@x27g2000prf.googlegroups.com>
Source record: 9527

On May 30, 12:32 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 29 May 2010 16:58:52 -0700 (PDT), walt <w...@w2du.com> wrote:
> >I'll be back with you as soon as I'm ready.
>
> Hi Walt,
>
> Thank you for keeping in touch. Others have asked for copies and will
> be reading in tandem with you. Perhaps questions about it, or where
> the heat comes from will arrive in your pause.
>
> 73's
> Richard Clark, KB7QHC

does it really matter what the mechanism of generating the heat is?
the fact that there is heat generated in the plate means there is
energy lost from the electrons, be it due to impinging on the plate
mechanically or due to the metal resistance it is still a loss of
energy. And since there is more heat when there is more plate current
we can model it as a real resistance. The only question is then, is
it linear or not. that should be a 'relatively' simple measurement,
and one that has likely been done by a researcher somewhere along the
line.

1928. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 14:56:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ef07e125-33a5-4a0f-8258-d2ba4468406d@z13g2000prh.googlegroups.com>
Source record: 9528

On May 30, 12:59 am, lu6etj <lu6...@gmail.com> wrote:
> It is difficult to me reconcile superposition principle with
> "interaction", because in spanish "interacción" word means: "Action
> exerted MUTUALLY between two or more objects, agents, forces,
> functions, etc" (capitals are mine) And I learnt two or more
> electromagnetic waves can pass one through other by same point of the
> SPACE without recognizing themselves (unlike particles that
> "collide"), then, by definition, they not interactuate themselves at
> all.

What you learned is usually true in free space. Two light waves can pass through each other at the same point in space without affecting or interacting with each other because they are *not collinear*. It is very difficult to align two light beams in free space such that they are collinear. However, it can be done in an interferometer.

http://www.teachspin.com/instruments/moderni/experiments.shtml

But in an RF transmission line, please understand that there is *no way to keep the RF waves from being collinear* since it is primarily a one-dimensional space with only two possible directions. Therefore, any two coherent RF waves traveling in the same direction in an RF transmission line, will interact and have a permanent effect. For pure sinusoidal waves, the transmitted wave, the re-reflected wave, and the constructive interference wave are all coherent and collinear and merge into a single forward wave flowing toward the load. The component waves become inseparable.

> We do not "see" any standing wave in space when two same path opposite
> direction RF rays cross themselves and there is not contradiction. Are
> you agree?

Eugene Hecht, in "Optics", describes standing waves of visible light in free space. I'm not sure that humans can "see" the standing wave detail because the frequency is so high, but standing waves of visible light can certainly exist in free space. If you can, please obtain a copy of "Optics". If one routed a standing-wave of light through a cloud chamber, it would become visible. I don't know if the human eye can resolve the high and low interference patterns but I'm sure instruments could detect it.

> In transmission lines instead it is not easy to think that because
> more "tangible" standing wave voltages and currents make us think they
> are "interacting". What do you think about it?,

Coherent collinear waves traveling the same direction in a
transmission line superpose, merge, and interact. This invariably
occurs at an impedance discontinuity point during interference
immediately after normal reflections have taken place. RF waves
traveling in opposite directions in a transmission line with a
constant Z0, do not interact.

> To satisfy the energy conservation principle, isn' it? This produces a
> reflection, right?

Walter Maxwell defines it as a reflection. I am a little more careful
and have adopted the following standards from optical physics. A
"reflection" is something that happens to a single wave and
corresponds to a physical reflection coefficient. A "redistribution"
can be a reflection but can also involve interference between two or
more waves. If superposition is involved, I use the word
"redistribution" rather than "reflection". Walt lumps the concepts of
normal reflection with wave cancellation and introduces the concept of
a virtual reflection coefficient. Both approaches work. IMO, mine is
slightly more detailed. In "Reflections", under the 1/4WL matching
stub section, Walt proves that he fully understands the role of
constructive/destructive interference in the redistribution of energy.

> Could be classic electrodynamics be right but we are not applying
> correctly, and then classic model not become a losser in this matter?

Yes, if w7el would recognize the energy content (V^2/Z0 watts) that
exists in the voltages that he is superposing, he would be able to
track the reflected energy from the load back to the source and then
back to the load as a component of forward power.

> I see you do not agree with some Roy Lewallen proposition: do you
> agree with Walter Maxwell on this topic?

In his food-for-thought article, Roy neglected to include the effects
of wave-cancellation/interference at the source resistor in his
example. I don't think that Walter Maxwell has expressed an opinion on
this particular subject of dissipation in the source resistor of a
voltage source as specified by w7el. In a real-world amplifier, Walt
asserts that the source resistance is non-dissipative while, for his
food-for-thought examples, Roy specified a dissipative source
resistance designed to eliminate reflections. Again, what he forgot to
include is redistribution of energy due to wave cancellation, a
concept well understood in the field of EM wave optical physics. He
apparently does not understand the mechanism whereby the conservation
of energy principle is honored so he is forced to falsely assume that
reflected energy is not incident upon the source resistor. Nothing
could be farther from the facts of physics as understood for decades
in the field of optical physics. I was taught constructive/destructive
interference energy concepts in my vector analysis classes at Texas
A&M University during the 50's.
--
73, Cecil, w5dxp.com

1929. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 15:29:54 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <96f303ff-683a-4ce3-852e-794a5cfe8097@j12g2000pri.googlegroups.com>
Source record: 9529

On May 29, 8:25 pm, Richard Clark <kb7...@comcast.net> wrote:
> Similarly (and tipping my hand about reflected waves), an extra
> electron push in the wiring will induce an electron in the tube to
> move. The current is inextricably locked in a dynamic flow. There is
> no new physics in this anywhere.

The only time photons are not generated is during DC steady-state with
no AC signal applied. If you can see the electron beam inside a vacuum
tube (and I have), the electron beam is necessarily emitting photons.
If the field surrounding an electrical current is detectable, the
electrons are emitting photons.
--
73, Cecil, w5dxp.com

1930. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 15:45:48 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <htu161$fm0$1@news.eternal-september.org>
Source record: 9530

Baron Inscribed thus:

> Richard Clark Inscribed thus:
>
>> The seven points I enumerate are from material drawn from a single
>> source. I am sending you the full chapter treatment that speaks to
>> this topic alone from:
>> "Physical Electronics," Curtis L. Hemenway, Richard W. Henry, Martin
>> Caulton; John Wiley and Sons, 1962.
>>
>> Others may ask for copies of this reference. Others may ask where
>> the
>> heat comes from, a topic I would enjoy elaborating upon. It is a
>> very simple explanation that by using Walt's data above, can be
>> rendered into Watts/Temperature with only the difficulty of pressing
>> calculator
>> keys. These values than can weighed against real and tested
>> observation at the bench of the same tube in operation.
>>
>> I cannot imagine anything else meriting discussion.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> I would appreciate a copy of the above reference, if you would be so
> kind. In order for me to continue following an interesting
> discussion. Thankyou.
> 73's
>

Copy received !
Thanks.

--
Best Regards:
Baron.

1931. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 16:46:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <d555061757g8787jqsqj2i1kkh6t0e7bra@4ax.com>
Source record: 9531

I have shifted the following post to this thread where it fits the context perfectly:

On Sun, 30 May 2010 06:59:58 -0700 (PDT), K1TTT <k1ttt@arrl.net> wrote:

>does it really matter what the mechanism of generating the heat is?
>the fact that there is heat generated in the plate means there is
>energy lost from the electrons, be it due to impinging on the plate
>mechanically or due to the metal resistance it is still a loss of
>energy. And since there is more heat when there is more plate current
>we can model it as a real resistance. The only question is then, is
>it linear or not. that should be a 'relatively' simple measurement,
>and one that has likely been done by a researcher somewhere along the
>line.

Yes.

This post is sufficiently informing for many. Others may take its lead and derive EXACTLY how much resistance, heat, power from the data provided by Walt and confirm the bench experience of real resistance within the source.

This response quoted above also corrects my mis-observation of my having the only perception of this universally experienced phenomenon. By count, we are up to two who acknowledge what is obvious.

73's
Richard Clark, KB7QHC

1932. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 17:00:22 UTC
From: You <you@shadow.orgs>
Message-ID: <you-A3F2E9.09002130052010@unknown.hwng.net>
Source record: 9532

In article <SsidnTjoy5kcNpzRnZ2dnUVZ_jSdnZ2d@giganews.com>,
Robert Smits <bob@rsmits.ca> wrote:

> Richard Clark wrote:
>
> > On Thu, 27 May 2010 17:36:41 -0700, Bob Smits <bob@rsmits.ca> wrote:
> >
> >>Is there a significant difference between using the galvanized steel
> >>ground rods and copper to create an rf gound?
> >
> > Hi Bob,
> >
> > Two answers for that:
> > 1. No difference whatever;
> > B. Neither make an RF ground.
> >
> > Updates will follow this brief announcement.
> >
> > 73's
> > Richard Clark, KB7QHC
>
> Looks like my follow up post didn't make it through.
>
> Richard I intend these three ground rods to be the start of grounding my
> station, not as a counterpoise for one of my antennas. These will be bonded
> to my radios and the electrical service entrance ground.
>
> Why do you say this does not make an RF ground?
>
> Thanks, Bob

A lot of folks, make the same mistake, in thinking that Electrical
Ground and RF Ground are the same thing. They, clearly, are NOT, the
same thing or even close to the same thing, unless you happen to be
living on a Salt Marsh. Ground Rods, of any kind, are only Electrical
Grounds. Rf Grounding is a Totally Different bag of cats. RF Grounds
need to be engineered, by someone who is familiar with Antenna Design
and Installation Procedures, for the particular Antenna and landscape,
where the antenna is to be installed.

1933. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 17:05:56 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c029af9$0$17105$65785112@news.neostrada.pl>
Source record: 9533

"K1TTT" <k1ttt@arrl.net> wrote
news:ed7b577a-3828-42d6-84db-169a5baacd08@x27g2000prf.googlegroups.com...
On May 30, 9:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> In optics are mirrors which reflect and transmit the desired proportion
>> of
> light.
>
>> The end of the dipole reflect and transmit. The proportion is measured as
> VWSR.
> But for this you need the Electric Wave Model.
> EM was stripped away by Royal Society in 1864.
> S*

>Mr. S... please, you need to do 2 things... first, get a better
newsgroup editor or use the groups.google.com web site to post
replies, whatever you are using now messes up the indentation for
quoted text

For you and Cecil I must make by hand the indentation for
quoted text . The rest are O.K.

>and makes it impossible to figure out what you wrote and
what is quoted.

> second, keep your 150 year old theories in threads
where they belong, they will only cause confusion to those who are
trying to discuss modern methods.

They should know that the physics and the math go together.

Maxwell did the aether model and the math for it.
In the model were the rotational oscillations of massive, compressible
magnetic substance.
The electricity was masless and incompressible.

Now we know that no magnetics substance and that the electricity (electrons)
has mass and that the electron gas is compressible. It means that light is
exactly like sound.

The above was obvious for Royal Society. But the math for the oscillating
whirls was the new.
In result in the science history is wrote "that Maxwell's model was stripped
away and just the equations remain".

The math for whirls was done by Helmholtz but without the oscillations. The
math for the oscillating whirls (EM) must be in schools. In schools are all

theories.

Modern metods are in the plasma physics.
S*

1934. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-30 18:41:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <14c40239-0cb0-4c45-ab6b-009033330c83@34g2000prs.googlegroups.com>
Source record: 9534

On May 30, 5:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:ed7b577a-3828-42d6-84db-169a5baacd08@x27g2000prf.googlegroups.com...
> On May 30, 9:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In optics are mirrors which reflect and transmit the desired proportion
> >> of
> > light.
>
> >> The end of the dipole reflect and transmit. The proportion is measured as
> > VWSR.
> > But for this you need the Electric Wave Model.
> > EM was stripped away by Royal Society in 1864.
> > S*
> >Mr. S... please, you need to do 2 things... first, get a better
>
> newsgroup editor or use the groups.google.com web site to post
> replies, whatever you are using now messes up the indentation for
> quoted text
>
> For you and Cecil I must make by hand the indentation for
> quoted text . The rest are O.K.

no they aren't... look above, which text did you write and which did i
write?

i used to use outlook express like you are using, and it is bad. get
something better if you like to quote lots of text.

> In schools are all theories.

the only purpose for disproved theories in schools is for historical
context. sometimes it is useful to show students what doesn't work so
they don't waste time repeating past mistakes. aether theories are
one that is taught and then demonstrated in class as incorrect. once
the student makes the measurements they get a better feeling why
aethers are bogus.

1935. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 00:28:41 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <43d766fb-481d-414b-a92d-306d53ce6ccf@c22g2000vbb.googlegroups.com>
Source record: 9535

On 30 mayo, 15:41, K1TTT <k1...@arrl.net> wrote:
> On May 30, 5:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > "K1TTT" <k1...@arrl.net>
wrotenews:ed7b577a-3828-42d6-84db-169a5baacd08@x27g2000prf.googlegroups.com...
> > On May 30, 9:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > In optics are mirrors which reflect and transmit the desired proportion
> > > of
> > > light.
>
> > > The end of the dipole reflect and transmit. The proportion is measured as
> > > VWSR.
> > > But for this you need the Electric Wave Model.
> > > EM was stripped away by Royal Society in 1864.
> > > S*
> > >Mr. S... please, you need to do 2 things... first, get a better
>
> > newsgroup editor or use the groups.google.com web site to post
> > replies, whatever you are using now messes up the indentation for
> > quoted text
>
> > For you and Cecil I must make by hand the indentation for
> > quoted text . The rest are O.K.
>
> no they aren't... look above, which text did you write and which did i
> write?
>
> i used to use outlook express like you are using, and it is bad. get
> something better if you like to quote lots of text.
>
> > In schools are all theories.
>
> the only purpose for disproved theories in schools is for historical
> context. sometimes it is useful to show students what doesn't work so
> they don't waste time repeating past mistakes. aether theories are
> one that is taught and then demonstrated in class as incorrect. once
> the student makes the measurements they get a better feeling why
> aethers are bogus.- Ocultar texto de la cita -
>

> - Mostrar texto de la cita -

Hi all

>Walt is not espousing a theory
Please, give me a name to name it.

> They have what is called "internal consistency."
Who are "they", Walter's propositions?

Before advance more Richard. All off you share or ascribe a
"existence" notion determinated by observator measurements? It is long
time philosophical question remember, trees, sounds...

> A confused statement
I know. Communicate minds takes its time. It is more easy as we share
the basic assumptions neccesary for that. It's what I'm trying.

> Two light waves can pass through each other at the same point in space without affecting
or interacting with each other because they are *not collinear*.

Why? As I learnt superposition principle not depends of collinearity.
English Oxford dictionary I have, define "Interact" as "act on each
other", similar concept in spanish I think. I learnt superposition as
involving 'no interaction'. both waves still identical to itself in
superposition (in nonlineal systems they certainly can interact).

> For pure sinusoidal waves, the transmitted wave, the re-reflected wave, and the
constructive interference wave are all coherent and collinear and merge into a single
forward wave flowing toward the load. The component waves become inseparable.

I can agree with above paragraph but, for that I just said, I think
not with this...

> Therefore, any two coherent RF waves traveling in the same direction in an RF
transmission line, will interact and have a permanent effect.

As I undestand, two o more superposed waves can be added or
substracted to render a resultant but we do not call that interaction
(I am excude here the observer -Richard's observations- notion for not
to get out of point).
Two traveling waves with same direction, frequency and phase would be
certainly indistinguishable of a single one equal to the vectorial sum
of the two cited, by our instruments. For my conceptual notions adding
or substraction are not interaction. I am not dare to advance more on
your kindly answers because this notions are hardly vinculated to our
issue. Would be appropiate "slow down" a little and work on it?, what
do you think?
.....

About Roy's differences, At two opportunities I read here issues
(problems?) about Rs. Why do not you agree in a simple initial
Thevenin model? (it is a question not a suggestion, I don't know how
correctly translate my sentence).

Cecil, can you find a "energy distribution" concept compatible with
special case of unidirectional line space where all of you can agree?
Transmission/reflection notions (about energy) do not represent that
concept?
A mental exercise (it is doesn't a criticism, only a idea, remember I
am interesed in your analogies): Suppose we are not capable to
perceive any light (or realize of it), only HF spectrum; could you
share (agree?) concepts with our other "blinded" colleagues :>) to
analize this stuff?. I believe that is absolutly a "Yes" (of course
you could use your knowledge in optics to devise good RF arguments,
but you have to silence it, because you know they "antenna senses" are
note light sensitive.
....
> Eugene Hecht, in "Optics", describes standing waves of visible light in free space. I'm not sure that humans can "see" the standing wave detail because the frequency is so high, but standing waves of visible light can certainly exist in free space.

In perfect vacuum free space without any material stuff to reflect
light or bring our retinas into the region in some way?
.....

73 to K1TTT. Several years ago I visited your web page, (I have got
them in my hard disk). Sorry to Szczepan for not answer your comments
I hard trying don't run out so much off topic :>)

73

Miguel Ghezzi - LU6ETJ

1936. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 02:04:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hc2606hirn476vakagb6ipunv862apk4r9@4ax.com>
Source record: 9536

On Sun, 30 May 2010 17:28:41 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Hi all
>
>>Walt is not espousing a theory
>Please, give me a name to name it.

Hi Miguel,

Walt is presenting data to support a hypothesis (explanation for the
occurrence of some specified group of phenomena).

>> They have what is called "internal consistency."
>Who are "they", Walter's proposittions?

Models have what is called "internal consistency."

>Before advance more Richard. All off you share or ascribe a
>"existence" notion determinated by observator measurements? It is long
>time philosophical question remember, trees, sounds...

You are getting into intederminancy. Is this more about Truth again?
Truth is funny and sad, but not very useful.

>> A confused statement
>I know. Communicate minds takes its time. It is more easy as we share
>the basic assumptions neccesary for that. It's what I'm trying.
>-------------
>> Two light waves can pass through each other at the same point in space without affecting
or interacting with each other because they are *not collinear*.

You don't need "because" or anything that comes after it. It sounds
like superstition.

>Why? As I learnt superposition principle not depends of collinearity.
>English Oxford dictionary I have, define "Interact" as "act on each
>other", similar concept in spanish I think. I learnt superposition as
>involving 'no interaction'. both waves still identical to itself in
>superposition (in nonlineal systems they certainly can interact).

Yes.

>> For pure sinusoidal waves, the transmitted wave, the re-reflected wave, and the
constructive interference wave are all coherent and collinear and merge into a single
forward wave flowing toward the load. The component waves become inseparable.

More superstition. There is nothing about sinusoidal waves that make
them coherent or colinear. This is probable a problem of poor English
from a native speaker - very common.

>I can agree with above paragraph but, for that I just said, I think
>not with this...
>
>> Therefore, any two coherent RF waves traveling in the same direction in an RF
transmission line, will interact and have a permanent effect.

Permanent - another superstition (until the end of time + 1 day?).

>As I undestand, two o more superposed waves can be added or
>substracted to render a resultant but we do not call that interaction
>(I am excude here the observer -Richard's observations- notion for not
>to get out of point).
>Two traveling waves with same direction, frequency and phase would be
>certainly indistinguishable of a single one equal to the vectorial sum
>of the two cited, by our instruments. For my conceptual notions adding
>or substraction are not interaction.

They interact on the load, not on each other. But as you now phrase
it, being colinear as an initial condition rather than as a subsequent
result, then the possibility of both sources (acting as opposing
loads) cancelling each other may follow.

This says nothing of waves interacting, however. That is sheer
nonsense.

Let's put it another way and agree entirely! Accept that two coherent
waves that are colinear do interact - but only if colinear. That must
be some very, very special mathematics that allows no error in
colinearity (perfection is demanded). Perfection does not exist, the
necessary colinearity does not exist, interaction does not exist.

OK, so near perfection is suitable. -sigh- How much is "near
perfection?" Within one millirad? What is it about 1.000001 millirad
that extinguishes interaction? Oh, 1.000001 millirad works too, but
not more. OK, what is it about 1.000002 millirad that extinguishes
interaction? Oh, 1.000002 works too, but.... Pretty sloppy argument,
I don't see a formula for when interaction stops working, this means
that all angles cause interaction, but we do not see interaction at
any angles.

This "take it on faith" kind of creation (create it as you go) science
returns us to vaudeville (Miguel, maybe I should use the term Commedia
dell'Arte to explain our vaudeville).

"God said let there be a photon... go forth and multiply"
[- low budget creation science definition
for the Sun(s) taken from the first printing of
"How to Kick Start Genesis on One Quanta a Day."]

(Adam, muttering) what a day.... what a day.... (suddenly inspired)
What a beautiful photon-set we are having this, this, this. I think I
shall name this "evening" Eve! What a beautiful photon-se.... Damn!
(whoops - oh I beseech thee to forgive my utterance) it got dark
quick. How long before photon-rise? Are we on photon savings time?

>Suppose we are not capable to
>perceive any light (or realize of it), only HF spectrum; could you
>share (agree?) concepts with our other "blinded" colleagues :>) to
>analize this stuff?. I believe that is absolutly a "Yes" (of course
>you could use your knowledge in optics to devise good RF arguments,
>but you have to silence it, because you know they "antenna senses" are
>note light sensitive.

Lost in the bushes again.

73's
Richard Clark, KB7QHC

1937. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 04:33:00 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-969B5D.00325931052010@5ad64b5e.bb.sky.com>
Source record: 9537

In article <a2c306d6lf9eqf9pn15ipm95j0s58bv8vs@4ax.com>,
Richard Clark <kb7qhc@comcast.net> wrote:

> Of necessity due to wavelength, your ground must be spread out (not
> buried) to one quarter wavelength.

Richard-

I have a steel well pipe that is approximately a quarter wave on 40 Meters. Even though it is buried, why wouldn't this work as the bottom half of a vertical dipole?

I tried it with a mobile whip as the vertical element. It worked better than I expected, but not really well.

Fred
K4DII

1938. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 06:29:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3hk6065upurf01mq4h61dqkjo17rfllpd1@4ax.com>
Source record: 9538

On Mon, 31 May 2010 00:33:00 -0400, Fred McKenzie <fmmck@aol.com>
wrote:

>I have a steel well pipe that is approximately a quarter wave on 40
>Meters. Even though it is buried, why wouldn't this work as the bottom
>half of a vertical dipole?

Hi Fred,

One perspective of the radial field is that it shields the radiator
from the loss of ground. However, that simplification disguises the
fact that the radials radiate too - and unproductively. When every
radial's radiation is taken into consideration, opposite radials (each
one that is 180 degrees from the other) cancel.

That aside, their benefit is they conduct better than dirt. What this
means is more power goes into copper/steel instead.

Now, if we consider your well pipe, it goes deeper into that lossy
dirt and the deeper it goes, the more dirt the return signal (to the
other, the vertical radiator) has to go through. More loss than use.

OK, another reason. For as poor/well as dirt may conduct, it too has
skin effect. This means at some distance into the dirt, conductivity
plummets because of skin effect. Deeper yet, and the skin effect loss
increases at a quick clip.

As skin effect is frequency dependent, at really low frequencies, your
well pipe has some advantage. This frequency range is suitable for
working lightning whose top end is 1MHz. At 7 MHz, there's no point.

>I tried it with a mobile whip as the vertical element. It worked better
>than I expected, but not really well.

Which shows you how crummy the whip is because what well pipe there
was that was above ground was doing the job of the whip.

Step back and look at the big picture using your analogy of a vertical
dipole with half of it buried. Now, convert that buried half into
multistrand. Bend each strand 90 degrees so that each strand just
rides an inch or two above ground with all of the newly bent strands
in a flat circular spray around the upper half. Walla! as the French
say.

73's
Richard Clark, KB7QHC

1939. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 07:35:48 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c0366d9$0$17088$65785112@news.neostrada.pl>
Source record: 9539

"lu6etj" <lu6etj@gmail.com> wrot
enews:43d766fb-481d-414b-a92d-306d53ce6ccf@c22g2000vbb.googlegroups.com...
On 30 mayo, 15:41, K1TTT <k1...@arrl.net> wrote:
> On May 30, 5:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
> > >> The end of the dipole reflect and transmit. The proportion is
> > >> measured as
> > > VWSR.
> > > But for this you need the Electric Wave Model.
> > > EM was stripped away by Royal Society in 1864.

> Sorry to Szczepan for not answer your comments
>I hard trying don't run out so much off topic :>)

I am not out of topics. It is to your:
"To concentrate light we only need a piece of glass, to do the same on
HF RF region we need large wire antenna arrays. Because of this we
often need (or employ) very differents models to deal with the "same
thing". Probably Maxwell equations solve all of them, but they are
difficult ladies to deal :>)."

You should read the Maxwell:
http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
Maxwell described the model in English and in the math. English is not
difficult ladies to deal for you.

After this you understand why: "that Maxwell's model was stripped away and
just the equations remain".
Light and radio waves are exactly like sound.
S*

73

Miguel Ghezzi - LU6ETJ

1940. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 11:16:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <93e08c6d-8578-4997-95e5-da3b2020287a@z33g2000vbb.googlegroups.com>
Source record: 9540

how about this, i'll really mess things up. all comments assume
linear media or circuit elements and sinusoidal stead state conditions
(all transients ignored).

Standing Waves are a figment of your instrumentation... it is a well
known method to choose either voltage or current to do calculations in
a circuit, knowing that the other can always be calculated given the
impedance. this works for distributed as well as lumped circuits. it
is a consequence of superposition and ohms law in the generalized
complex form. This is a trap when looking at traveling and 'standing'
waves when there are reflections. Since you are only seeing one of
the components of the wave you get the impression that the standing
wave is indeed concentrating the energy and all the resultant effects
at 180 degree intervals. you must however look at both components to
get a full picture.

Wherever there are standing voltage wave peaks there are also standing
current waves 90 degrees (in distance) along the line from them. And
while you can calculate the power of the voltage wave peaks as V^2/Z,
you can also calculate the energy of the current wave peaks as I^2*Z.
Of course you can really get yourself confused if you consider the
lossless transmission line with a perfect short or open end... in that
case at those peak voltage and current points the Z is infinite or
zero respectively which gives you zero power in either case. Now to
REALLY have fun, integrate the power at those points into the energy,
of course the integral of zero is always zero.

Want to get even more confused. Look at an animation of the standing
waves (EITHER current OR voltage) over one full cycle in time, there
is a peak where the standing waves along the line all reach a peak
value at once, then 90 degrees later the whole line is zero, then
another 90 degrees and there is an opposite peak. Think carefully
about the zero point, where did the energy go? Surely it doesn't mean
that all the energy stored in those waves has left the line? that
would require some external storage and faster than light energy
transfer, a mean trick if you can do it!

Ah, but wait, the current wave is 90 degrees out of phase with the
voltage, so the energy has a place to go, into the other component!
but remember, when that component peaks the impedance is wrong so
there is still no energy. But of course then everything does balance
out, no energy in one standing wave transfers perfectly to the other
standing wave 90 degrees later in time and space.

conclusion: Standing waves are a figment of your instrumentation, be
that eyes seeing the peaks and valleys of a physical manifestation of

them, a fluorescent lamp showing them as you run it along an open wire line, or a voltmeter measuring them... they don't exist except when they are observed, therefore they have no physical existence... much like whats his name's cat.

1941. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 11:52:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fad2926d-10eb-498d-a748-b6a3c721e358@o12g2000vba.googlegroups.com>
Source record: 9541

On May 30, 9:04 pm, Richard Clark <kb7...@comcast.net> wrote:
> There is nothing about sinusoidal waves that make
> them coherent or colinear.

Please Google the two words: I probably should have use "collimated"
instead of "collinear".

"Electromagnetic radiation is coherent when the photons are produced
in such a way that they are in phase with one another and incoherent
when the phases of the photons are random."

"Collimated light is light whose rays are nearly parallel, and
therefore will spread slowly as it propagates. The word is related to
"colinear" and implies light that does not disperse with distance
(ideally), or that will disperse minimally (in reality)." Note that a
coaxial transmission line results in minimal dispersion for an RF
wave.

Coherent photons are identical except for direction. Collimation makes
their direction close to identical.

> Permanent - another superstition (until the end of time + 1 day?).

Wrong definition of "permanent". Not permanent in time - permanent in
the sense that the process is irreversible in time.

> >As I undestand, two o more superposed waves can be added or
> >substracted to render a resultant but we do not call that interaction

We do call it interaction when the two waves are coherent and
collimated. Again, here is what Florida State University has to say:

"... when two waves of equal amplitude and wavelength that are 180-
degrees ... out of phase with each other meet, they are not actually
annihilated, ... All of the photon energy present in these waves must
somehow be recovered or redistributed in a new direction, according to
the law of energy conservation ... Instead, upon meeting, the photons
are redistributed to regions that permit constructive interference, so
the effect should be considered as a redistribution of light waves and
photon energy rather than the spontaneous construction or destruction
of light."

They are talking about wave cancellation such that happens at the
surface of the thin-film on non-reflective glass. The result of wave
cancellation is permanent and the energy that would have been
reflected is reversed in direction actually making the underlying
picture brighter. That sounds permanent to me.

> They interact on the load, not on each other.

If that were a fact, you could separate them on their way to the load
but such is impossible. It doesn't matter where they came from, two
coherent, collimated waves interact when they are superposed and
become inseparable from that point on. Only incoherent or uncollimated
photonic waves can be separated.

And if you allow interaction at the load, why not allow interaction at
an impedance discontinuity which is much like a load and is indeed
where the interaction happens.

> This says nothing of waves interacting, however. That is sheer
> nonsense.

Wave cancellation is an obvious proof of interaction. Let's see you
recover two waves that have been canceled.

> Let's put it another way and agree entirely! Accept that two coherent
> waves that are colinear do interact - but only if colinear. That must
> be some very, very special mathematics that allows no error in
> colinearity (perfection is demanded). Perfection does not exist, the
> necessary colinearity does not exist, interaction does not exist.

"Perfection does not exist" is the self-fullfilling last gasp non-
perfect argument of the ignorant. Close enough to collimation
perfection does exist in an RF transmission line or in an
interferometer. The coherent photons in an ideal coaxial transmission
line are forced into a state of collimation. Is it perfect single-file
collimation? Of course not, but it doesn't have to be perfect.
Confining the photons to a certain cross-sectional area is all that is
required in the real world. Do all the photons have to be perfectly
coherent? No, just the majority of photons from the transmitter.

Does a 1/4WL non-reflective coating on glass perfectly cancel 100$ of
the single-frequency coherent incident laser light? Not in the real
world, but you can use your own eyes to detect that it is doing a
pretty good job. The Melles-Groit web page says:

"In the absence of absorption or scatter, the principle of
conservation of energy indicates all 'lost' reflected intensity will
appear as enhanced intensity in the (forward) transmitted beam. The
sum of the reflected and transmitted beam intensities is always equal
to the incident intensity. This important fact has been confirmed
experimentally."

Those above alluded-to experiments seem to contradict what you are
asserting. Do your own experiments disprove what that web page is
saying? If so, where did they go wrong?
--
73, Cecil, w5dxp.com

1942. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 12:29:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bcb4440a-d702-43f6-9807-ece7e09c1c9c@l6g2000vbo.googlegroups.com>
Source record: 9542

On May 30, 4:46 pm, Richard Clark <kb7...@comcast.net> wrote:
> I have shifted the following post to this thread where it fits the
> context perfectly:
>
> On Sun, 30 May 2010 06:59:58 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >does it really matter what the mechanism of generating the heat is?
> >the fact that there is heat generated in the plate means there is
> >energy lost from the electrons, be it due to impinging on the plate
> >mechanically or due to the metal resistance it is still a loss of
> >energy. And since there is more heat when there is more plate current
> >we can model it as a real resistance. The only question is then, is
> >it linear or not. that should be a 'relatively' simple measurement,
> >and one that has likely been done by a researcher somewhere along the
> >line.
>
> Yes.
>
> This post is sufficiently informing for many. Others may take its
> lead and derive EXACTLY how much resistance, heat, power from the data
> provided by Walt and confirm the bench experience of real resistance
> within the source.
>
> This response quoted above also corrects my mis-observation of my
> having the only perception of this universally experienced phenomenon.
> By count, we are up to two who acknowledge what is obvious.
>
> 73's
> Richard Clark, KB7QHC

occam's razor is usually the sharpest knife.

1943. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 12:42:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ee47c3e2-0d58-4834-9639-8edbaa0ecc1f@e28g2000vbd.googlegroups.com>
Source record: 9543

On May 30, 7:28 pm, lu6etj <lu6...@gmail.com> wrote:

Miguel, please see my above posting in reply to Richard's posting.

> As I learned, the superposition principle does not depend on collinearity.

Please change "collinear" to "collimated". The results of
superposition can be reversible or irreversible. If the photons are
not coherent and/or not collimated, the results of superposition are
reversible in the sense that each separate wave can be recovered. The
results of superposition of coherent and collimated waves (traveling
in the same direction) are not reversible, i.e. the ability to recover
the separate waves has been lost forever. Two coherent/collimated
waves that are superposed indeed do interact. Non-reflective glass is
a typical example. The external reflection interacts with the internal
reflection causing the reflections to undergo wave cancellation and
the total energy in the two superposed (canceled) waves to change
direction and make the picture brighter. The Melles-Groit web page
says:

"This important fact has been confirmed experimentally."

> As I understand, two or more superposed waves can be added or
> subtracted to render a resultant but we do not call that interaction.

I call it interaction when the identity of both waves is lost which is
what happens during wave cancellation. It is not interaction when the
identity of both waves is not lost. The results of superposition can
have either outcome.

> For my conceptual notions adding or subtraction are not interaction.

If you add a pint of water to a pint of water, the two pints of
identical molecules interact, analogous to one joule of coherent/
collimated photons added to another joule of the *identical* photons.
The results is two joules of identical photons, indistinguishable from
each other. If the superposition process is reversible, interaction
has not taken place. If the superposition process is irreversible,
interaction has taken place. Both outcomes are possible depending upon
the initial conditions.

> Why do not you agree in a simple initial Thevenin model?

It was Roy's idea to avoid the abstract Thevenin model and go with a
similar real-world source, probably because of the admonition in
"Fields and Waves ...": "... significance cannot be automatically
attached to a calculation of power loss in the internal impedance of

the equivalent circuit."

> Transmission/reflection notions (about energy) do not represent that
> concept?

The mistake that virtually all RF gurus are making, including w7el in his food-for-thought article, is assuming that reflection is the only mechanism capable of redistributing reflected energy back toward the load. But it has been known for decades in the field of optical physics that EM wave cancellation can also redistribute reflected energy back toward the load. It is well known that the reflected energy lost through the use of non-reflective glass causes the picture (load) to be brighter. If w7el would simply take the time to calculate the wave cancellation energy (constructive or destructive interference) at the source resistor, he would understand exactly where the reflected energy goes. The conservation of energy principle allows nothing magic (like reflected waves containing no energy or EM waves that do not move at the speed of light).

> Suppose we are not capable to
> perceive any light (or realize of it), only HF spectrum; could you
> share (agree?) concepts with our other "blinded" colleagues :>) to
> analize this stuff?

It is very useful to say: If our eyes could see the RF waves, what would we see? We would see the same thing we see with visible light waves, just at a different frequency (wavelength).

> In perfect vacuum free space without any material stuff to reflect
> light or bring our retinas into the region in some way?

Of course, we would need some sort of irradiance detector more sensitive than human retinas. Partially mirrored glass is often used to route a sample to a detector. If we detect standing waves in a 10% sample, we are pretty sure that standing waves exist in the rest of the sample.
--
73, Cecil, w5dxp.com

1944. 10Deep T-shirt made in china (http://www.cntrade09.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 12:47:45 UTC
From: cntrade08 <chenxiangmei89@gmail.com>
Message-ID: <47e1c10a-3e96-4b43-a094-77f449a853d1@z15g2000prh.googlegroups.com>
Source record: 9544
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

Bape t-shirt made in china (http://www.cntrade09.com)
Evisu long t-shit made in china (http://www.cntrade09.com)
Evisu original jeans made in china (http://www.cntrade09.com)
Evisu jeans wear made in china (http://www.cntrade09.com)
Evisu hoody made in china (http://www.cntrade09.com)
Evisu jeans made in china (http://www.cntrade09.com)
Evisu T-shirt made in china (http://www.cntrade09.com)
POLO T-shirt made in china (http://www.cntrade09.com)
Googi jeans made in china (http://www.cntrade09.com)
Googi hoody made in china (http://www.cntrade09.com)
Googi T-shirt made in china (http://www.cntrade09.com)
juicy made in china (http://www.cntrade09.com)
10Deep jeans made in china (http://www.cntrade09.com)
10 Deep hoody made in china (http://www.cntrade09.com)
10Deep T-shirt made in china (http://www.cntrade09.com)
Lacoste T-shirt made in china (http://www.cntrade09.com)
Lacoste sweater made in china (http://www.cntrade09.com)
Burberry jacket made in china (http://www.cntrade09.com)
Buberry T-shirt made in china (http://www.cntrade09.com)
Buberry shirt made in china (http://www.cntrade09.com)
ED hardy hoody made in china (http://www.cntrade09.com)
ED hardy jeans made in china (http://www.cntrade09.com)

1945. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 13:04:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <17a29451-b7f5-403d-b65b-0c345c8a6ea2@o4g2000vbo.googlegroups.com>
Source record: 9545

On May 31, 6:16 am, K1TTT <k1...@arrl.net> wrote:
> conclusion: Standing waves are a figment of your instrumentation, ...

I would say: Standing waves are a virtual image caused by the two
traveling waves (forward and reverse). I wonder if we could see a
visible light standing wave in a cloud chamber if we used a
microscope?
--
73, Cecil, w5dxp.com

1946. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 14:09:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d56622c5-2e40-4bac-b1e8-773c0b65df66@l6g2000vbo.googlegroups.com>
Source record: 9546

On May 31, 12:42 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> If you add a pint of water to a pint of water, the two pints of
> identical molecules interact, analogous to one joule of coherent/
> collimated photons added to another joule of the *identical* photons.
> The results is two joules of identical photons, indistinguishable from
> each other. If the superposition process is reversible, interaction
> has not taken place. If the superposition process is irreversible,
> interaction has taken place. Both outcomes are possible depending upon
> the initial conditions.

ah, but in this case consider that you have a pint of blue water moving to the right and a pint of red water moving to the left to be a better analogy to currents of the waves moving forward and backward in the coax. there are then 3 possibilities:

1. the two mix and cancel giving you 2 pints of purple water not going anywhere.
2. the two bounce off of each other now giving you red water moving right and blue water moving left.
3. the two pass by each other not mixing at all and continue on their way.

if 1 happened you would indeed cancel the waves and end up with a spare pile of electrons not going anywhere. while this may be adequate for a mechanical analogy it doesn't say where the energy of those two moving pints went so is obviously wrong.

number 2 conserves energy at least.

number 3 also conserves energy and gives the same energy distribution as 2.

since electrons aren't colored it makes number 2 and 3 indistinguishable, so clearly the result is that both waves continue on their way undisturbed by the other... which is what is observed in all cases of em wave interaction in linear media.

1947. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 14:12:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <eba08c39-3d1f-4375-9546-d4f39fbf96a5@w3g2000vbd.googlegroups.com>
Source record: 9547

On May 31, 1:04 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 31, 6:16 am, K1TTT <k1...@arrl.net> wrote:
>
> > conclusion: Standing waves are a figment of your instrumentation, ...
>
> I would say: Standing waves are a virtual image caused by the two
> traveling waves (forward and reverse). I wonder if we could see a
> visible light standing wave in a cloud chamber if we used a
> microscope?
> --
> 73, Cecil, w5dxp.com

no need, just look at the lines on a hologram, that is the map of the
interference patterns from the reflected and reference laser beams.

1948. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 14:42:39 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ad82347d-1999-4fb6-923b-f1294ecf34e4@o4g2000vbo.googlegroups.com>
Source record: 9548

On May 31, 9:09 am, K1TTT <k1...@arrl.net> wrote:
> ah, but in this case consider that you have a pint of blue water
> moving to the right and a pint of red water moving to the left to be a
> better analogy to currents of the waves moving forward and backward in
> the coax. there are then 3 possibilities:

No, no, no. I am NOT talking about forward and reflected waves moving in opposite directions. I am talking about two coherent, collimated waves *MOVING IN THE SAME DIRECTION* in an RF transmission line away from an impedance discontinuity - either two waves moving forward toward the load or two waves moving backwards in the opposite direction toward the source. Such multiple wavefronts occur at impedance discontinuities because of multiple reflections.

Forward and reflected waves (waves moving in opposite directions in a constant Z0 environment) do NOT interact. At an impedance discontinuity, the component reflections and transmissive waves do interact if they are coherent, collimated, and MOVING IN THE SAME DIRECTION.
--
73, Cecil, w5dxp.com

1949. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 15:20:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a824e24e-708c-405c-b74c-8db903046cdc@c22g2000vbb.googlegroups.com>
Source record: 9549

On May 31, 9:12 am, K1TTT <k1...@arrl.net> wrote:
> no need, just look at the lines on a hologram, that is the map of the
> interference patterns from the reflected and reference laser beams.

Oh yeah, duh ... brain fart - if one slants the partial mirror
detector, one can spread the interference patterns out to an optimum
pattern for viewing by a human eye.
--
73, Cecil, w5dxp.com

1950. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 16:57:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3np706lksl155lu1h8unoea0vdp9gk6mk3@4ax.com>
Source record: 9550

On Mon, 31 May 2010 07:09:49 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>ah, but in this case consider that you have a pint of blue water
>moving to the right and a pint of red water moving to the left to be a
>better analogy to currents of the waves moving forward and backward in
>the coax.
...
> the result is that both waves continue
>on their way undisturbed by the other... which is what is observed in
>all cases of em wave interaction in linear media.

Miguel, I want you to note how David clearly exposes the failure of a
metaphor, using the metaphor's own analogy.

This is the danger of trying to explain one system in terms of another
without knowing how either work.

It also reveals in shades of deep purple, how the visual system lies
to us, and we believe we see the Truth.

So, for metaphors and analogies, when the reader knows better, its a
lark (an amusing adventure or escapade); or when the writer knows
better, its a lark (behavior in a mischievous way).

If you both don't know better, its a lark (activity regarded as
foolish or a waste of time by the rest of us).

Carefully parse the following:
"Truth is a lark."

73's
Richard Clark, KB7QHC

1951. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 17:20:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f8494fe7-e027-45b2-b1f8-4cf8567cf13f@a20g2000vbc.googlegroups.com>
Source record: 9451

On May 31, 11:57 am, Richard Clark <kb7...@comcast.net> wrote:
> Miguel, I want you to note how David clearly exposes the failure of a
> metaphor, using the metaphor's own analogy.

Actually Miguel, I want you to note how a simple semantic misunderstanding can lead to false assumptions that propagate to: 1. false assertions, 2. accusations, and 3. character assignation. I said earlier that I was referring only to coherent/collimated waves that are TRAVELING IN THE SAME DIRECTION. K1TTT apparently missed that caveat and was simply confused about what I had said. Based on that false assumption, Richard, as usual, jumped on the "kill the messenger" bandwagon. He doesn't seem to realize that he has to prove quantum electrodynamics to be wrong to prove me wrong, a feat that no mortal has yet accomplished.
--
73, Cecil, w5dxp.com

1952. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 17:32:12 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c3a1a28c-c0f3-44b4-80d7-1cff4bcef5b1@w3g2000vbd.googlegroups.com>
Source record: 9452

On May 31, 2:42 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 31, 9:09 am, K1TTT <k1...@arrl.net> wrote:
>
> > ah, but in this case consider that you have a pint of blue water
> > moving to the right and a pint of red water moving to the left to be a
> > better analogy to currents of the waves moving forward and backward in
> > the coax. there are then 3 possibilities:
>
> No, no, no. I am NOT talking about forward and reflected waves moving
> in opposite directions. I am talking about two coherent, collimated
> waves *MOVING IN THE SAME DIRECTION* in an RF transmission line away
> from an impedance discontinuity - either two waves moving forward
> toward the load or two waves moving backwards in the opposite
> direction toward the source. Such multiple wavefronts occur at
> impedance discontinuities because of multiple reflections.
>
> Forward and reflected waves (waves moving in opposite directions in a
> constant Z0 environment) do NOT interact. At an impedance
> discontinuity, the component reflections and transmissive waves do
> interact if they are coherent, collimated, and MOVING IN THE SAME
> DIRECTION.
> --
> 73, Cecil, w5dxp.com

add another condition and i might buy it... their polarization must be
the same... if you satisfy ALL those conditions then i believe you
would not be able to separate the waves and you could combine their
amplitudes. but that still doesn't mean they are interacting, just
that their fields always happen to be aligned... now if you are an
engineer like i am and deal with macroscopic processes i would
consider it perfectly logical to add the fields in a linear medium and
carry on with a single wave in each direction created by an infinite
series of reflections... HOWEVER, if i switch my hat to the scientist
part of my job title and i was working in photons I would come to a
point where it would be impossible to divide the last photon and
things would fall apart.... fortunately the ham/engineer side usually
outvotes the scientist part and i take the infinite summation and call
it a day.

1953. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 17:34:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f32f2fc5-6efd-4482-8dfb-e117cde5beb3@l6g2000vbo.googlegroups.com>
Source record: 9453

On May 31, 5:20 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 31, 11:57 am, Richard Clark <kb7...@comcast.net> wrote:
>
> > Miguel, I want you to note how David clearly exposes the failure of a
> > metaphor, using the metaphor's own analogy.
>
> Actually Miguel, I want you to note how a simple semantic
> misunderstanding can lead to false assumptions that propagate to: 1.
> false assertions, 2. accusations, and 3. character assignation. I said
> earlier that I was referring only to coherent/collimated waves that
> are TRAVELING IN THE SAME DIRECTION. K1TTT apparently missed that
> caveat and was simply confused about what I had said. Based on that
> false assumption, Richard, as usual, jumped on the "kill the
> messenger" bandwagon. He doesn't seem to realize that he has to prove
> quantum electrodynamics to be wrong to prove me wrong, a feat that no
> mortal has yet accomplished.
> --
> 73, Cecil, w5dxp.com

what does happen to that last photon in the infinite series of smaller
and smaller reflections between discontinuities??

1954. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 17:46:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d1fc5fd3-be87-4db6-9612-0ee20ac07c75@f14g2000vbn.googlegroups.com>
Source record: 9454

On May 31, 12:32 pm, K1TTT <k1...@arrl.net> wrote:
> add another condition and i might buy it... their polarization must be
> the same...

If they are coherent, their polarization must necessarily be the same
at the same point at the same time. I specified that they are
coherent, collimated, and traveling in the same direction. I'm not
omniscient so if that's not enough boundary conditions, please
enlighten me.
--
73, Cecil, w5dxp.com

1955. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 17:58:18 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c03f8bf$0$2596$65785112@news.neostrada.pl>
Source record: 9455

"K1TTT" <k1ttt@arrl.net>wrote
news:14c40239-0cb0-4c45-ab6b-009033330c83@34g2000prs.googlegroups.com...
On May 30, 5:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> In schools are all theories.

>the only purpose for disproved theories in schools is for historical
context. sometimes it is useful to show students what doesn't work so
they don't waste time repeating past mistakes. aether theories are
one that is taught and then demonstrated in class as incorrect. once
the student makes the measurements they get a better feeling why
aethers are bogus.

Up to now we have agreed that Maxwell/Lorents aether is bogus and that in
the space is the plasma (ions and electrons) and the dust. They rotate with
the Sun in the form of a whirl.

You are the first radioman who admit this.
S*

1956. Re: W2DU's Reflections III is now available from CQ Communication...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 18:04:27 UTC
From: richardharrison@webtv.net
Message-ID: <18724-4C03FA2B-1065@storefull-3172.bay.webtv.net>
Source record: 9457

Walt, W2DU wrote:
"Rp is a non-dissipative resistance, not a tesisTOR with physical characteristics."

To nit pick a little, I think some dissipative resistance is found in the output impedance of a Class C amplifier when you average over an RF cycle.

Although rp (dynamic plate resistance) is defined as the change in plate voltage divided by the change in plate current when an increment of plate voltage produces an incremantal change in plate current, plate resistance goes down as plate current goes up.

Rp can be very low but not zero when a tube biased beyond its cut-off is pulsed on heavily duting the RF cycle. In saturated conduction the voltage drop actoss the tube can be very low and any change in plate voltage would result in insignificant change in plate current.

When a Class C amplifier is switched into heavy conduction by its grid, its DC resistance is low and its power suppy may be low in resistance too. During the conduction part of the RF cycle, the impedance looking back into the amplifier`s putput is low also. During the switched-off part of the amplifier`s cycle, the impedance looks like an open circuit. Over an entire cycle, the tube`s output impedance has an average value.

A pi-network is an impedance transformation device which does not completely isolate its input from its output, so a tube on its input has its shunt impedance transformed to some value across its output. Its resonance can linearize the signal.

Best regards, Richard Harrison, KB6WZI

1957. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 18:05:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d54315f9-0393-4e08-a8af-29a4ba7d4f7d@q13g2000vbm.googlegroups.com>
Source record: 9456

On May 31, 12:34 pm, K1TTT <k1...@arrl.net> wrote:
> what does happen to that last photon in the infinite series of smaller
> and smaller reflections between discontinuities??

It doesn't matter. At HF wavelengths, the last photon is not going to have an appreciable effect (but maybe at gamma-ray wavelengths). The collapse of the probability function indicates that if one runs a large number of trials, n% of those very last photons will be reflected and (100-n%) of them will be absorbed. That probability function has never been proven to be wrong.

I have no idea why an otherwise knowledgeable individual could be argumentative concerning this subject.
--
73, Cecil, w5dxp.com

1958. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 18:10:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b5ea8abe-9f22-4521-8bc1-a322f5a51224@j9g2000vbp.googlegroups.com>
Source record: 9458

On May 31, 12:58 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> You are the first radioman who admit this.

What does the fact that particles with rest mass are spiraling away
from the sun have to do with photons that propagate in (almost) a
straight line away from the sun? The only effect that the sun has on
photons emitted by the sun is to slow them down.
--
73, Cecil, w5dxp.com

1959. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 19:54:30 UTC
From: walt <walt@w2du.com>
Message-ID: <541370c6-094b-437f-b898-9cacf67e52b4@e28g2000vbd.googlegroups.com>
Source record: 9459

On May 30, 12:46 pm, Richard Clark <kb7...@comcast.net> wrote:
> I have shifted the following post to this thread where it fits the
> context perfectly:
>
> On Sun, 30 May 2010 06:59:58 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >does it really matter what the mechanism of generating the heat is?
> >the fact that there is heat generated in the plate means there is
> >energy lost from the electrons, be it due to impinging on the plate
> >mechanically or due to the metal resistance it is still a loss of
> >energy. And since there is more heat when there is more plate current
> >we can model it as a real resistance. The only question is then, is
> >it linear or not. that should be a 'relatively' simple measurement,
> >and one that has likely been done by a researcher somewhere along the
> >line.
>
> Yes.
>
> This post is sufficiently informing for many. Others may take its
> lead and derive EXACTLY how much resistance, heat, power from the data
> provided by Walt and confirm the bench experience of real resistance
> within the source.
>
> This response quoted above also corrects my mis-observation of my
> having the only perception of this universally experienced phenomenon.
> By count, we are up to two who acknowledge what is obvious.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,

On reviewing the paper you sent me I've given a lot of thought concerning the source of the induced current flowing in the external resistance, R, the load of the plate of the tube. You say the source of the I^2R power dissipated in R is plate resistance, Rp. However, as I read Par 7.2 on Pages 140 and 141, the reality of Rp is described in there, but only indirectly, thus requiring a deep inquiring mind to ferret it out. For me, it takes a leap and a stretch to understand that Rp is the source of the I^2R power delivered to R.

In Par 7.2 the author says this power is supplied by the kinetic energy of the electrons in the beam. It takes no great amount of mental concentration to understand that that statement is true. But

where I see a tangential approach to describing Rp is in the statement that “Since each electron in the beam faces a decelerating electric field due to I^2R, it loses an amount of energy eIR during its flight from the grid to electrode P.” This energy is lost, of course, because the plate voltage is decreasing due to the increase in voltage drop IR across R, caused by resistance Rp. We know, of course, that although Rp is real, it is non-dissipative because it is not a physical resistor, but is only the result of the ratio deltaE/deltaI.

Again quoting from Par 7.2, “It is evident that IR must be smaller than the voltage to which the electrons have been accelerated in order that they reach P.” I understand this to be caused by Rp. However, this still doesn’t make clear that Rp is the source of the I^2R power. Only until we see the quote “…the total power lost by the electrons in the interelectrode region is (equation 7.12), which is equal to the heat power dissipated in the resistance (R) by the induced current.” does the reduced power seem to have any relevance to Rp.

Now continuing the quote from Par 7.2, “The remaining part of the electron’s kinetic energy is transformed into heat energy when they strike electrode P.” It’s my understanding that this is the energy that’s dissipated in the plate, causing it to heat.

However, the relationship between energy lost in the interelectrode region and the energy dissipated in R seems to say that Rp is the source of the energy dissipated in R, but it is difficult for me to accept that relationship. I find it difficult to accept that a loss in energy due to decelerating field in the interelectrode region could be the source of the energy dissipated in R.

Richard, can you help me out here in understanding this concept, if it’s really true? It seems to me that the loss of energy due to Rp is simply energy that was never developed in the first place due to the deceleration of the electric field in the interelectrode region.

Walt

1960. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 20:03:55 UTC
From: starwars <nonscrivetemi@tatooine.homelinux.net>
Message-ID: <200fbea4ca4c7b956430fb64c453de86@tatooine.homelinux.net>
Source record: 9460

Quoth Clark, "Truth is a lark," he said, as he drove off to the park in his Buick Skylark.

1961. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 21:11:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n39806d5dlc5o3osgk47n58h1pdocdatul@4ax.com>
Source record: 9462

On Mon, 31 May 2010 15:20:03 -0700, "rb" <rbig@cox.net> wrote:

>Memory has usual cob webs. Help clear it.......
>
>When I feed twinlead, seems I might use a small fluorescent bulb to show how
>it's doing.

Hi OM,

What you call fluorescent, I assume, must mean a small NE2 neon
indicator bulb which would be suitable to what you describe.

> If a small fluorescent bulb will do this, do I just tune for
>"max smoke" while holding it near the twinlead? Can't recall if a small
>flourescent bulb will do this or not.

It is going to be an indication of "something."

>
>If radiation is cancelled, not sure how it would fire.

Within close proximity (about 3 to 5 times the wire separation), you
still have a sense of each wire. Further away, there is so little
difference in distance to either of them, that they both add with
cancellation.

>I vaguely remember we used to use twin lamps, wired backwards for this
>purpose. One way you had SWR on one side; the other way you had SWR on
>the other side. Neither light being lit meant good SWR.

This must be the cobwebs you speak of. Other than LEDs (and I think
you would have specifically said so if your indicators were these),
lamps have no sense of current direction. Example, what would happen
if you reversed the plug to your table lamp? Would it suck light?
Have you ever put in a fluorescent bulb with the wrong polarity?

73's
Richard Clark, KB7QHC

1962. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 21:35:51 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d6cf156b-d960-4d34-b6fe-db4db374a768@q33g2000vbt.googlegroups.com>
Source record: 9463

On May 31, 5:58 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>wrotenews:14c40239-0cb0-4c45-ab6b-009033330c83@34g2000prs.googl
egroups.com...
> On May 30, 5:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In schools are all theories.
> >the only purpose for disproved theories in schools is for historical
>
> context. sometimes it is useful to show students what doesn't work so
> they don't waste time repeating past mistakes. aether theories are
> one that is taught and then demonstrated in class as incorrect. once
> the student makes the measurements they get a better feeling why
> aethers are bogus.
>
> Up to now we have agreed that Maxwell/Lorents aether is bogus and that in
> the space is the plasma (ions and electrons) and the dust. They rotate with
> the Sun in the form of a whirl.
>
> You are the first radioman who admit this.
> S*

the solar wind is well know and easily studies with the satellite data
available today. but it is not an aether, the interplanetary plasma
does not propagate the light from the sun, it just gets in the way.

1963. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 21:36:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <58478366-ea1a-4845-b3d2-afd14bc7da54@c7g2000vbc.googlegroups.com>
Source record: 9464

On May 31, 6:05 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On May 31, 12:34 pm, K1TTT <k1...@arrl.net> wrote:
>
> > what does happen to that last photon in the infinite series of smaller
> > and smaller reflections between discontinuities??
>
> It doesn't matter. At HF wavelengths, the last photon is not going to
> have an appreciable effect (but maybe at gamma-ray wavelengths). The
> collapse of the probability function indicates that if one runs a
> large number of trials, n% of those very last photons will be
> reflected and (100-n%) of them will be absorbed. That probability
> function has never been proven to be wrong.
>
> I have no idea why an otherwise knowledgeable individual could be
> argumentative concerning this subject.
> --
> 73, Cecil, w5dxp.com

i hate mechanical analogies, they lead to too many misconceptions.
the last photon question was meant to be rhetorical.

1964. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 21:47:31 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9D899683E2383greederxprtnet@194.177.98.144>
Source record: 9465

Richard Clark <kb7qhc@comcast.net> wrote in
news:n39806d5dlc5o3osgk47n58h1pdocdatul@4ax.com:

> Example, what would happen
> if you reversed the plug to your table lamp? Would it suck light?

As it is, they suck dark. Right?

https://www.msu.edu/user/dynicrai/physics/dark.htm

1965. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 21:56:32 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hu1b94$82o$4@news.eternal-september.org>
Source record: 9466

Richard Clark Inscribed thus:

> On Mon, 31 May 2010 15:20:03 -0700, "rb" <rbig@cox.net> wrote:
>
>>Memory has usual cob webs. Help clear it.......
>>
>>When I feed twinlead, seems I might use a small fluorescent bulb to
>>show how it's doing.
>
> Hi OM,
>
> What you call fluorescent, I assume, must mean a small NE2 neon
> indicator bulb which would be suitable to what you describe.
>
>> If a small fluorescent bulb will do this, do I just tune for
>>"max smoke" while holding it near the twinlead? Can't recall if a
>>small flourescent bulb will do this or not.
>
> It is going to be an indication of "something."
>
>>
>>If radiation is cancelled, not sure how it would fire.
>
> Within close proximity (about 3 to 5 times the wire separation), you
> still have a sense of each wire. Further away, there is so little
> difference in distance to either of them, that they both add with
> cancellation.
>
>>I vaguely remember we used to use twin lamps, wired backwards for this
>>purpose. One way you had SWR on one side; the other way you had
>>SWR on the other side. Neither light being lit meant good SWR.
>
> This must be the cobwebs you speak of. Other than LEDs (and I think
> you would have specifically said so if your indicators were these),
> lamps have no sense of current direction. Example, what would happen
> if you reversed the plug to your table lamp? Would it suck light?
> Have you ever put in a fluorescent bulb with the wrong polarity?
>
> 73's
> Richard Clark, KB7QHC

I have vague recollections of a reflectometer using diodes, lamps and
300ohm twin feeder. Maybe in an old copy of Radcom...

73's
--
Best Regards:
Baron.

1966. twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 22:20:03 UTC
From: rb <rbig@cox.net>
Message-ID: <7SUMn.40647$wV2.6070@newsfe23.iad>
Source record: 9461

Memory has usual cob webs. Help clear it.......

When I feed twinlead, seems I might use a small fluorescent bulb to show how it's doing. If a small fluorescent bulb will do this, do I just tune for "max smoke" while holding it near the twinlead? Can't recall if a small flourescent bulb will do this or not.

If radiation is cancelled, not sure how it would fire.

I vaguely remember we used to use twin lamps, wired backwards for this purpose. One way you had SWR on one side; the other way you had SWR on the other side. Neither light being lit meant good SWR.

1967. mail2news test

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 22:33:38 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <4C043942.2080402@gmail.com>
Source record: 9467

```
test email =>> news

JS
```

1968. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 22:39:11 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-CDCA22.18385631052010@5ad64b5e.bb.sky.com>
Source record: 9468

In article <7SUMn.40647$wV2.6070@newsfe23.iad>, "rb" <rbig@cox.net>
wrote:

> Memory has usual cob webs. Help clear it.......
>
> When I feed twinlead, seems I might use a small fluorescent bulb to show how
> it's doing. If a small fluorescent bulb will do this, do I just tune for
> "max smoke" while holding it near the twinlead? Can't recall if a small
> flourescent bulb will do this or not.
>
> If radiation is cancelled, not sure how it would fire.
>
> I vaguely remember we used to use twin lamps, wired backwards for this
> purpose. One way you had SWR on one side; the other way you had SWR on
> the other side. Neither light being lit meant good SWR.

RB-

My cobwebs are probably worse than yours. As a teenager back in the 50s, I used a "Full Windom" antenna (off-center-fed-dipole) fed with 300 Ohm TV twin lead.

The SWR measurement circuit I used probably came from an ARRL publication. It consisted of two 6 Volt dial lamps connected to each end of a section of twin lead. I think it was two or three feet long. The whole thing was taped to the transmission line. There was a connection at the center of this on one side to one side of the transmission line.

As I understood it, one lamp was supposed to glow and not the other. I think both of mine glowed, but one was definitely brighter. Of coarse I did not know what I was doing and had no real understanding of SWR. I made contacts, so never worried about it!

Using a fluorescent tube, I would expect it might glow at points along the transmission line where voltage was high and extinguish where voltage was low. With a low SWR, there would be no high voltage points. Or maybe no nulls?

Fred
K4DII

1969. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 22:42:48 UTC
From: "Myron A. Calhoun" <mcalhoun@sdf.org>
Message-ID: <hu1e17$l7d$1@droog.sdf-eu.org>
Source record: 9471

>>>When I feed twinlead, seems I might use a small fluorescent bulb to
>>>show how it's doing.
>>>....[snip]....

See:

"The Eyes Have It; Making S.W.R. Measurements with the Twin-Lamp"
on page 50 of the October, 1948, issue of QST.

"The 'Coax Twin-Lamp', A Simple S.W.R. Indicator for Solid Line"
on page 25 of the November, 1948, issue of QST.

"Measuring Center Impedance of Antennas with the 'Twin-Lamp" on
page 67 of the May, 1950, issue of QST.

"Old Reliable" on page 67 of the April, 1958, issue of CQ.

--W0PBV.

--
-- Myron A. Calhoun.
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm Safety
Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH) license

1970. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 22:43:57 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hu1e3erjt1@news.eternal-september.org>
Source record: 9469

On 05/31/2010 03:20 PM, rb wrote:
> Memory has usual cob webs. Help clear it.......
>
> When I feed twinlead, seems I might use a small fluorescent bulb to show how
> it's doing. If a small fluorescent bulb will do this, do I just tune for
> "max smoke" while holding it near the twinlead? Can't recall if a small
> flourescent bulb will do this or not.
>
> If radiation is cancelled, not sure how it would fire.
>
> I vaguely remember we used to use twin lamps, wired backwards for this
> purpose. One way you had SWR on one side; the other way you had SWR on
> the other side. Neither light being lit meant good SWR.
>
>
I can only relate an experience I had in my house in Minnesota. We had a
long hallway and I could just shuffle my feet and the fluorescent light
I was carrying lit up from the accumulation of charge. Free, well almost
free light. A guy in the S.F. bay area has a house near a radio
transmitter and his garage is pretty well lit by 4 foot tubes he has put
around.
YMMV.

1971. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 22:51:44 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hu1ei3teb1@news.eternal-september.org>
Source record: 9470

On 05/31/2010 03:39 PM, Fred McKenzie wrote:
> In article<7SUMn.40647$wV2.6070@newsfe23.iad>, "rb"<rbig@cox.net>
> wrote:
>
>> Memory has usual cob webs. Help clear it.......
>>
>> When I feed twinlead, seems I might use a small fluorescent bulb to show how
>> it's doing. If a small fluorescent bulb will do this, do I just tune for
>> "max smoke" while holding it near the twinlead? Can't recall if a small
>> flourescent bulb will do this or not.
>>
>> If radiation is cancelled, not sure how it would fire.
>>
>> I vaguely remember we used to use twin lamps, wired backwards for this
>> purpose. One way you had SWR on one side; the other way you had SWR on
>> the other side. Neither light being lit meant good SWR.
>
> RB-
>
> My cobwebs are probably worse than yours. As a teenager back in the
> 50s, I used a "Full Windom" antenna (off-center-fed-dipole) fed with 300
> Ohm TV twin lead.
>
> The SWR measurement circuit I used probably came from an ARRL
> publication. It consisted of two 6 Volt dial lamps connected to each
> end of a section of twin lead. I think it was two or three feet long.
> The whole thing was taped to the transmission line. There was a
> connection at the center of this on one side to one side of the
> transmission line.
>
> As I understood it, one lamp was supposed to glow and not the other. I
> think both of mine glowed, but one was definitely brighter. Of coarse I
> did not know what I was doing and had no real understanding of SWR. I
> made contacts, so never worried about it!

Try this.. I had an Ampex tube amplifier driving a high voltage
transformer and as the music danced (in my head) the patterns were
dancing to the same beat. I just drove the input of the Ampex with the
output audio line. Yes, that was in the 70's and yes we were all stoned.
I don't think that anyone else tried that combination, but it was way cool.
Bill Baka
>
> Using a fluorescent tube, I would expect it might glow at points along
> the transmission line where voltage was high and extinguish where

> voltage was low. With a low SWR, there would be no high voltage points.
> Or maybe no nulls?
>
> Fred
> K4DII

1972. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-05-31 23:01:54 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hu1f55vnq1@news.eternal-september.org>
Source record: 9472

On 05/31/2010 03:51 PM, Bill Baka wrote:
> On 05/31/2010 03:39 PM, Fred McKenzie wrote:
>> In article<7SUMn.40647$wV2.6070@newsfe23.iad>, "rb"<rbig@cox.net>
>> wrote:
>>
>>> Memory has usual cob webs. Help clear it.......
>>>
>>> When I feed twinlead, seems I might use a small fluorescent bulb to
>>> show how
>>> it's doing. If a small fluorescent bulb will do this, do I just tune for
>>> "max smoke" while holding it near the twinlead? Can't recall if a small
>>> flourescent bulb will do this or not.
>>>
>>> If radiation is cancelled, not sure how it would fire.
>>>
>>> I vaguely remember we used to use twin lamps, wired backwards for this
>>> purpose. One way you had SWR on one side; the other way you had SWR on
>>> the other side. Neither light being lit meant good SWR.
>>
>> RB-
>>
>> My cobwebs are probably worse than yours. As a teenager back in the
>> 50s, I used a "Full Windom" antenna (off-center-fed-dipole) fed with 300
>> Ohm TV twin lead.
>>
>> The SWR measurement circuit I used probably came from an ARRL
>> publication. It consisted of two 6 Volt dial lamps connected to each
>> end of a section of twin lead. I think it was two or three feet long.
>> The whole thing was taped to the transmission line. There was a
>> connection at the center of this on one side to one side of the
>> transmission line.
>>
>> As I understood it, one lamp was supposed to glow and not the other. I
>> think both of mine glowed, but one was definitely brighter. Of coarse I
>> did not know what I was doing and had no real understanding of SWR. I
>> made contacts, so never worried about it!
>
> Try this.. I had an Ampex tube amplifier driving a high voltage
> transformer and as the music danced (in my head) the patterns were
> dancing to the same beat. I just drove the input of the Ampex with the
> output audio line. Yes, that was in the 70's and yes we were all stoned.
> I don't think that anyone else tried that combination, but it was way cool.
> Bill Baka
>>

>> Using a fluorescent tube, I would expect it might glow at points along
>> the transmission line where voltage was high and extinguish where
>> voltage was low. With a low SWR, there would be no high voltage points.
>> Or maybe no nulls?
>>
>> Fred
>> K4DII
>
Whatever it was it was sure pretty and tube had ripples from both ends
that we could just watch. You would almost have to see it to believe it.
Kind of like visible standing waves going the length of the tube.
I think that kind of thing would kill any new solid state amps.
Bill

1973. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 00:55:00 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <hu1lp5$m21$1@news.eternal-september.org>
Source record: 9473

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:n39806d5dlc5o3osgk47n58h1pdocdatul@4ax.com...
> On Mon, 31 May 2010 15:20:03 -0700, "rb" <rbig@cox.net> wrote:
>
>>Memory has usual cob webs. Help clear it.......
>>
>>When I feed twinlead, seems I might use a small fluorescent bulb to show
>>how
>>it's doing.
>
> Hi OM,
>
> What you call fluorescent, I assume, must mean a small NE2 neon
> indicator bulb which would be suitable to what you describe.
>
>> If a small fluorescent bulb will do this, do I just tune for
>>"max smoke" while holding it near the twinlead? Can't recall if a small
>>flourescent bulb will do this or not.
>
> It is going to be an indication of "something."
>
>>
>>If radiation is cancelled, not sure how it would fire.
>
> Within close proximity (about 3 to 5 times the wire separation), you
> still have a sense of each wire. Further away, there is so little
> difference in distance to either of them, that they both add with
> cancellation.
>
>>I vaguely remember we used to use twin lamps, wired backwards for this
>>purpose. One way you had SWR on one side; the other way you had SWR on
>>the other side. Neither light being lit meant good SWR.
>
> This must be the cobwebs you speak of. Other than LEDs (and I think
> you would have specifically said so if your indicators were these),
> lamps have no sense of current direction. Example, what would happen
> if you reversed the plug to your table lamp? Would it suck light?
> Have you ever put in a fluorescent bulb with the wrong polarity?
>
> 73's
> Richard Clark, KB7QHC
-
The LEDs that suck light are normally referred to as DEDs (Dark Emitting
Diodes)

1974. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 02:13:39 UTC
From: walt <walt@w2du.com>
Message-ID: <0d46430f-910b-43c4-9a4b-a50aa812941d@f14g2000vbn.googlegroups.com>
Source record: 9474

On May 31, 8:55 pm, "Wayne" <mygarbage...@verizon.net> wrote:
> "Richard Clark" <kb7...@comcast.net> wrote in message
>
> news:n39806d5dlc5o3osgk47n58h1pdocdatul@4ax.com...
>
> > On Mon, 31 May 2010 15:20:03 -0700, "rb" <r...@cox.net> wrote:
>
> >>Memory has usual cob webs. Help clear it.......
>
> >>When I feed twinlead, seems I might use a small fluorescent bulb to show
> >>how
> >>it's doing.
>
> > Hi OM,
>
> > What you call fluorescent, I assume, must mean a small NE2 neon
> > indicator bulb which would be suitable to what you describe.
>
> > If a small fluorescent bulb will do this, do I just tune for
> >>"max smoke" while holding it near the twinlead?   Can't recall if a small
> >>flourescent bulb will do this or not.
>
> > It is going to be an indication of "something."
>
> >>If radiation is cancelled, not sure how it would fire.
>
> > Within close proximity (about 3 to 5 times the wire separation), you
> > still have a sense of each wire. Further away, there is so little
> > difference in distance to either of them, that they both add with
> > cancellation.
>
> >>I vaguely remember we used to use twin lamps, wired backwards for this
> >>purpose.   One way you had SWR on one side;   the other way you had SWR on
> >>the other side.   Neither light being lit meant good SWR.
>
> > This must be the cobwebs you speak of. Other than LEDs (and I think
> > you would have specifically said so if your indicators were these),
> > lamps have no sense of current direction. Example, what would happen
> > if you reversed the plug to your table lamp? Would it suck light?
> > Have you ever put in a fluorescent bulb with the wrong polarity?
>
> > 73's
> > Richard Clark, KB7QHC
>

> -
> The LEDs that suck light are normally referred to as DEDs (Dark Emitting
> Diodes)

Hi Bill,

I just now ran into one of your earlier posts regarding insomnia. I
have some important info for you, which I'll email to you if you'll
give me your email address in a email to me, which is walt@w2du.com.

Walt

1975. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 02:16:31 UTC
From: walt <walt@w2du.com>
Message-ID: <042b0a2e-6dce-4ffa-9247-93719bf0f59a@e28g2000vbd.googlegroups.com>
Source record: 9475

On May 31, 10:13 pm, walt <w...@w2du.com> wrote:
> On May 31, 8:55 pm, "Wayne" <mygarbage...@verizon.net> wrote:
>
>
>
> > "Richard Clark" <kb7...@comcast.net> wrote in message
>
> >news:n39806d5dlc5o3osgk47n58h1pdocdatul@4ax.com...
>
> > > On Mon, 31 May 2010 15:20:03 -0700, "rb" <r...@cox.net> wrote:
>
> > >>Memory has usual cob webs. Help clear it.......
>
> > >>When I feed twinlead, seems I might use a small fluorescent bulb to show
> > >>how
> > >>it's doing.
>
> > > Hi OM,
>
> > > What you call fluorescent, I assume, must mean a small NE2 neon
> > > indicator bulb which would be suitable to what you describe.
>
> > >> If a small fluorescent bulb will do this, do I just tune for
> > >>"max smoke" while holding it near the twinlead?   Can't recall if a small
> > >>flourescent bulb will do this or not.
>
> > > It is going to be an indication of "something."
>
> > >>If radiation is cancelled, not sure how it would fire.
>
> > > Within close proximity (about 3 to 5 times the wire separation), you
> > > still have a sense of each wire. Further away, there is so little
> > > difference in distance to either of them, that they both add with
> > > cancellation.
>
> > >>I vaguely remember we used to use twin lamps, wired backwards for this
> > >>purpose.   One way you had SWR on one side;   the other way you had SWR on
> > >>the other side.   Neither light being lit meant good SWR.
>
> > > This must be the cobwebs you speak of. Other than LEDs (and I think
> > > you would have specifically said so if your indicators were these),
> > > lamps have no sense of current direction. Example, what would happen
> > > if you reversed the plug to your table lamp? Would it suck light?
> > > Have you ever put in a fluorescent bulb with the wrong polarity?

>
> > > 73's
> > > Richard Clark, KB7QHC
>
> > -
> > The LEDs that suck light are normally referred to as DEDs (Dark Emitting
> > Diodes)
>
> Hi Bill,
>
> I just now ran into one of your earlier posts regarding insomnia. I
> have some important info for you, which I'll email to you if you'll
> give me your email address in a email to me, which is w...@w2du.com.
>
> Walt

Darn, Bill, I don't know why this forum deletes part of an email
delivered in the text of a msg. The word preceding the @ is walt.

Walt

1976. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 05:52:35 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5405640c-0d2e-48ed-af4b-0c9f3bc75185@b21g2000vbh.googlegroups.com>
Source record: 9476

On 25 mayo, 03:35, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 24 May 2010 17:17:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >PSE, with the due respect and consideration toward you an the
> >distinguished colleagues and friends, Would you mind return to the
> >original question? (sorry if it is not this the most polite form to
> >ask it)
>
> Hi Miguel,
>
> I presume by "original question" you mean:
>
> >On Mon, 24 May 2010 13:06:19 -0700 (PDT), lu6etj <lu6...@gmail.com> wrote:
>
> >>¿Absorb the reflected power or amortiguate the effects of variyng load
> >>impedance?
>
> The answer is YES.
>
> Now, if you mean by absorb that all absorbtion results in heat, then
> the answer is NO.
>
> If you mean by absorb that all energy is combined in a load, then the
> answer is YES.
>
> The difference between YES and NO is the PHASE differences of the two
> energies that are combined.
>
> 73's
> Richard Clark, KB7QHC

Hi all

First the first: Sorry Szczepan, do not feel upset I wanted to say
"Me" don't go off topic with my own answers, not you.

Very interesting comments!
I think we must agree on meaning of words and basement concepts
employed to discuss these matters, otherwise we end up talking about
different "things" (Babel curse what confuses our tongues). If we do
not agree with meaning of, for example, "interaction", how can we
reach an agreement on much more complex things that depend on this
word/concept?
This is not a criticism to anyone, is only my point of view about what

I think is a partial source of apparently irreductible positions in the group.
I believe Richard, K1TTT and me, have sinchronized minds about "Interaction" word/concept meaning. I suppose must be a more deep underlying assumptios that make it possible. However I believe I understand the "idea" underlying Cecil concept about "interaction" and I believe I can "see" his point, To me, Cecil's interaction concept it is a very common idea, I do not think Cecil be a "hard to die" man :>)
I think we have to do our more honest efforts to sinchronize ideas.
I do not want to go off topic, but let me bring a couple of thinkings to the table (they are not mine).

* Students come into our classrooms with an established world-view, formed by years of prior experience and learning.
* Even as it evolves, a student's world-view filters all experiences and affects their interpretation of observations.
* Students are emotionally attached to their world-views and will not give up their world-views easily.
* Challenging, revising, and restructuring one's world-view requires much effort.
(from http://srri.umass.edu/topics/constructivism)

Why these above things would not happen to me?
.....
Returning: Cecil, given A+B=C, do you you see C as result of an interaction (or mutual action) among A and B, or C a simply result of A added to B?
Another question to clarify my undestanding of your propositions: do you see waves interacting themselves in a discontinuity, or you see them interacting with the discontinuity? or both phenomena at the same time?. Change discontinuity for load and please tell me.

Richard, you said: -"Because" leads to superstition-; you are pointing to causal relations?
I believe was you who said dislike representations, if it is yes, were you aiming to create mental images of physical phenomena?
Here we often use the word "methafor" in figured sense instead "analogy", for example, "my car it is as strong as a locomotive" it is a true methaphor. In metaphor, there are two levels or terms: the real (my car) and evoked or imaginary (locomotive). Coulored water is it a true methaphor or an analogy?

Simple analogies as useful things until one (or more) of they not work... then, ciao analogy..!, not so bad :>), however... notice!, our ideas are not equal to the "out there" world. Concepts, models, (mathematical models also, of course)... are not they our mind's "analogies" "out there" sensorial/injstrumental perceived world?
These are not trivial epistemology issues, our "observer" leads directly to the question about "Is the moon there when nobody looks?" (N. D.Mermin). When we go out of our classic-simplistic-realistic-traditional ham world... "we are in troubles, Houston",

slippery soil!, I make the sign of the cross! :>)

K1TTT said: -Standing waves are a figment of your instrumentation-. My dictionary translates "figment" as "product" or "chimera", please, tell me what word should I use to correctly read the sentence?

73

Miguel Ghezzi - LU6ETJ

1977. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1275372001@panix.com>
Source record: 9477
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

1978. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 08:30:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c04c526$0$17100$65785112@news.neostrada.pl>
Source record: 9478

"lu6etj" <lu6etj@gmail.com> wrote
news:5405640c-0d2e-48ed-af4b-0c9f3bc75185@b21g2000vbh.googlegroups.com...
>
>Here we often use the word "methafor" in figured sense instead
"analogy", for example, "my car it is as strong as a locomotive" it is
a true methaphor. In metaphor, there are two levels or terms: the real
(my car) and evoked or imaginary (locomotive). Coulored water is it a
true methaphor or an analogy?

>Simple analogies as useful things until one (or more) of they not
work... then, ciao analogy..!,

Radio waves and sound are in full analogy.

>K1TTT said: -Standing waves are a figment of your instrumentation-. My
dictionary translates "figment" as "product" or "chimera", please,
tell me what word should I use to correctly read the sentence?

Waves always travel (pressure or voltage pulses). If the wave interact with
the reflected one than the places where the pressures/voltages change are
standing.

The reflected wave cam be weaker if the mirror is partialy transparent (or
if an absorbtion take place).
S*

73

Miguel Ghezzi - LU6ETJ

1979. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 08:42:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c04c7f0$0$2586$65785112@news.neostrada.pl>
Source record: 9479

"K1TTT" <k1ttt@arrl.net> wrote
news:d6cf156b-d960-4d34-b6fe-db4db374a768@q33g2000vbt.googlegroups.com...
On May 31, 5:58 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>> Up to now we have agreed that Maxwell/Lorents aether is bogus and that in
>> the space is the plasma (ions and electrons) and the dust. They rotate
>> with
>> the Sun in the form of a whirl.
>
>> You are the first radioman who admit this.

>the solar wind is well know and easily studies with the satellite data
available today. but it is not an aether,

The aether in sense of medium for light propagation.

> the interplanetary plasma
does not propagate the light from the sun,

In the interstellar medium (ISM) are ions, electrons and dust.
http://www.astronomynotes.com/ismnotes/s2.htm

The medium are the electrons ony. The rest are contaminations, like the fog
and dust in the air for the sound waves.
Do you see any sensible another solution?
S*

1980. HOT SEE FREE

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 09:53:43 UTC
From: BALU <cdghdgdff@gmail.com>
Message-ID: <a5fba148-fb99-4938-9e5f-a13f1e8ea47a@23g2000pre.googlegroups.com>
Source record: 9480

hot lip kiss1
http://hotimagesandvideos.blogspot.com/2010/04/hot-lip-kiss1.html
hot hug
http://hotimagesandvideos.blogspot.com/2010/04/hot-hug.html
super hot kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-hot-kiss.html
one lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/one-lip-kiss.html
super navel kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-navel-kiss.html
hot train lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-train-lip-kiss.html
hot boobs kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-boobs-kiss.html

FOR MORE PHOTOS http://hotphotos.co.in/

1981. HOT SEE FREE

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 09:54:04 UTC
From: BALU <cdghdgdff@gmail.com>
Message-ID: <1611f3ee-94b3-49d3-8071-ae1f46594479@k17g2000pro.googlegroups.com>
Source record: 9481

hot lip kiss1
http://hotimagesandvideos.blogspot.com/2010/04/hot-lip-kiss1.html
hot hug
http://hotimagesandvideos.blogspot.com/2010/04/hot-hug.html
super hot kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-hot-kiss.html
one lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/one-lip-kiss.html
super navel kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-navel-kiss.html
hot train lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-train-lip-kiss.html
hot boobs kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-boobs-kiss.html

FOR MORE PHOTOS http://hotphotos.co.in/

1982. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 10:47:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d90c45b9-eebf-4165-9231-e99abf1553a0@o12g2000vba.googlegroups.com>
Source record: 9482

On May 31, 4:36 pm, K1TTT <k1...@arrl.net> wrote:
> i hate mechanical analogies, they lead to too many misconceptions.
> the last photon question was meant to be rhetorical.

I apologize for not recognizing that. Words don't always convey the
intended context.
--
73, Cecil, w5dxp.com

1983. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 10:50:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fcfa5677-6db9-40e9-a162-23dc9ec8dc80@o39g2000vbd.googlegroups.com>
Source record: 9483

On Jun 1, 5:52 am, lu6etj <lu6...@gmail.com> wrote:
> On 25 mayo, 03:35, Richard Clark <kb7...@comcast.net> wrote:
>
>
>
> > On Mon, 24 May 2010 17:17:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> > wrote:
>
> > >PSE, with the due respect and consideration toward you an the
> > >distinguished colleagues and friends, Would you mind return to the
> > >original question? (sorry if it is not this the most polite form to
> > >ask it)
>
> > Hi Miguel,
>
> > I presume by "original question" you mean:
>
> > >On Mon, 24 May 2010 13:06:19 -0700 (PDT), lu6etj <lu6...@gmail.com> wrote:
>
> > >>¿Absorb the reflected power or amortiguate the effects of variyng load
> > >>impedance?
>
> > The answer is YES.
>
> > Now, if you mean by absorb that all absorbtion results in heat, then
> > the answer is NO.
>
> > If you mean by absorb that all energy is combined in a load, then the
> > answer is YES.
>
> > The difference between YES and NO is the PHASE differences of the two
> > energies that are combined.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hi all
>
> First the first: Sorry Szczepan, do not feel upset I wanted to say
> "Me" don't go off topic with my own answers, not you.
>
> Very interesting comments!
> I think we must agree on meaning of words and basement concepts
> employed to discuss these matters, otherwise we end up talking about

> different "things" (Babel curse what confuses our tongues). If we do
> not agree with meaning of, for example, "interaction", how can we
> reach an agreement on much more complex things that depend on this
> word/concept?
> This is not a criticism to anyone, is only my point of view about what
> I think is a partial source of apparently irreductible positions in
> the group.
> I believe Richard, K1TTT and me, have sinchronized minds about
> "Interaction" word/concept meaning. I suppose must be a more deep
> underlying assumptios that make it possible. However I believe I
> understand the "idea" underlying Cecil concept about "interaction" and
> I believe I can "see" his point, To me, Cecil's interaction concept it
> is a very common idea, I do not think Cecil be a "hard to die" man :>)
> I think we have to do our more honest efforts to sinchronize ideas.
> I do not want to go off topic, but let me bring a couple of thinkings
> to the table (they are not mine).
>
> * Students come into our classrooms with an established world-view,
> formed by years of prior experience and learning.
> * Even as it evolves, a student's world-view filters all experiences
> and affects their interpretation of observations.
> * Students are emotionally attached to their world-views and will not
> give up their world-views easily.
> * Challenging, revising, and restructuring one's world-view requires
> much effort.
> (fromhttp://srri.umass.edu/topics/constructivism)
>
> Why these above things would not happen to me?
> .....
> Returning: Cecil, given A+B=C, do you you see C as result of an
> interaction (or mutual action) among A and B, or C a simply result of
> A added to B?
> Another question to clarify my undestanding of your propositions: do
> you see waves interacting themselves in a discontinuity, or you see
> them interacting with the discontinuity? or both phenomena at the same
> time?. Change discontinuity for load and please tell me.
>
> Richard, you said: -"Because" leads to superstition-; you are pointing
> to causal relations?
> I believe was you who said dislike representations, if it is yes, were
> you aiming to create mental images of physical phenomena?
> Here we often use the word "methafor" in figured sense instead
> "analogy", for example, "my car it is as strong as a locomotive" it is
> a true methaphor. In metaphor, there are two levels or terms: the real
> (my car) and evoked or imaginary (locomotive). Coulored water is it a
> true methaphor or an analogy?
>
> Simple analogies as useful things until one (or more) of they not
> work... then, ciao analogy..!, not so bad :>), however... notice!, our
> ideas are not equal to the "out there" world. Concepts, models,

> (mathematical models also, of course)... are not they our mind's
> "analogies" "out there" sensorial/injstrumental perceived world?
> These are not trivial epistemology issues, our "observer" leads
> directly to the question about "Is the moon there when nobody
> looks?" (N. D.Mermin). When we go out of our classic-simplistic-
> realistic-traditional ham world... "we are in troubles, Houston",
> slippery soil!, I make the sign of the cross! :>)
>
> K1TTT said: -Standing waves are a figment of your instrumentation-. My
> dictionary translates "figment" as "product" or "chimera", please,
> tell me what word should I use to correctly read the sentence?
>
> 73
>
> Miguel Ghezzi - LU6ETJ

in this context figment=product. often used to describe something
that is a result of an over active imagination. the only reason you
can see standing waves is because a measurement or observation makes
them look like they are 'standing' when it is really the interaction
of two or more regular traveling waves.

1984. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 10:53:15 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6710ced9-7a52-4303-8a61-b2fe1e9cd9dd@v18g2000vbc.googlegroups.com>
Source record: 9484

On Jun 1, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:d6cf156b-d960-4d34-b6fe-db4db374a768@q33g2000vbt.googlegroups.com...
> On May 31, 5:58 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Up to now we have agreed that Maxwell/Lorents aether is bogus and that in
> >> the space is the plasma (ions and electrons) and the dust. They rotate
> >> with
> >> the Sun in the form of a whirl.
>
> >> You are the first radioman who admit this.
> >the solar wind is well know and easily studies with the satellite data
>
> available today. but it is not an aether,
>
> The aether in sense of medium for light propagation.
>
> > the interplanetary plasma
>
> does not propagate the light from the sun,
>
> In the interstellar medium (ISM) are ions, electrons and
dust.http://www.astronomynotes.com/ismnotes/s2.htm
>
> The medium are the electrons ony. The rest are contaminations, like the fog
> and dust in the air for the sound waves.
> Do you see any sensible another solution?
> S*

the electrons can not do it either. there are not enough of them and
they move too slowly in the plasma to propagate light. these are
easily measured, you can watch the density directly using the ace
satellite web page and calculate the speed of longitudinal waves if
you want, but it won't be anywhere near light speed.

1985. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 11:23:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e7f31acb-c5cf-4711-b3ff-972f8f730500@c13g2000vbr.googlegroups.com>
Source record: 9485

On Jun 1, 12:52 am, lu6etj <lu6...@gmail.com> wrote:
> Returning: Cecil, given A+B=C, do you you see C as result of an
> interaction (or mutual action) among A and B, or C a simply result of
> A added to B?

Of course, there are all types of "addition", e.g. arithmetic,
algebraic, voltage phasor, Poynting vector, scalar power,
superposition, merging, mixing, ... Which type of "addition" is
appropriate depends upon the nature of what is being added.

Simply put, if A + B = C creates an irreversible result, then A has
(obviously?) interacted with B. If the result is reversible, then A
has not interacted with B. For the great majority of cases,
superposition does not result in interaction. For the great majority
of cases, interference does not result in interaction. For some
(special?) cases, superposition (plus associated interference and wave
cancellation) results in interaction and the result is irreversible.
Non reflective glass is an example of wave interaction. The internal
reflection cancels the external reflection and the energy in those two
reflections changes directions. A Z0-match at an impedance
discontinuity in an RF transmission line is another example. Again, if
two waves are coherent, collimated, and traveling in the same
direction, those two waves will interact, i.e. their superposition
result is not reversible.
--
73, Cecil, w5dxp.com

1986. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 11:27:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <53c59cf9-127d-42f5-a023-29b8f204d910@o1g2000vbe.googlegroups.com>
Source record: 9486

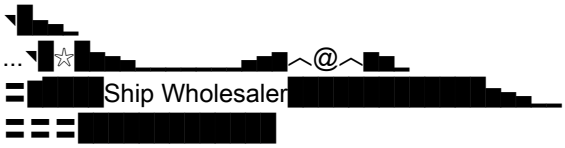
On Jun 1, 3:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Do you see any sensible another solution?

What about the "quantum soup", particles winking in and out of
existence throughout space? How do you explain the Casimir effect? How
do you explain the flow of photons through evacuated space that is
devoid of electrons?
--
73, Cecil, w5dxp.com

1987. Cheap GUCCI Jeans Armani Jeans Evisu Jeans COOGI Jeans free shipping <paypal payment>(www.24hoursneakers.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 13:08:10 UTC
From: huang <hhl678@sohu.com>
Message-ID: <2b0d5e2e-ee48-40c4-b987-01eb1e2eb0d0@a2g2000prd.googlegroups.com>
Source record: 9487

Are you searching for good quality and low price products?our company
want to be you reliable supplier in china,we offer brand
shoes,bags,jeans,clothes,we accept a variety of payment
methods .Convenient for you the more you order the better price for
you! if you interested in our goods,pls don't hestate to contact me
Our website (http://www.24hoursneakers.com/)



A&F Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
BBC Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
ED hardy Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
G-Star Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
Diesel Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
Affliction Jeans Wholesale(http://www.24hoursneakers.com/)
(PayPal Payment)
artful dodger Jeans Wholesale(http://www.24hoursneakers.com/)
(PayPal Payment)
D&G Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
COOGI Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
JUSTcavalli Jeans Wholesale(http://www.24hoursneakers.com/)
(PayPal Payment)
VERSACE Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
Armani Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal
Payment)
Crown Holder Jeans Wholesale(http://www.24hoursneakers.com/)
(PayPal Payment)
Red Monkey Jeans Wholesale(http://www.24hoursneakers.com/)
(PayPal Payment)
TRUE RELIGION Jeans Wholesale(http://www.24hoursneakers.com/)
(PayPal Payment)
Rock&Republic Jeans Wholesale(http://www.24hoursneakers.com/)
(PayPal Payment)

Bape Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)
Christ audiger Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)
Evisu Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)
GUCCI Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)
Levis Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)
LV Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)
laguna beach Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)
Rock&Republic Jeans Wholesale(http://www.24hoursneakers.com/) (PayPal Payment)

1988. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 13:10:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <02481487-13fc-4672-8768-8d7c4188f762@e21g2000vbl.googlegroups.com>
Source record: 9488

On Jun 1, 11:23 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 1, 12:52 am, lu6etj <lu6...@gmail.com> wrote:
>
> > Returning: Cecil, given A+B=C, do you you see C as result of an
> > interaction (or mutual action) among A and B, or C a simply result of
> > A added to B?
>
> Of course, there are all types of "addition", e.g. arithmetic,
> algebraic, voltage phasor, Poynting vector, scalar power,
> superposition, merging, mixing, ... Which type of "addition" is
> appropriate depends upon the nature of what is being added.
>
> Simply put, if A + B = C creates an irreversible result, then A has
> (obviously?) interacted with B. If the result is reversible, then A
> has not interacted with B. For the great majority of cases,
> superposition does not result in interaction. For the great majority
> of cases, interference does not result in interaction. For some
> (special?) cases, superposition (plus associated interference and wave
> cancellation) results in interaction and the result is irreversible.
> Non reflective glass is an example of wave interaction. The internal
> reflection cancels the external reflection and the energy in those two
> reflections changes directions. A Z0-match at an impedance
> discontinuity in an RF transmission line is another example. Again, if
> two waves are coherent, collimated, and traveling in the same
> direction, those two waves will interact, i.e. their superposition
> result is not reversible.
> --
> 73, Cecil, w5dxp.com

what exactly is the 'interaction' and why is it unique to that
special coherent, collimated, etc, case? if two waves can 'interact'
in that case there should be other evidence that they can interact in
other situations. just because a+b=c doesn't mean that a and b have
magically disappeared for some reason, in mathematics c=a+b is just as
valid and implies that c is made up of a and b... or using your water
analogy, adding one pint to another pint doesn't magically cause them
to 'interact' in some way, the original water is still there, perhaps
indistinguishable from each other, but still there. it may be
convenient to represent the result of summing an infinite series of
reflections as a single number, but it is not necessary.

1989. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 13:35:01 UTC
From: Allodoxaphobia <bit-bucket@config.com>
Message-ID: <slrni0a37t.l7a.bit-bucket@shell.config.com>
Source record: 9489

On Mon, 31 May 2010 , walt wrote:
>>
>> I just now ran into one of your earlier posts regarding insomnia. I
>> have some important info for you, which I'll email to you if you'll
>> give me your email address in a email to me, which is w...@w2du.com.
>>
>> Walt
>
> Darn, Bill, I don't know why this forum deletes part of an email
> delivered in the text of a msg. The word preceding the @ is walt.
>
> Walt

This is not a forum -- this is a newsgroup on usenet. If you wouldn't
use the google group kludge to attempt access into usenet, you would not
see such additional kludginess in your postings. And, your postings are
more apt to be seen by folks that don't killfile googlegrooper postings
outright due to all the spam that flows in from that seweer.

1990. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 13:52:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <abb19698-4611-4744-aaff-881a9aa000f1@z17g2000vbd.googlegroups.com>
Source record: 9490

On Jun 1, 8:10 am, K1TTT <k1...@arrl.net> wrote:
> what exactly is the 'interaction' and why is it unique to that
> special coherent, collimated, etc, case?

Is it not obvious that when two reflected waves cancel in one direction, as at the surface of a 1/4WL thin-film coating on glass, and their combined EM energy is redistributed in the opposite direction, that those two waves have interacted, i.e. have suffered a permanent change and have lost their original identities?

Is it not obvious that when two waves are traveling two different paths where the incident angle is, e.g. two degrees, that those two waves will superpose and interfere throughout a certain space after which they emerge intact, unaffected, and have obviously not interacted, i.e. they suffered no permanent change and have maintained their original identities?

Did superposition occur in both cases? Yes. Did interference occur in both cases? Yes. Did wave cancellation occur in both cases? No, just in the non-reflective glass case.

Consider a transmission line with an SWR of 5.83:1. The sourced power is 100 watts. The forward power is 200 watts. The reflected power is 100 watts. All of the reflected power is redistributed back toward the load at a Z0-match through reflection and wave cancellation. Zero reflected power is incident upon the source.

Does the 100w source wave lose its identity when it merges with the 100w of redistributed reflected wave to become the 200w forward wave? Is the steady-state load energy coming from the source wave or the redistributed reflected wave or both? Seems to me, it is obvious that the two original component waves have interacted and lost their original identities for good if they are pure coherent sine waves traveling in the same direction confined to a coaxial transmission line.
--
73, Cecil, w5dxp.com

1991. Discount Ed hardy other porduct (http://www.cntrade09.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 14:47:56 UTC
From: xiang chen <chenxaing89@gmail.com>
Message-ID: <e2dcb13b-307c-4008-9fa6-db57ae4b30e3@u3g2000prl.googlegroups.com>
Source record: 9491
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

nike shoes,jordan shoes(http://www.cntrade09.com)
Air Force 1 shoes(http://www.cntrade09.com)
kids shoes(http://www.cntrade09.com)
nike air max TN shoes(http://www.cntrade09.com)
nike MAX LTD shoes (http://www.cntrade09.com)
nike air MAX 180 sports shoes(http://www.cntrade09.com)
nike air max 360 basketball shoes discount paypal (http://
www.cntrade09.com)
nike air max 2003 running shoes discount paypal (http://
www.cntrade09.com)
nike air max 97 sport shoes discount paypal (http://
www.cntrade09.com)
nike air max 95 basketball shoes(http://www.cntrade09.com)
nike air max 90 running shoes discount paypal (http://
www.cntrade09.com)
nike air max 87 fashion shoes discount paypal (http://
www.cntrade09.com)
nike Shox TL1 men shoes discount paypal (http://
www.cntrade09.com)
nike shox TL3 sports shoes discount paypal (http://
www.cntrade09.com)
nike shox NZ running shoes (http://www.cntrade09.com)
nike shox OZ basketball shoes discount paypal (http://
www.cntrade09.com)
nike shox R3 sport shoes discount paypal (http://
www.cntrade09.com)
nike shox R4 fashion shoes discount paypal (http://
www.cntrade09.com)
nike shox R5 running shoes discount paypal (http://
www.cntrade09.com)
puma shoes discount paypal
Get Nike Shoes at Super Cheap Prices
Discount Ed hardy tshirt (http://www.cntrade09.com)
Discount Ed hardy jean (http://www.cntrade09.com)
Discount Ed hardy shoes (http://www.cntrade09.com)
Discount Ed hardy handbag (http://www.cntrade09.com)
Discount Ed hardy other porduct (http://www.cntrade09.com)
Discount Nike air jordans (http://www.cntrade09.com)
Discount Nike Air Max 90 Sneakers (http://www.cntrade09.com)
Discount Nike Air Max 91 Supplier (http://www.cntrade09.com)
Discount Nike Air Max 95 Shoes Supplier (http://
www.cntrade09.com)
Discount Nike Air Max 97 Trainers (http://www.cntrade09.com)

Discount Nike Air Max 2003 (http://www.cntrade09.com)
Discount Nike Air Max 2004 Shoes
(http://www.cntrade09.com)
Discount Nike Air Max 2005 Shop (http://www.cntrade09.com)

1992. What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 15:21:00 UTC
From: Clint Alexander <clint@cdalexander.net>
Message-ID: <paOdnc5uFrnIuJjRnZ2dnUVZ_oCdnZ2d@ptd.net>
Source record: 9492

I want to make a simple transmitter to use as a locator beacon. But the source would be in the ground (anywhere between 3 - 10ft). The receiver would need to locate it, much like a metal detector would except it would be a small hand-held "wand" with a LCD giving the direction and signal strength.

I'm not sure of the signaling to use therefore I'm not sure of the antenna required. But, it would need it to follow part 15 of the FCC rules/regulations (none hazardous and allows required interference).

I am completely new at this sort of technology. I have created circuits before using L555 timer, 4046Phase Loop, etc. But I've never went farther than building simple demonstration circuits. I wondered if there was anyone on this list that may be able to shed some light on what I would need and/or how I would use them (a schematical description), or even point me to the "yellow brick road".

Thanks!
--
//Clint Alexander

1993. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 15:44:43 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0aagj.7h8.gsm@cable.mendelson.com>
Source record: 9493

Clint Alexander wrote:
> I want to make a simple transmitter to use as a locator beacon. But the
> source would be in the ground (anywhere between 3 - 10ft). The receiver
> would need to locate it, much like a metal detector would except it would be
> a small hand-held "wand" with a LCD giving the direction and signal
> strength.

Try burying a WiFi dongle and see what you get. 2.4gHz has the advantages
of being COTS (commercial off the shelf technology), easy to build
directional antennas, cheap and easily adapated to digital technology.

It also has the advantage of being legal in almost (if not) every country
in the world.

I'm not sure it will reach through 3-10 feet of dirt, but I expect that
anything much above 15khz will have that problem.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
understanding, as in he has a sub-wikipedia understanding of the situation.
i.e possessing less facts or information than can be found in the Wikipedia.

1994. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 16:22:09 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <19268667-26f5-4e1a-9c11-4654ddfaebda@a16g2000vbr.googlegroups.com>
Source record: 9494

On Jun 1, 4:44 pm, "Geoffrey S. Mendelson" <g...@cable.mendelson.com>
wrote:
> Clint Alexander wrote:
> > I want to make a simple transmitter to use as a locator beacon. But the
> > source would be in the ground (anywhere between 3 - 10ft). The receiver
> > would need to locate it, much like a metal detector would except it would be
> > a small hand-held "wand" with a LCD giving the direction and signal
> > strength.
>
> Try burying a WiFi dongle and see what you get. 2.4gHz has the advantages
> of being COTS (commercial off the shelf technology), easy to build
> directional antennas, cheap and easily adapated to digital technology.
>
> It also has the advantage of being legal in almost (if not) every country
> in the world.
>
> I'm not sure it will reach through 3-10 feet of dirt, but I expect that
> anything much above 15khz will have that problem.
>
> Geoff.
>
> --
> Geoffrey S. Mendelson, Jerusalem, Israel g...@mendelson.com N3OWJ/4X1GM
> New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
> understanding, as in he has a sub-wikipedia understanding of the situation.
> i.e possessing less facts or information than can be found in the Wikipedia.

Try googling Avalanche / beacon / tranceiver / 457KHz

http://pistehors.com/backcountry/wiki/Gear/Avalanche-Transceivers

UKM

1995. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 16:31:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4bf90659p9mthf6f3i6gnurk2k6ue9jo5r@4ax.com>
Source record: 9495

On Mon, 31 May 2010 12:54:30 -0700 (PDT), walt <walt@w2du.com> wrote:

>You say the source
>of the I^2R power dissipated in R is plate resistance, Rp. However, as
>I read Par 7.2 on Pages 140 and 141, the reality of Rp is described in
>there, but only indirectly,

Hi Walt,

The point I have been emphasizing is that the plate resistance is
real, where real is the conventional meaning of heat following
current. The authors expresses this in all the conventional usages
and mathematical expressions of heat, velocity, kinetics, mass,
collision, current, voltage - everything you would find in an ordinary
resistor.

As for indirectness, no single section encapsulates the entire topic.

However, the remainder of the chapter does. Don't stop early to
examine the sidewalk to ignore the destination.

As so often happens in our newsgroup, the discussion of many topics
stalls at the freshman level and is regarded as complete in every
detail and nuance. "Physical Electronics," is far in advance of those
thoughts.

73's
Richard Clark, KB7QHC

1996. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 16:32:32 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <cebff003-1e18-4156-a34c-8d995f25e685@a16g2000vbr.googlegroups.com>
Source record: 9496

On Jun 1, 5:22 pm, UKMonitor <ukmoni...@hotmail.com> wrote:
> On Jun 1, 4:44 pm, "Geoffrey S. Mendelson" <g...@cable.mendelson.com>
> wrote:
>
>
>
>
>
> > Clint Alexander wrote:
> > > I want to make a simple transmitter to use as a locator beacon. But the
> > > source would be in the ground (anywhere between 3 - 10ft). The receiver
> > > would need to locate it, much like a metal detector would except it would be
> > > a small hand-held "wand" with a LCD giving the direction and signal
> > > strength.
>
> > Try burying a WiFi dongle and see what you get. 2.4gHz has the advantages
> > of being COTS (commercial off the shelf technology), easy to build
> > directional antennas, cheap and easily adapated to digital technology.
>
> > It also has the advantage of being legal in almost (if not) every country
> > in the world.
>
> > I'm not sure it will reach through 3-10 feet of dirt, but I expect that
> > anything much above 15khz will have that problem.
>
> > Geoff.
>
> > --
> > Geoffrey S. Mendelson, Jerusalem, Israel g...@mendelson.com N3OWJ/4X1GM
> > New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
> > understanding, as in he has a sub-wikipedia understanding of the situation.
> > i.e possessing less facts or information than can be found in the Wikipedia.
>
> Try googling Avalanche / beacon / tranceiver / 457KHz
>
> http://pistehors.com/backcountry/wiki/Gear/Avalanche-Transceivers
>
> UKM- Hide quoted text -
>
> - Show quoted text -

Also Loc8tor

http://www.loc8tor.co.uk/Store/

UKM

1997. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 16:41:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cpda06p4kvu9abo6km3v1qc607avtslb55@4ax.com>
Source record: 9497

On Mon, 31 May 2010 18:39:11 -0400, Fred McKenzie <fmmck@aol.com>
wrote:

>It consisted of two 6 Volt dial lamps connected to each
>end of a section of twin lead. I think it was two or three feet long.
>The whole thing was taped to the transmission line. There was a
>connection at the center of this on one side to one side of the
>transmission line.

Hi All,

This and Myron's reference appear to fill in all the blanks and should
brush away the cobwebs.

What is described above appears to be that of a directional coupler. I
would suspect that the connection between it and the line is through a
capacitor, and the line proximity serves the inductive coupling. I
also presume the "transmission line" was also twin line, otherwise
none of this would work. The action of the directional coupler is
what separates the forward and reflected energies.

73's
Richard Clark, KB7QHC

1998. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 17:09:37 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0afid.9i8.gsm@cable.mendelson.com>
Source record: 9498

UKMonitor wrote:
> http://www.loc8tor.co.uk/Store/

I don't know what you are hiding, but some of the ELT (Emergency locator transmitters) are tracked by satellite, and if you set one off sirens go off in control centers.

Great if you are trying to get rescued, a disaster if you want to find your "stash".

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

1999. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 17:27:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <09ea06lqfiufpfhsr3espgl4qo3nd7vcr9@4ax.com>
Source record: 9499

On Mon, 31 May 2010 22:52:35 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Richard, you said: -"Because" leads to superstition-; you are pointing
>to causal relations?

Hi Miguel,

Language would have us believe that causal relations "be" from
"cause." Common language sometimes uses "because" as a bridge between
phrases without necessarily implying causality - in other words, the
word "because" is verbal noise when that happens. "Because" is often
a one word reply to a child's question "Why?"

>I believe was you who said dislike representations, if it is yes, were
>you aiming to create mental images of physical phenomena?

Oh, I do that all the time. However, I do not mistake representations
as being the real thing. In other contexts, they are more real than
the real thing. So, if there is dislike, it comes from seeing
inferior representation when better work requires so little more
effort.

>Here we often use the word "methafor"
now there's a curious and suggestive spelling
>in figured sense instead
>"analogy", for example, "my car it is as strong as a locomotive" it is
>a true methaphor. In metaphor, there are two levels or terms: the real
>(my car) and evoked or imaginary (locomotive). Coulored water is it a
>true methaphor or an analogy?

Both. But context should resolve that, or it could still be both.
That is why metaphor and analogy are so dangerous. That is also why
it is so useful in fiction. We get enough fiction here.

>Simple analogies as useful things until one (or more) of they not
>work... then, ciao analogy..!, not so bad :>), however... notice!, our
>ideas are not equal to the "out there" world. Concepts, models,
>(mathematical models also, of course)... are not they our mind's
>"analogies" "out there" sensorial/injstrumental perceived world?
>These are not trivial epistemology issues, our "observer" leads
>directly to the question about "Is the moon there when nobody
>looks?" (N. D.Mermin). When we go out of our classic-simplistic-
>realistic-traditional ham world... "we are in troubles, Houston",
>slippery soil!, I make the sign of the cross! :>)

Namaste.

73's
Richard Clark, KB7QHC

2000. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 17:40:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <psga06l1trcnetdbkaot6cplrl9hu0rcqu@4ax.com>
Source record: 9500

>3. character assignation.

Hi Miguel,

How well does this translate to Spanish?

As I've offered, native speakers are often the poorest communicators
in their own language. Imagine trying to visualize an optical
metaphor when this comet hits the windshield.

73's
Richard Clark, KB7QHC

2001. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 17:44:47 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <oaha06hagdtb6n7cmqivu4465jbrh1imkp@4ax.com>
Source record: 9351

On Tue, 1 Jun 2010 15:44:43 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@cable.mendelson.com> wrote:

>Try burying a WiFi dongle and see what you get. 2.4gHz has the advantages
>of being COTS (commercial off the shelf technology), easy to build
>directional antennas, cheap and easily adapated to digital technology.

2.4GHz won't work. It doesn't take much dirt or water to block a
wi-fi signal.

Besides 457Khz avalanche locators, look into Ground Penetrating Radar.
Most operate in the microwave region, but a few models work on very
low frequencies 50-500KHz. FCC Part 19 has a list of acceptable
frequency ranges. If you're tracking gophers, I vaguely recall seeing
an article that described the technology (but am too busy to go
Googling right now).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2002. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 17:50:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c054852$0$19171$65785112@news.neostrada.pl>
Source record: 9352

"K1TTT" <k1ttt@arrl.net> wrote
news:6710ced9-7a52-4303-8a61-b2fe1e9cd9dd@v18g2000vbc.googlegroups.com...
On Jun 1, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> In the interstellar medium (ISM) are ions, electrons and dust.
>> http://www.astronomynotes.com/ismnotes/s2.htm
>
>> The medium are the electrons ony. The rest are contaminations, like the
>> fog
>> and dust in the air for the sound waves.
>> Do you see any sensible another solution?
>> S*

>the electrons can not do it either. there are not enough of them and
they move too slowly in the plasma to propagate light. these are
easily measured, you can watch the density directly using the ace
satellite web page and calculate the speed of longitudinal waves if
you want, but it won't be anywhere near light speed.

In wire are the sound waves (molecules vibrations) and the electric waves
(electrons vibrations).
The same is in space. There are the acoustic waves and electric waves.

Everybody measure the acoustic. The light (electric waves) speed is known.

If light exsists than there is enough electrons.
Do not tell me that there is the Maxwell material:
http://en.wikipedia.org/wiki/Maxwell_material
S*

2003. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 17:57:33 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c054a12$0$2600$65785112@news.neostrada.pl>
Source record: 9353

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:53c59cf9-127d-42f5-a023-29b8f204d910@o1g2000vbe.googlegroups.com...
On Jun 1, 3:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Do you see any sensible another solution?

>What about the "quantum soup", particles winking in and out of
existence throughout space? How do you explain the Casimir effect? How
do you explain the flow of photons through evacuated space that is
devoid of electrons?

"space that is devoid of electrons" is only in schools.
In space "About 99% of the interstellar medium is gas with about 90% of it
in the form of hydrogen (atomic or molecular form), 10% helium, and traces
of other elements" From: http://www.astronomynotes.com/ismnotes/s3.htm

Some elements are ionized. So there are the electrons.
S*

2004. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 18:39:45 UTC
From: Clint Alexander <clint@cdalexander.net>
Message-ID: <KPydnVNL05FyzpjRnZ2dnUVZ_o2dnZ2d@ptd.net>
Source record: 9354

> Great if you are trying to get rescued, a disaster if you want to find
> your "stash".

That's funny :)

It would be for plotting tunnels from gopher, rabbits, etc. But I don't want to buy COTS, I want to grab all the components myself, put the circuits together on a few breadboards and make my own casing for it.

What's important is finding the simple components needed to implement this type of operation. I've read into ELTs and MELs (Miner Emergency Locator) as well, and while I have found a few circuit diagrams, they did not show what antenna is being used and/or how that was connected to the circuit.

Here is a good example. If I use this oscillator:
http://yhst-27389313707334.stores.yahoo.net/i2c1kto68pro.html
(Voltage adjustable from 1KHz to 68MHz)

If we set this to work off of 1-5KHz:
A) How would I figure out what antenna is needed to send this signal through 10-20ft of dirt and concrete?
B) Where on a circuit would this antenna be attached? (directly connected to the oscillator and 9-12V with perhaps a resistor in-between?)

--

//Clint Alexander

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in message news:slrni0afid.9i8.gsm@cable.mendelson.com...
> UKMonitor wrote:
>> http://www.loc8tor.co.uk/Store/
>
> I don't know what you are hiding, but some of the ELT (Emergency locator
> transmitters) are tracked by satellite, and if you set one off sirens
> go off in control centers.
>
> Great if you are trying to get rescued, a disaster if you want to find
> your "stash".
>
> Geoff.
>
> --
> Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
> New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
> understanding, as in he has a sub-wikipedia understanding of the
> situation.

> i.e possessing less facts or information than can be found in the
> Wikipedia.

2005. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 18:48:42 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <df7914e9-add4-45c8-a1f7-b2c8cb1ce6d7@r9g2000vbk.googlegroups.com>
Source record: 9355

On Jun 1, 11:21 am, "Clint Alexander" <cl...@cdalexander.net> wrote:
> I want to make a simple transmitter to use as a locator beacon. But the
> source would be in the ground (anywhere between 3 - 10ft). The receiver
> would need to locate it, much like a metal detector would except it would be
> a small hand-held "wand" with a LCD giving the direction and signal
> strength.
>
> I'm not sure of the signaling to use therefore I'm not sure of the antenna
> required. But, it would need it to follow part 15 of the FCC
> rules/regulations (none hazardous and allows required interference).
>
> I am completely new at this sort of technology. I have created circuits
> before using L555 timer, 4046Phase Loop, etc. But I've never went farther
> than building simple demonstration circuits. I wondered if there was anyone
> on this list that may be able to shed some light on what I would need and/or
> how I would use them (a schematical description), or even point me to the
> "yellow brick road".
>
> Thanks!
> --
> //Clint Alexander

Your friend the 555 may be just what you need. I will oscillate up to
around half a megacycle and have harmonics from DC to daylight.

Jimmie

2006. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 20:41:03 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <27f611d3-8820-4b78-b36a-9e12f1a98d08@f13g2000vbm.googlegroups.com>
Source record: 9356

On 25 mayo, 03:35, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 24 May 2010 17:17:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >PSE, with the due respect and consideration toward you an the
> >distinguished colleagues and friends, Would you mind return to the
> >original question? (sorry if it is not this the most polite form to
> >ask it)
>
> Hi Miguel,
>
> I presume by "original question" you mean:
>
> >On Mon, 24 May 2010 13:06:19 -0700 (PDT), lu6etj <lu6...@gmail.com> wrote:
>
> >>¿Absorb the reflected power or amortiguate the effects of variyng load
> >>impedance?
>
> The answer is YES.
>
> Now, if you mean by absorb that all absorbtion results in heat, then
> the answer is NO.
>
> If you mean by absorb that all energy is combined in a load, then the
> answer is YES.
>
> The difference between YES and NO is the PHASE differences of the two
> energies that are combined.
>
> 73's
> Richard Clark, KB7QHC

Good evening (here), to all. I envy most of you for being in Spring...

Cecil I think I understand the notion you have of interaction. It is
on the concept pointed by the word itself (even outside of our radio
context, as shown in your comment about C = A + B) where the
"differences" are laying.
"We" (1) seem to agree with what just explained K1TTT in his last
post. If we could resolve this concept I believe that there would be
fewer differences in the radio discussion. Would you be willing to
try?.
(1) Three or four that are not you, off course :>D

There are other sometimes semi-elusive and possubly tricking concept:
"interference", from my point of wiew this one is other possible
source of differences on our topic.
......
> the only reason you can see standing waves is because a measurement or observation makes them look like they are 'standing' when it is really the interaction of two or more regular traveling waves.

If I do not bad understand your response to Cecil, In your sentence I
would change "interaction" by "manifestation". What do you think?

Side comment: I would say "the only reason we can see (1) 'anything '
of the outside world is by measurement or observation ".
Standing waves are no different in this respect to any other
"external" thing. :>)
(1) Mind vision.

Richard: OK to "representations". Do you think there are things
accesible (or "visible") to our intelect (objectivism) or all we have
are models of external world built by our minds with the help and
mediation of our biological and technical sensing/measurements
apparatus?
I insist in that because I think that two or more models could be
capable to "explain" observed phenomena and we could partially agree
on they instead dispute hard about the "right one" :>)
Metaphysical discussions about the "thing itself" was very strong and
sterile before Newton stop caring about the "whys" and decided dealts
with "howtos" :>). I think you were thinking about this when you
equalize "because"="superstition". Am I right?
However, though causality is an epistemological issue, usually in the
macroscopic phenomena we accept "If A, then B" as a causal relation,
example: If a rock hits my feet I absolutelly think the pain is due to
the stone, not a simple acausal correlation. In this sense is it valid
to use "because the stone")? Thanks to all for your comments

73

Miguel Ghezzi - LU6ETJ

2007. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 20:43:56 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hu3rd0$qv3$1@news.eternal-september.org>
Source record: 9357

Clint Alexander Inscribed thus:

>> Great if you are trying to get rescued, a disaster if you want to
>> find your "stash".
>
> That's funny :)
>
> It would be for plotting tunnels from gopher, rabbits, etc. But I
> don't want to buy COTS, I want to grab all the components myself, put
> the circuits together on a few breadboards and make my own casing for
> it.
>
> What's important is finding the simple components needed to implement
> this type of operation. I've read into ELTs and MELs (Miner Emergency
> Locator) as well, and while I have found a few circuit diagrams, they
> did not show what antenna is being used and/or how that was connected
> to the circuit.
>
> Here is a good example. If I use this oscillator:
> http://yhst-27389313707334.stores.yahoo.net/i2c1kto68pro.html
> (Voltage adjustable from 1KHz to 68MHz)
>
> If we set this to work off of 1-5KHz:
> A) How would I figure out what antenna is needed to send this signal
> through 10-20ft of dirt and concrete?
> B) Where on a circuit would this antenna be attached? (directly
> connected to the oscillator and 9-12V with perhaps a resistor
> in-between?)

Consider just how big the antenna might have to be at those frequencies.
300,000,000 divided by F in Hz = length in meters.
Using your 5Khz (300,000,000/5000) = 60,000 meters !

--
Best Regards:
Baron.

2008. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 21:29:15 UTC
From: Clint Alexander <clint@cdalexander.net>
Message-ID: <jOmdndKUW5o75pjRnZ2dnUVZ_vidnZ2d@ptd.net>
Source record: 9358

> Consider just how big the antenna might have to be at those frequencies.
> 300,000,000 divided by F in Hz = length in meters.
> Using your 5Khz (300,000,000/5000) = 60,000 meters !
>

That's true. Okay -- I obviously would need a lower frequency to penetrate ground; what would be a workable solution?

What if I took 10ft of antennae and just coiled it so it didn't take up so much space?

Thanks for all the info!
--

//Clint Alexander

"Baron" <baron.nospam@linuxmaniac.nospam.net> wrote in message news:hu3rd0$qv3$1@news.eternal-september.org...
> Clint Alexander Inscribed thus:
>
>>> Great if you are trying to get rescued, a disaster if you want to
>>> find your "stash".
>>
>> That's funny :)
>>
>> It would be for plotting tunnels from gopher, rabbits, etc. But I
>> don't want to buy COTS, I want to grab all the components myself, put
>> the circuits together on a few breadboards and make my own casing for
>> it.
>>
>> What's important is finding the simple components needed to implement
>> this type of operation. I've read into ELTs and MELs (Miner Emergency
>> Locator) as well, and while I have found a few circuit diagrams, they
>> did not show what antenna is being used and/or how that was connected
>> to the circuit.
>>
>> Here is a good example. If I use this oscillator:
>> http://yhst-27389313707334.stores.yahoo.net/i2c1kto68pro.html
>> (Voltage adjustable from 1KHz to 68MHz)
>>
>> If we set this to work off of 1-5KHz:
>> A) How would I figure out what antenna is needed to send this signal
>> through 10-20ft of dirt and concrete?
>> B) Where on a circuit would this antenna be attached? (directly
>> connected to the oscillator and 9-12V with perhaps a resistor
>> in-between?)

>
> Consider just how big the antenna might have to be at those frequencies.
> 300,000,000 divided by F in Hz = length in meters.
> Using your 5Khz (300,000,000/5000) = 60,000 meters !
>
> --
> Best Regards:
> Baron.

2009. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 21:31:05 UTC
From: Bruce in alaska <fast@btpost.net>
Message-ID: <fast-111A3B.13305501062010@unknown.hwng.net>
Source record: 9359

In article <7SUMn.40647$wV2.6070@newsfe23.iad>, "rb" <rbig@cox.net>
wrote:

> Memory has usual cob webs. Help clear it.......
>
> When I feed twinlead, seems I might use a small fluorescent bulb to show how
> it's doing. If a small fluorescent bulb will do this, do I just tune for
> "max smoke" while holding it near the twinlead? Can't recall if a small
> flourescent bulb will do this or not.
>
> If radiation is cancelled, not sure how it would fire.
>
> I vaguely remember we used to use twin lamps, wired backwards for this
> purpose. One way you had SWR on one side; the other way you had SWR on
> the other side. Neither light being lit meant good SWR.

Up here in Alaska, we used to use the SAT Balanced Antenna Tuners to feed
300 Ohm Twin-lead Dipoles, cut for the Lowest Frequency Channel in the
Radio. then use a Bird WattMeter in the Coax Feeding the Tuner, while
doing the Setup. After things were setup for each channel and Band in
the Radio, we would tape a pair of NE2's, one on each side of the
Twin-lead at the closest Voltage Node to the Tuner. then the Operator
could watch the RF Output on the NE2's. worked fair... for the those
days...

--
Bruce in alaska
add <path> after <fast> to reply

2010. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 22:44:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e2fd4cc7-9f7d-4279-8143-334a061bbeec@m33g2000vbi.googlegroups.com>
Source record: 9360

On Jun 1, 1:52 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 1, 8:10 am, K1TTT <k1...@arrl.net> wrote:
>
> > what exactly is the 'interaction' and why is it unique to that
> > special coherent, collimated, etc, case?
>
> Is it not obvious that when two reflected waves cancel in one
> direction, as at the surface of a 1/4WL thin-film coating on glass,
> and their combined EM energy is redistributed in the opposite
> direction, that those two waves have interacted, i.e. have suffered a
> permanent change and have lost their original identities?
>
> Is it not obvious that when two waves are traveling two different
> paths where the incident angle is, e.g. two degrees, that those two
> waves will superpose and interfere throughout a certain space after
> which they emerge intact, unaffected, and have obviously not
> interacted, i.e. they suffered no permanent change and have maintained
> their original identities?

no, it is not obvious. where do you draw the line... 1 degree, .1
degree, .001 degree? at what point is the angle small enough to say
that they have 'interacted' and the energy is redistributed?

>
> Did superposition occur in both cases? Yes. Did interference occur in
> both cases? Yes. Did wave cancellation occur in both cases? No, just
> in the non-reflective glass case.
>

i propose that 'cancellation' is just a special case of interference
where the waves are 'close enough' to collinear that you never see the
interference pattern. this would of course always apply in a
transmission line because they are confined.

closely analyze the transient response of your non-reflective glass in
the case where the wave is not incident perpendicular to the glass.
do each reflection from each interface separately as the wave travels
in the coating at an angle. then reduce the angle to very near
perpendicular and you should see that there are indeed reflections
that should very nearly 'cancel' each other out as the number of
reflections gets bigger.

2011. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-01 23:35:02 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <01129171-0f57-4aa2-9c02-6574544b44a6@b21g2000vbh.googlegroups.com>
Source record: 9361

On Jun 1, 10:21 am, "Clint Alexander" <cl...@cdalexander.net> wrote:
> I want to make a simple transmitter to use as a locator beacon. But the
> source would be in the ground (anywhere between 3 - 10ft). The receiver
> would need to locate it, much like a metal detector would except it would be
> a small hand-held "wand" with a LCD giving the direction and signal
> strength.
>
> I'm not sure of the signaling to use therefore I'm not sure of the antenna
> required. But, it would need it to follow part 15 of the FCC
> rules/regulations (none hazardous and allows required interference).
>
> I am completely new at this sort of technology. I have created circuits
> before using L555 timer, 4046Phase Loop, etc. But I've never went farther
> than building simple demonstration circuits. I wondered if there was anyone
> on this list that may be able to shed some light on what I would need and/or
> how I would use them (a schematical description), or even point me to the
> "yellow brick road".
>
> Thanks!
> --
> //Clint Alexander

Andy writes: I messed with a transmitter used to map out caves and
tunnels a while back and think that would fit your bill. I don't
remember the details
but I think it ran around 100 Khz or so, and the antenna was just a
coil
of wire about a foot in diameter, using magnetic near field coupling.
Power was only a few watts and the range was hundreds of feet.

If you google things like "cave mapping" , " spelunking
transmitters",
and keywords like that, you may have a lead to follow.

Good luck,

Andy W4OAH

2012. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 00:21:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f48b069r2v27sbqjedf86bbmnk88fmdopt@4ax.com>
Source record: 9362

On Tue, 1 Jun 2010 13:41:03 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Richard: OK to "representations". Do you think there are things
>accesible (or "visible") to our intelect (objectivism) or all we have
>are models of external world built by our minds with the help and
>mediation of our biological and technical sensing/measurements
>apparatus?

Hi Miguel,

This has gotten pretty metaphysical.

>I insist in that because I think that two or more models could be
>capable to "explain" observed phenomena and we could partially agree
>on they instead dispute hard about the "right one" :>)

Data explains - the rest is the ego of pride of authorship.

>Metaphysical discussions about the "thing itself" was very strong and
>sterile before Newton stop caring about the "whys" and decided dealts
>with "howtos" :>). I think you were thinking about this when you
>equalize "because"="superstition". Am I right?

I don't know.

>However, though causality is an epistemological issue, usually in the
>macroscopic phenomena we accept "If A, then B" as a causal relation,
>example: If a rock hits my feet I absolutelly think the pain is due to
>the stone, not a simple acausal correlation. In this sense is it valid
>to use "because the stone")? Thanks to all for your comments

Don't you think your pain is due to nerve sensations? Rocks hit rocks
all the time and there is no pain due to anything any where.

Or maybe there is an optical proof that refutes this.

73's
Richard Clark, KB7QHC

2013. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 02:33:51 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <XdydnQnos8GMXpjRnZ2dnUVZ_vudnZ2d@giganews.com>
Source record: 9363

Bruce in alaska wrote:
>
> Up here in Alaska, we used to use the SAT Balanced Antenna Tuners to feed
> 300 Ohm Twin-lead Dipoles, cut for the Lowest Frequency Channel in the
> Radio. then use a Bird WattMeter in the Coax Feeding the Tuner, while
> doing the Setup. After things were setup for each channel and Band in
> the Radio, we would tape a pair of NE2's, one on each side of the
> Twin-lead at the closest Voltage Node to the Tuner. then the Operator
> could watch the RF Output on the NE2's. worked fair... for the those
> days...

Shucks, up there in Alaska, KL7BFB ("Barrel Full of Beer") ran a
(Alaska?) gallon of AM to a lazy H antenna. It had a fluorescent tube
taped to each of the four wire ends, which lit up nicely when he hit the
mike button. Ah, those were the days. . .

'Course I used to run out onto the runway at the Juneau airport to
retrieve ducks I'd shot. Bet you can't do that any more!

Roy Lewallen, W7EL

2014. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 03:21:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f2e12d9c-48c9-4c8b-a953-8cd310dac7d0@u7g2000vbq.googlegroups.com>
Source record: 9364

On Jun 1, 3:41 pm, lu6etj <lu6...@gmail.com> wrote:
> > the only reason you can see standing waves is because a measurement or observation makes them look like they are 'standing' when it is really the interaction of two or more regular traveling waves.
>
> If I do not bad understand your response to Cecil, In your sentence I
> would change "interaction" by "manifestation". What do you think?

I don't remember writing that, Miguel. If I did write that, then I misused the word "interaction". I wrote elsewhere that forward and reflected waves don't interact as long as Z0 stays constant.
--
73, Cecil, w5dxp.com

2015. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 03:31:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fcd53381-6e3b-44a8-ae48-91e4aec31246@v18g2000vbc.googlegroups.com>
Source record: 9365

On Jun 1, 5:44 pm, K1TTT <k1...@arrl.net> wrote:
> no, it is not obvious. where do you draw the line... 1 degree, .1
> degree, .001 degree? at what point is the angle small enough to say
> that they have 'interacted' and the energy is redistributed?

I don't know the answer but zero degrees (perfect collimation) will
result in interaction.

> i propose that 'cancellation' is just a special case of interference
> where the waves are 'close enough' to collinear that you never see the
> interference pattern.

When b1 = s11*a1 + s12*a2 = 0 at an impedance discontinuity, wave
cancellation has taken place. s11*a1 and s12*a2 are coherent sine
waves, equal in magnitude, and 180 degrees out of phase. Have you read
the FSU web page where they describe wave cancellation? All these
concepts are old hat to optical physicists.

micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
waveinteractions/index.html

"... when two waves of equal amplitude and wavelength that are 180-
degrees ... out of phase with each other meet, they are not actually
annihilated, ... All of the photon energy present in these waves must
somehow be recovered or redistributed in a new direction, according to
the law of energy conservation ... Instead, upon meeting, the photons
are redistributed to regions that permit constructive interference, so
the effect should be considered as a redistribution of light waves and
photon energy rather than the spontaneous construction or destruction
of light."
--
73, Cecil, w5dxp.com

2016. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 05:08:54 UTC
From: Bruce in alaska <fast@btpost.net>
Message-ID: <fast-2203B5.21084601062010@news.starband.net>
Source record: 9366

In article <XdydnQnos8GMXpjRnZ2dnUVZ_vudnZ2d@giganews.com>,
Roy Lewallen <w7el@eznec.com> wrote:

> 'Course I used to run out onto the runway at the Juneau airport to
> retrieve ducks I'd shot. Bet you can't do that any more!
>
> Roy Lewallen, W7EL

Nope, you sure can't..... Years ago I was servicing an Alascom Alaska Public Fixed Transmitter in Bethel that ran a Full Gallon on 2, 3, 5, & 8 MHz. The Operator I knew from a few years earlier, also was a Ham, and was using one of the OLD Rhombics, From the WWII days, to work the West Coast with 2 watts from a Northern Radio SSB Handheld Prototype on 40 meters. He was said to have the strongest Signal on the band as the sun set each night. They just don't make antennas like those anymore.

--
Bruce in alaska
add <path> after <fast> to reply

2017. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 10:08:31 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <febfdf89-226c-4762-a6f6-9fb83b077021@y21g2000vba.googlegroups.com>
Source record: 9367

On Jun 2, 12:35 am, AndyS <andysha...@juno.com> wrote:
> On Jun 1, 10:21 am, "Clint Alexander" <cl...@cdalexander.net> wrote:
>
>
>
>
>
> > I want to make a simple transmitter to use as a locator beacon. But the
> > source would be in the ground (anywhere between 3 - 10ft). The receiver
> > would need to locate it, much like a metal detector would except it would be
> > a small hand-held "wand" with a LCD giving the direction and signal
> > strength.
>
> > I'm not sure of the signaling to use therefore I'm not sure of the antenna
> > required. But, it would need it to follow part 15 of the FCC
> > rules/regulations (none hazardous and allows required interference).
>
> > I am completely new at this sort of technology. I have created circuits
> > before using L555 timer, 4046Phase Loop, etc. But I've never went farther
> > than building simple demonstration circuits. I wondered if there was anyone
> > on this list that may be able to shed some light on what I would need and/or
> > how I would use them (a schematical description), or even point me to the
> > "yellow brick road".
>
> > Thanks!
> > --
> > //Clint Alexander
> Andy writes: I messed with a transmitter used to map out caves and
>
> tunnels a while back and think that would fit your bill. I don't
> remember the details
> but I think it ran around 100 Khz or so, and the antenna was just a
> coil
> of wire about a foot in diameter, using magnetic near field coupling.
> Power was only a few watts and the range was hundreds of feet.
>
>   If you google things like "cave mapping" , " spelunking
> transmitters",
> and keywords like that, you may have a lead to follow.
>
>   Good luck,
>
>   Andy W4OAH- Hide quoted text -
>

> - Show quoted text -

At 457KHz they use ferrite rod antennas

I think if you are building your own system you need a crystal locked
transmitter and a very narrow bandwidth (DSP filters ?) receiver in
order to obtain the best range and rejection of unwanted noise and out
of band signals.

Some design notes can be found here.

http://www.ece.uvic.ca/~mblarows/ELEC499/documents/ELEC499A%20Progress%20Report%202-r1.pdf

http://www.backcountryaccess.com/english/research/documents/457andFuture_000.pdf

Google or search US patent websites for 457KHZ transmitter antenna.

UKM

UKM

2018. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 10:19:22 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hu5b62qsn1@news.eternal-september.org>
Source record: 9368

Clint Alexander Inscribed thus:

>> Consider just how big the antenna might have to be at those
>> frequencies. 300,000,000 divided by F in Hz = length in meters.
>> Using your 5Khz (300,000,000/5000) = 60,000 meters !
>>
>
>
> That's true. Okay -- I obviously would need a lower frequency

Lower frequencies mean longer antenna. :-(
Also since 5Khz is in the audio range of frequencies you might be better
off with a coil based microphone.

> to penetrate ground; what would be a workable solution?

I think you need to do some more research. Its easier not to re-invent
the wheel.

> What if I took 10ft of antennae and just coiled it so it didn't take
> up so much space?

If you take any antenna and reduce its physical size you will also
reduce the amount of energy that it can radiate for any given input. I
forget the rule of thumb, but it goes something like inverse square.
Half the radiation quarter of the distance.

>
> Thanks for all the info!

--
Best Regards:
Baron.

2019. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 10:33:44 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <607483e5-7811-4a6f-9f17-d108617a085d@q13g2000vbm.googlegroups.com>
Source record: 9369

On Jun 1, 11:31 pm, Cecil Moore <w5...@hotmail.com> wrote:
> "... All of the photon energy present in these waves must

I suggest that you immediately dump any reference that includes
a phrase like "photon energy present in a wave".

There is a wave theory of light, and there is a particle theory
of light, and these two theories do not play well together.

While in many situations they will yield the same answers, it
is not permissible to mix the concepts from each. Distrust
the conclusions of any exposition which does so.

...Keith

2020. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 10:37:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <503cea5b-cb32-4e7f-abbe-04ddf313052b@e21g2000vbl.googlegroups.com>
Source record: 9370

On Jun 2, 3:31 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 1, 5:44 pm, K1TTT <k1...@arrl.net> wrote:
>
> > no, it is not obvious. where do you draw the line... 1 degree, .1
> > degree, .001 degree? at what point is the angle small enough to say
> > that they have 'interacted' and the energy is redistributed?
>
> I don't know the answer but zero degrees (perfect collimation) will
> result in interaction.

what is the physical mechanism for 'interaction' that requires perfect
collimation?

>
> > i propose that 'cancellation' is just a special case of interference
> > where the waves are 'close enough' to collinear that you never see the
> > interference pattern.
>
> When b1 = s11*a1 + s12*a2 = 0 at an impedance discontinuity, wave
> cancellation has taken place. s11*a1 and s12*a2 are coherent sine
> waves, equal in magnitude, and 180 degrees out of phase. Have you read
> the FSU web page where they describe wave cancellation? All these
> concepts are old hat to optical physicists.
>
> micro.magnet.fsu.edu/primer/java/scienceopticsu/interference/
> waveinteractions/index.html
>
> "... when two waves of equal amplitude and wavelength that are 180-
> degrees ... out of phase with each other meet, they are not actually
> annihilated, ... All of the photon energy present in these waves must
> somehow be recovered or redistributed in a new direction, according to
> the law of energy conservation ... Instead, upon meeting, the photons
> are redistributed to regions that permit constructive interference, so
> the effect should be considered as a redistribution of light waves and
> photon energy rather than the spontaneous construction or destruction
> of light."
> --
> 73, Cecil, w5dxp.com

coming from a 'primer' and containing words like 'somehow' doesn't
raise my confidence in the explanation.

2021. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 10:39:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8c3e6c68-ee76-4245-9689-e7e4265d0fa2@f14g2000vbn.googlegroups.com>
Source record: 9371

On Jun 2, 10:33 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 1, 11:31 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > "... All of the photon energy present in these waves must
>
> I suggest that you immediately dump any reference that includes
> a phrase like "photon energy present in a wave".
>
> There is a wave theory of light, and there is a particle theory
> of light, and these two theories do not play well together.
>
> While in many situations they will yield the same answers, it
> is not permissible to mix the concepts from each. Distrust
> the conclusions of any exposition which does so.
>
> ...Keith

agreed. photons are good when working with other elementary particle interactions to represent the em energy lost or transferred during particle interactions. they are not that useful when studying wave propagation or interaction with macroscopic object... including 1/4 wave coatings.

2022. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 11:21:13 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <60d66fdf-48ab-4f4d-a18c-0aaf22708930@o1g2000vbe.googlegroups.com>
Source record: 9372

On Jun 1, 12:31 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 31 May 2010 12:54:30 -0700 (PDT), walt <w...@w2du.com> wrote:
> >You say the source
> >of the I^2R power dissipated in R is plate resistance, Rp. However, as
> >I read Par 7.2 on Pages 140 and 141, the reality of Rp is described in
> >there, but only indirectly,
>
> Hi Walt,
>
> The point I have been emphasizing is that the plate resistance is
> real, where real is the conventional meaning of heat following
> current.

There seems to be some confusion about the meaning of resistance in
these
posts.

At the start of my electronics education (and I suspect most of
yours), I
was taught that resistance was:
R = V/I

This works for resistors, which have a linear V-I curve which passes
through the origin. This R has the property that it can be used in
R*I^2 to compute the power dissipated in the resistor.

Later in my training, a more sophisticated definition of resistance
was
introduced:
R = deltaV/deltaI
where the V-I curve is not a straight line or does not pass through
the
origin (and some devices even have a negative resistance).
With this, more sophisticated definition of resistance, it is often
not
correct to use R in R*I^2 to compute the dissipation.

It is always correct to compute the dissipation by multiplying the
voltage
by the corresponding current at a particular point on the V-I curve
but
V/I at this point is not the resistance unless the V-I curve is
straight
and passes throught the origin.

The plate V-I characteristic curves for a tube are quite non-linear
and
the use of plate resistance (i.e. deltaV/deltaI) for the computation
of
power is an invalid operation.

V*I of V and I selected at any point on the curve will yield the
power,
but V/I will not be the resistance at this point. You need to dV/dI
for
that.

...Keith

2023. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 11:31:25 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <27b87828-40b6-4310-ab47-bab399ba6777@k31g2000vbu.googlegroups.com>
Source record: 9373

On Jun 2, 6:39 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 2, 10:33 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > On Jun 1, 11:31 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > "... All of the photon energy present in these waves must
>
> > I suggest that you immediately dump any reference that includes
> > a phrase like "photon energy present in a wave".
>
> > There is a wave theory of light, and there is a particle theory
> > of light, and these two theories do not play well together.
>
> > While in many situations they will yield the same answers, it
> > is not permissible to mix the concepts from each. Distrust
> > the conclusions of any exposition which does so.
>
> > ...Keith
>
> agreed. photons are good when working with other elementary particle
> interactions to represent the em energy lost or transferred during
> particle interactions. they are not that useful when studying wave
> propagation or interaction with macroscopic object... including 1/4
> wave coatings.

For those who may be interested, Richard Feynman offers an
introductory
lecture on photons here: http://vega.org.uk/video/subseries/8

It illustrates that attempting to compute 1/4 wave coating behaviour
with photons would be extremely tedious, though possible.

On the other hand, at low light levels, where individual photons
become
discrete events, the wave theory becomes completely inadequate.
Fortunately, for practical applications, power levels are much higher
than this and the wave aproach is quite useful.

...Keith

2024. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 12:00:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8f022431-3a15-4730-b19d-ab4702a03b9e@e6g2000vbm.googlegroups.com>
Source record: 9374

On Jun 2, 5:33 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> I suggest that you immediately dump any reference that includes
> a phrase like "photon energy present in a wave".

If you (and others) will give up on the ridiculous concept of EM wave energy standing still in standing waves, I will not have to refer to photons again. Honor the technical fact that EM forward waves (with an associated ExH energy) and EM reflected waves (with an associated ExH energy) are always present when standing waves are present and that those underlying waves (that cannot exist without energy) are moving at the speed of light in the medium back and forth between impedance discontinuities. Standing waves are somewhat of an illusion and according to two of my reference books, do not deserve to be called waves at all because standing waves do not transfer net energy as required by the definition of "wave". In short, it is impossible for EM waves to stand still.

Quoting one of my college textbooks, "Electrical Communication", by Albert:

"Such a plot of voltage is usually referred to as a *voltage standing wave* or as a *stationary wave*. Neither of these terms is particularly descriptive of the phenomenon. A plot of effective values of voltage, appearing as in Fig. 6(e), *is not a wave* in the usual sense. However, the term "standing wave" is in widespread use."

From "College Physics", by Bueche and Hecht:

"These ... patterns are called *standing waves*, as compared to the propagating waves considered above. They might better not be called waves at all, since they do not transport energy and momentum."

Technically, RF waves *are* light waves, just not *visible* light waves. All the laws of physics that govern EM waves of light also apply to RF waves. That you find it inconvenient for your "mashed-potatoes" theory of energy arguments is not a good reason to abandon the photonic nature of EM waves. It is actually a good reason to keep it in mind and abandon the mashed-potatoes energy arguments as human conceptual constructs that cannot exist in reality. Most of the energy in an EM wave is kinetic energy. Therefore, it cannot stand still.

> There is a wave theory of light, and there is a particle theory
> of light, and these two theories do not play well together.

If they are both correct, they should play well together. If there is any conflict, quantum electrodynamics wins the argument every time.

> While in many situations they will yield the same answers, it
> is not permissible to mix the concepts from each. Distrust
> the conclusions of any exposition which does so.

Actually, distrust the wave theory if it disagrees with QED. Quantum ElectroDynamics has never been proven wrong.

So feel free to prove that standing waves can exist without the underlying component traveling waves traveling at the speed of light in the medium. Feel free to prove that EM wave cancellation does not "redistribute energy to areas that permit constructive interference" as the FSU web page explains. Feel free to prove the Melles-Groit web page wrong when they say such has been proven experimentally. In fact, the interferometer experiment described here proves that reflected EM waves, traveling at the speed of light, exist along with the necessary energy. Take a look at the "non-standard output to screen".

http://www.teachspin.com/instruments/moderni/experiments.shtml

I, personally, am not interested in getting the right answer using the wrong concepts. And I am absolutely sure that your math models do not dictate reality. It is supposed to be the exact opposite.
--
73, Cecil, w5dxp.com

2025. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 12:27:09 UTC
From: Clint Alexander <clint@cdalexander.net>
Message-ID: <B_idnQi8cPSH05vRnZ2dnUVZ_gCdnZ2d@ptd.net>
Source record: 9375

> Lower frequencies mean longer antenna. :-(

Typo/Brain-fart -- I meant "higher" frequency

> I think you need to do some more research. Its easier not to re-invent
> the wheel.

I certainly do not wish to reinvent the wheel, but, I would like to carve
and sand my own wheel, though -- for commercial reasons.

I'm looking for the most lowest level of development that one could start
with given a humble work environment.

--

//Clint Alexander

"Baron" <baron.nospam@linuxmaniac.nospam.net> wrote in message
news:hu5b62qsn1@news.eternal-september.org...
> Clint Alexander Inscribed thus:
>
>>> Consider just how big the antenna might have to be at those
>>> frequencies. 300,000,000 divided by F in Hz = length in meters.
>>> Using your 5Khz (300,000,000/5000) = 60,000 meters !
>>>
>>
>>
>> That's true. Okay -- I obviously would need a lower frequency
>
> Lower frequencies mean longer antenna. :-(
> Also since 5Khz is in the audio range of frequencies you might be better
> off with a coil based microphone.
>
>> to penetrate ground; what would be a workable solution?
>
> I think you need to do some more research. Its easier not to re-invent
> the wheel.
>
>> What if I took 10ft of antennae and just coiled it so it didn't take
>> up so much space?
>
> If you take any antenna and reduce its physical size you will also
> reduce the amount of energy that it can radiate for any given input. I
> forget the rule of thumb, but it goes something like inverse square.
> Half the radiation quarter of the distance.
>

>>
>> Thanks for all the info!
>
> --
> Best Regards:
> Baron.

2026. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 13:30:22 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <43b22724-a544-48ed-a7f5-102628e01d9c@e28g2000vbd.googlegroups.com>
Source record: 9376

On Jun 2, 5:37 am, K1TTT <k1...@arrl.net> wrote:
> what is the physical mechanism for 'interaction' that requires perfect
> collimation?

The impossibility of divergence. That collapsed probability function
can occur in an RF transmission line and in an interferometer.
Secondary effects, e.g. noise, are obviously ignored.

> coming from a 'primer' and containing words like 'somehow' doesn't
> raise my confidence in the explanation.

The "somehow" means that even if someone doesn't comprehend enough to
have "confidence in the explanation", that lack of confidence will
have zero effect on the real-world outcome - the energy involved in
destructive interference wave cancellation will be preserved through
constructive interference based on the conservation of energy
principle. Please feel free to prove them wrong.
--
73, Cecil, w5dxp.com

2027. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 13:39:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <352c1e9a-787d-4158-b419-b506e7230214@z33g2000vbb.googlegroups.com>
Source record: 9377

On Jun 2, 5:39 am, K1TTT <k1...@arrl.net> wrote:
> photons are good when working with other elementary particle
> interactions to represent the em energy lost or transferred during
> particle interactions. they are not that useful when studying wave
> propagation or interaction with macroscopic object... including 1/4
> wave coatings.

Photons are useful for proving that EM waves must necessarily travel
at the speed of light in the medium. Photons cannot stand still -
therefore, EM waves, known to consist of photons, cannot stand still -
therefore any overly-simplified mashed-potatoes version of energy
stored in an RF transmission line violates the laws of physics.
--
73, Cecil, w5dxp.com

2028. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 13:52:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <17oc069n0p2q8oseqh55767qfq1d7sj4ou@4ax.com>
Source record: 9378

On Wed, 2 Jun 2010 04:21:13 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>V*I of V and I selected at any point on the curve will yield the
>power,
>but V/I will not be the resistance at this point. You need to dV/dI
>for
>that.

Hi Keith,

You want to try that again with actual data?

Start with Walt's:
>2 Finals 6146B
>
>In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC input power is therefore 800ï¿½Vï¿½0.26ï¿½A = 208ï¿½W.

73's
Richard Clark, KB7QHC

2029. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 13:57:55 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a4f768df-23cb-4e76-a6b2-232242cd9f8c@c7g2000vbc.googlegroups.com>
Source record: 9379

On Jun 2, 1:39 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 2, 5:39 am, K1TTT <k1...@arrl.net> wrote:
>
> > photons are good when working with other elementary particle
> > interactions to represent the em energy lost or transferred during
> > particle interactions. they are not that useful when studying wave
> > propagation or interaction with macroscopic object... including 1/4
> > wave coatings.
>
> Photons are useful for proving that EM waves must necessarily travel
> at the speed of light in the medium. Photons cannot stand still -
> therefore, EM waves, known to consist of photons, cannot stand still -
> therefore any overly-simplified mashed-potatoes version of energy
> stored in an RF transmission line violates the laws of physics.
> --
> 73, Cecil, w5dxp.com

wave function solutions to maxwell's equations are enough to prove
that for me.

2030. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 14:07:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fa7e9e44-fac5-4726-a720-923015cbada2@b21g2000vbh.googlegroups.com>
Source record: 9380

On Jun 2, 6:21 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Later in my training, a more sophisticated definition of resistance
> was introduced:

The "IEEE Dictionary" gives two definitions for "resistance". (A) a dissipative resistance, and (B) a non-dissipative resistance. Then it says: "Note: Definitions (A) and (B) are not equivalent but are supplementary. In any case where confusion may arise, specify definition being used." I believe that Walt has specified his definition.
--
73, Cecil, w5dxp.com

2031. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 14:12:11 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hu5oqe$544$1@news.eternal-september.org>
Source record: 9381

Clint Alexander Inscribed thus:

>
>> Lower frequencies mean longer antenna. :-(
>
> Typo/Brain-fart -- I meant "higher" frequency
>

We all have them. :-)

>
>> I think you need to do some more research. Its easier not to
>> re-invent the wheel.
>
> I certainly do not wish to reinvent the wheel, but, I would like to
> carve and sand my own wheel, though -- for commercial reasons.
>

I've no problem with that ! But you do need to look at what work has
already been done by other people and try to understand what problems
they have had to overcome in order to achieve their goal. Then analyse
what you need to do to achieve your goal.

>
> I'm looking for the most lowest level of development that one could
> start with given a humble work environment.
>

Most entrepreneurs start of with an idea and develop it with very little
resources. But you have to ask the right questions and more important
understand the answers.

Radio propagation through the earth is one of the most challenging
problems you could attempt to solve. You seem to be concentrating on
very low frequencies, fine if you can tolerate very very slow data
flows. I'm sure there are frequencies that will propagate through the
earth fairly easily, but getting to a point where a usable signal
occurs with reliable results isn't easy.

Maybe more information about what you are trying to achieve would help
to point you in a better direction.

--
Best Regards:
Baron.

2032. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 14:12:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2190c696-c3d3-4e3c-b3f4-3340ab1a5537@q13g2000vbm.googlegroups.com>
Source record: 9382

On Jun 2, 8:57 am, K1TTT <k1...@arrl.net> wrote:
> wave function solutions to maxwell's equations are enough to prove
> that for me.

Not a loaded question: How do Maxwell's equations applied to a
standing wave prove that the component forward and reflected waves are
moving at the speed of light in the medium? If it can and if I can
understand it, I wouldn't need to use the photon argument.
--
73, Cecil, w5dxp.com

2033. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 14:31:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b2713c54-4bd1-41c3-8304-985e4626e846@f14g2000vbn.googlegroups.com>
Source record: 9383

On Jun 2, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 2, 8:57 am, K1TTT <k1...@arrl.net> wrote:
>
> > > wave function solutions to maxwell's equations are enough to prove
> > > that for me.
>
> Not a loaded question: How do Maxwell's equations applied to a
> standing wave prove that the component forward and reflected waves are
> moving at the speed of light in the medium? If it can and if I can
> understand it, I wouldn't need to use the photon argument.
> --
> 73, Cecil, w5dxp.com

easy, maxwell's equations don't predict standing waves! they are a
product of superposition and the simplest instrumentation used since
they were first discovered.

2034. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 15:13:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9000a88d-0539-492b-8289-1d4cf076e012@e21g2000vbl.googlegroups.com>
Source record: 9384

On Jun 2, 9:31 am, K1TTT <k1...@arrl.net> wrote:
> easy, maxwell's equations don't predict standing waves! they are a
> product of superposition and the simplest instrumentation used since
> they were first discovered.

Please correct me if I am wrong: If one starts with the (superposed)
standing wave equation, V(x,t) = A*sin(kx)*sin(wt), Maxwell's
equations seem to provide a perfectly valid result (not that I can
recognize perfection). Therefore, how do Maxwell's equations prove
that the component traveling waves necessarily possess a separate
existence? Again, a serious question from an engineer who considers
anything except a logical '0' or logical '1' to be broken. :-)
--
73, Cecil, w5dxp.com

2035. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 16:48:57 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ea49b17f-ab68-4cf8-a0e9-c77d62b5f205@o15g2000vbb.googlegroups.com>
Source record: 9385

On Jun 2, 3:13 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 2, 9:31 am, K1TTT <k1...@arrl.net> wrote:
>
> > easy, maxwell's equations don't predict standing waves! they are a
> > product of superposition and the simplest instrumentation used since
> > they were first discovered.
>
> Please correct me if I am wrong: If one starts with the (superposed)
> standing wave equation, V(x,t) = A*sin(kx)*sin(wt), Maxwell's
> equations seem to provide a perfectly valid result (not that I can
> recognize perfection). Therefore, how do Maxwell's equations prove
> that the component traveling waves necessarily possess a separate
> existence? Again, a serious question from an engineer who considers
> anything except a logical '0' or logical '1' to be broken. :-)
> --
> 73, Cecil, w5dxp.com

my differential calculus is a bit rusty, but i don't think that equation satisfies the basic wave equation. from Fields and Waves in Communication Electronics, section 1.14. a solution for the wave equation in a transmission line (or other 1d form) must satisfy the condition that the 2nd derivative wrt x and wrt t equal v-squared... too hard to write in text. but basically take the above and differentiate twice wrt time and twice wrt distance and i don't think you'll get anything that comes out to the velocity squared. the problem is that t and x must be part of the same sinusoid in the F(t-x/v) so that the wave is truly traveling instead of stationary like your equation provides.

in the basic maxwell equations in differential form you also run into the same problem where the curl of the one field is proportional to the time derivative of the other i think you'll end up with a contradiction like k=w if you eliminate the dimensionless terms... i may be wrong on that because its been so long since i've had to deal with them on that level.

2036. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 17:33:30 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <x8udnW7QkIRxCJvRnZ2dnUVZ_qidnZ2d@giganews.com>
Source record: 9386

Baron wrote:
>
> If you take any antenna and reduce its physical size you will also
> reduce the amount of energy that it can radiate for any given input. I
> forget the rule of thumb, but it goes something like inverse square.
> Half the radiation quarter of the distance.

That's not true. All the power delivered to an antenna is either radiated or turned into heat -- antennas have to obey the law of conservation of energy like everything else. The fraction which is turned into heat is determined by the loss of the antenna, not its physical size. Loss does generally increase as the size gets smaller, but not by any fixed proportion to the size, and many small antennas can be quite efficient.

Roy Lewallen, W7EL

2037. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 17:56:20 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <862fe479-767a-4a39-b3db-67a65b203299@o12g2000vba.googlegroups.com>
Source record: 9387

On 2 jun, 13:48, K1TTT <k1...@arrl.net> wrote:
> On Jun 2, 3:13 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 2, 9:31 am, K1TTT <k1...@arrl.net> wrote:
>
> > > easy, maxwell's equations don't predict standing waves! they are a
> > > product of superposition and the simplest instrumentation used since
> > > they were first discovered.
>
> > Please correct me if I am wrong: If one starts with the (superposed)
> > standing wave equation, V(x,t) = A*sin(kx)*sin(wt), Maxwell's
> > equations seem to provide a perfectly valid result (not that I can
> > recognize perfection). Therefore, how do Maxwell's equations prove
> > that the component traveling waves necessarily possess a separate
> > existence? Again, a serious question from an engineer who considers
> > anything except a logical '0' or logical '1' to be broken. :-)
> > --
> > 73, Cecil, w5dxp.com
>
> my differential calculus is a bit rusty, but i don't think that
> equation satisfies the basic wave equation. from Fields and Waves in
> Communication Electronics, section 1.14. a solution for the wave
> equation in a transmission line (or other 1d form) must satisfy the
> condition that the 2nd derivative wrt x and wrt t equal v-squared...
> too hard to write in text. but basically take the above and
> differentiate twice wrt time and twice wrt distance and i don't think
> you'll get anything that comes out to the velocity squared. the
> problem is that t and x must be part of the same sinusoid in the F(t-x/
> v) so that the wave is truly traveling instead of stationary like your
> equation provides.
>
> in the basic maxwell equations in differential form you also run into
> the same problem where the curl of the one field is proportional to
> the time derivative of the other i think you'll end up with a
> contradiction like k=w if you eliminate the dimensionless terms... i
> may be wrong on that because its been so long since i've had to deal
> with them on that level.

Oh!, I surrender :>) The thread do not converge to a solution, it
seems run out toward a naked singularity! I stay tuned until this
good brainstorm calms down ..

Miguel

2038. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 17:59:45 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <bb2c90ce-055c-488b-8536-ffda7f138aa3@f14g2000vbn.googlegroups.com>
Source record: 9388

On Jun 1, 2:48 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Jun 1, 11:21 am, "Clint Alexander" <cl...@cdalexander.net> wrote:
>
>
>
> > I want to make a simple transmitter to use as a locator beacon. But the
> > source would be in the ground (anywhere between 3 - 10ft). The receiver
> > would need to locate it, much like a metal detector would except it would be
> > a small hand-held "wand" with a LCD giving the direction and signal
> > strength.
>
> > I'm not sure of the signaling to use therefore I'm not sure of the antenna
> > required. But, it would need it to follow part 15 of the FCC
> > rules/regulations (none hazardous and allows required interference).
>
> > I am completely new at this sort of technology. I have created circuits
> > before using L555 timer, 4046Phase Loop, etc. But I've never went farther
> > than building simple demonstration circuits. I wondered if there was anyone
> > on this list that may be able to shed some light on what I would need and/or
> > how I would use them (a schematical description), or even point me to the
> > "yellow brick road".
>
> > Thanks!
> > --
> > //Clint Alexander
>
> Your friend the 555 may be just what you need. I will oscillate up to
> around half a megacycle and have harmonics from DC to daylight.
>
> Jimmie

On the other hand an EM antenna may not best suit your job. I would
suggest feeding a buried coil and let this be half of a transformer
coupled to your receiver.

Jimmie

2039. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 18:22:45 UTC
From: dplatt@radagast.org
Message-ID: <l4kid7-src.ln1@radagast.org>
Source record: 9389

In article <hu5oqe$544$1@news.eternal-september.org>,
Baron <baron.nospam@linuxmaniac.nospam.net> wrote:

>Radio propagation through the earth is one of the most challenging
>problems you could attempt to solve. You seem to be concentrating on
>very low frequencies, fine if you can tolerate very very slow data
>flows. I'm sure there are frequencies that will propagate through the
>earth fairly easily, but getting to a point where a usable signal
>occurs with reliable results isn't easy.

It might be worth checking out some of the work done by Bonnie Crystal
KQ6XA and her cohorts. They've been able to communicate from the
earth's surface, down into caves (and back up), using LF and HF radio
systems.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2040. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 20:28:42 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <9LSdnYw6KOFhI5vRnZ2dnUVZ_oadnZ2d@giganews.com>
Source record: 9390

Baron wrote:
>
> Radio propagation through the earth is one of the most challenging
> problems you could attempt to solve. You seem to be concentrating on
> very low frequencies, fine if you can tolerate very very slow data
> flows. I'm sure there are frequencies that will propagate through the
> earth fairly easily, but getting to a point where a usable signal
> occurs with reliable results isn't easy.
> . . .

Attenuation through the ground depends on the soil conductivity and dielectric constant, and the frequency. Here's the attenuation in dB/ft for two ground types and a number of frequencies:

Freq MHz	Avg soil(1)	Vy good soil(2)
0.01	0.037	0.091
0.1	0.12	0.29
1	0.35	0.90
10	0.66	2.4
100	0.69	3.3
10,000	0.69	3.4

(1) Conductivity = 0.005 S/m, dielectric constant = 13
(2) Conductivity = 0.03 S/m, dielectric constant = 20

So the distance you can communicate depends on these factors as well as antenna efficiency, power, and receiver sensitivity.

Attenuation in salt water is very much higher, which is why submerged submarines have to communicate at VLF.

Roy Lewallen, W7EL

2041. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 21:44:10 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0dk0u.58t.gsm@cable.mendelson.com>
Source record: 9391

Roy Lewallen wrote:
> Attenuation through the ground depends on the soil conductivity and
> dielectric constant, and the frequency. Here's the attenuation in dB/ft
> for two ground types and a number of frequencies:
>
> Freq MHz Avg soil(1) Vy good soil(2)
> 0.01 0.037 0.091
> 0.1 0.12 0.29
> 1 0.35 0.90
> 10 0.66 2.4
> 100 0.69 3.3
> 10,000 0.69 3.4

So if I get this right, a 2.4gHz signal in normal soil would be anttenuated 6.9 db (less than 2 "S units). In very good soil, it would be anttenuated around 34 db, which would make it difficult to receive.

A Pringles can antenna has a gain of about 18db, that would certainly be enough for average soil, and might be good enough for very good soil.

It also has the advantage of possibly being a 2 way link.

Geoff.
--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

2042. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 22:29:42 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <3cfaeee2-a87f-486b-9574-d5252d74e248@z33g2000vbb.googlegroups.com>
Source record: 9392

On Jun 2, 10:07 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 2, 6:21 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Later in my training, a more sophisticated definition of resistance
> > was introduced:
>
> The "IEEE Dictionary" gives two definitions for "resistance". (A) a
> dissipative resistance, and (B) a non-dissipative resistance. Then it
> says: "Note: Definitions (A) and (B) are not equivalent but are
> supplementary. In any case where confusion may arise, specify
> definition being used."

Somewhat orthogonal to the previous post, but reasonable definitions.

> I believe that Walt has specified his definition.

Agreed.

...Keith

2043. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 22:33:07 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hu6m73$d3k$2@news.jpl.nasa.gov>
Source record: 9395

Baron wrote:
> Clint Alexander Inscribed thus:
>
>>> Great if you are trying to get rescued, a disaster if you want to
>>> find your "stash".
>> That's funny :)
>>
>> It would be for plotting tunnels from gopher, rabbits, etc. But I
>> don't want to buy COTS, I want to grab all the components myself, put
>> the circuits together on a few breadboards and make my own casing for
>> it.
>>
>> What's important is finding the simple components needed to implement
>> this type of operation. I've read into ELTs and MELs (Miner Emergency
>> Locator) as well, and while I have found a few circuit diagrams, they
>> did not show what antenna is being used and/or how that was connected
>> to the circuit.
>>
>> Here is a good example. If I use this oscillator:
>> http://yhst-27389313707334.stores.yahoo.net/i2c1kto68pro.html
>> (Voltage adjustable from 1KHz to 68MHz)
>>
>> If we set this to work off of 1-5KHz:
>> A) How would I figure out what antenna is needed to send this signal
>> through 10-20ft of dirt and concrete?
>> B) Where on a circuit would this antenna be attached? (directly
>> connected to the oscillator and 9-12V with perhaps a resistor
>> in-between?)
>
> Consider just how big the antenna might have to be at those frequencies.
> 300,000,000 divided by F in Hz = length in meters.
> Using your 5Khz (300,000,000/5000) = 60,000 meters !
>

for subsurface comms and this sort of application, you typically use a
loop antenna, and accept the terrible efficiency of a physically small
antenna.

Look at the radios used by cavers for communication.

2044. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 22:36:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <EfadnY1bK-mWQJvRnZ2dnUVZ_g-dnZ2d@giganews.com>
Source record: 9393

Geoffrey S. Mendelson wrote:
> Roy Lewallen wrote:
>> Attenuation through the ground depends on the soil conductivity and
>> dielectric constant, and the frequency. Here's the attenuation in dB/ft
>> for two ground types and a number of frequencies:
>>
>> Freq MHz Avg soil(1) Vy good soil(2)
>> 0.01 0.037 0.091
>> 0.1 0.12 0.29
>> 1 0.35 0.90
>> 10 0.66 2.4
>> 100 0.69 3.3
>> 10,000 0.69 3.4
>
> So if I get this right, a 2.4gHz signal in normal soil would be anttenuated
> 6.9 db (less than 2 "S units). In very good soil, it would be anttenuated
> around 34 db, which would make it difficult to receive.

Those dB values are correct for 10 feet of homogeneous soil. Real soil
is stratified, and reflections from layer boundaries could have some
pretty profound effects. 6.9 dB is from 2 to 4 "S-Units" on my Icom,
depending on where on the S meter scale it is.

> A Pringles can antenna has a gain of about 18db, that would certainly be
> enough for average soil, and might be good enough for very good soil.

Relative to what? According to this site
http://www.turnpoint.net/wireless/has.html, a Pringles can antenna
showed about the same gain as a Lucent omnidirectional antenna. Of
course, an 18 dB error is only a mis-estimation of power density by a
factor of 1,000,000,000,000,000,000. Pah, piddly nit-picking details.
You could make it up by increasing the power by the same factor.

> It also has the advantage of possibly being a 2 way link.

A reliable one would take some calculation, planning, and a realistic
idea of antenna performance.

Roy Lewallen, W7EL

2045. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 22:43:37 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <2722843c-9615-40ae-b80b-0c5d82e04ae6@a20g2000vbc.googlegroups.com>
Source record: 9394

On Jun 2, 9:52 am, Richard Clark <kb7...@comcast.net> wrote:
> Start with Walt's:
>
> >2 Finals 6146B
>
> >In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC input power is therefore 800·V·0.26·A = 208·W.
>

Yup. Measure 800V at 0.26A and the power is 208 W. No mention of
resistance. This is good.

From Walt's data indicating 100W and the schematic showing a 5 ohm
cathode resistor, one
might infer that each tube is dissipating (208-100-(5*.26))/2->53.35
W. Feel free to include
the heater and grid dissipations for a more accurate evaluation.

From the 8146B spec sheet, depending on the operating point, Rp (i.e.
slope of plate E-I curve)
is between 10k and 30k so for the two tubes in the circuit it would be
5k to 15k ohms. But this
number is not much use for computing dissipations.

...Keith

2046. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 23:09:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3825c0e0-4961-4a12-8363-f49000db366e@c7g2000vbc.googlegroups.com>
Source record: 9396

On Jun 2, 5:56 pm, lu6etj <lu6...@gmail.com> wrote:
> On 2 jun, 13:48, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 2, 3:13 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 2, 9:31 am, K1TTT <k1...@arrl.net> wrote:
>
> > > > easy, maxwell's equations don't predict standing waves! they are a
> > > > product of superposition and the simplest instrumentation used since
> > > > they were first discovered.
>
> > > Please correct me if I am wrong: If one starts with the (superposed)
> > > standing wave equation, V(x,t) = A*sin(kx)*sin(wt), Maxwell's
> > > equations seem to provide a perfectly valid result (not that I can
> > > recognize perfection). Therefore, how do Maxwell's equations prove
> > > that the component traveling waves necessarily possess a separate
> > > existence? Again, a serious question from an engineer who considers
> > > anything except a logical '0' or logical '1' to be broken. :-)
> > > --
> > > 73, Cecil, w5dxp.com
>
> > my differential calculus is a bit rusty, but i don't think that
> > equation satisfies the basic wave equation. from Fields and Waves in
> > Communication Electronics, section 1.14. a solution for the wave
> > equation in a transmission line (or other 1d form) must satisfy the
> > condition that the 2nd derivative wrt x and wrt t equal v-squared...
> > too hard to write in text. but basically take the above and
> > differentiate twice wrt time and twice wrt distance and i don't think
> > you'll get anything that comes out to the velocity squared. the
> > problem is that t and x must be part of the same sinusoid in the F(t-x/
> > v) so that the wave is truly traveling instead of stationary like your
> > equation provides.
>
> > in the basic maxwell equations in differential form you also run into
> > the same problem where the curl of the one field is proportional to
> > the time derivative of the other i think you'll end up with a
> > contradiction like k=w if you eliminate the dimensionless terms... i
> > may be wrong on that because its been so long since i've had to deal
> > with them on that level.
>
> Oh!, I surrender :>) The thread do not converge to a solution, it
> seems run out toward a naked singularity! I stay tuned until this

> good brainstorm calms down ..
>
> Miguel

it will never converge, these discussions always go on until the
namecalling starts, then die an ugly death.

2047. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 23:33:06 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <c1e8b21e-a504-4c0d-b3b3-e3f2abb92a68@d12g2000vbr.googlegroups.com>
Source record: 9397

On Jun 2, 8:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 2, 5:33 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > I suggest that you immediately dump any reference that includes
> > a phrase like "photon energy present in a wave".
>
> If you (and others) will give up on the ridiculous concept of EM wave
> energy standing still in standing waves, I will not have to refer to
> photons again.

Refering to photons is just fine. Just do not mix them in with wave
theory.

> Honor the technical fact that EM forward waves (with an
> associated ExH energy) and EM reflected waves (with an associated ExH
> energy) are always present when standing waves are present and that
> those underlying waves (that cannot exist without energy) are moving
> at the speed of light in the medium back and forth between impedance
> discontinuities. Standing waves are somewhat of an illusion and
> according to two of my reference books, do not deserve to be called
> waves at all because standing waves do not transfer net energy as
> required by the definition of "wave". In short, it is impossible for
> EM waves to stand still.
>
> Quoting one of my college textbooks, "Electrical Communication", by
> Albert:
>
> "Such a plot of voltage is usually referred to as a *voltage standing
> wave* or as a *stationary wave*. Neither of these terms is
> particularly descriptive of the phenomenon. A plot of effective values
> of voltage, appearing as in Fig. 6(e), *is not a wave* in the usual
> sense. However, the term "standing wave" is in widespread use."
>
> From "College Physics", by Bueche and Hecht:
>
> "These ... patterns are called *standing waves*, as compared to the
> propagating waves considered above. They might better not be called
> waves at all, since they do not transport energy and momentum."

All quite orthogonal to the original point, but your point about
standing
waves is quite correct, they are not really waves at all. But your
need
for the reality of underlying waves is quite excessive. The voltage
and

current distribution on a transmission line can be solved with a set
of differential equations which satisfy some boundary conditions.
There
is no mention of forward and reverse waves in this solution. Turns out
though, that the solution can also be factored in to a forward and
reflected wave and this technique will provide the same answer. It
does
not make these waves any more real.

I bring you back to a previous question which you have never
answered...
On an ideal line with 100% reflection, there are points where the
current
and voltage is always 0. Knowing that if either current or voltage is
0,
power is also 0, how does energy cross these point?

And if I cut the line at all the places where the current is zero, it
does not alter the energy distribution on the line one iota. How can
this be if energy is travelling from end to end on the line?

> Technically, RF waves *are* light waves, just not *visible* light
> waves. All the laws of physics that govern EM waves of light also
> apply to RF waves.

PHYSICS has long given up on the idea of waves being an explanation
for light. The wave theory fails miserably when illumination levels
drop to the level that individual photons are being detected.

Though of course the earlier approximate models (waves) are still
useful
when intensity is high enough, just as we still use Newtonian
mechanics
to solve many every-day problems.

You might like to try http://vega.org.uk/video/subseries/8 for an
exposition on the strangeness of photon.

> That you find it inconvenient for your "mashed-
> potatoes" theory of energy arguments is not a good reason to abandon
> the photonic nature of EM waves.

There you go again... mixing up you models. EM waves are analog and in
no way encompass the quantum nature of photons.

> It is actually a good reason to keep
> it in mind and abandon the mashed-potatoes energy arguments as human
> conceptual constructs that cannot exist in reality. Most of the energy
> in an EM wave is kinetic energy. Therefore, it cannot stand still.

There seems to be some misapprehension here. No one has claimed that
EM
waves stand still, though you may have been confused by the word

'standing' in 'standing waves'. But then earlier in your post you
quote
'College Physics' about 'standing waves', so it is not clear where
your confusion originates.

> > There is a wave theory of light, and there is a particle theory
> > of light, and these two theories do not play well together.
>
> If they are both correct, they should play well together. If there is
> any conflict, quantum electrodynamics wins the argument every time.

They are not both correct. QED aligns with many more observations than
does the wave theory. Another reason not to mix them.

> > While in many situations they will yield the same answers, it
> > is not permissible to mix the concepts from each. Distrust
> > the conclusions of any exposition which does so.
>
> Actually, distrust the wave theory if it disagrees with QED. Quantum
> ElectroDynamics has never been proven wrong.

And the wave theory does disagree with QED at low levels, while at
higher illumination levels QED agrees with the wave theory.

> So feel free to prove that standing waves can exist without the
> underlying component traveling waves traveling at the speed of light
> in the medium. Feel free to prove that EM wave cancellation does not
> "redistribute energy to areas that permit constructive interference"
> as the FSU web page explains. Feel free to prove the Melles-Groit web
> page wrong when they say such has been proven experimentally. In fact,
> the interferometer experiment described here proves that reflected EM
> waves, traveling at the speed of light, exist along with the necessary
> energy. Take a look at the "non-standard output to screen".

And yet known of this aligns with the photons being part of the wave
theory of light. They two theories remain distinct.

> http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> I, personally, am not interested in getting the right answer using the
> wrong concepts.

Well, (and I am sorry, I can not resist), there is some evidence to
the
contrary. See:
http://www.w5dxp.com/energy.htm
http://www.w5dxp.com/nointfr.htm

...Keith

2048. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-02 23:53:12 UTC
From: Clint Alexander <clint@cdalexander.net>
Message-ID: <NfednU56Ooh4c5vRnZ2dnUVZ_oydnZ2d@ptd.net>
Source record: 9398

For all involved in the thread -- here's a perfect example. Sondes are locator systems used in many areas (I think) such as pipelines: http://www.rjmcompany.com/Pipe-cable-locator-RD2000-SuperCAT.htm

These have frequencies of 512hz, 8Khz and 33Khz

I'm searching for any specs now regarding crystal and antenna for both transmitter and receiver. But I'm certain that the antenna isn't 1000's of meters long ;)

If I'm reading this right -- I would want to build my own version of the technology rather than purchase theirs'.

--

//Clint Alexander

"Clint Alexander" <clint@cdalexander.net> wrote in message news:paOdnc5uFrnIuJjRnZ2dnUVZ_oCdnZ2d@ptd.net...
>I want to make a simple transmitter to use as a locator beacon. But the
>source would be in the ground (anywhere between 3 - 10ft). The receiver
>would need to locate it, much like a metal detector would except it would
>be a small hand-held "wand" with a LCD giving the direction and signal
>strength.
>
> I'm not sure of the signaling to use therefore I'm not sure of the antenna
> required. But, it would need it to follow part 15 of the FCC
> rules/regulations (none hazardous and allows required interference).
>
> I am completely new at this sort of technology. I have created circuits
> before using L555 timer, 4046Phase Loop, etc. But I've never went farther
> than building simple demonstration circuits. I wondered if there was
> anyone on this list that may be able to shed some light on what I would
> need and/or how I would use them (a schematical description), or even
> point me to the "yellow brick road".
>
>
> Thanks!
> --
> //Clint Alexander
>
>

2049. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 00:26:53 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <7mrd0654si33esciqucho6v33malsce0s5@4ax.com>
Source record: 9399

On Mon, 31 May 2010 15:20:03 -0700, "rb" <rbig@cox.net> wrote:

>Memory has usual cob webs. Help clear it.......
>
>When I feed twinlead, seems I might use a small fluorescent bulb to show how
>it's doing. If a small fluorescent bulb will do this, do I just tune for
>"max smoke" while holding it near the twinlead? Can't recall if a small
>flourescent bulb will do this or not.
>
>If radiation is cancelled, not sure how it would fire.
>
>I vaguely remember we used to use twin lamps, wired backwards for this
>purpose. One way you had SWR on one side; the other way you had SWR on
>the other side. Neither light being lit meant good SWR.
>

I have an old '58 copy of the ARRL handbook, and page 534 has the
"Twin-Lamp" tuning indicator for balanced line. It consists of a
couple of low-voltage flashlight bulbs wired to a short piece of
balanced line to insert into the transmission line.

Solder the tips of two flashlight bulbs together, wire that tip joint
to the short length of balanced line, and wire the bulb shells to the
line, too. Insert the device into the transmission line for tuning.

Fire things up. For minimum SWR, the bulb nearest the transmitter will
be bright, the bulb nearest the antenna will be dark. Or if the two
bulbs are glowing with the same brilliance, you have high SWR.

Bob
k5qwg

2050. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 00:34:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <99b7caa3-2f26-4796-b83a-341c698a1e09@b21g2000vbh.googlegroups.com>
Source record: 9400

On Jun 2, 6:33 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> The voltage and
> current distribution on a transmission line can be solved with a set
> of differential equations which satisfy some boundary conditions.

I am not interested in voltage and current. Like optical physicists, I
am only interested in tracking the RF energy flow.

> It does not make these waves any more real.

Agreed, but the point is that it does not make the traveling waves any
LESS real!

> I bring you back to a previous question which you have never
> answered...
> On an ideal line with 100% reflection, there are points where the
> current
> and voltage is always 0. Knowing that if either current or voltage is
> 0,
> power is also 0, how does energy cross these point?

Good grief, I have answered that question at least a dozen times. The
net current being zero is just an illusion caused by superposition of
two magnetic fields propagating in opposite directions that are equal
in magnitude and opposite in phase. The two traveling waves keep on
trucking at their relatively constant ExH energy levels in opposite
directions. If you want to account for the energy, when the current is
zero, all of the energy existing at that point is in the electric
field and, sure enough, the voltage is at a maximum at that point-
duuuhhhh again. There is absolutely no point on an active transmission
line where the net energy level is zero. Again, you guys are never
going to convince anyone that the Golden Gate Bridge doesn't need
maintenance because the net traffic on the bridge is zero. How the
heck can thousands of vehicles traveling one direction while the same
number of vehicles are traveling in the opposite direction add up to
zero effect in reality? Please get real.

> And if I cut the line at all the places where the current is zero, it
> does not alter the energy distribution on the line one iota. How can
> this be if energy is travelling from end to end on the line?

As I told you years ago, when you cut the line, you radically change
the impedance and create a reflection that didn't exist before you cut
the line. Hint: There are no reflections at a point of constant Z0.
There are only reflections at an impedance discontinuity. The
alteration of the energy distribution (to which you seem to be blind)

can easily be observed in a TV system.

> PHYSICS has long given up on the idea of waves being an explanation
> for light.

And RF waves are technically light, just not visible light. When I was rummaging through the Texas A&M library, I found a book entitled, "Light". It covered the subject of RF waves.

> EM waves are analog and in
> no way encompass the quantum nature of photons.

You could become famous if you can prove that EM waves are not quantized. Good luck on that one.

> No one has claimed that EM waves stand still, ...

Please prove your ridiculous assertion that no one has ever claimed that EM waves can stand still.
--
73, Cecil, w5dxp.com

2051. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 00:51:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6628b245-d69d-4f96-826f-0d1b621dfd52@v37g2000vbv.googlegroups.com>
Source record: 9301

On Jun 2, 11:48 am, K1TTT <k1...@arrl.net> wrote:
> my differential calculus is a bit rusty, but i don't think that
> equation satisfies the basic wave equation.

My calculus is probably a lot rustier than yours but it would be very important for this discussion if Maxwell's equations do not work for the standing wave equation. That would essentially prove that the mashed-potatoes theory of transmission line energy is bogus.
--
73, Cecil, w5dxp.com

2052. Re: twinlead tuning indicators

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 01:00:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e2e8ebfd-b0af-4dc8-b577-517ef8454e9f@c11g2000vbe.googlegroups.com>
Source record: 9302

On Jun 2, 7:26 pm, Bob <rmille...@satx.rr.com> wrote:
> Fire things up. For minimum SWR, the bulb nearest the transmitter will
> be bright, the bulb nearest the antenna will be dark. Or if the two
> bulbs are glowing with the same brilliance, you have high SWR.

I built one of those things in the 50's. I was feeding a resonant
1/2WL 40m with 1/2WL of TV twinlead. I could never get the reflected
bulb to go dim, no matter what I did, because 300/50 = an SWR of 6:1.
My reflected power was more than 1/2 of the forward power. It was only
four years later as I got close to a EE degree, that I understood why
the reflected bulb would never go dim. :-)
--
73, Cecil, w5dxp.com

2053. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 01:36:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <s1td06l2ucar1ja5u05euam24qr95vaesa@4ax.com>
Source record: 9303

On Wed, 2 Jun 2010 15:43:37 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>On Jun 2, 9:52ï¿½am, Richard Clark <kb7...@comcast.net> wrote:
>> Start with Walt's:
>>
>> >2 Finals 6146B
>>
>> >In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC input
power is therefore 800ï¿½Vï¿½0.26ï¿½A = 208ï¿½W.
>>
>
>Yup. Measure 800V at 0.26A and the power is 208 W. No mention of
>resistance. This is good.
>
>From Walt's data indicating 100W and the schematic showing a 5 ohm
>cathode resistor, one
>might infer that each tube is dissipating (208-100-(5*.26))/2->53.35W.

Hi Keith,

Each tube is dissipating 53.35W? What a fire-eater! Each tube in an
RF application is rated for between 18W to 35 Watts maximum. However,
those maximum values are continous service, not tune up. Further, Ham
usage with long duty cycles would average the plate dissipation over
the long haul to well below 50+ W.

When I review the RCA specifications for a 6146B, published Feb 1964,
I find that both Walt's Plate voltage and Plate current exceed
absolute maximum ratings of (depending upon service) 750V at 250mA.
However, this would seem to be tolerably within generous meter
inaccuracy (if I were to peg it as low as 5%). Also, the 250mA meter
mark is an ad-hoc adjustment set at a condition of maximum power, not
by independantly confirming the actual current. That is of little
consequence to me and Walt's numbers arrived at straight from the
Kenwood service manual are suitable.

However, when we return to the "dissipation," through both RF and
Heat; then we are very close to the classic 50% efficiency of a
matched (by Conjugate Z basis) source.

The heat from the plates satisfy every physical interpretation of a
classic resistor, and an ordinary Ham transmitter exhibits what is
classically called source resistance.

****

So far, all of Walt's data and extrapolations of R are right on. I have seen similar reports through alternative methods seeking the same determination that agree. However, I don't see how he then jumps the tracks to hedge R not being real and being borne by the plate of the tube.

73's
Richard Clark, KB7QHC

2054. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 02:01:17 UTC
From: walt <walt@w2du.com>
Message-ID: <6e5b17de-c2e5-4bfb-b939-11be85a1b846@b21g2000vbh.googlegroups.com>
Source record: 9304

On Jun 2, 6:43 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 2, 9:52 am, Richard Clark <kb7...@comcast.net> wrote:
>
> > Start with Walt's:
>
> > >2 Finals 6146B
>
> > >In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC input
power is therefore 800·V·0.26·A = 208·W.
>
> Yup. Measure 800V at 0.26A and the power is 208 W. No mention of
> resistance. This is good.
>
> From Walt's data indicating 100W and the schematic showing a 5 ohm
> cathode resistor, one
> might infer that each tube is dissipating (208-100-(5*.26))/2->53.35
> W. Feel free to include
> the heater and grid dissipations for a more accurate evaluation.
>
> From the 8146B spec sheet, depending on the operating point, Rp (i.e.
> slope of plate E-I curve)
> is between 10k and 30k so for the two tubes in the circuit it would be
> 5k to 15k ohms. But this
> number is not much use for computing dissipations.
>
> ...Keith

Keith, I measured 1400 ohms at the input of the pi-network. The output power was 100 w at 50 ohms, meaning an output voltage of 50 v and current 1.414 a. The ratio of output to input resistances of the pi-network is 28, meaning the voltage at the network input is 374.17 v. Thus, neglecting the small loss in the network, the input current to the network is 0.267 a. and the power entering the network is 100 w.

I prefer to consider the source resistance of the power amp to be at the output of the network, which, when adjusted to deliver 100 w into the 50 + j0 load, the source resistance is 50 ohms. On the other hand, if you wish to consider the source resistance at the input of the network, then it's 1400 ohms, not somewhere between 5k and 15k ohms.

Consequently, if Rp is between 5k and 15k, Rp cannot be considered the source resistance of the amp. From this info I still believe that Rp is not the source resistance of an RF power amp.

I understand that the efficiency of the amp is determined by the difference between plate power input output power, which is the power lost to dissipation in the plate that is 108 w in the example I presented. Efficiency does not include filament and grid powers.

Walt, W2DU

2055. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 03:17:41 UTC
From: walt <walt@w2du.com>
Message-ID: <2bd563bf-43d0-4950-8776-4db79e66cad3@o12g2000vba.googlegroups.com>
Source record: 9305

On Jun 2, 10:01 pm, walt <w...@w2du.com> wrote:
> On Jun 2, 6:43 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
> > On Jun 2, 9:52 am, Richard Clark <kb7...@comcast.net> wrote:
>
> > > Start with Walt's:
>
> > > >2 Finals 6146B
>
> > > >In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC
input power is therefore 800·V·0.26·A = 208·W.
>
> > Yup. Measure 800V at 0.26A and the power is 208 W. No mention of
> > resistance. This is good.
>
> > From Walt's data indicating 100W and the schematic showing a 5 ohm
> > cathode resistor, one
> > might infer that each tube is dissipating (208-100-(5*.26))/2->53.35
> > W. Feel free to include
> > the heater and grid dissipations for a more accurate evaluation.
>
> > From the 8146B spec sheet, depending on the operating point, Rp (i.e.
> > slope of plate E-I curve)
> > is between 10k and 30k so for the two tubes in the circuit it would be
> > 5k to 15k ohms. But this
> > number is not much use for computing dissipations.
>
> > ...Keith
>
> Keith, I measured 1400 ohms at the input of the pi-network. The output
> power was 100 w at 50 ohms, meaning an output voltage of 50 v and
> current 1.414 a. The ratio of output to input resistances of the pi-
> network is 28, meaning the voltage at the network input is 374.17 v.
> Thus, neglecting the small loss in the network, the input current to
> the network is 0.267 a. and the power entering the network is 100 w.
>
> I prefer to consider the source resistance of the power amp to be at
> the output of the network, which, when adjusted to deliver 100 w into
> the 50 + j0 load, the source resistance is 50 ohms. On the other hand,
> if you wish to consider the source resistance at the input of the
> network, then it's 1400 ohms, not somewhere between 5k and 15k ohms.
>

> Consequently, if Rp is between 5k and 15k, Rp cannot be considered the
> source resistance of the amp. From this info I still believe that Rp
> is not the source resistance of an RF power amp.
>
> I understand that the efficiency of the amp is determined by the
> difference between plate power input output power, which is the power
> lost to dissipation in the plate that is 108 w in the example I
> presented. Efficiency does not include filament and grid powers.
>
> Walt, W2DU

Richard, perhaps our disagreement on Rp is only in a misunderstanding concerning 'real'. Contrary to what you believe I said, I consider resistance Rp as real, but not as a resisTOR. And even though 'real', Rp is non-dissipative, and therefore does not dissipate any power--it only represents power that is not developed in the first place by causing a reduction of the plate voltage developed across the load current increases--so how could it be 'source' of the power delivered to a load? In the absence of Rp the output power would be greater by the amount lost by the presence of Rp.

Walt

2056. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 04:45:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8vbe065h06sdt90av3v2ldvcqt6pk9899u@4ax.com>
Source record: 9306

On Wed, 2 Jun 2010 20:17:41 -0700 (PDT), walt <walt@w2du.com> wrote:

>And even though 'real',
>Rp is non-dissipative, and therefore does not dissipate any power

Hi Walt,

The physical plate is in series with the load, the physical plate conducts the current in the load, the physical plate and the load both dissipate equal amounts of heat. I would presume the load is a physical resistor just as the physical plate is a resistor.

Is that load resistor dissipating power?

For your logic to be consistent, then the dummy load does not dissipate power, because it dissipates heat identical in amount and by the same physical, atomic process as steel.

If you are saying the physical plate is not a "carbon" resistor, then that is exceedingly specific and wholly original requirement that I doubt you could cite any authority demanding. It would exact that only the metal carbon qualifies and the metal steel does not when it comes to source resistance.

As I already know that there are no references available for you to cite, and this unique qualification is original to you, as your hypothesis you have to defend it with data.

Where to begin?

73's
Richard Clark, KB7QHC

2057. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 05:01:13 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <2_SdnSZjSfSGqprRnZ2dnUVZ_qadnZ2d@giganews.com>
Source record: 9307

This might shed a little light on the discussion.

Consider a diode, forward biased by a 10 mA DC current source connected directly across it. The characteristics of this particular diode are such that the voltage is exactly 0.7 volt.

What's the resistance of the diode?

Is the diode's resistance V/I = 0.7/.01 = 70 ohms? Well, yes. The diode is dissipating power, equal to V*I = 7 mW. If we removed the diode and replaced it with a 70 ohm resistor, the voltage and current would be exactly the same as before, and the resistor would dissipate exactly as much as the diode. If the resistor's resistance is 70 ohms, then the diode's resistance is surely 70 ohms also.

Is the diode's resistance "non-dissipative"? No, it dissipates exactly as much as the equivalent resistor.

Now connect another current source across the biased diode, but make it an AC source and connect it through a capacitor. Make the AC source current 0.1 mA RMS, which is much less than the bias current of 10 mA. What AC voltage should we expect? Well, it's not 0.1 mA * 70 ohms, because 70 ohms is the DC resistance V/I, and the AC current is encountering a resistance of dV/dI, where dV/dI is the ratio of the *change* in voltage to the *change* in current. This is the dynamic, or AC resistance, and it equals the slope of the V/I curve of the diode. The AC and DC resistance are the same for a simple resistor, but not the nonlinear diode. The dynamic resistance actually changes for each instantaneous value of the AC waveform, but as long as the AC current waveform is much less than the DC bias current, the change won't be much. It turns out that the AC resistance for a diode is about 0.026/Idc where Idc is the bias current. So in our case, the AC resistance is about 0.026/0.01, or about 2.6 ohms. Therefore we'd see an AC voltage across the diode of 0.1 mA * 2.6 = 0.26 volt.

The AC voltage is in phase with the AC current through the capacitor, so the AC current source is supplying power to the diode, an amount equal to Iac * Vac = 0.1 mA * 0.26 V = 0.026 mW. What happens to this power? The answer is that the diode turns it into heat. Is the AC resistance "dissipative"? Of course it is, it's dissipating the AC power supplied by the AC current source. As before, we can replace the resistance, this time the AC resistance, with a resistor -- we'll just have to connect it through a capacitor so it doesn't see any of the DC bias. Now the equivalent diode is a 70 ohm resistor with another 2.6 ohm resistor in parallel through a capacitor. This will behave just the same as the diode, with respect to voltage, current, and power dissipation, both AC

and DC, at the specified operating point.

The lengthy discussion about tube plate resistance has muddled the DC operating point (equivalent to the diode DC bias) and the plate resistance, which is the plate's AC or dynamic resistance. They're related just the same as for the diode. And just like the diode, if you were to send an AC signal to the plate of a biased tube through a capacitor, you'd find an AC voltage and current which are in phase resulting in power being delivered to the tube, and an increase in plate dissipation in the amount of that power.

Roy Lewallen, W7EL

2058. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 06:18:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ouhe0699ch0ofpb8104j0q366nnnamv0g3@4ax.com>
Source record: 9308

On Wed, 2 Jun 2010 19:01:17 -0700 (PDT), walt <walt@w2du.com> wrote:

>On the other hand,
>if you wish to consider the source resistance at the input of the
>network, then it's 1400 ohms, not somewhere between 5k and 15k ohms.

Hi Walt,

If I simply look at the spec sheet for the 6146, and note that in push-pull it has a plate-to-plate Load Resistance of 3600 Ohms to 6050 Ohms (depending upon many variables); and if I simple reconfigure the two tubes from series to parallel; then the Load Resistance falls somewhere in the range of 900 Ohms to 1500 Ohms.

I am having a hard time trying to tease out how you would explain that the plates do not dissipate their half of the power when your numbers demonstrate every conventional expectation of literal and physical source resistance.

Do you have data for the peak-to-peak voltage swings at the grid and plate for the final?

73's
Richard Clark, KB7QHC

2059. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 08:00:50 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <8da92883-42c7-4dfe-8d2f-46d1becc897d@v37g2000vbv.googlegroups.com>
Source record: 9309

On Jun 3, 12:53 am, "Clint Alexander" <cl...@cdalexander.net> wrote:
> For all involved in the thread -- here's a perfect example. Sondes are
> locator systems used in many areas (I think) such as
pipelines:http://www.rjmcompany.com/Pipe-cable-locator-RD2000-SuperCAT.htm
>
> These have frequencies of 512hz, 8Khz and 33Khz
>
> I'm searching for any specs now regarding crystal and antenna for both
> transmitter and receiver. But I'm certain that the antenna isn't 1000's of
> meters long ;)
>
> If I'm reading this right -- I would want to build my own version of the
> technology rather than purchase theirs'.
>
> --
>
> //Clint Alexander
>
> "Clint Alexander" <cl...@cdalexander.net> wrote in message
>
> news:paOdnc5uFrnIuJjRnZ2dnUVZ_oCdnZ2d@ptd.net...
>
>
>
> >I want to make a simple transmitter to use as a locator beacon. But the
> >source would be in the ground (anywhere between 3 - 10ft). The receiver
> >would need to locate it, much like a metal detector would except it would
> >be a small hand-held "wand" with a LCD giving the direction and signal
> >strength.
>
> > I'm not sure of the signaling to use therefore I'm not sure of the antenna
> > required. But, it would need it to follow part 15 of the FCC
> > rules/regulations (none hazardous and allows required interference).
>
> > I am completely new at this sort of technology. I have created circuits
> > before using L555 timer, 4046Phase Loop, etc. But I've never went farther
> > than building simple demonstration circuits. I wondered if there was
> > anyone on this list that may be able to shed some light on what I would
> > need and/or how I would use them (a schematical description), or even
> > point me to the "yellow brick road".
>
> > Thanks!
> > --
> > //Clint Alexander- Hide quoted text -

>
> - Show quoted text -

I think we need to know a bit more about your application.

I have one of these pipe / cable locators, you need to have a good idea of the route the pipework its taking and then 'sweep' the approximate area with the end of the locator. If you don't have a starting point it's very time consuming to cover a large area.

The avalanche beacon permits initial detection over a much wider area which considerably speeds up a 'blind' search.

What size transmitter (physical) are you able to use, Max weight, Battery duration, required detection radius, depth of burial etc.

UKM

2060. Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 08:08:15 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <hu7nt7$80o$1@speranza.aioe.org>
Source record: 9310

Hello,

my mobile setup is composed by a 2 meter vertical whip feeded immediately close to it by an automatic antenna tuner.

My poor knowledge of antenna systems think that the ATU, choosing the appropriate LC value, bring the entire system in a resonant condition: true or false ?

And , second question, because a friend of mine own a MFJ 269 analyzer, how i can *approximately* have an idea of the efficiency on a frequency F for my whip ?

Thanks in advance,

-.-. --.-

2061. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 08:41:22 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <hu7prbbki1@speranza.aioe.org>
Source record: 9311

"-.-. --.-" <a@a.com> ha scritto nel messaggio
news:hu7nt7$80o$1@speranza.aioe.org...
> Hello,
>
> my mobile setup is composed by a 2 meter vertical whip feeded immediately
> close to it by an automatic antenna tuner.

Missed that the expected frequency of the system is between 14 and 30 MHz,
but just curious if i had any chance to work 40 meters :)

-.-. --.-

2062. BBC jeans made in china (http://www.cntrade09.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 08:45:37 UTC
From: cntrade08 <chenlily85@hotmail.com>
Message-ID: <a9ca8ecd-5651-4a54-ade5-f646de0a08ee@k25g2000prh.googlegroups.com>
Source record: 9312
Cross-posted to: rec.radio.amateur.antenna,rec.travel.usa-canada

adidas 35th anniversary shoes made in china (http://
www.cntrade09.com)
adicolor shoes made in china (http://www.cntrade09.com)
adidas football shoes made in china (http://www.cntrade09.com)
GGG hoody made in china (http://www.cntrade09.com)
GGG T-shirt made in china (http://www.cntrade09.com)
Armani T-shirt made in china (http://www.cntrade09.com)
Armani shirt made in china (http://www.cntrade09.com)
armani long t-shirt made in china (http://www.cntrade09.com)
AF sweater made in china (http://www.cntrade09.com)
AF women trousrs made in china (http://www.cntrade09.com)
AF men and women coat made in china (http://www.cntrade09.com)
D&G jeans made in china (http://www.cntrade09.com)
A&G T-shirt made in china (http://www.cntrade09.com)
BBC scanties made in china (http://www.cntrade09.com)
BBC jeans made in china (http://www.cntrade09.com)
BBC hoody made in china (http://www.cntrade09.com)
BBC T-shirt made in china (http://www.cntrade09.com)
LRG jeans made in china (http://www.cntrade09.com)
LRG hoody made in china (http://www.cntrade09.com)
LRG T-shirt made in china (http://www.cntrade09.com)
Bape jeans made in china (http://www.cntrade09.com)
Bape hoody made in china (http://www.cntrade09.com)

2063. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 10:15:55 UTC
From: david <none@nospam.com>
Message-ID: <hu7vcr$20k$2@news.eternal-september.org>
Source record: 9313

On Thu, 03 Jun 2010 10:08:15 +0200, -.-. --.- rearranged some electrons to say:

> Hello,
>
> my mobile setup is composed by a 2 meter vertical whip feeded
> immediately close to it by an automatic antenna tuner.
>
> My poor knowledge of antenna systems think that the ATU, choosing the
> appropriate LC value, bring the entire system in a resonant condition:
> true or false ?
>
> And , second question, because a friend of mine own a MFJ 269 analyzer,
> how i can *approximately* have an idea of the efficiency on a frequency
> F for my whip ?
>
> Thanks in advance,
>
> -.-. --.-

The tuner will provide an impedance match to your transceiver (50 ohms). It won't make your antenna resonant on 20m (or any other band, other than 2m).

2064. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 10:27:56 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <hu803a$ic9$1@ra.nrl.navy.mil>
Source record: 9314

On 06/03/2010 04:08 AM, -.-. --.- wrote:
> Hello,
>
> my mobile setup is composed by a 2 meter vertical whip feeded immediately
> close to it by an automatic antenna tuner.
>
> My poor knowledge of antenna systems think that the ATU, choosing the
> appropriate LC value, bring the entire system in a resonant condition: true
> or false ?
Hello, and that's sort of the ultimate goal. The tuner is designed to match the antenna type(s) to the source (transmitter) and transmission line design (characteristic) impedance.

> And , second question, because a friend of mine own a MFJ 269 analyzer, how
> i can *approximately* have an idea of the efficiency on a frequency F for my
> whip ?

The problem here is an impedance analyzer can't distinguish between resistive losses (antenna, ground, tuner (if considered part of the antenna)) and the radiation resistance of the antenna. To determine efficiency you'd have to make some field strength measurements (usually performed with a calibrated field strength meter) in order to determine how much of the power going into the antenna terminals is being radiated into free space. The only "approximation" would be to measure the resistive part of the antenna feedpoint impedance and then subtract from this the radiation resistance obtained from calculation. Sincerely, and 73s from N4GGO,
--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

2065. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 11:30:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <714cdd54-1c79-47cc-beb2-2cd48cc16510@c11g2000vbe.googlegroups.com>
Source record: 9315

On Jun 3, 3:08 am, "-.-. --.-" <a...@a.com> wrote:
> My poor knowledge of antenna systems think that the ATU, choosing the
> appropriate LC value, bring the entire system in a resonant condition: true
> or false ?

If you perform a frequency sweep with an antenna analyzer connected to
the tuner input and the impedance goes from R-jX ohms to 50+j0 ohms to
R+jX ohms, the purely resistive frequency meets the definition of the
system resonant frequency. Unfortunately, under those extremely
lossy conditions, "system resonance" means almost nothing.
--
73, Cecil, w5dxp.com

2066. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 11:41:54 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <0b2a1f69-8931-4d21-a079-5cd25748aa1c@f13g2000vbm.googlegroups.com>
Source record: 9316

On Jun 3, 5:15 am, david <n...@nospam.com> wrote:
> On Thu, 03 Jun 2010 10:08:15 +0200, -.-. --.- rearranged some electrons to
> say:
>
>
>
>
>
>
> > Hello,
>
> > my mobile setup is composed by a 2 meter vertical whip feeded
> > immediately close to it by an automatic antenna tuner.
>
> > My poor knowledge of antenna systems think that the ATU, choosing the
> > appropriate LC value, bring the entire system in a resonant condition:
> > true or false ?
>
> > And , second question, because a friend of mine own a MFJ 269 analyzer,
> > how i can *approximately* have an idea of the efficiency on a frequency
> > F for my whip ?
>
> > Thanks in advance,
>
> > -.-. --.-
>
> The tuner will provide an impedance match to your transceiver (50 ohms).
> It won't make your antenna resonant on 20m (or any other band, other than
> 2m).- Hide quoted text -
>
> - Show quoted text -

I think "CQ" meant the whip was 2 meters long. That would be 1/4 wave
on 38 MHZ if I did the math right. This is the 8 M band? The tuner
might get it on 20 M, but 40 M will be a stretch.

Gary N4AST

2067. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 11:59:24 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <418822fa-cba6-4bd9-8f57-2a8c2ce7273c@y12g2000vbr.googlegroups.com>
Source record: 9317

On Jun 2, 9:36 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 2 Jun 2010 15:43:37 -0700 (PDT), Keith Dysart
>
> <keith.dys...@gmail.com> wrote:
> >On Jun 2, 9:52 am, Richard Clark <kb7...@comcast.net> wrote:
> >> Start with Walt's:
>
> >> >2 Finals 6146B
>
> >> >In this condition the DC plate voltage is 800 v and plate current is 260 ma. DC input
power is therefore 800 V 0.26 A = 208 W.
>
> >Yup. Measure 800V at 0.26A and the power is 208 W. No mention of
> >resistance. This is good.
>
> >From Walt's data indicating 100W and the schematic showing a 5 ohm
> >cathode resistor, one
> >might infer that each tube is dissipating (208-100-(5*.26))/2->53.35W.
>
> Hi Keith,
>
> Each tube is dissipating 53.35W? What a fire-eater!

Those 108 W did have to go somewhere.

> Each tube in an
> RF application is rated for between 18W to 35 Watts maximum. However,
> those maximum values are continous service, not tune up. Further, Ham
> usage with long duty cycles would average the plate dissipation over
> the long haul to well below 50+ W.
>
> When I review the RCA specifications for a 6146B, published Feb 1964,
> I find that both Walt's Plate voltage and Plate current exceed
> absolute maximum ratings of (depending upon service) 750V at 250mA.
> However, this would seem to be tolerably within generous meter
> inaccuracy (if I were to peg it as low as 5%). Also, the 250mA meter
> mark is an ad-hoc adjustment set at a condition of maximum power, not
> by independantly confirming the actual current. That is of little
> consequence to me and Walt's numbers arrived at straight from the
> Kenwood service manual are suitable.
>
> However, when we return to the "dissipation," through both RF and
> Heat; then we are very close to the classic 50% efficiency of a
> matched (by Conjugate Z basis) source.
> The heat from the plates satisfy every physical interpretation of a

> classic resistor,

Every? A classis resistor satisfies the equations
R = V/I = deltaV/Delta/I
Given the V/I curves published for the 6146B, I see no reason to
expect
the plate resistance to satisfy these two equations.

> and an ordinary Ham transmitter exhibits what is
> classically called source resistance.
>
> *********
>
> So far, all of Walt's data and extrapolations of R are right on. I
> have seen similar reports through alternative methods seeking the same
> determination that agree. However, I don't see how he then jumps the
> tracks to hedge R not being real and being borne by the plate of the
> tube.

But what exactly do you mean by 'real'?
R=V/I?
R=deltaV/deltaI?
Heat is dissipated?

...Keith

2068. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 13:33:34 UTC
From: Clint Alexander <clint@cdalexander.net>
Message-ID: <UKadnXwHi5StMprRnZ2dnUVZ_vadnZ2d@ptd.net>
Source record: 9318

The relationship is so close, I would suggest that the Sonde is a perfect application for my needs.

Like I said previously, I want to build my own version. So we'll assume this as the target technology leaving me with the question of what antenna would be needed to perform these operations. I suppose the oscillator is just a simple crystal or perhaps even voltage controlled (adjustable). I can use a 555 for this....

--

//Clint Alexander

"UKMonitor" <ukmonitor@hotmail.com> wrote in message
news:8da92883-42c7-4dfe-8d2f-46d1becc897d@v37g2000vbv.googlegroups.com...
On Jun 3, 12:53 am, "Clint Alexander" <cl...@cdalexander.net> wrote:
> For all involved in the thread -- here's a perfect example. Sondes are
> locator systems used in many areas (I think) such as
> pipelines:http://www.rjmcompany.com/Pipe-cable-locator-RD2000-SuperCAT.htm
>
> These have frequencies of 512hz, 8Khz and 33Khz
>
> I'm searching for any specs now regarding crystal and antenna for both
> transmitter and receiver. But I'm certain that the antenna isn't 1000's of
> meters long ;)
>
> If I'm reading this right -- I would want to build my own version of the
> technology rather than purchase theirs'.
>
> --
>
> //Clint Alexander
>
> "Clint Alexander" <cl...@cdalexander.net> wrote in message
>
> news:paOdnc5uFrnIuJjRnZ2dnUVZ_oCdnZ2d@ptd.net...
>
>
>
> >I want to make a simple transmitter to use as a locator beacon. But the
> >source would be in the ground (anywhere between 3 - 10ft). The receiver
> >would need to locate it, much like a metal detector would except it would
> >be a small hand-held "wand" with a LCD giving the direction and signal
> >strength.
>

> > I'm not sure of the signaling to use therefore I'm not sure of the
> > antenna
> > required. But, it would need it to follow part 15 of the FCC
> > rules/regulations (none hazardous and allows required interference).
>
> > I am completely new at this sort of technology. I have created circuits
> > before using L555 timer, 4046Phase Loop, etc. But I've never went
> > farther
> > than building simple demonstration circuits. I wondered if there was
> > anyone on this list that may be able to shed some light on what I would
> > need and/or how I would use them (a schematical description), or even
> > point me to the "yellow brick road".
>
> > Thanks!
> > --
> > //Clint Alexander- Hide quoted text -
>
> - Show quoted text -

I think we need to know a bit more about your application.

I have one of these pipe / cable locators, you need to have a good
idea of the route the pipework its taking and then 'sweep' the
approximate area with the end of the locator. If you don't have a
starting point it's very time consuming to cover a large area.

The avalanche beacon permits initial detection over a much wider area
which considerably speeds up a 'blind' search.

What size transmitter (physical) are you able to use, Max weight,
Battery duration, required detection radius, depth of burial etc.

UKM

2069. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 14:39:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0kff06d5p7cesau7uendqj9ue7hdleugi1@4ax.com>
Source record: 9319

On Thu, 3 Jun 2010 04:59:24 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>But what exactly do you mean by 'real'?
>R=V/I?
>R=deltaV/deltaI?
>Heat is dissipated?

Hi Keith,

As demonstrated by Walt's data.

73's
Richard Clark, KB7QHC

2070. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 15:26:21 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hu8hit$bg48$1@tr22n12.aset.psu.edu>
Source record: 9320

lu6etj wrote:

> Oh!, I surrender :>) The thread do not converge to a solution, it
> seems run out toward a naked singularity! I stay tuned until this
> good brainstorm calms down ..

Good day Miguel, you must be new here! I don't think any threads converge to a solution. Mostly they do that singularity thing after about the third message.

But hang in there, often much entertainment is to be had!

2071. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 15:54:53 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b2226857-a2a2-4788-9791-9bf9ed24d5b9@y12g2000vbg.googlegroups.com>
Source record: 9321

On Jun 2, 12:56 pm, lu6etj <lu6...@gmail.com> wrote:
> Oh!, I surrender :>) The thread do not converge to a solution, ...

Miguel, do you fully realize the importance of Maxwell's equations
being nonfunctional with the equation for standing waves? It means
that any analysis based entirely on standing waves is probably invalid
in some area of the analysis - probably including Keith Dysart's
latest postings about the standing wave's zero current being
meaningful in some way.
--
73, Cecil, w5dxp.com

2072. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 16:16:54 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c07d57b$0$17104$65785112@news.neostrada.pl>
Source record: 9322

"K1TTT" <k1ttt@arrl.net>wrote
news:b2713c54-4bd1-41c3-8304-985e4626e846@f14g2000vbn.googlegroups.com...
On Jun 2, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:

>> > wave function solutions to maxwell's equations are enough to prove
> > that for me.
>
>> Not a loaded question: How do Maxwell's equations applied to a
> standing wave prove that the component forward and reflected waves are
> moving at the speed of light in the medium? If it can and if I can
> understand it, I wouldn't need to use the photon argument.
> --
> 73, Cecil, w5dxp.com

>easy, maxwell's equations don't predict standing waves! they are a
product of superposition and the simplest instrumentation used since
they were first discovered.

"Kundt's tube is an experimental acoustical apparatus invented in 1866 by
German physicist August Kundt[1][2] for the measurement of the speed of
sound in a gas or a solid rod. It is used today only for demonstrating
standing waves and acoustical forces."

Heaviside wrote "Maxwell" equations" much later.

EM waves are the angular waves in the solid body. It would not be easy to
instal the mirror in such body.

You do not know that EM waves were stripped away in 1864.
The Maxwell's math is used in machinery to calculate the torsion vibration.
Maxwell predicted it:

"I propose now to examine magnetic phenomena from a mecha nical point of
view, and to determine what tensions in, or motions of, a medium are capable
of producing the mechanical pheno mena observed. If, by the same hypothesis,
we can connect the phenomena of magnetic attraction with electromagnetic
phenomena and with those of induced currents, we shall have found a theory
which, if not true, can only be proved to be erroneous by experiments which
will greatly enlarge our knowledge of this part of physics."

The hipothesis " be proved to be erroneous by experiments" but we have the
excelent math for thr solid body.
S*

2073. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 16:23:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c07d6ee$0$19171$65785112@news.neostrada.pl>
Source record: 9323

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:6628b245-d69d-4f96-826f-0d1b621dfd52@v37g2000vbv.googlegroups.com...
On Jun 2, 11:48 am, K1TTT <k1...@arrl.net> wrote:
>> my differential calculus is a bit rusty, but i don't think that
>> equation satisfies the basic wave equation.

>My calculus is probably a lot rustier than yours but it would be very
>important for this discussion if Maxwell's equations do not work for
>the standing wave equation. That would essentially prove that the
>mashed-potatoes theory of transmission line energy is bogus.

Maxwell's equations are for angular waves in the solid body.
The transmission line and ends of it (antenna) are exactly like the Kundt's
tubes. In the wires is the electron gas.
S*

2074. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 18:02:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hu8qo3rpj1@news.jpl.nasa.gov>
Source record: 9327

Roy Lewallen wrote:
> This might shed a little light on the discussion.
>
> Consider a diode, forward biased by a 10 mA DC current source connected
> directly across it. The characteristics of this particular diode are
> such that the voltage is exactly 0.7 volt.
>
> What's the resistance of the diode?
>
> The lengthy discussion about tube plate resistance has muddled the DC
> operating point (equivalent to the diode DC bias) and the plate
> resistance, which is the plate's AC or dynamic resistance. They're
> related just the same as for the diode. And just like the diode, if you
> were to send an AC signal to the plate of a biased tube through a
> capacitor, you'd find an AC voltage and current which are in phase
> resulting in power being delivered to the tube, and an increase in plate
> dissipation in the amount of that power.
>
>

Another fine example is a "negative resistance" device like a tunnel diode, gas discharge tube (neon bulb), or a free burning arc.

Obviously, the arc dissipates power, but the V/I slope is negative.

2075. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 18:21:56 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hu8rs4$ic3$1@news.jpl.nasa.gov>
Source record: 9328

-.-. --.- wrote:
> "-.-. --.-" <a@a.com> ha scritto nel messaggio
> news:hu7nt7$80o$1@speranza.aioe.org...
>> Hello,
>>
>> my mobile setup is composed by a 2 meter vertical whip feeded immediately
>> close to it by an automatic antenna tuner.
>
> Missed that the expected frequency of the system is between 14 and 30 MHz,
> but just curious if i had any chance to work 40 meters :)
>
> -.-. --.-
>
>
presuming you mean your whip is 2 meters long (not tuned for the 2 meter band, and only 50 cm long)

On 40m? Maybe, maybe not. people have used a light bulb as an antenna.

It will almost certainly be inefficient. Here's a short description (filled with technical detail errors, which will no doubt provoke a long discussion)..

All antennas have a property called "radiation resistance" (smaller antennas have smaller radiation resistances)
All antennas also have resistive losses.
There are also losses "after the wave has left the antenna" (e.g. ground reflections, etc. why salt water marshes are prized for vertical pol).
The latter are not considered here.

To a first order (back, all you nit pickers.. first order), the power from the transmitter gets distributed between the radiation resistance and the loss resistance. So, the "efficiency" can be thought of as that fraction of power that winds up in the radiation resistance, as opposed to in the loss resistance.

Important here: if the radiation resistance is low, that doesn't mean poor efficiency: as long as you keep the resistive losses low too.. which can be a challenge (assuming you're not carrying a vat of liquid helium, for instance).

Part of the problem is that the resistive losses aren't just in the antenna, but also in any substance which is immersed in the antenna's electric and magnetic fields (like the steel of your car, and the not particularly good conductivity, but not a perfect insulator either, soil under the car).

And, then, there are losses in how you get from Tx to Antenna. If your antenna presents an impedance that is not what the transmitter is providing, you've got to transform it somehow, typically using Ls and Cs, etc. (in your autotuner). Those components also have some amount of loss, although I'll bet it's less than 10% in most situations (otherwise, the tuner/matching network would melt, and they don't)

Moral of story..
radiation resistance doesn't drop much from a full size antenna until you get around 1/10th wavelength, then it starts to drop real fast (as length squared)

For a dipole:
L/lambda = 1/2, R= 73 ohms
L/lambda = 1/5, R = 8
1/10, 2
1/20, 0.5
1/50, 0.08
1/100, 0.02

On 40m, your 2m long whip is like a 4m long dipole: 1/10 (in the above table) for 2 ohms. Since it's a monopole, it's actually half.. 1 ohm..

That's pretty low..

A bunch of people have measured loss resistances for typical mobile installations and they get numbers in the 10-20 ohms range, so you're looking at an efficiency of about 10% of what you'd get with a full sized 10m tall vertical.
(this isn't far off the "mobile antenna is a 6dB hit" empirical observation)

I'm assuming here that somehow you'll be able to match the 50 ohms in the feed line to the 10-20 ohms with a lot of reactance at the feedpoint without too much loss (a reasonable assumption)

2076. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 18:33:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <76ydnRQiu_sfaJrRnZ2dnUVZ_s6dnZ2d@giganews.com>
Source record: 9324

J.B. Wood wrote:
>
> The problem here is an impedance analyzer can't distinguish between
> resistive losses (antenna, ground, tuner (if considered part of the
> antenna)) and the radiation resistance of the antenna. To determine
> efficiency you'd have to make some field strength measurements (usually
> performed with a calibrated field strength meter) in order to determine
> how much of the power going into the antenna terminals is being radiated
> into free space. The only "approximation" would be to measure the
> resistive part of the antenna feedpoint impedance and then subtract from
> this the radiation resistance obtained from calculation. Sincerely, and
> 73s from N4GGO,

A good deal of, if not the majority of, the loss in a short antenna system is in the matching system components. So even if this method allowed you to get a reasonable estimate of the efficiency of the antenna itself(*), you still wouldn't know what fraction of the transmitter power is getting radiated, since you can't tell how much is lost in the tuner.

(*)My limited experience in doing careful antenna measurements leads me to be very skeptical of the ability to determine antenna efficiency even very roughly by a single impedance measurement. I think comparison of measured bandwidth to lossy model results is probably the best indicator.

The bottom line is that the impedance meter won't tell you much about the efficiency of the antenna or system. About the only practical way available to most amateurs is comparison of received signal strengths between the antenna and a known reference antenna, using a step attenuator to measure the difference.

Roy Lewallen, W7EL

2077. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 18:39:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lksf069ceib751hj63stmonsgnk8q00r05@4ax.com>
Source record: 9325

On Wed, 02 Jun 2010 22:01:13 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>The lengthy discussion about tube plate resistance has muddled the DC
>operating point (equivalent to the diode DC bias) and the plate
>resistance, which is the plate's AC or dynamic resistance. They're
>related just the same as for the diode. And just like the diode, if you
>were to send an AC signal to the plate of a biased tube through a
>capacitor, you'd find an AC voltage and current which are in phase
>resulting in power being delivered to the tube, and an increase in plate
>dissipation in the amount of that power.

Hi Roy,

That is a good analogy of power, non-linearity and dynamic resistance.

As for the DC operating point being muddled into the discussion, I
don't think I have seen anyone raise that separately - which is
perhaps what you mean.

For Walt, and all,

So, to take that part, and give this RF final stage a better view of
the dynamic resistance's part in source resistance, let's consider how
much power is dissipated in the plate that is strictly due to the bias
and a zero input condition.

There are few typical characteristics that match Walt's data, and I
have to abstract both from the TS520S schematics, service manual, and
the published data for the 6146B for this. As I had to juggle these
considerations to give Walt some perspective of the plate resistance
being far lower than his anticipated 5 kOhm to 14 kOhm, so I must
similarly reckon for the DC baseline.

By all things considered, we have a grid one bias of -60V. This
exceeds the RCA published data for class AB, but not for C (which is
in excess of this at -100V or more). My readings of all these
variables puts the plate current for a zero input at 20-25-30mA which
yields from something under 20W to something over 20W for a plate heat
load. Subtract this from the 53+W Keith figured and we have a ball
park 30W heat load attributable to RF. This is a back of the napkin
kind of balance sheet, mind you. I say this because the drive has a
cooling factor in that it drives down that zero input plate current
during part of a cycle. Having said that, it is enough to simply note
that there is significant heat dissipated in the plate that is
attributable to the RF current that passes through it and the load.

73's
Richard Clark, KB7QHC

2078. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 18:46:47 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <3e834815-614a-46c7-96b1-37758bc847d2@x21g2000yqa.googlegroups.com>
Source record: 9326

On Jun 3, 7:41 am, Gary <jgboy...@aol.com> wrote:
> On Jun 3, 5:15 am, david <n...@nospam.com> wrote:
>
>
>
> > On Thu, 03 Jun 2010 10:08:15 +0200, -.-. --.- rearranged some electrons to
> > say:
>
> > > Hello,
>
> > > my mobile setup is composed by a 2 meter vertical whip feeded
> > > immediately close to it by an automatic antenna tuner.
>
> > > My poor knowledge of antenna systems think that the ATU, choosing the
> > > appropriate LC value, bring the entire system in a resonant condition:
> > > true or false ?
>
> > > And , second question, because a friend of mine own a MFJ 269 analyzer,
> > > how i can *approximately* have an idea of the efficiency on a frequency
> > > F for my whip ?
>
> > > Thanks in advance,
>
> > > -.-. --.-
>
> > The tuner will provide an impedance match to your transceiver (50 ohms).
> > It won't make your antenna resonant on 20m (or any other band, other than
> > 2m).- Hide quoted text -
>
> > - Show quoted text -
>
> I think "CQ" meant the whip was 2 meters long. That would be 1/4 wave
> on 38 MHZ if I did the math right. This is the 8 M band? The tuner
> might get it on 20 M, but 40 M will be a stretch.
>
> Gary N4AST

Gary I hope your interpretation is correct. I used to operate a
homebrew 2m 5/8 WL on 6 10 and 15 by shorting out the coil and using a
tuner. Worked fairly decently for local rag chewing.

Jimmie

2079. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 19:08:42 UTC
From: walt <walt@w2du.com>
Message-ID: <ab72a132-33eb-43a7-bfce-ea733c9071ff@w31g2000yqb.googlegroups.com>
Source record: 9329

On Jun 3, 10:39 am, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 3 Jun 2010 04:59:24 -0700 (PDT), Keith Dysart
>
> <keith.dys...@gmail.com> wrote:
> >But what exactly do you mean by 'real'?
> >R=V/I?
> >R=deltaV/deltaI?
> >Heat is dissipated?
>
> Hi Keith,
>
> As demonstrated by Walt's data.
>
> 73's
> Richard Clark, KB7QHC

Richard, you ask me where to begin. Well, I begin with Terman, where I quote him in Chapter 19, Sec 19.3, in Reflections 2. Since attachments are prohibited in this forum I'm going to try to copy Sec 19.3 here, which explains in detail why plate resistance Rpd is dissipative, while Rp is non-dissipative--it explains the difference between the two. In addition, I don't believe the diode is a correct model for describing the operation of a Class B or C amplifier. Now the quote:

Sec 19.3 Analysis of the Class C Amplifier

The following discussion of the Class C amplifier, which reveals why the portion of the source resistance related to the characteristics of the load line is non-dissipative, is based on statements appearing in Terman’s Radio Engineers Handbook, 1943 ed., Page 445, and on Terman’s example of Class C amplifier design data appearing on Page 449. Because the arguments presented in Terman’s statements are vital to understanding the concept under discussion, I quote them here for convenience: (Parentheses and emphasis mine)

1. The average of the pulses of current flowing to an electrode represents the direct current drawn by that electrode.
2. The power input to the plate electrode of the tube at any instant is the product of plate-supply voltage and instantaneous plate current.
3. The corresponding power (Pd) lost at the plate is the product of instantaneous plate-cathode voltage and instantaneous plate current.
4. The difference between the two quantities obtained from items 2 and 3 represents the useful output at the moment.

5. The average input, output, and loss are obtained by averaging the instantaneous powers.
6. The efficiency is the ratio of average output to average input and is commonly of the order of 60 to 80 percent.
7. The efficiency is high in a Class C amplifier because current is permitted to flow only when most of the plate-supply voltage is used as voltage drop across the tuned load circuit RL, and only a small fraction is wasted as voltage drop (across Rpd) at the plate electrode of the tube.

Based on these statements the discussion and the data in Terman's example that follow explain why the amplifier can deliver power with efficiencies greater than 50 percent while conjugately matched to its load, a condition that is widely disputed because of the incorrect assumptions concerning Class B and C amplifier operation as noted above. The terminology and data in the example are Terman's, but I have added one calculation to Terman's data to emphasize a parameter that is vital to understanding how a conjugate match can exist when the efficiency is greater than 50 percent. That parameter is dissipative plate resistance Rpd. (As stated earlier, dissipative resistance Rpd should not be confused with non-dissipative plate resistance Rp of amplifiers operating in Class A, derived from the expression Rp = delta Ep/delta Ip.)
It is evident from Terman that the power supplied to the amplifier by the DC power supply goes to only two places, the RF power delivered to load resistance RL at the input of the pi-network, and the power dissipated as heat in dissipative plate resistance Rpd (again, not plate resistance Rp, which is totally irrelevant to obtaining a conjugate match at the output of Class B and C amplifiers). In other words, the output power equals the DC input power minus the power dissipated in resistance Rpd. We will now show why this two-way division of power occurs. First we calculate the value of Rpd from Terman's data, as seen in line (9) in the example below. It is evident that when the DC input power minus the power dissipated in Rpd equals the power delivered to resistance RL at the input of the pi-network, there can be no significant dissipative resistance in the amplifier other than Rpd. The antenna effect from the tank circuit is so insignificant that dissipation due to radiation can be disregarded. If there were any significant dissipative resistance in addition to Rpd, the power delivered to the load plus the power dissipated in Rpd would be less than the DC input power, due to the power that would be dissipated in the additional resistance. This is an impossibility, confirmed by the data in Terman's example, which is in accordance with the Law of Conservation of Energy. Therefore, we shall observe that the example confirms the total power taken from the power supply goes only to 1) the RF power delivered to the load RL, and 2) to the power dissipated as heat in Rpd, thus, proving there is no significant dissipative resistance in the Class C amplifier other than Rpd.

Data from Terman's example on Page 449 of Radio Engineers Handbook:

(1) Eb = DC Source Voltage = 1000 v.
(2) Emin = Eb - EL = 1000 - 850 = 150 v. [See Terman, Figs 76(a) & 76(b)]
(3) Idc = DC Plate Current = 75.l ma. 0.0751a.
(4) EL = Eb - Emin = 1000 -150 = 850 v. = Peak Fundamental AC Plate Voltage
(5) I1 = Peak Fundamental AC Plate Current = 132.7 ma. 0.1327 a.
(6) Pin = Eb x Idc = DC lnput Power = l000 x O.0751 = 75.l w.
(7) Pout (Eb - Emin)/2 = ELI1/2 = Output Power Delivered to RL = [(1000 -150) x 0.1327]/2 = 56.4 w.
(8) Pd = Pin - Pout = Power Dissipated in Dissipative Plate Resistance Rpd = 18.7 w,
(9) Rpd = 18.7W/0.0751^2 = Dissipative Plate Resistance Rpd = 3315.6 ohms
(10) RL = (Eb - Emin)/I1 = EL/I1 = Load Resistance = 850/0.137 = 6405 Ohms (6400 in Terman)
(11) Plate Efficiency = Pout x 100/Pin = 56.4 x 100/75.1 = 75.1%

Note that Terman doesn't even mention non-dissipative plate resistance Rp, and therefore it cannot be considered the source resistance.
Note also in line (10) that RL is determined simply by the ratio of the fundamental RF AC voltage EL divided by the fundamental RF AC current I1, and therefore does not involve dissipation of any power. Thus RL is a non-dissipative resistance. (For more on non-dissipative resistance see Appendix 10.)
Referring to the data in the example, observe again from line (10) that load resistance RL at the input of the pi-network tank circuit is determined by the ratio EL/I1. This is the Terman equation which, prior to the more-precise Chaffee Fourier Analysis, was used universally to determine the approximate value of the optimum load resistance RL. (When the Chaffee Analysis is used to determine RL. from a selected load line the value of plate current I1 is more precise than that obtained when using Terman’s equation, consequently requiring fewer empirical adjustments of the amplifier’s parameters to obtain the optimum value of RL.) Load resistance RL is proportional to the slope of the operating load line that allows all of the available integrated energy contained in the plate-current pulses to be transferred into the pi-network tank circuit. (For additional information concerning the load line see Sec 19.3a below.) Therefore, the pi-network must be designed to provide the equivalent optimum resistance RL looking into the input for whatever load terminates the output. The current pulses flowing into the network deliver bursts of electrical energy to the network periodically, in the same manner as the spring-loaded escapement mechanism in the pendulum clock delivers mechanical energy periodically to the swing of the pendulum. In a similar manner, after each plate current pulse enters the pi-network tank curcuit, the flywheel effect of the resonant tank circuit stores the electromagnetic energy delivered by the current pulse, and thus maintains a continuous sinusoidal flow of current throughout the tank,

in the same manner as the pendulum swings continuously and periodically after each thrust from the escapement mechanism. The continuous swing of the pendulum results from the inertia of the weight at the end of the pendulum, due to the energy stored in the weight. The path inscribed by the motion of the pendulum is a sine wave, the same as at the output of the amplifier. We will continue the discussion of the flywheel effect in the tank circuit with a more in-depth examination later.

Let us now consider the dissipative plate resistance Rpd, which provides the evidence that the DC input power to the Class C amplifier goes only to the load RL and to dissipation as heat in Rpd (Again, not Rp.) With this evidence we will show how a conjugate match can exist at the output of the pi-network with efficiencies greater than 50 percent. In accordance with the Conjugate Matching Theorem and the Maximum Power-transfer Theorem, it is well understood that a conjugate match exists whenever all available power from a linear source is being delivered to the load. Further, by definition, RL is the load resistance at the tank input determined by the characteristics of the load line that permits delivery of all the available power from the source into the tank. This is why RL is called the optimum load resistance. Thus, from the data in Terman’s example, which shows that after accounting for the power dissipated in Rpd, all the power remaining is the available power, which is delivered to RL and thence to the load at the output of the pi-network. Therefore, because all available deliverable power is being delivered to the load, we have a conjugate match by definition. In the following Sec 4 we will show how efficiencies greater than 50 percent are achieved in Class C amplifiers operating into the conjugate match.

Walt, W2DU

2080. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 19:49:45 UTC
From: You <you@shadow.orgs>
Message-ID: <you-9EAD80.11493803062010@unknown.hwng.net>
Source record: 9330

In article <NfednU56Ooh4c5vRnZ2dnUVZ_oydnZ2d@ptd.net>,
"Clint Alexander" <clint@cdalexander.net> wrote:

> I'm searching for any specs now regarding crystal and antenna for both
> transmitter and receiver. But I'm certain that the antenna isn't 1000's of
> meters long ;)

Oh it is 1000's of meters Long, alright.... It is just all wound up in a
coil... with VERY thin wire.....

2081. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 20:03:50 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <16669b06-2ada-4d06-9a1f-a94e719353d0@5g2000yqz.googlegroups.com>
Source record: 9331

On 3 jun, 13:23, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>
wrotenews:6628b245-d69d-4f96-826f-0d1b621dfd52@v37g2000vbv.googlegroups.com...
> On Jun 2, 11:48 am, K1TTT <k1...@arrl.net> wrote:
>
> >> my differential calculus is a bit rusty, but i don't think that
> >> equation satisfies the basic wave equation.
> >My calculus is probably a lot rustier than yours but it would be very
> >important for this discussion if Maxwell's equations do not work for
> >the standing wave equation. That would essentially prove that the
> >mashed-potatoes theory of transmission line energy is bogus.
>
> Maxwell's equations are for angular waves in the solid body.
> The transmission line and ends of it (antenna) are exactly like the Kundt's
> tubes. In the wires is the electron gas.
> S*

Thanks to all

Hey boys! (Cecil, David, Michael, et al) It is very funny and
entertaining, I enjoy your postingss mostly in "read only" mode
because translate not simple mine ones still being a struggle for
me :-)
....
Cecil, I never studied standing waves with Maxwell equations (except
in usual examples of cavity resonators cases learning classes), I
studied only classic electric differential solution to the
telegraper's equations.

Hi Keith: We tend to think of energy as a "tangible and real" easely
intuited thing "out there" (as a water or horses) but we must not
forget energy is a really elusive CONCEPT devised to explain changes
in physical systems. Familiarity tend us to fetishize concepts, then
we easily can get caught in troubles type => "Where velocity goes when
the car smash?" :-D :-D. We must be carefully with forces, powers,
velocities, etc. in this sense...
Note how Terman prudenty deals with differential solution of
Telegrapher's equations: "This combinatiosn of voltage and current can
be INTERPRETED as a wave train traveling toward receiver" (1)
(capitalized letters by me).

The very term "standing waves" leads to endless Ham controversies
about concept of "wave" word in our context.(wave as "a disturb that
propagates" and wave as pattern-figure-graphics-representation of
interference pattern of voltage/current measured along the TL). This

"wave pattern" (is it correct to write "wavy" pattern?) do not carry any energy from one place to another on the TL it is not a "wave" in the other sense (transport phenomena). What do you think?

(1) Terman F.E. "Radio engineering". McGraw Hill.1947 Ed. page 78

73

Miguel Ghezzi - LU6ETJ

2082. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-03 21:00:04 UTC
From: Clint Alexander <clint@cdalexander.net>
Message-ID: <Ht6dnZO_pr1LipXRnZ2dnUVZ_qSdnZ2d@ptd.net>
Source record: 9332

>
> Oh it is 1000's of meters Long, alright.... It is just all wound up in a
> coil... with VERY thin wire.....

Can I use any wire or does it have to be a certain kind?

I've asked about coiling wire but I didn't get any positive feedback.
However, it wasn't described as impossible.

--

//Clint Alexander

2083. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 00:14:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jrdg06toal7mqkic2h0o3okgudagibbumi@4ax.com>
Source record: 9333

On Thu, 3 Jun 2010 12:08:42 -0700 (PDT), walt <walt@w2du.com> wrote:

>Data from Termanï¿½s example on Page 449 of Radio Engineers Handbook:
>
>(1) Eb = DC Source Voltage = 1000 v.
From your own data
Eb = DC Source Voltage = 800 v.
>(2) Emin = Eb - EL = 1000 - 850 = 150 v. [See Terman, Figs 76(a) &
>76(b)]
You do not supply context for me to apply to your data.
>(3) Idc = DC Plate Current = 75.l ma. 0.0751a.
Idc = 260mA
>(4) EL = Eb - Emin = 1000 -150 = 850 v. = Peak Fundamental AC Plate
>Voltage
You do not supply your minimum nor maximum plate voltage swing.
>(5) I1 = Peak Fundamental AC Plate Current = 132.7 ma. 0.1327 a.
You do not supply your peak AC Plate current.
>(6) Pin = Eb x Idc = DC lnput Power = l000 x O.0751 = 75.l w.
Pin = 208W
>(7) Pout (Eb - Emin)/2 = ELI1/2 = Output Power Delivered to RL =
>[(1000 -150) x 0.1327]/2 = 56.4 w.
You report Pout, but we cannot use this formula for lack of data.
Pout = 100W
>(8) Pd = Pin - Pout = Power Dissipated in Dissipative Plate Resistance
>Rpd = 18.7 w,
From your report of Pin and Pout:
Pd = 108W
>(9) Rpd = 18.7W/0.0751^2 = Dissipative Plate Resistance Rpd = 3315.6
>ohms
From what is reported by you:
Rpd = 108W/(.260mA)ï¿½
Rpd = 1597 Ohms
>(10) RL = (Eb - Emin)/I1 = EL/I1 = Load Resistance = 850/0.137 = 6405
>Ohms (6400 in Terman)
You do not report Emin but you report Load Resistance
RL = 50 Ohms
>(11) Plate Efficiency = Pout x 100/Pin = 56.4 x 100/75.1 =
>75.1%
Plate Efficiency = 48%

By all reckoning according to your reference from Terman, using what
you report, it appears that you have exhibited a Conjugate basis Z
match as you claim, and that the plate Rpd by the same reckoning is
the same as we formerly arrived at Rp. It would appear that over the
course of some dozen years between publications that Terman simplified

the term Rpd to Rp which, according to you, is not found in your volume, and as such this migration of terms seems logical by the numbers agreeing in both volumes for different labels. Inasmuch as Rpd does not appear in Terman's later work, nor in any of the Tube specifications since that era, Rpd appears to be an orphan.

You report your own Rp (now Rpd) or its equivalent by resistor substitution (a valid determination) to be on order of 1400 Ohms. This conforms closely to the value found above, and the data reported by RCA for Rp in a design of similar characteristics. The range of possible values taken from RCA: 900 Ohms to 1500 Ohms.

Taking your low, the high from my range, and the higher computed through your supplied data using Terman's formula, the average is 1500 Ohms with a variation of roughly 6% which is about the limits of superlative accuracy for conventional bench equipment. What this means is that all three values are identical on the basis of accumulation of error.

Having said that, this is not the end of analysis. However, at the first pass your data has demonstrated that the Plate serves as a real resistor dissipating half of the available power being supplied to a load that is conjugately matched.

The only difference is that you state as much, but dismiss the plate dissipation as being a real resistor. Perhaps I mis-state you. If not, I take issue with that and ask once again, as this perception is unique to your hypothesis, do you have data that differentiates the resistance of steel absorbing and dissipating the impact of the electron stream as being different from carbon absorbing and dissipating the impact of the electron stream?

Would it serve to replace the steel plate with a graphite one like the 845 (similar to the GM-70)? When I review the spec sheets for this tube, it reports an Rp of 1700 Ohms - hardly remarkable at 100 more Ohms than the computation above. Of course, there are compounding application differences, but still, graphite plates or steel don't seem to force a new conclusion. Materials don't seem to be an issue.

Certainly the mechanisms of resistance differ in the kinetics of speed, but not in the product of heat. To my knowledge, no authority bases the concept of resistance upon the speed of the electron, but rather in the kinetics of its collision.

73's
Richard Clark, KB7QHC

2084. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 01:15:12 UTC
From: walt <walt@w2du.com>
Message-ID: <8016213e-367e-4230-912d-4eea651e6a41@w12g2000yqj.googlegroups.com>
Source record: 9334

On Jun 3, 8:14 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 3 Jun 2010 12:08:42 -0700 (PDT), walt <w...@w2du.com> wrote:
> >Data from Terman's example on Page 449 of Radio Engineers Handbook:
>
> >(1) Eb = DC Source Voltage = 1000 v.
>
> From your own data
> Eb = DC Source Voltage = 800 v.>(2) Emin = Eb - EL = 1000 - 850 = 150 v. [See Terman, Figs 76(a) &
> >76(b)]
>
> You do not supply context for me to apply to your data.>(3) Idc = DC Plate Current = 75.1 ma. 0.0751a.
> Idc = 260mA
> >(4) EL = Eb - Emin = 1000 -150 = 850 v. = Peak Fundamental AC Plate
> >Voltage
>
> You do not supply your minimum nor maximum plate voltage swing.>(5) I1 = Peak Fundamental AC Plate Current = 132.7 ma. 0.1327 a.
>
> You do not supply your peak AC Plate current.>(6) Pin = Eb x Idc = DC lnput Power = l000 x O.0751 = 75.1 w.
> Pin = 208W
> >(7) Pout (Eb - Emin)/2 = ELI1/2 = Output Power Delivered to RL =
> >[(1000 -150) x 0.1327]/2 = 56.4 w.
>
> You report Pout, but we cannot use this formula for lack of data.
> Pout = 100W>(8) Pd = Pin - Pout = Power Dissipated in Dissipative Plate Resistance
> >Rpd = 18.7 w,
>
> From your report of Pin and Pout:
> Pd = 108W>(9) Rpd = 18.7W/0.0751^2 = Dissipative Plate Resistance Rpd = 3315.6
> >ohms
>
> From what is reported by you:
> Rpd = 108W/(.260mA)²
> Rpd = 1597 Ohms>(10) RL = (Eb - Emin)/I1 = EL/I1 = Load Resistance = 850/0.137 = 6405
> >Ohms (6400 in Terman)
>
> You do not report Emin but you report Load Resistance
> RL = 50 Ohms>(11) Plate Efficiency = Pout x 100/Pin = 56.4 x 100/75.1 =
> >75.1%
>
> Plate Efficiency = 48%

>
> By all reckoning according to your reference from Terman, using what
> you report, it appears that you have exhibited a Conjugate basis Z
> match as you claim, and that the plate Rpd by the same reckoning is
> the same as we formerly arrived at Rp. It would appear that over the
> course of some dozen years between publications that Terman simplified
> the term Rpd to Rp which, according to you, is not found in your
> volume, and as such this migration of terms seems logical by the
> numbers agreeing in both volumes for different labels. Inasmuch as
> Rpd does not appear in Terman's later work, nor in any of the Tube
> specifications since that era, Rpd appears to be an orphan.
>
> You report your own Rp (now Rpd) or its equivalent by resistor
> substitution (a valid determination) to be on order of 1400 Ohms. This
> conforms closely to the value found above, and the data reported by
> RCA for Rp in a design of similar characteristics. The range of
> possible values taken from RCA: 900 Ohms to 1500 Ohms.
>
> Taking your low, the high from my range, and the higher computed
> through your supplied data using Terman's formula, the average is 1500
> Ohms with a variation of roughly 6% which is about the limits of
> superlative accuracy for conventional bench equipment. What this
> means is that all three values are identical on the basis of
> accumulation of error.
>
> Having said that, this is not the end of analysis. However, at the
> first pass your data has demonstrated that the Plate serves as a real
> resistor dissipating half of the available power being supplied to a
> load that is conjugately matched.
>
> The only difference is that you state as much, but dismiss the plate
> dissipation as being a real resistor. Perhaps I mis-state you. If
> not, I take issue with that and ask once again, as this perception is
> unique to your hypothesis, do you have data that differentiates the
> resistance of steel absorbing and dissipating the impact of the
> electron stream as being different from carbon absorbing and
> dissipating the impact of the electron stream?
>
> Would it serve to replace the steel plate with a graphite one like the
> 845 (similar to the GM-70)? When I review the spec sheets for this
> tube, it reports an Rp of 1700 Ohms - hardly remarkable at 100 more
> Ohms than the computation above. Of course, there are compounding
> application differences, but still, graphite plates or steel don't
> seem to force a new conclusion. Materials don't seem to be an issue.
>
> Certainly the mechanisms of resistance differ in the kinetics of
> speed, but not in the product of heat. To my knowledge, no authority
> bases the concept of resistance upon the speed of the electron, but
> rather in the kinetics of its collision.
>

> 73's
> Richard Clark, KB7QHC

Richard, I'm totally shocked by what I've read above. I can't believe it! I can't believe you've distorted what I've written in my last post above to the extent that I can't possibly clarify or correct it--it's more than just misunderstanding. In addition, it's totally misleading to other readers of this thread, and makes me appear as a moron and an idiot.

Sorry, Richard, I'm through with this thread. There's nothing I can do now to fix the situation.

Walt, W2DU

2085. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 02:11:55 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f5379cf6-0350-44c8-8159-b95798ecaec7@u26g2000yqu.googlegroups.com>
Source record: 9335

On Jun 3, 1:21 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> -.-. --.- wrote:
> > "-.-. --.-" <a...@a.com> ha scritto nel messaggio
> >news:hu7nt7$80o$1@speranza.aioe.org...
> >> Hello,
>
> >> my mobile setup is composed by a 2 meter vertical whip feeded immediately
> >> close to it by an automatic antenna tuner.
>
> > Missed that the expected frequency of the system is between 14 and 30 MHz,
> > but just curious if i had any chance to work 40 meters :)
>
> > -.-. --.-
>
> presuming you mean your whip is 2 meters long (not tuned for the 2 meter
> band, and only 50 cm long)
>
> On 40m? Maybe, maybe not.   people have used a light bulb as an antenna.
>
> It will almost certainly be inefficient. Here's a short description
> (filled with technical detail errors, which will no doubt provoke a long
> discussion)..
>
> All antennas have a property called "radiation resistance" (smaller
> antennas have smaller radiation resistances)
> All antennas also have resistive losses.
> There are also losses "after the wave has left the antenna" (e.g. ground
> reflections, etc. why salt water marshes are prized for vertical pol).
>   The latter are not considered here.
>
> To a first order (back, all you nit pickers.. first order), the power
> from the transmitter gets distributed between the radiation resistance
> and the loss resistance. So, the "efficiency" can be thought of as that
> fraction of power that winds up in the radiation resistance, as opposed
> to in the loss resistance.
>
> Important here: if the radiation resistance is low, that doesn't mean
> poor efficiency: as long as you keep the resistive losses low too..
> which can be a challenge (assuming you're not carrying a vat of liquid
> helium, for instance).
>
> Part of the problem is that the resistive losses aren't just in the
> antenna, but also in any substance which is immersed in the antenna's
> electric and magnetic fields (like the steel of your car, and the not

> particularly good conductivity, but not a perfect insulator either, soil
> under the car).
>
> And, then, there are losses in how you get from Tx to Antenna. If your
> antenna presents an impedance that is not what the transmitter is
> providing, you've got to transform it somehow, typically using Ls and
> Cs, etc. (in your autotuner). Those components also have some amount of
> loss, although I'll bet it's less than 10% in most situations
> (otherwise, the tuner/matching network would melt, and they don't)
>
> Moral of story..
> radiation resistance doesn't drop much from a full size antenna until
> you get around 1/10th wavelength, then it starts to drop real fast (as
> length squared)
>
> For a dipole:
> L/lambda = 1/2, R= 73 ohms
> L/lambda = 1/5, R = 8
> 1/10, 2
> 1/20, 0.5
> 1/50, 0.08
> 1/100, 0.02
>
>
I checked this out one time and my memory is a bit hazy. Using my
computer program which ofcourse could have a glitch in it, I found
that the gain hit a max at the very low resistance value and then
backed off as the resistance became close to zero. This blip occurred
during the last fraction of an ohm
just prior to closure of supplying gain figures.
At the time I put this down as the point where the skin depth
penetration was minimal and thus we had reached a point where the
applied current was totally to provide gain after which it dropped
dramatically. I looked at this as a progression for the current flow
in the surface of the element where it progressed to the surface and
the flow
progressed above the surface but below the particle encapsulation.
Further progression created losses and thus the gain blip dropped.
Resistance never dropped to zero thus ohms law
was not declared invalid. If somebody could duplicate the above via
another program it may prove interesting. Keep- dropping the applied
frequency until you reach about 0.7 ohms and then start recording.

2086. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 04:03:48 UTC
From: nm5k@wt.net
Message-ID: <a116313c-619c-48cc-8f56-4f31251ed0ea@k39g2000yqd.googlegroups.com>
Source record: 9336

On Jun 3, 3:41 am, "-.-. --.-" <a...@a.com> wrote:
> "-.-. --.-" <a...@a.com> ha scritto nel messaggionews:hu7nt7$80o$1@speranza.aioe.org...
>
> > Hello,
>
> > my mobile setup is composed by a 2 meter vertical whip feeded immediately
> > close to it by an automatic antenna tuner.
>
> Missed that the expected frequency of the system is between 14 and 30 MHz,
> but just curious if i had any chance to work 40 meters :)
>
> -.-. --.-

It's possible.. But feeding a whip with a tuner usually does not
make
for an efficient mobile antenna. Not only are many/most tuners more
lossy than say using a loading coil on the whip, but current
distribution
suffers. Maximum current will be at the tuner which is not desirable.
The location of the loading coil has a large effect on the current
distribution
and efficiency of the antenna. Where you have it is about the worst
possible
place. :(
I have lots of people ask me about running whips matched with tuners..
I pretty much have a standard reply.. No! Not on my watch!
Chortle..
My mobile antenna is center loaded in the driving config.. Even higher
if
I add the 3 foot lower mast, but that's only when parked. In the
parked config,
my loading coil is 8 ft above the base of the whip. "14 ft tall whip"
And yes, you can tell a pretty good difference from the normal driving
config,
with the coil at 5 ft above the base. "11 foot tall whip"

2087. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 04:38:36 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <1ebf32f6-a266-45fa-b635-231b15a04e2a@11g2000prw.googlegroups.com>
Source record: 9337

On Jun 2, 10:01 pm, Roy Lewallen <w...@eznec.com> wrote:
> This might shed a little light on the discussion.
>
> Consider a diode, forward biased by a 10 mA DC current source connected
> directly across it. The characteristics of this particular diode are
> such that the voltage is exactly 0.7 volt.
...
> The lengthy discussion about tube plate resistance has muddled the DC
> operating point (equivalent to the diode DC bias) and the plate
> resistance, which is the plate's AC or dynamic resistance. They're
> related just the same as for the diode. And just like the diode, if you
> were to send an AC signal to the plate of a biased tube through a
> capacitor, you'd find an AC voltage and current which are in phase
> resulting in power being delivered to the tube, and an increase in plate
> dissipation in the amount of that power.
>
> Roy Lewallen, W7EL

I'm happy to see that Roy posted this clarification about dynamic versus static resistance. I haven't read all the posts here, but those others that I have seemed to completely skirt the issue of the meaning of "plate resistance."

Further to Roy's posting, though, you must realize that a device with more than two terminals is complicated by the fact that you need to specify that the dynamic resistance is measured with other terminals held constant. So, for example, plate resistance of a tube is normally defined as the partial derivative of plate voltage with respect to plate current, with the grid-to-cathode voltage held constant, and of course at some particular plate voltage (and corresponding current). For a tetrode, the screen-to-cathode voltage must also be constant.

The reason for this is that you will get completely different answers if you don't hold the voltage of the grids constant with respect to the cathode. For example, if you set up a circuit with a tube with the grid grounded, and an appropriate resistor between the cathode and ground (not bypassed), to establish a desired bias point, then a change in plate current will be accompanied by an essentially identical change in cathode current, and a corresponding change in drop across the cathode resistor, which represents a change in grid-to-cathode voltage. Measuring dV/dI at the plate in such a circuit will yield a much higher resistance than if the grid-to-cathode voltage is kept constant. It is, in fact, a good way to make a constant current source.

There is no particular relationship that must be maintained between the load resistance you present to an amplifier element -- a tube or a bipolar transistor or a FET -- and the plate/collector/drain (dynamic) resistance of the device. For example, it's common to operate a push-pull pair of 6146's in audio service with a load around 5000 ohms (plate to plate) at 500V plate supply voltage, 185V screen voltage, and perhaps 30mA plate current. That's effectively 2500 ohms to each plate of the pair. But at that operating point, the plate resistance of a 6146 is around 600V/30mA, or 20k ohms (roughly, from plate characteristic curves in my old RCA transmitting tubes manual). On the other hand, a triode will have a much lower plate resistance, likely similar to the load resistance--but again, not really related to it.

Another rather interesting thing happens, though, when you connect an RF load through a tank circuit such as a PI network. It's quite possible for a pi network to transform a 50 ohm RF load so it presents a reasonable (say) 4k ohm RF load to the plate of a tube like a 6146. But that same pi network will in turn transform the plate resistance--or rather, the net impedance of the tube in its particular circuit configuration (grounded grid or grounded cathode, and invariable some amount of feedback whether you wanted it or not), along with the DC feed (RF choke) in parallel, to quite possibly an impedance not very close to 50 ohms, and likely rather reactive. I can, without much difficulty, design a PI network that will yield a source resistance at the output connector that's a lot less than 50 ohms, using a tetrode amplifier tube, while giving a very decent transformation of a 50 ohm load to a desired load at the plate of the tube.

And as if that weren't enough, I can modify the output impedance further by application of feedback; this is more commonly done at audio frequencies, where amplifiers designed to drive loads like 4 ohms an 8 ohms have output impedances in the area of a small fraction of an ohm. But it's also done with RF amplifiers, often for reasons unrelated to the output impedance, but also to control the output impedance so that it IS very close to 50 ohms (for example in instrumentation, where it may be important).

Cheers,
Tom

2088. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 05:33:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <p04h069070ckc8aecqdjhqi0fkq5595deu@4ax.com>
Source record: 9338

On Thu, 3 Jun 2010 18:15:12 -0700 (PDT), walt <walt@w2du.com> wrote:

> I can't believe you've distorted what I've written in my last post

Hi Walt,

Can you give an example?

73's
Richard Clark, KB7QHC

2089. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 07:08:50 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <594e92cd-bee1-4f43-b888-89da684f5ef9@z15g2000prh.googlegroups.com>
Source record: 9339

On Jun 2, 3:43 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
...
> From the 8146B spec sheet, depending on the operating point, Rp (i.e.
> slope of plate E-I curve)
> is between 10k and 30k so for the two tubes in the circuit it would be
> 5k to 15k ohms. But this
> number is not much use for computing dissipations.
>
> ...Keith

Indeed, Keith...nor is it much use, by itself, for computing the source impedance seen looking back into amplifier's output RF connector, at the output end of the network that transforms a (50 ohm, or whatever) load to the impedance seen by the tubes driving that load.

If the tube is operated with cathode (RF) grounded and driven with a stiff voltage source, the impedance looking back into the plate side will be the plate resistance, shunted by stray and tube capacitances; but put a bit of unbypassed cathode resistance in there and the resistive part seen at the plate will be higher, possibly quite a bit higher. Use a triode instead of a pentode, and the plate resistance will be much lower, even though the optimal load presented to the plate may well be quite similar to the optimal load presented to a tetrode. Run the tube grounded-grid and the impedance seen looking back into the plate will be much higher than if it's run grounded-cathode.

I think it helps to understand that the "optimal" load presented to the tube depends on what you want to accomplish: you want a reasonable amount of RF output power with reasonable efficiency and tube operating conditions that will yield good tube life (normally, in our circles). If it's supposed to be a linear amplifier, you want to keep (intermodulation) distortion products below some level. All that has very little to do with the impedance seen by the load looking back into the tube.

Of course, essentially the same situations exist with transistors and FETs as with tubes.

Cheers,
Tom

2090. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 11:19:11 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <huanfetmm1@speranza.aioe.org>
Source record: 9340

"-.-. --.-" <a@a.com> ha scritto nel messaggio
news:hu7nt7$80o$1@speranza.aioe.org...
> Hello,
>
> my mobile setup is composed by a 2 meter vertical whip feeded immediately
> close to it by an automatic antenna tuner.

Thanks to all. Now is a clear statement that my problem is measuring the "inefficiency" of the entire system :)

Only to mention that due to a sort of "quiet life way" with the neighbors, my home setup is a ATU CG-3000 feeding 9,5 meters height monopole with about 40 random lenght radials (from 5 to 20 meters of lenght) and electrically connectet to 200 square meters of chicken fence, with real chickens inside :) perform quite well on 80, from 40 to 12 meters is probably the best antenna i ever had compared to old dipoles, in 10 maybe it is too close to 1 WL... but work almost all , even in furiouses pile ups.

Now that I annoyed with this info, the conclusion of the OP or the third question if you want: how it is possible that mobile setups with the "motorized" antennas can have a minimum of efficiency in 40 meters ?? What the difference from a variabile motoryzed L and an ATU at the feed point ?? Or i miss something important about the 2 feeding methods ??

TIA,
-.-. --.-

2091. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 11:35:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9f94e701-3644-4cd6-8965-3523f6030890@s9g2000yqd.googlegroups.com>
Source record: 9341

On Jun 3, 12:51 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 2, 11:48 am, K1TTT <k1...@arrl.net> wrote:
>
> > my differential calculus is a bit rusty, but i don't think that
> > equation satisfies the basic wave equation.
>
> My calculus is probably a lot rustier than yours but it would be very
> important for this discussion if Maxwell's equations do not work for
> the standing wave equation. That would essentially prove that the
> mashed-potatoes theory of transmission line energy is bogus.
> --
> 73, Cecil, w5dxp.com

well, i dug out mathcad that will do the ugly symbolic differentiation for me. the standing wave equation can not satisfy the wave equation derived from maxwell's equations as shown in either 'Fields and Waves in Communications Electronics' section 1.14 or 'Classical Electrodynamics' section 6.4. Both of them come down to the requirement that the second derivative wrt space be proportional to the second derivative wrt time. The proportionality constant is the velocity squared. In order to satisfy this the equation must be a function of the form F(t-x/v), the normal representation is the complex exponential which can be presented in a form like sin(t)cos(x/v)-cos(t)sin(x/v) the simpler standing wave equation sin(kx)sin(wt) has the wrong relationship between space and time and therefor can't be a solution to the wave equation. When i work through the second derivatives and collect terms it results in something like Asin(kx)sin(wt)(k^2-w^2) which makes no sense, even in a dimensional analysis the units don't work.

The easiest explanation though is still the intuitive one, the solution of the wave equation derived from maxwell's equations results in the proportionality constant of 1/c^2 which requires the speed of the wave to be c in the medium where it is evaluated, there is no way to get that from the standing wave equation since it is obviously stationary wrt space.

2092. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 14:12:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <755cd142-b462-488b-ad7d-c875a5ad8153@5g2000yqz.googlegroups.com>
Source record: 9342

On Jun 4, 6:35 am, K1TTT <k1...@arrl.net> wrote:
> The easiest explanation though is still the intuitive one, the
> solution of the wave equation derived from maxwell's equations results
> in the proportionality constant of 1/c^2 which requires the speed of
> the wave to be c in the medium where it is evaluated, there is no way
> to get that from the standing wave equation since it is obviously
> stationary wrt space.

Thanks David, that's good news. It apparently means that the arguments based on energy not crossing a current node boundary in a standing wave are invalid - since that singular condition violates the boundary conditions for Maxwell's equations. So does the "standing wave energy standing still" argument. Not only does the photonic nature of EM waves require them to travel at the speed of light in the medium, but so does Maxwell's equations.

Such knowledge also has ramifications for the technique of using the current on a standing wave antenna to try to predict the delay through a loading coil. If a Maxwell equation analysis of such a condition yields bogus results, how can simple current phase measurements be trusted? If the component traveling waves associated with a loading coil were used in order to obtain a valid Maxwell equation analysis, I wonder what would be the predicted delay through the coil?
--
73, Cecil, w5dxp.com

2093. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 14:20:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <02be1b83-9c8f-48a1-b3a9-6917331987ab@d37g2000yqm.googlegroups.com>
Source record: 9343

On Jun 3, 11:03 pm, n...@wt.net wrote:
> But feeding a whip with a tuner usually does not
> make for an efficient mobile antenna.

A 11.5 foot (~3.5m) whip driven by an SG-230 autotuner was measured to
be 12 dB down from the top-rated bugcatchers and screwdrivers at one
of the CA 75m mobile shootouts back in the 1980's.
--
73, Cecil, w5dxp.com

2094. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 14:24:54 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <693e8ac1-8d42-43fa-b894-40d89fcee569@j4g2000yqh.googlegroups.com>
Source record: 9344

> To determine efficiency you'd have to make some field strength measurements
> (usually performed with a calibrated field strength meter) in order to determine
> how much of the power going into the antenna terminals is being radiated
> into free space.

The radiation resistance present at the base of an electrically short, linear, monopole (whip) antenna of various ODs can be calculated rather accurately using equations found in various antenna engineering textbooks

So if the base current entering the whip itself can be measured, and whether or not a loading coil was used at the base to resonate* the antenna system, and regardless of the loss in the r-f ground used by the whip -- then for practical purposes the power radiated by the antenna system will be the product of the square of that base current, and the radiation resistance of the whip.

* However "resonated" antenna systems using a short whip do not have the same radiation performance as those using a naturally resonant 1/4-wave monopole. Resonance just means that the capacitive reactance at the feedpoint of the short whip has been exactly offset by the inductive reactance of a loading coil, which can allow for the most efficient power transfer into the radiator.

However the radiation resistance of the whip is not changed by this process -- it is still very low compared to a naturally resonant 1/4-wave monopole. Therefore the radiation efficiency of such a short, loaded, whip antenna system cannot approach that of a naturally resonant 1/4-wave monopole unless the losses in the loading coil and r-f ground are nearly zero.

Loading coils do not replace the "missing degrees" of an electrically short radiator, as far as its radiation resistance is concerned. The radiation resistance of a whip depends only on the electrical length/ OD of the whip, itself.

RF

2095. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 14:43:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <16d4d508-0e1b-4e04-a5f9-d30a66f3825f@c33g2000yqm.googlegroups.com>
Source record: 9345

On Jun 4, 6:19 am, "-.-. --.-" <a...@a.com> wrote:
> ... how it is possible that mobile setups with the
> "motorized" antennas can have a minimum of efficiency in 40 meters ?? What
> the difference from a variabile motoryzed L and an ATU at the feed point ??

Most screwdrivers and bugcatchers are more center-loaded than base loaded. The section of the antenna that supplies a good part of the radiation is the straight section between the feedpoint and the bottom of the loading coil. An ATU driven whip doesn't possess that high-efficiency, high-current section. The highest current sections in an ATU system are inside the ATU - not good for radiation. Everything else being equal, a center-loaded antenna will beat a base-loaded antenna by ~3-5 dB according to mobile shootout results. The radiation resistance for a center-loaded 75m mobile antenna is approximately double that for a base-loaded 75m mobile antenna, i.e. close to double the efficiency.

According to 75m mobile shootout results, an ATU driven whip is ~8 dB down from a base-loaded bugcatcher because the bugcatcher coil radiates and an ATU is usually shielded and often uses powdered iron toroids for the coils.
--
73, Cecil, w5dxp.com

2096. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 14:53:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <88idnW4rXpLzjpTRnZ2dnUVZ_uydnZ2d@giganews.com>
Source record: 9346

Richard Fry wrote:
>> To determine efficiency you'd have to make some field strength measurements
>> (usually performed with a calibrated field strength meter) in order to determine
>> how much of the power going into the antenna terminals is being radiated
>> into free space.
>
> The radiation resistance present at the base of an electrically short,
> linear, monopole (whip) antenna of various ODs can be calculated
> rather accurately using equations found in various antenna engineering
> textbooks . . .

This is true only if you don't confuse the idealized textbook models with real antennas. But most of us are unfortunately stuck with using the latter. In general, the impedance you calculate with the idealized models doesn't match that of real world antennas. It works pretty well for AM broadcast installations, where the length and large number of radials make the impedance relatively independent of ground characteristics. But this doesn't describe the typical amateur monopole antenna, either ground or mobile mounted.

An approximation to input resistance can be made by adjusting for an abbreviated radial system, but this gets increasingly unreliable as the number of radials decreases. The best readily available modeling program allowing the inclusion of a buried ground system, which uses the same well-established equations as textbooks, is NEC-4. It, however, suffers from a serious shortcoming in doing this calculation -- it assumes that the ground is homogeneous to an infinite depth. Real ground is typically stratified, and skin depth at HF is as much as several tens of feet, so the representation of real ground is very poor. There are many cases where a single "equivalent" value of homogeneous ground doesn't exist which gives the same results as actual measurement. I've made very careful measurements of a simple vertical monopole with various numbers of buried radials whose impedance couldn't be matched with NEC-4 using any ground parameters, and I believe this to be a common occurrence. In no case would I depend on a computer model, let alone an even more simplified textbook model, to predict the resistance of a real monopole having an abbreviated ground system with enough accuracy to reasonably estimate the efficiency.

As a side note, Brown, Lewis, and Epstein's sparse radial results can be matched reasonably well with NEC-4, but it does require a fair amount of ground constant adjustment for various numbers and lengths of radials.

Mobile mounted whip antennas fare even worse relative to simple textbook models. I don't have any experience with comparison of computer models

with actual measurement. Those results should depend on the care with which the model is constructed and the amount of influence the ground has on the impedance.

Roy Lewallen, W7EL

2097. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 15:16:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <_J-dnUSPTtxDhZTRnZ2dnUVZ_jednZ2d@giganews.com>
Source record: 9347

There was a calculation error in my recent posting. Thanks to Tom, K7ITM for spotting it and letting me know. It doesn't affect the conclusions.

Roy Lewallen wrote:
> . . .
> Now connect another current source across the biased diode, but make it
> an AC source and connect it through a capacitor. Make the AC source
> current 0.1 mA RMS, which is much less than the bias current of 10 mA.
> What AC voltage should we expect? Well, it's not 0.1 mA * 70 ohms,
> because 70 ohms is the DC resistance V/I, and the AC current is
> encountering a resistance of dV/dI, where dV/dI is the ratio of the
> *change* in voltage to the *change* in current. This is the dynamic, or
> AC resistance, and it equals the slope of the V/I curve of the diode.
> The AC and DC resistance are the same for a simple resistor, but not the
> nonlinear diode. The dynamic resistance actually changes for each
> instantaneous value of the AC waveform, but as long as the AC current
> waveform is much less than the DC bias current, the change won't be
> much. It turns out that the AC resistance for a diode is about 0.026/Idc
> where Idc is the bias current. So in our case, the AC resistance is
> about 0.026/0.01, or about 2.6 ohms. Therefore we'd see an AC voltage
> across the diode of 0.1 mA * 2.6 = 0.26 volt.

The AC voltage across the diode is 0.26 mV, not 0.26 V.

> The AC voltage is in phase with the AC current through the capacitor, so
> the AC current source is supplying power to the diode, an amount equal
> to Iac * Vac = 0.1 mA * 0.26 V = 0.026 mW. . .

The power supplied by the AC current source to the diode is 0.1 mA * 0.26 mV = 0.026 uW = 26 nW, not 0.026 mW. This is, of course, also Iac^2 * Rac = (0.1 mA)^2 * 2.6.

Roy Lewallen, W7EL

2098. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 16:21:12 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <hub95p$pq8$1@speranza.aioe.org>
Source record: 9348

"Cecil Moore" <w5dxp@hotmail.com> ha scritto nel messaggio
news:16d4d508-0e1b-4e04-a5f9-d30a66f3825f@c33g2000yqm.googlegroups.com...
>According to 75m mobile shootout results, an ATU driven whip is ~8 dB
>down from a base-loaded bugcatcher because the bugcatcher coil
>radiates and an ATU is usually shielded and often uses powdered iron
>toroids for the coils.

Yes, understand *perfectly*. My energy go somewhere, and this "somewhere" is heating some toroid into a shield case or radiate on the air. Conservation law.

Center load i think mean also lower ground loss, IIRC.

And as i understand, a RX shootout of the mobile whip compared with my full size 1/4 wl vertical antenna with the same transceiver, to have a suitable relative dB comparison, can give the best test measure i can do with my actual equipement.

Thanks Cecil an other posters, other suggestions or links to learn more are very appreciated.

-.-. --.-

2099. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 16:30:02 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <5a59c6ba-460e-4de0-9100-9a00ecfc462a@i31g2000yqm.googlegroups.com>
Source record: 9349

On Jun 4, 9:53 am, Roy Lewallen <w...@eznec.com> wrote:
> Richard Fry wrote:
> >> To determine efficiency you'd have to make some field strength measurements
> >> (usually performed with a calibrated field strength meter) in order to determine
> >> how much of the power going into the antenna terminals is being radiated
> >> into free space.
>
> > The radiation resistance present at the base of an electrically short,
> > linear, monopole (whip) antenna of various ODs can be calculated
> > rather accurately using equations found in various antenna engineering
> > textbooks . . .
>
> This is true only if you don't confuse the idealized textbook models
> with real antennas. ...

For the sake of discussion, below are two pastes from the same NEC model using the demo version of EZNEC v. 5.0 -- which rather well support my earlier post that the radiation resistance (NOT the impedance) of an electrically short monopole is a function of its electrical length, and not the loss resistance of the r-f ground and/or the loading coil.

CASE 1 = Zero loss resistance and reactance in the r-f ground, and zero loss resistance in the loading coil:

EZNEC Demo ver. 5.0

1650 kHz 3 meter monopole 6/4/2010 10:50:57 AM

--------------- SOURCE DATA ---------------

Frequency = 1.65 MHz

Source 1 Voltage = 0.08578 V at 35.09 deg.
Current = 0.4986 A at 0.0 deg.
Impedance = 0.1408 + J 0.09888 ohms
Power = 0.035 watts
SWR (50 ohm system) > 100 (25.17 ohm system) > 100

CASE 2 = Same model as above, except with a total of 25 ohms loss in a loading coil and r-f ground, and no reactance in the r-f ground:

EZNEC Demo ver. 5.0

1650 kHz 3 meter monopole 6/4/2010 10:49:40 AM

--------------- SOURCE DATA ---------------

Frequency = 1.65 MHz

Source 1 Voltage = 0.9386 V at 0.22 deg.
Current = 0.03729 A at 0.0 deg.
Impedance = 25.17 + J 0.09579 ohms
Power = 0.035 watts
SWR (50 ohm system) = 1.987 (25.17 ohm system) =
1.004

EZNEC calculated the radiation resistances of these two cases to be 0.14 ohms and 0.17 ohms, respectively -- fairly close, but not exact. Perhaps Roy could comment on the reason why their agreement using NEC/ EZNEC is not better.

Those wanting a good resource for the measured results for monopoles of less than 1/8 electrical wavelength might try to locate the paper by Carl E. Smith and Earl M. Johnson titled PERFORMANCE OF SHORT ANTENNAS, published in the October, 1947 edition of the Proceedings of the I.R.E.

The equation for the radiation resistance of short antennas given in that paper is independent of the resistive losses in any loading coil or r-f ground system.

RF

2100. Re: Replacement for W9INN Center Connector

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 16:31:09 UTC
From: aRKay <arkay@nospam.qsl.net>
Message-ID: <arkay-F431BD.11310904062010@62-183-169-81.bb.dnainternet.fi>
Source record: 9350

This posting is more of an update. I pulled the old W9INN down for inspection and found a crack in the PVC. It was interesting to note the imprint on the top of the center conductor (not a balun) says W2AU; however, it does not look like a W2AU on any web page. It has ground strap running from top to bottom. To make a long story short, the crack in top of the device was easily repaired using PVC cement and it passed all continuity tests. It is back in place and working FB.

2101. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 16:58:52 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <cedadd00-14aa-4382-a46b-d5798a44cc49@u7g2000yqm.googlegroups.com>
Source record: 9401

On Jun 4, 12:21 pm, "-.-. --.-" <a...@a.com> wrote:
> "Cecil Moore" <w5...@hotmail.com> ha scritto nel
messaggionews:16d4d508-0e1b-4e04-a5f9-d30a66f3825f@c33g2000yqm.googlegroups.com...
>
> >According to 75m mobile shootout results, an ATU driven whip is ~8 dB
> >down from a base-loaded bugcatcher because the bugcatcher coil
> >radiates and an ATU is usually shielded and often uses powdered iron
> >toroids for the coils.
>
> Yes, understand *perfectly*. My energy go somewhere, and this "somewhere" is
> heating some toroid into a shield case or radiate on the air. Conservation
> law.
>
> Center load i think mean also lower ground loss, IIRC.
>
> And as i understand, a RX shootout of the mobile whip compared with my full
> size 1/4 wl vertical antenna with the same transceiver, to have a suitable
> relative dB comparison, can give the best test measure i can do with my
> actual equipement.
>
> Thanks Cecil an other posters, other suggestions or links to learn more are
> very appreciated.
>
> -.-. --.-

While that is true your exiting installation may be better than you
think. Best Antenna can be subject to to any number of parameters
from greatest gain to practical operations and installation to
significant others opinion of aesthetic appeal.

Jimmie

2102. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 17:26:18 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <be7d3a31-3cd4-4587-abbf-5159e134270e@c10g2000yqi.googlegroups.com>
Source record: 9402

On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 4, 6:35 am, K1TTT <k1...@arrl.net> wrote:
>
> > The easiest explanation though is still the intuitive one, the
> > solution of the wave equation derived from maxwell's equations results
> > in the proportionality constant of 1/c^2 which requires the speed of
> > the wave to be c in the medium where it is evaluated, there is no way
> > to get that from the standing wave equation since it is obviously
> > stationary wrt space.
>
> Thanks David, that's good news. It apparently means that the arguments
> based on energy not crossing a current node boundary in a standing
> wave are invalid - since that singular condition violates the boundary
> conditions for Maxwell's equations. So does the "standing wave energy
> standing still" argument. Not only does the photonic nature of EM
> waves require them to travel at the speed of light in the medium, but
> so does Maxwell's equations.

definately. another simple condition shows this can't be correct
since current nodes correspond with voltage peaks in the standing wave
pattern, so while energy in the magnetic field is a minimum the energy
in the electric field is a maximum.

>
> Such knowledge also has ramifications for the technique of using the
> current on a standing wave antenna to try to predict the delay through
> a loading coil. If a Maxwell equation analysis of such a condition
> yields bogus results, how can simple current phase measurements be
> trusted? If the component traveling waves associated with a loading
> coil were used in order to obtain a valid Maxwell equation analysis, I
> wonder what would be the predicted delay through the coil?
> --
> 73, Cecil, w5dxp.com

this becomes MUCH harder to analyze. the transmission line case is
easy because the equations collapse to a single linear dimension, so
you can write your simple standing wave equation with a single sin(kx)
term. in a solenoid, especially a finite length solenoid, and double
especially because the length may be an appreciable fraction of a
wavelength, there is no such simple representation for the fields.
i'm not even sure what software would provide an adequate model of
something like that... the turns are too close for me to trust nec
based programs with out lots more research, and i'm pretty sure finite
element programs like ansoft/maxwell would not be able to handle the
change in current due to length and radiation. measurement of the

currents in coils like that would also be hard because of the radiated fields and the shielding needed to prevent measurement errors from probe lengths in the field... i would only trust fiber optic sensed probes that were small and self contained, at least that way you would not be distorting the field with probes or trying to cancel out pickup from probe cables coupling to the antenna.

2103. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 17:49:28 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hubeb8$n046$1@tr22n12.aset.psu.edu>
Source record: 9403

Roy Lewallen wrote:

> As a side note, Brown, Lewis, and Epstein's sparse radial results can be
> matched reasonably well with NEC-4, but it does require a fair amount of
> ground constant adjustment for various numbers and lengths of radials.
>
> Mobile mounted whip antennas fare even worse relative to simple textbook
> models. I don't have any experience with comparison of computer models
> with actual measurement. Those results should depend on the care with
> which the model is constructed and the amount of influence the ground
> has on the impedance.

I would figure that getting an accurate ground influence in an antenna design program would have to be a daunting project, indeed.

While installing my bugcatcher, I did a lot of it in stages, noting the positive influence on the results. My thinking at this point is that the make and model, and the size of the vehicle would be critical for the model, and small changes go a long way.

What's more, the more efficient and narrow the antenna, the more effect the changes have. Given that a good setup always involves a lot of custom work like bonding and turning potential radiators like the exhaust system into more bonded area, it is a really tough exercise.

- 73 de Mike N3LI -

2104. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 17:55:03 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hubeln$n046$2@tr22n12.aset.psu.edu>
Source record: 9404

Cecil Moore wrote:
> On Jun 4, 6:19 am, "-.-. --.-" <a...@a.com> wrote:
>> ... how it is possible that mobile setups with the
>> "motorized" antennas can have a minimum of efficiency in 40 meters ?? What
>> the difference from a variabile motoryzed L and an ATU at the feed point ??
>
> Most screwdrivers and bugcatchers are more center-loaded than base
> loaded. The section of the antenna that supplies a good part of the
> radiation is the straight section between the feedpoint and the bottom
> of the loading coil. An ATU driven whip doesn't possess that high-
> efficiency, high-current section. The highest current sections in an
> ATU system are inside the ATU - not good for radiation. Everything
> else being equal, a center-loaded antenna will beat a base-loaded
> antenna by ~3-5 dB according to mobile shootout results. The radiation
> resistance for a center-loaded 75m mobile antenna is approximately
> double that for a base-loaded 75m mobile antenna, i.e. close to double
> the efficiency.
>
> According to 75m mobile shootout results, an ATU driven whip is ~8 dB
> down from a base-loaded bugcatcher because the bugcatcher coil
> radiates and an ATU is usually shielded and often uses powdered iron
> toroids for the coils.

As a point of clarification, Cecil, the bottom loaded bug catcher you
refer to - is it the matching coil or the loading coil? I only knew of
mid-loaded bugcatchers.

- 73 de Mike N3LI -

2105. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 18:00:53 UTC
From: walt <walt@w2du.com>
Message-ID: <b587fbfc-2211-48c1-9ed2-b0366a50e473@f13g2000vbm.googlegroups.com>
Source record: 9405

On Jun 4, 12:38 am, K7ITM <k7...@msn.com> wrote:
> On Jun 2, 10:01 pm, Roy Lewallen <w...@eznec.com> wrote:
>
>
>
> > This might shed a little light on the discussion.
>
> > Consider a diode, forward biased by a 10 mA DC current source connected
> > directly across it. The characteristics of this particular diode are
> > such that the voltage is exactly 0.7 volt.
> ...
> > The lengthy discussion about tube plate resistance has muddled the DC
> > operating point (equivalent to the diode DC bias) and the plate
> > resistance, which is the plate's AC or dynamic resistance. They're
> > related just the same as for the diode. And just like the diode, if you
> > were to send an AC signal to the plate of a biased tube through a
> > capacitor, you'd find an AC voltage and current which are in phase
> > resulting in power being delivered to the tube, and an increase in plate
> > dissipation in the amount of that power.
>
> > Roy Lewallen, W7EL
>
> I'm happy to see that Roy posted this clarification about dynamic
> versus static resistance. I haven't read all the posts here, but
> those others that I have seemed to completely skirt the issue of the
> meaning of "plate resistance."
>
> Further to Roy's posting, though, you must realize that a device with
> more than two terminals is complicated by the fact that you need to
> specify that the dynamic resistance is measured with other terminals
> held constant. So, for example, plate resistance of a tube is
> normally defined as the partial derivative of plate voltage with
> respect to plate current, with the grid-to-cathode voltage held
> constant, and of course at some particular plate voltage (and
> corresponding current). For a tetrode, the screen-to-cathode voltage
> must also be constant.
>
> The reason for this is that you will get completely different answers
> if you don't hold the voltage of the grids constant with respect to
> the cathode. For example, if you set up a circuit with a tube with
> the grid grounded, and an appropriate resistor between the cathode and
> ground (not bypassed), to establish a desired bias point, then a
> change in plate current will be accompanied by an essentially
> identical change in cathode current, and a corresponding change in

> drop across the cathode resistor, which represents a change in grid-to-
> cathode voltage. Measuring dV/dI at the plate in such a circuit will
> yield a much higher resistance than if the grid-to-cathode voltage is
> kept constant. It is, in fact, a good way to make a constant current
> source.
>
> There is no particular relationship that must be maintained between
> the load resistance you present to an amplifier element -- a tube or a
> bipolar transistor or a FET -- and the plate/collector/drain (dynamic)
> resistance of the device. For example, it's common to operate a push-
> pull pair of 6146's in audio service with a load around 5000 ohms
> (plate to plate) at 500V plate supply voltage, 185V screen voltage,
> and perhaps 30mA plate current. That's effectively 2500 ohms to each
> plate of the pair. But at that operating point, the plate resistance
> of a 6146 is around 600V/30mA, or 20k ohms (roughly, from plate
> characteristic curves in my old RCA transmitting tubes manual). On
> the other hand, a triode will have a much lower plate resistance,
> likely similar to the load resistance--but again, not really related
> to it.
>
> Another rather interesting thing happens, though, when you connect an
> RF load through a tank circuit such as a PI network. It's quite
> possible for a pi network to transform a 50 ohm RF load so it presents
> a reasonable (say) 4k ohm RF load to the plate of a tube like a 6146.
> But that same pi network will in turn transform the plate resistance--
> or rather, the net impedance of the tube in its particular circuit
> configuration (grounded grid or grounded cathode, and invariable some
> amount of feedback whether you wanted it or not), along with the DC
> feed (RF choke) in parallel, to quite possibly an impedance not very
> close to 50 ohms, and likely rather reactive. I can, without much
> difficulty, design a PI network that will yield a source resistance at
> the output connector that's a lot less than 50 ohms, using a tetrode
> amplifier tube, while giving a very decent transformation of a 50 ohm
> load to a desired load at the plate of the tube.
>
> And as if that weren't enough, I can modify the output impedance
> further by application of feedback; this is more commonly done at
> audio frequencies, where amplifiers designed to drive loads like 4
> ohms an 8 ohms have output impedances in the area of a small fraction
> of an ohm. But it's also done with RF amplifiers, often for reasons
> unrelated to the output impedance, but also to control the output
> impedance so that it IS very close to 50 ohms (for example in
> instrumentation, where it may be important).
>
> Cheers,
> Tom

I'm going to break with my earlier decision to no longer respond to
this thread in order to respond to Tom, K7ITM.

Tom, as you can see from my earlier posts I agree with your assessment of plate resistance, Rp, in that it is the partial derivative of the Ep/Ip relationship. Therefore, while Rp is definitely a factor in determining the value of load resistance RL, it is by no means the total source resistance of the RF power amplifier, as others insist.

Walt Maxwell, W2DU

2106. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 18:11:02 UTC
From: walt <walt@w2du.com>
Message-ID: <42ba3dd7-a80a-451a-b7b5-70f5f8771635@j4g2000yqh.googlegroups.com>
Source record: 9406

On Jun 4, 12:38 am, K7ITM <k7...@msn.com> wrote:
> On Jun 2, 10:01 pm, Roy Lewallen <w...@eznec.com> wrote:
>
>
>
> > This might shed a little light on the discussion.
>
> > Consider a diode, forward biased by a 10 mA DC current source connected
> > directly across it. The characteristics of this particular diode are
> > such that the voltage is exactly 0.7 volt.
> ...
> > The lengthy discussion about tube plate resistance has muddled the DC
> > operating point (equivalent to the diode DC bias) and the plate
> > resistance, which is the plate's AC or dynamic resistance. They're
> > related just the same as for the diode. And just like the diode, if you
> > were to send an AC signal to the plate of a biased tube through a
> > capacitor, you'd find an AC voltage and current which are in phase
> > resulting in power being delivered to the tube, and an increase in plate
> > dissipation in the amount of that power.
>
> > Roy Lewallen, W7EL
>
> I'm happy to see that Roy posted this clarification about dynamic
> versus static resistance. I haven't read all the posts here, but
> those others that I have seemed to completely skirt the issue of the
> meaning of "plate resistance."
>
> Further to Roy's posting, though, you must realize that a device with
> more than two terminals is complicated by the fact that you need to
> specify that the dynamic resistance is measured with other terminals
> held constant. So, for example, plate resistance of a tube is
> normally defined as the partial derivative of plate voltage with
> respect to plate current, with the grid-to-cathode voltage held
> constant, and of course at some particular plate voltage (and
> corresponding current). For a tetrode, the screen-to-cathode voltage
> must also be constant.
>
> The reason for this is that you will get completely different answers
> if you don't hold the voltage of the grids constant with respect to
> the cathode. For example, if you set up a circuit with a tube with
> the grid grounded, and an appropriate resistor between the cathode and
> ground (not bypassed), to establish a desired bias point, then a
> change in plate current will be accompanied by an essentially
> identical change in cathode current, and a corresponding change in

> drop across the cathode resistor, which represents a change in grid-to-
> cathode voltage. Measuring dV/dI at the plate in such a circuit will
> yield a much higher resistance than if the grid-to-cathode voltage is
> kept constant. It is, in fact, a good way to make a constant current
> source.
>
> There is no particular relationship that must be maintained between
> the load resistance you present to an amplifier element -- a tube or a
> bipolar transistor or a FET -- and the plate/collector/drain (dynamic)
> resistance of the device. For example, it's common to operate a push-
> pull pair of 6146's in audio service with a load around 5000 ohms
> (plate to plate) at 500V plate supply voltage, 185V screen voltage,
> and perhaps 30mA plate current. That's effectively 2500 ohms to each
> plate of the pair. But at that operating point, the plate resistance
> of a 6146 is around 600V/30mA, or 20k ohms (roughly, from plate
> characteristic curves in my old RCA transmitting tubes manual). On
> the other hand, a triode will have a much lower plate resistance,
> likely similar to the load resistance--but again, not really related
> to it.
>
> Another rather interesting thing happens, though, when you connect an
> RF load through a tank circuit such as a PI network. It's quite
> possible for a pi network to transform a 50 ohm RF load so it presents
> a reasonable (say) 4k ohm RF load to the plate of a tube like a 6146.
> But that same pi network will in turn transform the plate resistance--
> or rather, the net impedance of the tube in its particular circuit
> configuration (grounded grid or grounded cathode, and invariable some
> amount of feedback whether you wanted it or not), along with the DC
> feed (RF choke) in parallel, to quite possibly an impedance not very
> close to 50 ohms, and likely rather reactive. I can, without much
> difficulty, design a PI network that will yield a source resistance at
> the output connector that's a lot less than 50 ohms, using a tetrode
> amplifier tube, while giving a very decent transformation of a 50 ohm
> load to a desired load at the plate of the tube.
>
> And as if that weren't enough, I can modify the output impedance
> further by application of feedback; this is more commonly done at
> audio frequencies, where amplifiers designed to drive loads like 4
> ohms an 8 ohms have output impedances in the area of a small fraction
> of an ohm. But it's also done with RF amplifiers, often for reasons
> unrelated to the output impedance, but also to control the output
> impedance so that it IS very close to 50 ohms (for example in
> instrumentation, where it may be important).
>
> Cheers,
> Tom

I'm going to break with my earlier decision to no longer respond to
this thread in order to respond to Tom, K7ITM.

Tom, if you review my earlier posts, you'll find that I agree with you concerning plate resistance Rp as the partial derivative of the Ep/Ip relationship when both the grid and screen voltages are held constant. Although Rp is definitely a factor in determining the value of load resistance RL, it is by no means the total source resistance RL, as others have insisted.

Walt Maxwell, W2DU

2107. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 18:51:29 UTC
From: You <you@shadow.orgs>
Message-ID: <you-7A9661.10512904062010@unknown.hwng.net>
Source record: 9407

In article <Ht6dnZO_pr1LipXRnZ2dnUVZ_qSdnZ2d@ptd.net>,
"Clint Alexander" <clint@cdalexander.net> wrote:

> >
> > Oh it is 1000's of meters Long, alright.... It is just all wound up in a
> > coil... with VERY thin wire.....
>
> Can I use any wire or does it have to be a certain kind?
>
> I've asked about coiling wire but I didn't get any positive feedback.
> However, it wasn't described as impossible.

You can use any Insulated wire, Plastic Insulated or Enameled..... Most
use a very thin enameled 22 Gauge or smaller, and may even be wound on a
Ferrite Core to increase the Impedance...

2108. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 19:44:28 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <2577a504-e33f-4928-8837-ad23d85c39ad@u7g2000vbq.googlegroups.com>
Source record: 9408

On 4 jun, 14:26, K1TTT <k1...@arrl.net> wrote:
> On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jun 4, 6:35 am, K1TTT <k1...@arrl.net> wrote:
>
> > > The easiest explanation though is still the intuitive one, the
> > > solution of the wave equation derived from maxwell's equations results
> > > in the proportionality constant of 1/c^2 which requires the speed of
> > > the wave to be c in the medium where it is evaluated, there is no way
> > > to get that from the standing wave equation since it is obviously
> > > stationary wrt space.
>
> > Thanks David, that's good news. It apparently means that the arguments
> > based on energy not crossing a current node boundary in a standing
> > wave are invalid - since that singular condition violates the boundary
> > conditions for Maxwell's equations. So does the "standing wave energy
> > standing still" argument. Not only does the photonic nature of EM
> > waves require them to travel at the speed of light in the medium, but
> > so does Maxwell's equations.
>
> definately. another simple condition shows this can't be correct
> since current nodes correspond with voltage peaks in the standing wave
> pattern, so while energy in the magnetic field is a minimum the energy
> in the electric field is a maximum.
>
>
>
> > Such knowledge also has ramifications for the technique of using the
> > current on a standing wave antenna to try to predict the delay through
> > a loading coil. If a Maxwell equation analysis of such a condition
> > yields bogus results, how can simple current phase measurements be
> > trusted? If the component traveling waves associated with a loading
> > coil were used in order to obtain a valid Maxwell equation analysis, I
> > wonder what would be the predicted delay through the coil?
> > --
> > 73, Cecil, w5dxp.com
>
> this becomes MUCH harder to analyze. the transmission line case is
> easy because the equations collapse to a single linear dimension, so
> you can write your simple standing wave equation with a single sin(kx)

> term. in a solenoid, especially a finite length solenoid, and double
> especially because the length may be an appreciable fraction of a
> wavelength, there is no such simple representation for the fields.
> i'm not even sure what software would provide an adequate model of
> something like that... the turns are too close for me to trust nec
> based programs with out lots more research, and i'm pretty sure finite
> element programs like ansoft/maxwell would not be able to handle the
> change in current due to length and radiation. measurement of the
> currents in coils like that would also be hard because of the radiated
> fields and the shielding needed to prevent measurement errors from
> probe lengths in the field... i would only trust fiber optic sensed
> probes that were small and self contained, at least that way you would
> not be distorting the field with probes or trying to cancel out pickup
> from probe cables coupling to the antenna.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hello and good day all:

I believe perhaps I am not translating/understanding well your posts, Cecil and David, I post some comments to your consideration.

As I learnt, basic electromagnetic energy propagation Maxwell equations are satisfied by a traveling wave moving in one direction. Also I learnt standing waves in a TL results of two of them traveling in opposite directions (as I understand this is not a questioned point in this newsgroup), but SW equation it is not a Maxwell eq. solution but a mathematical result of interference among them. For that reason directly replacing this one in electroamagnetic energy propagation Maxwell diff. eqs to satisfy it, do not work, because SW do not travel anywhere!.
Energy not flowing beyond nodes it is a true, but only for ending nodes!
Could this be what confuses those who think energy do not cross INTERNAL TL nodes?

Electromagnetic waves are energy transport phenomenom, SWs not. We can interpret last ones as a "result of the transport phenomenom" (interference) => Energy is "trapped" in a resonant ideal line, as is "trapped" in a resonant ideal cavity, as light ii is "trapped" in a optical ideal cavity.

Do we see a simple case: If we think in a half wave resonant line we can interpret/describe its internal state as two traveling waves (inside system transport) or with a standing wave dynamic interchange of energy between E and H field without radiation (not transport). In longer line it is the same: we can describe its internal state a two waves traveling between end boundaries (transport) or a sistem (line) located [but not f(x)] energy interchange among magnetic and electric field. (I said not f(x), because nodes and antinodes are "FIELDS (E and H) nodes and antinodes", but not "ENERGY nodes or antinodes" (as we know, where H is 0, E is maximun...)

Seems to me this does not violate any quantum or clasic laws :>)

73

Miguel Ghezzi - LU6ETJ

2109. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 19:45:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <50245420-5dab-47a9-827d-e672cb4598fe@k31g2000vbu.googlegroups.com>
Source record: 9409

On Jun 4, 12:55 pm, Michael Coslo <m...@psu.edu> wrote:
> As a point of clarification, Cecil, the bottom loaded bug catcher you
> refer to - is it the matching coil or the loading coil? I only knew of
> mid-loaded bugcatchers.

Jim, k7jeb, once used a standard 75m Texas Bugcatcher coil as a base-loaded whip (no top hat) and entered one of the CA 75m mobile shootouts. He was "only" 3 dB down from similar center-loaded Texas Bugcatchers (no top hat). This fits well with the radiation resistance estimate for the center-loaded bugcatcher being double that of the base-loaded configuration.
--
73, Cecil, w5dxp.com

2110. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 20:29:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <87d5e997-f8bb-4e0b-9f83-fe286156781b@f14g2000vbn.googlegroups.com>
Source record: 9410

On Jun 4, 12:26 pm, K1TTT <k1...@arrl.net> wrote:
> this becomes MUCH harder to analyze. the transmission line case is
> easy because the equations collapse to a single linear dimension, so
> you can write your simple standing wave equation with a single sin(kx)
> term. in a solenoid, especially a finite length solenoid, and double
> especially because the length may be an appreciable fraction of a
> wavelength, there is no such simple representation for the fields.

Well maybe it is much harder using Maxwell's equations but maybe there is a simple representation. See what you think about this idea. At the following web site is an impedance calculator that will yield the characteristic impedance and velocity factor of a loading coil so the coil can be analyzed the same way as a transmission line. (We also can model the whip using EZNEC and, like a transmission line stub, equate the feedpoint impedance to the impedance of a lossy open-circuit stub.) We know the Z0 of the whip will be a few hundred ohms.

http://hamwaves.com/antennas/inductance.html

The velocity factor of the specified coil can be calculated from the axial propagation factor in radians per meter.

So please assume a frequency of 4 MHz and a typical six inch long bugcatcher loading coil with a Z0 of 3800 ohms and a VF of 0.024. All losses in/from the coil can be lumped together as if they were normal transmission line losses. The electrical length of the coil can be calculated from the physical length and VF. I don't see that it is all that "MUCH harder to analyze" than a transmission line example with the same amount of losses.
--
73, Cecil, w5dxp.com

2111. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 20:32:30 UTC
From: nm5k@wt.net
Message-ID: <e27565d6-b84a-401c-af41-2337492c7253@z33g2000vbb.googlegroups.com>
Source record: 9411

On Jun 4, 12:55 pm, Michael Coslo <m...@psu.edu> wrote:

>
> As a point of clarification, Cecil, the bottom loaded bug catcher you
> refer to - is it the matching coil or the loading coil? I only knew of
> mid-loaded bugcatchers.

A short whip can be fed at any point on the radiator.
In Cecil's case, I assume the coil was a true loading coil,
and not the matching coil. As per his numbers, the base
loaded was quite a bit better than the "tuner" loaded whip,
which was 12 db down from the center loaded bugcatcher.
In general, appx 3/4 the length of the whip from the base
will be the appx best location for the coil.
The higher the coil is, the better the current distribution.
But.. The higher the coil is, the more turns of wire you
need to tune. So there is a trade off of current distribution
vs coil loss due to the extra turns.
You could have the coil at 95% high, and have great
current distribution, but the losses of all the turns required
would eat you for lunch.
So... usually around 3/4 of the way up will be about the
optimum location. 1/2 way up is good, and a good compromise
between current distribution and coil losses.
For a given length whip, Reg Edwards "vertload" program
can be used to calculate the best location for the coil,
and having played with it, and using the real antennas to
compare, I think it is very close.
Also, it jives with the info and graphs used in the ARRL
antenna handbook on that subject.

2112. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 20:33:24 UTC
From: nm5k@wt.net
Message-ID: <a4be120c-9d0b-4bdb-8682-b7e643732eb3@m4g2000vbl.googlegroups.com>
Source record: 9412

On Jun 4, 3:32 pm, n...@wt.net wrote:
> On Jun 4, 12:55 pm, Michael Coslo <m...@psu.edu> wrote:
>
>
>
> > As a point of clarification, Cecil, the bottom loaded bug catcher you
> > refer to - is it the matching coil or the loading coil? I only knew of
> > mid-loaded bugcatchers.
>
> A short whip can be fed at any point on the radiator.

er.. I meant to say the coil can be placed at any point on
the radiator..

2113. Re: Plate Resistance

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 21:20:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qvpi06pl5mh6c9g65qlj1tcti0ievbci1h@4ax.com>
Source record: 9413

On Fri, 4 Jun 2010 11:11:02 -0700 (PDT), walt <walt@w2du.com> wrote:

>Although Rp is definitely a factor in determining the value of load
>resistance RL, it is by no means the total source resistance RL, as
>others have insisted.

Hi Walt,

Do you have other Data to replace into your copy of Terman's equation?
I got the impression you were satisfied with his work and his
conclusions. Myself, I would say Terman's are suitable but incomplete
and additional data wouldn't change anything as he presented a classic
case.

Hemenway, Henry, and Caulton go miles beyond merely suggesting that
there are partial derivative forms (you can choose to offer your own
from Terman if you can find them), and they give the full treatment
from soup to nuts in chapters outside of the one I have distributed.

As for the comparison of Rp to RL, yes, it is not complete and in fact
although they closely agree, that is only a first cut. Refinement may
go as far as 10s of percent shifts and with the accumulation of
possible errors, that shift might still resolve to Rp = RL.

However, if Rp (or its distant cousin Rpd) slips in value away from
RL, then the match is going to migrate away from the Conjugate basis Z
match towards some other solution. I cannot see how it could be
otherwise unless there were some undocumented and unmeasurable R (not
real) were to combine to balance the books.

If there's a match, the Data and the numerous counter arguments to you
seem to prefer an image basis Z match. I don't hold much confidence
in that outcome either.

73's
Richard Clark, KB7QHC

2114. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 21:40:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <pfqdnVsdgIZ675TRnZ2dnUVZ_vadnZ2d@giganews.com>
Source record: 9414

Richard Fry wrote:
>
> For the sake of discussion, below are two pastes from the same NEC
> model using the demo version of EZNEC v. 5.0 -- which rather well
> support my earlier post that the radiation resistance (NOT the
> impedance) of an electrically short monopole is a function of its
> electrical length, and not the loss resistance of the r-f ground and/
> or the loading coil.
>
> . . .
> EZNEC calculated the radiation resistances of these two cases to be
> 0.14 ohms and 0.17 ohms, respectively -- fairly close, but not exact.
> Perhaps Roy could comment on the reason why their agreement using NEC/
> EZNEC is not better.

Sorry, I can't tell without seeing the EZNEC description file. If you'll attach the .EZ file to an email message to me, I'll be glad to answer your question. I wasn't able to get a radiation resistance that high at that frequency for a 3 meter vertical of any diameter, so there's something in the model which isn't immediately apparent.

> Those wanting a good resource for the measured results for monopoles
> of less than 1/8 electrical wavelength might try to locate the paper
> by Carl E. Smith and Earl M. Johnson titled PERFORMANCE OF SHORT
> ANTENNAS, published in the October, 1947 edition of the Proceedings of
> the I.R.E.
>
> The equation for the radiation resistance of short antennas given in
> that paper is independent of the resistive losses in any loading coil
> or r-f ground system.

And the same fundamental equations are used by modeling programs. The problem is that interaction between the antenna, an abbreviated ground system, and the Earth can modify the radiation resistance as well as adding loss resistance. You might try modeling a few short verticals with a few radials just above ground, and looking at the gain with various radial systems. You'll find that the gain change doesn't exactly correlate with the feedpoint resistance change when you assume a constant radiation resistance. This isn't a shortcoming of the modeling program, but a real effect. I doubt you'll find much about it in pre-computer age texts, though, because it's probably a very tough, or maybe impossible, manual calculation.

Roy Lewallen, W7EL

2115. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 22:39:37 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <c12a8d3e-35cb-48ed-9622-8d0922290aab@z17g2000vbd.googlegroups.com>
Source record: 9415

On Jun 4, 1:26 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> > Thanks David, that's good news. It apparently means that the arguments
> > based on energy not crossing a current node boundary in a standing
> > wave are invalid - since that singular condition violates the boundary
> > conditions for Maxwell's equations. So does the "standing wave energy
> > standing still" argument. Not only does the photonic nature of EM
> > waves require them to travel at the speed of light in the medium, but
> > so does Maxwell's equations.
>
> definately. another simple condition shows this can't be correct
> since current nodes correspond with voltage peaks in the standing wave
> pattern, so while energy in the magnetic field is a minimum the energy
> in the electric field is a maximum.

And yet....

It is generally accepted that power = volts times current (P=VI) and
that
power is energy flowing, so if the voltage or current is always 0,
there
must be no energy flowing.

The presence of voltage without current, or current without voltage is
an indication that energy is stored, not that energy is flowing.

So are you really prepared to give up on P=VI so that energy can be
flowing (i.e. there is power) when the voltage or current is zero?

...Keith

2116. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 23:08:04 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <69ea8dbd-2182-444e-94df-4f53f7ce4bc8@f13g2000vbm.googlegroups.com>
Source record: 9416

On Jun 3, 4:03 pm, lu6etj <lu6...@gmail.com> wrote:
> Thanks to all
>
> Hey boys! (Cecil, David, Michael, et al) It is very funny and
> entertaining, I enjoy your postingss mostly in "read only" mode
> because translate not simple mine ones still being a struggle for
> me :-)
> ....
> Cecil, I never studied standing waves with Maxwell equations (except
> in usual examples of cavity resonators cases learning classes), I
> studied only classic electric differential solution to the
> telegraper's equations.
>
> Hi Keith: We tend to think of energy as a "tangible and real" easely
> intuited thing "out there" (as a water or horses) but we must not
> forget energy is a really elusive CONCEPT devised to explain changes
> in physical systems. Familiarity tend us to fetishize concepts, then
> we easily can get caught in troubles type => "Where velocity goes when
> the car smash?" :-D :-D. We must be carefully with forces, powers,
> velocities, etc. in this sense...
> Note how Terman prudenty deals with differential solution of
> Telegrapher's equations: "This combinatiosn of voltage and current can
> be INTERPRETED as a wave train traveling toward receiver" (1)
> (capitalized letters by me).

Terman does seem to be extraordinarily careful with his language.

> The very term "standing waves" leads to endless Ham controversies
> about concept of "wave" word in our context.(wave as "a disturb that
> propagates" and wave as pattern-figure-graphics-representation of
> interference pattern of voltage/current measured along the TL). This
> "wave pattern" (is it correct to write "wavy" pattern?) do not carry
> any energy from one place to another on the TL it is not a "wave" in
> the other sense (transport phenomena). What do you think?

I tend to agree. Wave is an overloaded term and this leads to some of
the confusion. There are some phenomena that transport energy which
have a wavy nature. This does not mean that every thing with a wavy
nature is transporting energy.

In particular, it does not mean that when there is a situation in
which
energy is not being transported (e.g. a zero on a transmission line),
that just because the conditions on the line can be described by
decomposing into two waves going in opposite directions, that these

two waves are carrying energy.

Attempting to do this, and believing that these decomposed waves
actually
represent energy flows leads to having to answer questions like "where
does the reflected energy go"? When I first started lurking in this
group
about a decade and half ago, the 'obvious' answer accepted by many was
that it went in to the final and fried the tube. Many have moved
beyond
this simplicity, but some have not yet moved as far as they need to.

...Keith

2117. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-04 23:54:30 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7102565c-22f3-4907-945a-7d9b6b860501@g19g2000yqc.googlegroups.com>
Source record: 9417

On Jun 4, 10:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 4, 1:26 pm, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> > > Thanks David, that's good news. It apparently means that the arguments
> > > based on energy not crossing a current node boundary in a standing
> > > wave are invalid - since that singular condition violates the boundary
> > > conditions for Maxwell's equations. So does the "standing wave energy
> > > standing still" argument. Not only does the photonic nature of EM
> > > waves require them to travel at the speed of light in the medium, but
> > > so does Maxwell's equations.
>
> > definately. another simple condition shows this can't be correct
> > since current nodes correspond with voltage peaks in the standing wave
> > pattern, so while energy in the magnetic field is a minimum the energy
> > in the electric field is a maximum.
>
> And yet....
>
> It is generally accepted that power = volts times current (P=VI) and
> that
> power is energy flowing, so if the voltage or current is always 0,
> there
> must be no energy flowing.
>
> The presence of voltage without current, or current without voltage is
> an indication that energy is stored, not that energy is flowing.
>
> So are you really prepared to give up on P=VI so that energy can be
> flowing (i.e. there is power) when the voltage or current is zero?
>
> ...Keith

that is just another flaw in the 'standing wave' problem. since they
are not real waves that propagate and move energy the P=VI formula is
not correct. you must take the original traveling waves and study the
power and energy using them, from that you should see the proper
results.

2118. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 00:19:37 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <b9903b17-7f42-4ae1-aed9-644eef679062@k39g2000yqd.googlegroups.com>
Source record: 9418

```
On Jun 4, 7:54 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 4, 10:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 4, 1:26 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> > > > Thanks David, that's good news. It apparently means that the arguments
> > > > based on energy not crossing a current node boundary in a standing
> > > > wave are invalid - since that singular condition violates the boundary
> > > > conditions for Maxwell's equations. So does the "standing wave energy
> > > > standing still" argument. Not only does the photonic nature of EM
> > > > waves require them to travel at the speed of light in the medium, but
> > > > so does Maxwell's equations.
>
> > > definately.  another simple condition shows this can't be correct
> > > since current nodes correspond with voltage peaks in the standing wave
> > > pattern, so while energy in the magnetic field is a minimum the energy
> > > in the electric field is a maximum.
>
> > And yet....
>
> > It is generally accepted that power = volts times current (P=VI) and
> > that
> > power is energy flowing, so if the voltage or current is always 0,
> > there
> > must be no energy flowing.
>
> > The presence of voltage without current, or current without voltage is
> > an indication that energy is stored, not that energy is flowing.
>
> > So are you really prepared to give up on P=VI so that energy can be
> > flowing (i.e. there is power) when the voltage or current is zero?
>
> > ...Keith
>
> that is just another flaw in the 'standing wave' problem.  since they
> are not real waves that propagate and move energy the P=VI formula is
> not correct.  you must take the original traveling waves and study the
> power and energy using them, from that you should see the proper
> results
```

My apologies for being insufficiently precise. Where ever I wrote
P=VI,
please substitute P(t)=V(t)I(t).

That is, the power (i.e. energy flow) at any instant in time is the voltage at that time times the current at that time. If, for all time, the current or voltage is 0, then so is the energy flow.

...Keith

2119. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 00:23:45 UTC
From: joe <none@domain.invalid>
Message-ID: <huc56obbq1@speranza.aioe.org>
Source record: 9419

Keith Dysart wrote:
> On Jun 4, 1:26 pm, K1TTT <k1...@arrl.net> wrote:
>> On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
>>> Thanks David, that's good news. It apparently means that the arguments
>>> based on energy not crossing a current node boundary in a standing
>>> wave are invalid - since that singular condition violates the boundary
>>> conditions for Maxwell's equations. So does the "standing wave energy
>>> standing still" argument. Not only does the photonic nature of EM
>>> waves require them to travel at the speed of light in the medium, but
>>> so does Maxwell's equations.
>> definately. another simple condition shows this can't be correct
>> since current nodes correspond with voltage peaks in the standing wave
>> pattern, so while energy in the magnetic field is a minimum the energy
>> in the electric field is a maximum.
>
> And yet....
>
> It is generally accepted that power = volts times current (P=VI) and
> that
> power is energy flowing, so if the voltage or current is always 0,
> there
> must be no energy flowing.

Consider two equal valued resistors connected in series. Connect one end
of the pair to +12 volts, connect the other end of the pair to -12
volts. The voltage at the center is 0. There is certainly current
flowing. There clearly is power dissipated in the circuit.

>
> The presence of voltage without current, or current without voltage is
> an indication that energy is stored, not that energy is flowing.

The above example has current but no voltage, There are no storage
elements, only resistors.

Inductance and capacitance are storage elements. You might find those in
a model of a transmission line, but not in this example.

>
> So are you really prepared to give up on P=VI so that energy can be
> flowing (i.e. there is power) when the voltage or current is zero?
>
> ...Keith

I think you are looking to hard at a small part of the picture and not
seeing what else is going on.

2120. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 00:48:11 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <0a270f09-26d5-4734-a491-c5cab2385f9b@g19g2000yqc.googlegroups.com>
Source record: 9420

On Jun 4, 4:40 pm, Roy Lewallen <w...@eznec.com> wrote:
> Richard Fry wrote:
> > The equation for the radiation resistance of short antennas given in
> > that paper is independent of the resistive losses in any loading coil
> > or r-f ground system.
>
> And the same fundamental equations are used by modeling programs. The
> problem is that interaction between the antenna, an abbreviated ground
> system, and the Earth can modify the radiation resistance as well as
> adding loss resistance.

Could you please explain why, if the same fundamental equations given in antenna engineering textbooks and I.R.E. papers are used by modeling programs, the results of their use do not always support each other very well?

If it is accepted that the radiation resistance of a short monopole is independent of the loss resistance in the loading coil and r-f ground either alone or together, then what is the basis for the variation in radiation resistance that you report?

BTW, the equations in the Carl Smith paper I referred to earlier in this thread produce a radiation resistance of 0.113 ohms for a 1.65 MHz, 9.84' (3-m) x 0.25" OD, base driven monopole -- which is not _hugely_ different than the values calculated by EZNEC.

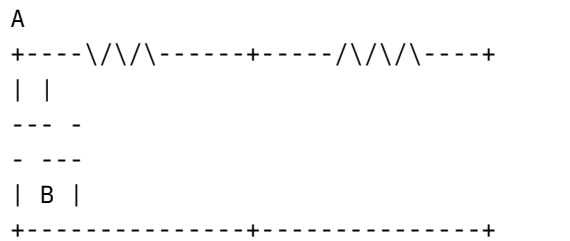
RF

2121. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 01:07:03 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <ee1806dc-2d62-42b0-82c6-f35fc7100c94@y4g2000yqy.googlegroups.com>
Source record: 9421

On Jun 4, 8:23 pm, joe <n...@domain.invalid> wrote:
> Keith Dysart wrote:
> > On Jun 4, 1:26 pm, K1TTT <k1...@arrl.net> wrote:
> >> On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> >>> Thanks David, that's good news. It apparently means that the arguments
> >>> based on energy not crossing a current node boundary in a standing
> >>> wave are invalid - since that singular condition violates the boundary
> >>> conditions for Maxwell's equations. So does the "standing wave energy
> >>> standing still" argument. Not only does the photonic nature of EM
> >>> waves require them to travel at the speed of light in the medium, but
> >>> so does Maxwell's equations.
> >> definately. another simple condition shows this can't be correct
> >> since current nodes correspond with voltage peaks in the standing wave
> >> pattern, so while energy in the magnetic field is a minimum the energy
> >> in the electric field is a maximum.
>
> > And yet....
>
> > It is generally accepted that power = volts times current (P=VI) and
> > that
> > power is energy flowing, so if the voltage or current is always 0,
> > there
> > must be no energy flowing.
>
> Consider two equal valued resistors connected in series. Connect one end
> of the pair to +12 volts, connect the other end of the pair to -12
> volts. The voltage at the center is 0. There is certainly current
> flowing. There clearly is power dissipated in the circuit.

An excellent example. Let's draw it.



Between A and B the voltage is zero. I contend that there is no energy
flowing from the left half of the circuit to the right half. To
demonstrate this, compute the energy contributed by the battery on the
left. It is equal to the energy consumed by the resistor on the left.
Similarly for the battery and resistor on the rigtht. No energy flows
across the plane A-B.

If you still disagree, what is the power flowing across A-B?

...Keith

2122. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 01:25:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <a-mdneyl95kAOpTRnZ2dnUVZ_hqdnZ2d@giganews.com>
Source record: 9422

Richard Fry wrote:
>
> Could you please explain why, if the same fundamental equations given
> in antenna engineering textbooks and I.R.E. papers are used by
> modeling programs, the results of their use do not always support each
> other very well?

I'm not aware of any cases where engineering textbooks and papers disagree with modeling programs. NEC, for example, has been very extensively tested against both theory and measurement. If there are cases where the programs seem to disagree with theory, it's very likely due to careless modeling resulting in a model which isn't the same as the textbook model. Can you cite an example of disagreement between computer model and textbook theory?

> If it is accepted that the radiation resistance of a short monopole is
> independent of the loss resistance in the loading coil and r-f ground
> either alone or together, then what is the basis for the variation in
> radiation resistance that you report?

It is indeed accepted that the radiation resistance of a monopole over a perfect ground of infinite extent has the characteristics you ascribe, and computer models show this independence as they should. (I haven't yet received your model which you feel seems to show differently.) But it's neither true nor "accepted" when the ground system is much less than perfect. The variation is due to interaction between the vertical and ground system, just as the radiation resistance of a VHF ground plane antenna changes as you bend the radials downward. Altering the number, length, depth, and orientation of radials has more of an effect than simply adding loss.

> BTW, the equations in the Carl Smith paper I referred to earlier in
> this thread produce a radiation resistance of 0.113 ohms for a 1.65
> MHz, 9.84' (3-m) x 0.25" OD, base driven monopole -- which is not
> _hugely_ different than the values calculated by EZNEC.

EZNEC gives a result of 0.1095 ohm with 20 segments, converging to around 0.103 ohms with many more segments. Keep in mind that the model source position moves closer to the base as the number of segments increases.

The author's result is good. If you examine the paper carefully, I'm sure you'll find that the author had to make some assumptions and approximations to arrive at his equations -- the most fundamental equations can't be solved in closed form, and many, many papers and several books were written describing various approximations to

calculate something as basic as the input impedance of an arbitrary length dipole. If you do some research, you'll find that the many different approximating methods all give slightly different results. The small disagreement in the cited paper is really a measure of how good his approximations were. Modeling programs have to use numerical methods which are limited by quantization, but they have the advantage of not needing the various approximation methods required for calculation by other means.

Roy Lewallen, W7EL

2123. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 07:22:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c09fb52$0$2582$65785112@news.neostrada.pl>
Source record: 9423

"Keith Dysart" <keith.dysart@gmail.com> wrote
news:69ea8dbd-2182-444e-94df-4f53f7ce4bc8@f13g2000vbm.googlegroups.com...

>I tend to agree. Wave is an overloaded term and this leads to some of
the confusion. There are some phenomena that transport energy which
have a wavy nature. This does not mean that every thing with a wavy
nature is transporting energy.

>In particular, it does not mean that when there is a situation in
which
energy is not being transported (e.g. a zero on a transmission line),
that just because the conditions on the line can be described by
decomposing into two waves going in opposite directions, that these
two waves are.

Also each pulse in the wave is carrying energy.

>Attempting to do this, and believing that these decomposed waves
actually represent energy flows leads to having to answer questions like
"where
does the reflected energy go"? When I first started lurking in this
group about a decade and half ago, the 'obvious' answer accepted by many was
that it went in to the final and fried the tube.

Members of this Group should know that in microwave oven are the standing
waves, In the Manual is " when the amount of food is small, sharp points and
sharp edges on metal objects can initiate a corona discharge, a "Saint
Elmo's Fire," which behaves the same as a flame and can set fire to the food
and the oven if allowed to continue for long. Aluminum foil can become a
blow torch!"

Each pulse of the both waves travelling in the opposite direction is
carrying energy. The energy cummulate and can destroy the tube or the oven.

>Many have moved beyond this simplicity, but some have not yet moved as far
>as they need to.

It is important to know that the standing waves are possible only in
compressible medium.
"Maxwell's equations" are for the incompressible electricuty.
S*

2124. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 11:42:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8f9653d1-8f73-46bd-99ee-2274f2409b29@k39g2000yqd.googlegroups.com>
Source record: 9424

```
On Jun 5, 12:19 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 4, 7:54 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 4, 10:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > On Jun 4, 1:26 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Jun 4, 2:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> > > > > Thanks David, that's good news. It apparently means that the arguments
> > > > > based on energy not crossing a current node boundary in a standing
> > > > > wave are invalid - since that singular condition violates the boundary
> > > > > conditions for Maxwell's equations. So does the "standing wave energy
> > > > > standing still" argument. Not only does the photonic nature of EM
> > > > > waves require them to travel at the speed of light in the medium, but
> > > > > so does Maxwell's equations.
>
> > > > definately.  another simple condition shows this can't be correct
> > > > since current nodes correspond with voltage peaks in the standing wave
> > > > pattern, so while energy in the magnetic field is a minimum the energy
> > > > in the electric field is a maximum.
>
> > > And yet....
>
> > > It is generally accepted that power = volts times current (P=VI) and
> > > that
> > > power is energy flowing, so if the voltage or current is always 0,
> > > there
> > > must be no energy flowing.
>
> > > The presence of voltage without current, or current without voltage is
> > > an indication that energy is stored, not that energy is flowing.
>
> > > So are you really prepared to give up on P=VI so that energy can be
> > > flowing (i.e. there is power) when the voltage or current is zero?
>
> > > ...Keith
>
> > that is just another flaw in the 'standing wave' problem.  since they
> > are not real waves that propagate and move energy the P=VI formula is
> > not correct.  you must take the original traveling waves and study the
> > power and energy using them, from that you should see the proper
> > results
```

>
> My apologies for being insufficiently precise. Where ever I wrote
> P=VI,
> please substitute P(t)=V(t)I(t).
>
> That is, the power (i.e. energy flow) at any instant in time is the
> voltage at that time times the current at that time. If, for all time,
> the current or voltage is 0, then so is the energy flow.
>
> ...Keith

right, and this brings up another key error that a detailed look at standing waves points out. go look at one of the animations of standing waves and you will note that in each cycle they go from tall peaks to a flat line and then back to peaks. so if you use p=vi what is the energy in the line when either field is zero from end to end? if you answer zero, then where did it go? it is obviously impossible for the energy in the line to go to zero everywhere every half cycle as that would require propagation faster than light, and some external place for all that energy to dump to. so calculating power that way is worthless with standing waves.

The real die hard standing wave fanatics will look closer and realize they can represent calculate power in each field separately and make it slosh back and forth between electric fields and magnetic fields. That representation may be interesting, but is nothing more than studying the energy stored in a resonant LC circuit. it doesn't go anywhere, it just alternates between the electric and magnetic fields.

2125. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 11:53:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e515eba9-b6f5-4445-8e8a-fe3b4f6a82be@d8g2000yqf.googlegroups.com>
Source record: 9425

> Consider two equal valued resistors connected in series. Connect one end
> of the pair to +12 volts, connect the other end of the pair to -12
> volts. The voltage at the center is 0. There is certainly current
> flowing. There clearly is power dissipated in the circuit.

you need to go back to circuits 101 and retake the undergraduate lab
intro where they teach you about measuring current and voltage. your
basic problem statement above is malformed since you can not measure
the voltage 'at the center'. voltages always have to be taken between
two points.

now if you REALLY want to be confused, ignore circuits 101 and draw
any circuit with as many components in it as you want as long as there
is only ONE loop. so connect AC or DC sources, inductors, capacitors,
resistors, around in a circle. start measuring voltage across each
one as you go around the circle and add them up. the result will
ALWAYS be zero. (go read about Kirchhoff's laws, here is one
reference http://www.bowest.com.au/library/theorems.html).

Note that of course these do not apply to transmission line problems
or antennas.

2126. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 12:08:33 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <44fcd59d-2b7f-4e00-bd19-4e13cf0c20de@q12g2000yqj.googlegroups.com>
Source record: 9426

On Jun 5, 7:42 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 5, 12:19 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> > That is, the power (i.e. energy flow) at any instant in time is the
> > voltage at that time times the current at that time. If, for all time,
> > the current or voltage is 0, then so is the energy flow.
>
> > ...Keith
>
> right, and this brings up another key error that a detailed look at
> standing waves points out. go look at one of the animations of
> standing waves and you will note that in each cycle they go from tall
> peaks to a flat line and then back to peaks. so if you use p=vi what
> is the energy in the line when either field is zero from end to end?

We need to carefully understand the meaning of the words. Power is
energy
that is moving; the SI unit is the watt or joule per second. The unit
for energy is the joule.

When the voltage or current is zero everywhere, there is no power,
that
is, no energy is moving. The energy is stored on the line where it
happens
to be. As the voltage or current rises again from zero, the energy is
now moving in the direction opposite to the direction it was moving
before
the line was zero everywhere. At a point where the voltage or current
is
always zero, no energy moves. The energy sloshes back and forth
between
the points in the line that it never crosses.

> it just alternates between the electric and magnetic fields

This is true, but the energy also changes location as it does this,
leading
to energy flow (or power), but the energy does not cross any point
where
the voltage or current is always zero.

When the current everywhere is zero, no energy is flowing, and the
energy
is stored as voltage in the capacitance of the line. And those
voltages are
at maximum and will soon begin to decrease as the energy begins to
flow the

other way.

Similarly, when the voltage is zero everywhere, the energy is stored as
current in the inductance of the line.

...Keith

2127. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 12:26:02 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <f3efb430-7e5c-47bc-8207-4c04418d7680@y11g2000yqm.googlegroups.com>
Source record: 9428

On Jun 4, 8:25 pm, Roy Lewallen <w...@eznec.com> wrote:
>It is indeed accepted that the radiation resistance of a monopole over a
>perfect ground of infinite extent has the characteristics you ascribe,
>and computer models show this independence as they should. (I haven't
>yet received your model which you feel seems to show differently.)

The .EZ files for Case 1 and Case 2 were emailed to you this morning.

I had also modeled this short monopole system earlier with basically
the same parameters, using another NEC-2 program (results follow):

NEC-Win Plus+ OUTPUT DATA

C:\Program Files\NEC-WIN\RJF Antenna Files\Case 1.NOU

FREQUENCY= 1.6500E+00 MHZ
WAVELENGTH= 1.8170E+02 METERS

VSWR

Tag: 1, Segment: 1
Input Impedance:
Real(Z) = 0.1127 Imag(Z) = -0.0653

C:\Program Files\NEC-WIN\RJF Antenna Files\Case 2.NOU

FREQUENCY= 1.6500E+00 MHZ
WAVELENGTH= 1.8170E+02 METERS

VSWR

Tag: 1, Segment: 1
Input Impedance:
Real(Z) = 25.1127 Imag(Z) = -0.0653

This NEC study produced identical values of radiation resistance and
input reactance for the same conditions, whereas the EZNEC
calculations, while fairly close, varied from each other. I suppose
this small difference is related to small differences in the
parameters used for the models.

The values of radiation resistance (0.1127 ohms) calculated by NEC-WIN
+ are a very close match to the 0.113 ohms calculated using the
equation in the Carl E. Smith paper.

Below are the two NEC input files from the NEC-WIN+ study, if anybody
wants to load the values into another NEC program to experiment. The
only difference between them is in the load (LD) definition.

```
NEC-Win Plus+ INPUT FILE
------------------------
C:\Program Files\NEC-WIN\RJF Antenna Files\Case 1.NWP

CM
CE
GW 1 12 0 0 0 0 0 9.84 0.125
GW 30901 1 9901.0000 9901.0000 9901.0000 9901.0001 9901.0001
9901.0001 .00001
GS 0 0 .3048
GE 1
GN 1
EX 0 30901 1 0 0.0 1.0
LD 4 1 1 1 0 2050
NT 30901 1 1 1 0 0 0 1 0 0
FR 0 1 0 0 1.65 1
RP 0 1 360 1000 90 1 1 1
RP 0 181 1 1000 -90 0 1 1
EN

NEC-Win Plus+ INPUT FILE
------------------------
C:\Program Files\NEC-WIN\RJF Antenna Files\Case 2.NWP

CM
CE
GW 1 12 0 0 0 0 0 9.84 0.125
GW 30901 1 9901.0000 9901.0000 9901.0000 9901.0001 9901.0001
9901.0001 .00001
GS 0 0 .3048
GE 1
GN 1
EX 0 30901 1 0 0.0 1.0
LD 4 1 1 1 25 2050
NT 30901 1 1 1 0 0 0 1 0 0
FR 0 1 0 0 1.65 1
RP 0 1 360 1000 90 1 1 1
RP 0 181 1 1000 -90 0 1 1
EN

//
```

2128. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 12:27:00 UTC
From: joe <none@domain.invalid>
Message-ID: <hudfim$ed9$1@speranza.aioe.org>
Source record: 9427

K1TTT wrote:
>> Consider two equal valued resistors connected in series. Connect one end
>> of the pair to +12 volts, connect the other end of the pair to -12
>> volts. The voltage at the center is 0. There is certainly current
>> flowing. There clearly is power dissipated in the circuit.
>
> you need to go back to circuits 101 and retake the undergraduate lab
> intro where they teach you about measuring current and voltage. your
> basic problem statement above is malformed since you can not measure
> the voltage 'at the center'. voltages always have to be taken between
> two points.

Funny, Keith understood exactly what I meant. I find it hard to believe
you couldn't figure out the implied reference point. (I.e., what the
supplies were connected to.)

>
> now if you REALLY want to be confused, ignore circuits 101 and draw
> any circuit with as many components in it as you want as long as there
> is only ONE loop. so connect AC or DC sources, inductors, capacitors,
> resistors, around in a circle. start measuring voltage across each
> one as you go around the circle and add them up. the result will
> ALWAYS be zero. (go read about Kirchhoff's laws, here is one
> reference http://www.bowest.com.au/library/theorems.html).

Since you include AC sources, the voltages must all be measured at the
same time. Circuits 101 should tell you that.

>
> Note that of course these do not apply to transmission line problems
> or antennas.

Which was part of my point, picking at some details may not lead you to
the proper view of what is going on.

2129. WHAT IS ISLAM?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 13:03:09 UTC
From: حفيدة الصحابة <bo9.sl.m.sa@gmail.com>
Message-ID: <c52a9128-b7f3-42ae-9697-f6a4806909f2@g7g2000yqj.googlegroups.com>
Source record: 9429

Excuse me!!
Would you stop for a moment?!
O...man...Haven't you thought-one day- about yourself ?
Who has made it?
Have you seen a design which hasn't a designer ?!
Have you seen a wonderful,delicate work without a worker ?!
It's you and the whole universe!..
Who has made them all ?!!
You know who ?.. It's "ALLAH",prise be to him.
Just think for a moment.
How are you going to be after death ?!
Can you believe that this exact system of the universe and all of
these great creation will end in in nothing...just after death!
Have you thought, for a second, How to save your soul from Allah's
punishment?!
Haven't you thought about what is the right religion?!
Read ... and think deeply before you answer..
It is religion of Islam.
It is the religion that Mohammad-peace upon him- the last prophet, had
been sent by.
It is the religion that the right Bible- which is not distorted-has
preached.
Just have a look at The Bible of (Bernaba).
Don't be emstional.
Be rational and judge..
Just look..listen...compare..and then judge and say your word.
We advise you visiting :
المواقع الداعية إلى الإسلام باللغة الإنجليزية

http://www.islam-guide.com/
http://www.thetruereligion.org/
http://www.beconvinced.com/
http://www.plaintruth.org/
http://english.islamway.com/
http://www.todayislam.com/
http://www.islamunveiled.org

2130. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 13:22:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8e0e9399-f7f4-4ab7-ae4f-f543821aa6d3@y11g2000yqm.googlegroups.com>
Source record: 9430

On Jun 4, 5:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> ... if the voltage or current is always 0,
> there must be no energy flowing.

Keith, you keep leaving out the word "net". If the current on each side of a zero-current point is not zero, all that zero current measurement means is there is equal energy flowing in both directions so there is no *net* energy flow. The fact that Maxwell's equations cannot be used on your condition of interest should be a clue that something is wrong with your concepts and/or logic. You are essentially saying that there is no traffic on the Golden Gate Bridge because the north and south traffic averages out to zero. It is a faulty concept. That zero net traffic keeps on wearing out the roadway.
--
73, Cecil, w5dxp.com

2131. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 13:29:19 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ef612eb6-ed1b-4eb4-af64-d66162a08183@z8g2000yqz.googlegroups.com>
Source record: 9431

On Jun 4, 5:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> So are you really prepared to give up on P=VI so that energy can be
> flowing (i.e. there is power) when the voltage or current is zero?

Your equation is for DC power. The equation for net AC power is
P=V*I*cos(theta). Since, for a pure standing wave, the net voltage is
always 90 degrees out of phase with the net current, the net power at
ALL points is zero, not just at the I=0 point. cos(theta) is ALWAYS
zero for a pure standing wave whether I=0 or not - so your argument is
moot. For a pure standing wave, P = V*I*cos(theta) is ALWAYS zero. I
or V going to zero cannot make it more zero than it already is.

For a pure standing wave, the forward Poynting vector and the
reflected Poynting vector sum to zero AT ALL POINTS.
--
73, Cecil, w5dxp.com

2132. Simple hack to get $500 to your home.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 13:38:22 UTC
From: SUKANYA <texaspeso31@gmail.com>
Message-ID: <af8b1b85-b45b-4a36-ada7-3252c5431872@u3g2000prl.googlegroups.com>
Source record: 9432

Simple hack to get $500 to your home at http://uslatest.tk

Due to high security risks,i have hidden the cheque link in an
image. in that website on left side below search box, click on image
and enter your name and address where you want to receive your
cheque.please dont tell to anyone.

2133. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 13:42:33 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0ff47ab1-8625-4552-b4ed-86a63a0d8e89@x21g2000yqa.googlegroups.com>
Source record: 9433

On Jun 4, 7:19 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> If, for all time,
> the current or voltage is 0, then so is the energy flow.

You left out the word "net" again. Indeed, there is zero *net* energy flow in a pure standing wave. It is technically not a wave because it doesn't transfer energy and momentum. The forward and reflected Poynting vectors can be of any magnitude. They are just equal in magnitude whatever that magnitude might be.

Keith, could you refresh my memory on those instantaneous power equations that you once published. Given a forward wave and a reflected wave, what was your equation for instantaneous power? None of my references consider EM standing wave instantaneous power to be important enough to present a mathematical treatment of the subject.
--
73, Cecil, w5dxp.com

2134. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 13:59:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9d0a32bb-a67b-4f1d-aab4-d9019ca548d6@u7g2000yqm.googlegroups.com>
Source record: 9434

On Jun 5, 6:53 am, K1TTT <k1...@arrl.net> wrote:
> ... draw
> any circuit with as many components in it as you want as long as there
> is only ONE loop.

Just a nit - there is a frequency at which the voltages will begin not
summing to zero. That's when it is time to discard the lumped-circuit
model and go to the distributed network model or Maxwell's equations.
--
73, Cecil, w5dxp.com

2135. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 14:22:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <cedbb4cc-87ba-4efe-ad50-e961f0da01ca@r27g2000yqb.googlegroups.com>
Source record: 9435

On Jun 5, 7:08 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> We need to carefully understand the meaning of the words. Power is
> energy that is moving;

Correction, it must be moving past a point, not just moving laterally from an inductance to a capacitance and back. There is zero net average power anywhere on a wire containing a pure standing wave. Therefore, there is zero net energy flow anywhere on a pure standing wave, not just at the zero current and zero voltage points. The average power in a pure standing wave is zero whether the current or voltage is zero or not. What is important for power is the phase angle between the net current phasor and the net voltage phasor which is always 90 degrees for a pure standing wave. The fact that *power is a scalar with no negative values* and *the average power is zero*, leads one to conclude that instantaneous power is just a mathematical curiosity. Exactly how can the instantaneous power average out to zero average power if there are no negative values of instantaneous power? Seems to me to be one of those numerous "undefined" or "indeterminate" conditions that unfortunately exists in mathematics. When you solve a quadratic equation for a resistance and get plus or minus 100 ohms, do you actually start searching for a -100 ohm resistor? Then why, when you know the average power is zero, do you ask us to go searching for some negative instantaneous power that doesn't exist?

Since power is energy flow *per unit time*, I don't see how power calculated over zero unit time can be anything more than a mathematical curiosity existing in human brains - and unrelated to reality. When one integrates instantaneous standing wave power over one cycle and gets anything except zero, one needs to recognize the error or one's ways.
--
73, Cecil, w5dxp.com

2136. See Hot Sexy Star Aishwarya Nude Bathing Videos In All Angles.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 14:39:10 UTC
From: kajal agarwal <ukpound28@gmail.com>
Message-ID: <fdefb865-0e2b-4c0e-b4f6-31fc031635f3@z15g2000prh.googlegroups.com>
Source record: 9436

See Hot Sexy Star Aishwarya Nude Bathing Videos In All Angles.
at http://uknews.tk

Due to high sex content,i have hidden the videos in an image. in that
website on left side below search box click on image and watch
videos in all angles.please dont tell to anyone.

2137. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 17:05:00 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b0117012-2cae-4c98-8079-e6524fd07cea@d37g2000yqm.googlegroups.com>
Source record: 9437

On 5 jun, 11:22, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 5, 7:08 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > We need to carefully understand the meaning of the words. Power is
> > energy that is moving;
>
> Correction, it must be moving past a point, not just moving laterally
> from an inductance to a capacitance and back. There is zero net
> average power anywhere on a wire containing a pure standing wave.
> Therefore, there is zero net energy flow anywhere on a pure standing
> wave, not just at the zero current and zero voltage points. The
> average power in a pure standing wave is zero whether the current or
> voltage is zero or not. What is important for power is the phase angle
> between the net current phasor and the net voltage phasor which is
> always 90 degrees for a pure standing wave. The fact that *power is a
> scalar with no negative values* and *the average power is zero*, leads
> one to conclude that instantaneous power is just a mathematical
> curiosity. Exactly how can the instantaneous power average out to zero
> average power if there are no negative values of instantaneous power?
> Seems to me to be one of those numerous "undefined" or "indeterminate"
> conditions that unfortunately exists in mathematics. When you solve a
> quadratic equation for a resistance and get plus or minus 100 ohms, do
> you actually start searching for a -100 ohm resistor? Then why, when
> you know the average power is zero, do you ask us to go searching for
> some negative instantaneous power that doesn't exist?
>
> Since power is energy flow *per unit time*, I don't see how power
> calculated over zero unit time can be anything more than a
> mathematical curiosity existing in human brains - and unrelated to
> reality. When one integrates instantaneous standing wave power over
> one cycle and gets anything except zero, one needs to recognize the
> error or one's ways.
> --
> 73, Cecil, w5dxp.com

Hi. ¡Good evening (here) to all..!

> We need to carefully understand the meaning of the words. Power is
> energy that is moving;

Since the energy can be dissipated also transmitted, If we talk in
power FLUX terms (instead power only), I think the issue it would be a
little more understandable because surfaces may have associated
vectors (with "power moving" I believe you are thinking about power
crossing an imaginary surface)

(Note: when I spoke about "unidimensional" nature of a TL space I am pointing to "degrees of freedom" of energy flux circumscribed to its physical path, of course).

For the sake of example we could imaginate a coaxial TL provided with a resistive inner conductor and perfectly conductive outer one. On such TL perhaps we could clearly visualize power flux vector (Poynting vector) "slanted" towards inner conductor to "see" -through simple vectorial decomposition on (over?) the inner wire and pependicular to it directions both => transmission and dissipative nature of phenomenom.
At the same time I believe will be also more ease to account for net power FLUX of opposite directions traveling waves and do not confuse with net power being zero, leading us to the idea of zero energy stored in a ideal resonant TL. Note: In my last mensage I forget to clear that with "resonant line" I was speaking about a section of TL with its ends open or shorted (or a mix) to force a "chemically pure" standing wave :>)

I believe we always must escape from words as "real" or "true" (outside of safe environments such mathematics or digital logic), because "she" easily leads us to the Holy Inquisition dangers :>) Let us the Wave word to be free for jointing with standing, sine, hand, etc, etc. and do we make efforts to understand its conceptual meaning on each context :>)

73

Miguel Ghezzi - LU6ETJ

2138. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 17:05:11 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4682e655-197e-4fe6-8f7d-86c368968123@y11g2000yqm.googlegroups.com>
Source record: 9438

On Jun 5, 12:08 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 5, 7:42 am, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 5, 12:19 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > That is, the power (i.e. energy flow) at any instant in time is the
> > > voltage at that time times the current at that time. If, for all time,
> > > the current or voltage is 0, then so is the energy flow.
>
> > > ...Keith
>
> > right, and this brings up another key error that a detailed look at
> > standing waves points out. go look at one of the animations of
> > standing waves and you will note that in each cycle they go from tall
> > peaks to a flat line and then back to peaks. so if you use p=vi what
> > is the energy in the line when either field is zero from end to end?
>
> We need to carefully understand the meaning of the words. Power is
> energy
> that is moving; the SI unit is the watt or joule per second. The unit
> for energy is the joule.
>
> When the voltage or current is zero everywhere, there is no power,
> that
> is, no energy is moving. The energy is stored on the line where it
> happens
> to be. As the voltage or current rises again from zero, the energy is
> now moving in the direction opposite to the direction it was moving
> before
> the line was zero everywhere. At a point where the voltage or current
> is
> always zero, no energy moves. The energy sloshes back and forth
> between
> the points in the line that it never crosses.
>
> > it just alternates between the electric and magnetic fields
>
> This is true, but the energy also changes location as it does this,
> leading
> to energy flow (or power), but the energy does not cross any point
> where
> the voltage or current is always zero.
>
> When the current everywhere is zero, no energy is flowing, and the
> energy

> is stored as voltage in the capacitance of the line. And those
> voltages are
> at maximum and will soon begin to decrease as the energy begins to
> flow the
> other way.
>
> Similarly, when the voltage is zero everywhere, the energy is stored
> as
> current in the inductance of the line.
>
> ...Keith

sorry, you are of course correct that there could still be energy
stored in the fields when the instantaneous power is zero... wrote
that before having enough caffeine this morning.

2139. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 17:07:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bcf44103-4f5d-4a40-a161-f9539e677274@j4g2000yqh.googlegroups.com>
Source record: 9439

On Jun 5, 1:59 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 5, 6:53 am, K1TTT <k1...@arrl.net> wrote:
>
> > ... draw
> > any circuit with as many components in it as you want as long as there
> > is only ONE loop.
>
> Just a nit - there is a frequency at which the voltages will begin not
> summing to zero. That's when it is time to discard the lumped-circuit
> model and go to the distributed network model or Maxwell's equations.
> --
> 73, Cecil, w5dxp.com

agreed in general. the initial premise was a couple resistors and
batteries... this is strictly true only for instantaneous voltages
across lumped components.

2140. BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 21:49:32 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0lh9d.qns.gsm@cable.mendelson.com>
Source record: 9440

I recently was able to use a crimp on tool for F connectors for RG-6 quad shield coax. To make sure everyone understands, I am in Israel, and RG-6 quad shield coax is cheap and easy to find.

Any other coax is almost impossible to find. Pl-259 connectors, called "UHF" connectors here are rare items. I can get them locally, but I have to special order them and they are expensive. Since I can not see them before I order them, I am as likely to get nickle plated ones with phenolic insulation as I am to get any other kind, and once ordered are not returnable.

BNC to PL-259 adaptors, are easy to get, and can be ordered from a reliable local souce for a relatively small price. The same with N to PL-259.

Looking around at the crimp-on F connectors before I ordered them, I found that you can get crimp on BNC connectors for RG-6 quad shield coax.

Here's my questions, Note when I say crimp-on, I mean the ones that crimp from the rear, like commerical F connectors, not the ones that crimp around the plug. I have never been able to get any of them to "fit right":

1. Can I connect a 75ohm BNC plug (which is a different size) to a 50oHm BNC socket?

2. Are there crimp on 50 ohm BNC plugs which will work with RG6 quad shield? I know there are variations, but most are similar in size.

3. Are there crimp on N connectors that would fit the RG6 quad shield coax? More likely due to the size a crimp on center element that screws into the plug body?

4. Are there crimp on PL-259 connectors?

Thanks in advance,

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

2141. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 23:03:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D8F5C244B404nonenowhere@61.9.191.5>
Source record: 9441

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in
news:slrni0lh9d.qns.gsm@cable.mendelson.com:

> I recently was able to use a crimp on tool for F connectors for RG-6
> quad shield coax. To make sure everyone understands, I am in Israel,
> and RG-6 quad shield coax is cheap and easy to find.
>
> Any other coax is almost impossible to find. Pl-259 connectors, called
> "UHF" connectors here are rare items. I can get them locally, but I
> have to special order them and they are expensive. Since I can not see
> them before I order them, I am as likely to get nickle plated ones
> with phenolic insulation as I am to get any other kind, and once
> ordered are not returnable.
>
> BNC to PL-259 adaptors, are easy to get, and can be ordered from a
> reliable local souce for a relatively small price. The same with N to
> PL-259.
>
> Looking around at the crimp-on F connectors before I ordered them, I
> found that you can get crimp on BNC connectors for RG-6 quad shield
> coax.
>
> Here's my questions, Note when I say crimp-on, I mean the ones that
> crimp from the rear, like commerical F connectors, not the ones that
> crimp around the plug. I have never been able to get any of them to
> "fit right":
>
> 1. Can I connect a 75ohm BNC plug (which is a different size) to a
> 50oHm BNC socket?

There is such a thing as a 75 ohm BNC connector, but you are almost
certainly looking at 50 ohm connectors designed for use on 75 ohm cable.
My recollection is that the 75 ohm connectors are incompatible with the
50 ohm connectors, and in some combinations will spread the female inner
part.

>
> 2. Are there crimp on 50 ohm BNC plugs which will work with RG6 quad
> shield?
> I know there are variations, but most are similar in size.
Yes, see http://www.vk1od.net/transmissionline/RG6/index.htm .
>
> 3. Are there crimp on N connectors that would fit the RG6 quad shield
> coax?

I haven't seen any. I use BNC compression connectors on the RG6, then BNC/N adapters to connect to the antenna N connector. Works fine, all waterproof.

> More likely due to the size a crimp on center element that screws
> into the plug body?
>
> 4. Are there crimp on PL-259 connectors?

Yes. They have most of the disadvantages of the PL-259.

If you are of the view that everything that comes out of China, leave now.

I buy N, BNC, UHF, etc connectors that are of Chinese original that are economical and excellent quality. But... you have to be picky, price is not a good indicator of quality.

There is also a prejudice against RG6. Again, quality varies, and you need to inspect carefully and test product that you might use.

Owen
>
> Thanks in advance,
>
> Geoff.
>

2142. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 23:15:19 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <d01251c8-1df5-437c-96b5-497421d23f56@y4g2000yqy.googlegroups.com>
Source record: 9442

On Jun 5, 9:42 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 4, 7:19 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > If, for all time,
> > the current or voltage is 0, then so is the energy flow.
>
> You left out the word "net" again.

Not left out. No need to mention since this is the only energy
involved.

> Indeed, there is zero *net* energy
> flow in a pure standing wave. It is technically not a wave because it
> doesn't transfer energy and momentum.

Certainly a standing wave is not a wave that transfers energy.

> Keith, could you refresh my memory on those instantaneous power
> equations that you once published. Given a forward wave and a
> reflected wave, what was your equation for instantaneous power?

Choose a point on the line. Measure the instantaneous voltage and
current at that point. Multiply them together. You have the
instantaneous energy flow at that point and time. Integrate over
a full cycle (assuming a repetitive signal), divide by the period
and you have the average energy flow.

> None
> of my references consider EM standing wave instantaneous power to be
> important enough to present a mathematical treatment of the subject.

Definitely not of interest for standing waves (which everyone agrees
are not really waves), but any decent text will derive
Pavg=Vrms*Irms*cos(theta) for sinusoids by doing exactly the steps
I mention above.

You are welcome.

...Keith

2143. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 23:28:13 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <ef25b500-fc0a-44e2-b35e-df3ecc7014e7@i31g2000yqm.googlegroups.com>
Source record: 9443

On Jun 5, 10:22 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 5, 7:08 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > We need to carefully understand the meaning of the words. Power is
> > energy that is moving;
>
> Correction, it must be moving past a point, not just moving laterally
> from an inductance to a capacitance and back.

Yes, indeed. And so it does. At any point where the voltage or current
is not always 0, energy moves back and forth. This can be readily seen
by computing P(t)=V(t)*I(t) at such a point. P(t) will be a sinusoid
describing the energy flow in the time domain.

> There is zero net
> average power anywhere on a wire containing a pure standing wave.

Yes, but to understand the details, time domain analysis is a great
asset. You need to move away from just averages to understand what
is going on.

> Therefore, there is zero net energy flow anywhere on a pure standing
> wave, not just at the zero current and zero voltage points. The
> average power in a pure standing wave is zero whether the current or
> voltage is zero or not.

True, but the instantaneous power is not.

> What is important for power is the phase angle
> between the net current phasor and the net voltage phasor which is
> always 90 degrees for a pure standing wave. The fact that *power is a
> scalar with no negative values* and *the average power is zero*, leads
> one to conclude that instantaneous power is just a mathematical
> curiosity.

On the contrary. It is computable and measurable.

> Exactly how can the instantaneous power average out to zero
> average power if there are no negative values of instantaneous power?

There are indeed negative values. These occur when the energy is
flowing
in the other direction, i.e. the direction opposite to that
represented
by positive values of power.

In P(t)=V(t)I(t), when V(t) and I(t) have different signs, P(t) is
negative.

> Seems to me to be one of those numerous "undefined" or "indeterminate"
> conditions that unfortunately exists in mathematics. When you solve a
> quadratic equation for a resistance and get plus or minus 100 ohms, do
> you actually start searching for a -100 ohm resistor? Then why, when
> you know the average power is zero, do you ask us to go searching for
> some negative instantaneous power that doesn't exist?

Ahhhhh, but it does. One does not need to search far if one starts
with
a time domain analysis.

> Since power is energy flow *per unit time*, I don't see how power
> calculated over zero unit time can be anything more than a
> mathematical curiosity existing in human brains - and unrelated to
> reality.

Well, this is the basis for calculus...
- instantaneous velocity
- instantaneous acceleration
- instantaneous jerk
- instantaneous voltage
- instantaneous rate of change of voltage
- instantaneous power

All are well understood concepts... and related to reality.

> When one integrates instantaneous standing wave power over
> one cycle and gets anything except zero, one needs to recognize the
> error or one's ways.

In a 'pure standing wave', such integration does result in zero, as
expected. But looking at the time domain details helps reveal the
fine grained behaviour that is obscured when only averages are
considered.

...Keith

2144. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 23:33:02 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <2de0588e-12fc-45a9-a9b0-64c70220fd88@i28g2000yqa.googlegroups.com>
Source record: 9444

On Jun 5, 9:29 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 4, 5:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > So are you really prepared to give up on P=VI so that energy can be
> > flowing (i.e. there is power) when the voltage or current is zero?

My apologies for being too terse for you. Please use P(t)=V(t)I(t)

> Your equation is for DC power. The equation for net AC power is
> P=V*I*cos(theta).

This simplified form works for sinusoids. It is derived from
P(t)=V(t)I(t),
but loses information since the result is just the average value.

> Since, for a pure standing wave, the net voltage is
> always 90 degrees out of phase with the net current, the net power at
> ALL points is zero, not just at the I=0 point. cos(theta) is ALWAYS
> zero for a pure standing wave whether I=0 or not

Well so it appears when you use the simplified form, but if you use
P(t)=V(t)I(t), that is, do a bit of time domain analysis, one finds
that energy is moving back in forth within the line. It only does
not cross those points where V or I is always 0.

> - so your argument is moot.
> For a pure standing wave, P = V*I*cos(theta) is ALWAYS zero. I
> or V going to zero cannot make it more zero than it already is.

The difference will be easy to see if you analyze in the time domain
rather than just using the averages.

...Keith

2145. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-05 23:59:28 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <75eddfb3-ca49-4e64-a33b-5e672f9f1c9b@a30g2000yqn.googlegroups.com>
Source record: 9445

On May 27, 6:22 am, K1TTT <k1...@arrl.net> wrote:
> On May 23, 2:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > I just modeled two coils counter wound and one inside the other as a
> > complete closed circuit , end fed. Counter winding is quite the norm
> > with special purpose machinery to prevent inter tangling of coils when
> > compressed.
> > With the coils wound opposite to each other
> > it made quite a nice antenna when placed on a flat plate. Beam was
> > pencil shaped without side lobes and sensitive to all polarities.Thus
> > any such dishes could be used for 'point to point' using any type
> > circular polarization. Smaller in size compared to other designs is
> > rather obvious. Where Kraus determined such an antenna single wound
> > form demanded a certain angular pitch such a requirement is not
> > apparent with this design. Kraus assumed a certain pitch was required
> > when wave composition clashed, but the opposite happens when particles
> > vectors add. Another example of particle versus waves disputes.It also
> > confirms Maxwells equation by removing the effect of lumped loads
> > which was not included in his equation as was not the stipulation that
> > a radiator must be straight.
>
> > Caution:
> > Above details not yet "printed" in a book so it must be considered
> > questionable.
> > Regards
> > Art
>
> you have a nice little web site, please publish the design file and
> picture of the antenna so we can all have a good laugh at it.

I expect to put some more things on my page
especially the model that I am honing now.
Now I have a 8 inch dia coil about 4 inches high relatively close
wound. Inside is the counter wound coil connected to the other coil to
make a closed circuit. It is placed on a perfect ground in leau of a
reflector. What I have done is balanced the inductance with the
capacitance, as you move around in frequency it will always be close
to resistive because of the balancing I have done.
It takes a while for the program to work from near
near resistance (.01 ohms) and I have now reached 11 ohms for 16.5 dbi
gain where the lower resistance gave me about 30 dbi
The resistance values are wave like as is the variation in gain per

cycle. Field shape so far varies from elliptical to something like the double. zepp. My intention is to plot up to 20 ohms and that will take several times longer than that taken already. The model has about a dozen sections per
winding and I am pretty much limited to 10 segments per section. All very interesting because I am following the idea of canceling all lumped loads in line with Maxwells laws that deals only with distributed loads. Frequency range covered up to now is 685 to 1200Mhz
With this amount of information you can start laughing now well before I put it up
Art

2146. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 00:04:07 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0lpcg.u5b.gsm@cable.mendelson.com>
Source record: 9446

Owen Duffy wrote:

> There is such a thing as a 75 ohm BNC connector, but you are almost
> certainly looking at 50 ohm connectors designed for use on 75 ohm cable.
> My recollection is that the 75 ohm connectors are incompatible with the
> 50 ohm connectors, and in some combinations will spread the female inner
> part.

Thanks,

The ad I saw said they were 75 ohm. If they really are 50 ohm connectors
for 75 ohm cable, so much the better. Without buying them, I have no way
to tell, and it's awfully expensive to buy one or two.

Shipping from the US to here runs between $20 (USPS) and $50 (FEDEX/DHL/UPS)
for anything. I was going to buy $10 worth of soldering iron tips from
Farnell, and they wanted a flat rate of $35 to ship them. :-(

> Yes, see http://www.vk1od.net/transmissionline/RG6/index.htm .
>
> I haven't seen any. I use BNC compression connectors on the RG6, then
> BNC/N adapters to connect to the antenna N connector. Works fine, all
> waterproof.

Wonderful, thanks.

> I buy N, BNC, UHF, etc connectors that are of Chinese original that are
> economical and excellent quality. But... you have to be picky, price is
> not a good indicator of quality.

URLs??? Please.

> There is also a prejudice against RG6. Again, quality varies, and you
> need to inspect carefully and test product that you might use.

As in everything in life. :-)

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
understanding, as in he has a sub-wikipedia understanding of the situation.
i.e possessing less facts or information than can be found in the Wikipedia.

2147. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 00:54:31 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <6npl065agqeu3r24nkves41taogq2qa8tm@4ax.com>
Source record: 9447

On Sat, 5 Jun 2010 21:49:32 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@cable.mendelson.com> wrote:

>I recently was able to use a crimp on tool for F connectors for RG-6 quad
>shield coax.

Hopefully, it was a "push-on" tool and connector
<http://www.arrisistore.com/digicon/Digicon-F-Connector-Installation-Guide.pdf>
not the piece of junk with the small crimped ring.

>To make sure everyone understands, I am in Israel, and RG-6
>quad shield coax is cheap and easy to find.

There's quality RG-6a/u and junk. On the left coast of the USA, we
have both in copious quantities. I obtain mine directly from a
satellite DTV install company, so the quality is more towards quality
than junk.

>Pl-259 connectors, called
>"UHF" connectors here are rare items.

Be thankful. I find them to be a necessary evil as most ham radios
require them. Meanwhile, commercial radios are moving away from UHF
and toward other connectors, such as Type-N, BNC, TNC, Mini-UHF, and
SMA. However, Comerica base antennas remain UHF or Type-N.

>BNC to PL-259 adaptors, are easy to get, and can be ordered from a reliable
>local souce for a relatively small price. The same with N to PL-259.

That's what I do. Most of my cables are NOT terminated with UHF
connectors. If I need to go to UHF, I use an adapter.

>Looking around at the crimp-on F connectors before I ordered them, I found
>that you can get crimp on BNC connectors for RG-6 quad shield coax.

Yes, they work. I use quite a bit of RG-6a/u and prefer to have
everything terminated by the same connector, which is the CATV
standard F connector. If I need BNC, I use an adapter.

>Here's my questions, Note when I say crimp-on, I mean the ones that crimp
>from the rear, like commerical F connectors, not the ones that crimp
>around the plug. I have never been able to get any of them to "fit right":

Agreed. The good ones are "push on" F connectors.

>1. Can I connect a 75ohm BNC plug (which is a different size) to a
> 50oHm BNC socket?

There are such things as real 75 ohm BNC plugs and jacks. They're
easy to recognize because they lack the PTFE dielectric. The 75 ohm
connectors will mate properly with the 50 ohm connectors. There is
little risk of VSWR problems from using 50 ohm connectors on RG-6a/u.
<http://www.qsl.net/n9zia/wireless/75_ohm_hardline.html>
Basically, any small loss from VSWR is compensated by the lower loss
per meter of RG-6a/u as compared to RG-58a/u. Methinks you're safe
using all 50 ohm connectors.[1]

>2. Are there crimp on 50 ohm BNC plugs which will work with RG6 quad shield?
> I know there are variations, but most are similar in size.

They're nearly identical in dimensions. The 50 ohm variety have some
manner of PTFE dielectric. The 75 ohm variety use a plastic disk and
no dielectric.
<http://www.amphenolconnex.com/products/bnc.asp>
"50 ohm and 75 ohm connectors are intermateable to ensure
non-destructive mating"
The catch is that there's no guarantee that this is true between
different manufacturers. I've blundered across mutations and
variations that are NOT interchangeable.

>3. Are there crimp on N connectors that would fit the RG6 quad shield coax?
> More likely due to the size a crimp on center element that screws into the
> plug body?

Probably, but I wouldn't use one. Just terminate in an F connector,
and use an F to N adapter. The price will probably be the same or
less. However, if you must go direct, any N connector that will fit
RG-59a/u will usually work with RG-6a/u. The problem is that
depending on the number of shields in the RG-6a/u, the outer diameter
will vary, making the diameter of the crimp ring an issue. Doing this
is risky and may result in a non-fitting connector. I would use an
adapter, which will always work.

>4. Are there crimp on PL-259 connectors?

Also probably, but again, methinks you're better off with an F
connector and an adapter.

[1] I just counted 7 assorted coaxial cables going between my roof and
various RF devices in my house. All but one are 75 ohm RG-6a/u. Some
are double shielded, while others are quad shielded. The connectors
are slightly different. All the HF and VHF/UHF antennas use 75 ohm
coax. The one 50 ohm LMR-400 run is for the 900MHz antenna.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2148. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 01:19:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0ltp0.vek.gsm@cable.mendelson.com>
Source record: 9448

Jeff Liebermann wrote:

> Hopefully, it was a "push-on" tool and connector
><http://www.arrisistore.com/digicon/Digicon-F-Connector-Installation-Guide.pdf>
> not the piece of junk with the small crimped ring.

Thanks,

Yes, but mine looks more like a nut cracker, however it works the same
way.

> Be thankful. I find them to be a necessary evil as most ham radios
> require them. Meanwhile, commercial radios are moving away from UHF
> and toward other connectors, such as Type-N, BNC, TNC, Mini-UHF, and
> SMA. However, Comerica base antennas remain UHF or Type-N.

Me too. Since all of the ham radios I have were either brought from the
US in 1996 when I moved here, or even older ones brought here, they use
Pl-259's or in one case an RCA jack (Drake SP-R4) for the antenna.

TV sets still use the Belling-Lee plugs (called PAL connectors in the US)
and so do VCRs. Everything else uses F connectors (cable TV, Satellite TV)
although RF outputs to TV sets have gone the way of the VCR.

DVB is just starting here and the tuners use Belling-Lee connectors. F
to Belling-Lee adaptors are common here, and even in the US, where Radio
Shack sells them.

> That's what I do. Most of my cables are NOT terminated with UHF
> connectors. If I need to go to UHF, I use an adapter.

They are also hard to get and expensive.

> Yes, they work. I use quite a bit of RG-6a/u and prefer to have
> everything terminated by the same connector, which is the CATV
> standard F connector. If I need BNC, I use an adapter.

OK, So where do you get your adaptors?

> Agreed. The good ones are "push on" F connectors.

I gave up about 10 years ago and used the cheap screw on ones because they
gave me a better fit than the crimp "around" types. The push on ones
are a lot better.

>
> There are such things as real 75 ohm BNC plugs and jacks. They're
> easy to recognize because they lack the PTFE dielectric. The 75 ohm
> connectors will mate properly with the 50 ohm connectors. There is

> little risk of VSWR problems from using 50 ohm connectors on RG-6a/u.

ok.

><http://www.qsl.net/n9zia/wireless/75_ohm_hardline.html>
> Basically, any small loss from VSWR is compensated by the lower loss
> per meter of RG-6a/u as compared to RG-58a/u. Methinks you're safe
> using all 50 ohm connectors.[1]

Good, thanks.

> [1] I just counted 7 assorted coaxial cables going between my roof and
> various RF devices in my house. All but one are 75 ohm RG-6a/u. Some
> are double shielded, while others are quad shielded. The connectors
> are slightly different. All the HF and VHF/UHF antennas use 75 ohm
> coax. The one 50 ohm LMR-400 run is for the 900MHz antenna.

That's not an issue, 900mHz is not a ham band here, and 1.gHz too short
range to consider using. I think there is one 1.2gHz repeater in the country,
and I can't hit the co-located 2m repeater anyway.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
understanding, as in he has a sub-wikipedia understanding of the situation.
i.e possessing less facts or information than can be found in the Wikipedia.

2149. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 01:36:02 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <57751ecb-669a-4106-9343-853587042b3c@k39g2000yqd.googlegroups.com>
Source record: 9449

On Jun 5, 6:59 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 27, 6:22 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On May 23, 2:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > I just modeled two coils counter wound and one inside the other as a
> > > complete closed circuit , end fed. Counter winding is quite the norm
> > > with special purpose machinery to prevent inter tangling of coils when
> > > compressed.
> > > With the coils wound opposite to each other
> > > it made quite a nice antenna when placed on a flat plate. Beam was
> > > pencil shaped without side lobes and sensitive to all polarities.Thus
> > > any such dishes could be used for 'point to point' using any type
> > > circular polarization. Smaller in size compared to other designs is
> > > rather obvious. Where Kraus determined such an antenna single wound
> > > form demanded a certain angular pitch such a requirement is not
> > > apparent with this design. Kraus assumed a certain pitch was required
> > > when wave composition clashed, but the opposite happens when particles
> > > vectors add. Another example of particle versus waves disputes.It also
> > > confirms Maxwells equation by removing the effect of lumped loads
> > > which was not included in his equation as was not the stipulation that
> > > a radiator must be straight.
>
> > > Caution:
> > > Above details not yet "printed" in a book so it must be considered
> > > questionable.
> > > Regards
> > > Art
>
> > you have a nice little web site, please publish the design file and
> > picture of the antenna so we can all have a good laugh at it.
>
> I expect to put some more things on my page
> especially the model that I am honing now.
> Now I have a 8 inch dia coil about 4 inches high relatively close
> wound. Inside is the counter wound coil connected to the other coil to
> make a closed circuit. It is placed on a perfect ground in leau of a
> reflector. What I have done is balanced the inductance with the
> capacitance, as you move around in frequency it will always be close
> to resistive because of the balancing I have done.
> It takes a while for the program to work from near
> near resistance (.01 ohms) and I have now reached 11 ohms for 16.5 dbi

> gain where the lower resistance gave me about 30 dbi
> The resistance values are wave like as is the variation in gain per
> cycle. Field shape so far varies from elliptical to something like the
> double. zepp. My intention is to plot up to 20 ohms and that will take
> several times longer than that taken already. The model has about a
> dozen sections per
> winding and I am pretty much limited to 10 segments per section. All
> very interesting because I am following the idea of canceling all
> lumped loads in line with Maxwells laws that deals only with
> distributed loads. Frequency range covered up to now is 685 to 1200Mhz
> With this amount of information you can start laughing now well
> before I put it up
> Art

just did a check at 3 Ghz. 20 dbi at 5 ohm resistive
so I may not get to 20- ohm resistive So after I get a reasonable
graph I will have to modify the model
to see if I can increase the resistance spam.
Note that the metallic resistance calculated is to gauge losses and is
not the source impeadance

2150. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 02:42:33 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <6g0m069i7tjfakujqp7fu2gp3abk0csmmp@4ax.com>
Source record: 9450

On Sun, 6 Jun 2010 01:19:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@cable.mendelson.com> wrote:

>> That's what I do. Most of my cables are NOT terminated with UHF
>> connectors. If I need to go to UHF, I use an adapter.
>
>They are also hard to get and expensive.

My guess(tm) is that they are less expensive than oddities such as an
N-connector for RG-6a/u. They also have the advantage of being
reusable. When you destroy your coax cable, just unscrew the adapters
and use a new F connector.

I sometimes have to make my own adapters. It's not because the
adapter is unavailable or hard to find. It's because the accumulated
length of the connectors and adapters can get quite long. There are
also mechanical considerations, where an N to SMA adapter will surely
break at the SMA when the heavy cable is bent. For SMA and Mini-UHF
adapters, I sometimes use short pigtails to act as a strain relief.

>OK, So where do you get your adaptors?

It varies. Once a year, I got to one local hamfest and stock up. I
like to see the connectors to make sure they're not junk. I typically
buy about $150 worth every year. Much of it disappears during Field
Day. The problem is that most of this stuff is nickel plated. Nickel
is fine for systems which are not potentially affected by
intermodulation issues. Therefore, I'll use them at home, Field Day,
other hams stations, and my mobile. I won't use them for repeaters,
mountain top sites, and microwave links.
<http://www.amphenolrf.com/simple/PIM%20Paper.pdf>
<http://www.repeater-builder.com/antenna/pdf/andrew-braid-over-foil-imd.pdf>
<http://www.repeater-builder.com/antenna/pdf/recommended-coax-and-connectors-for-iden.pdf>

For repeaters, I use silver plated connectors, when I can get them.
Gold plating is an option, but under the gold is a layer of nickel,
which worries me a little (most of the RF flows on the surface). Tin
plate also works. I buy most of my connectors from RF Industries:
<http://www.rfcoaxconnectors.com>
Their mix is really bizarre. They offer Nickel, Tin, Silver and Gold
plating, but not in every type of connector. For example, F adapters
are available only in Nickel or Gold, while UHF connector are only
available in Nickel and Silver. Trying to avoid dissimilar metals is
difficult.

Other sources are eBay, various online dealers, the local electronics
store:
<http://www.santacruzelectronics.com>
the local cable company, and the local DTV satellite installation
company. The latter are my best sources of RG-6a/u and F connectors.
I once obtained a free bucket full of filthy connectors that someone
had left in the rain. Rather than clean them, they went to me,
instead of the recyclers. There were literally hundreds of F
connectors in the bucket.

If you're working on the HF and VHF bands, you can probably just
solder two connectors together to make an adapter. I have a bunch of
BNC to UHF adapter I made this way. The BNC panel jack fits nicely
into the PL-259 connector. The losses are not signifigant, even at
microwave (2.4GHz) frequencies:
<http://802.11junk.com/jeffl/antennas/connector-loss/>
I've done 8 ft chains of adapters with similar results.

I don't know what to suggest. It sounds like getting someone in
Europe to throw together a collection of connectors for you seems
easier than importing them one at a time.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2151. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 03:27:22 UTC
From: tom <news4792@taring.org>
Message-ID: <4c0b1599$0$633$8046368a@newsreader.iphouse.net>
Source record: 9251

On 6/5/2010 8:36 PM, Art Unwin wrote:
> On Jun 5, 6:59 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> On May 27, 6:22 am, K1TTT<k1...@arrl.net> wrote:
>>
>>
>>
>>> On May 23, 2:17 am, Art Unwin<arthurun...@gmail.com> wrote:
>>
>>>> I just modeled two coils counter wound and one inside the other as a
>>>> complete closed circuit , end fed. Counter winding is quite the norm
>>>> with special purpose machinery to prevent inter tangling of coils when
>>>> compressed.
>>>> With the coils wound opposite to each other
>>>> it made quite a nice antenna when placed on a flat plate. Beam was
>>>> pencil shaped without side lobes and sensitive to all polarities.Thus
>>>> any such dishes could be used for 'point to point' using any type
>>>> circular polarization. Smaller in size compared to other designs is
>>>> rather obvious. Where Kraus determined such an antenna single wound
>>>> form demanded a certain angular pitch such a requirement is not
>>>> apparent with this design. Kraus assumed a certain pitch was required
>>>> when wave composition clashed, but the opposite happens when particles
>>>> vectors add. Another example of particle versus waves disputes.It also
>>>> confirms Maxwells equation by removing the effect of lumped loads
>>>> which was not included in his equation as was not the stipulation that
>>>> a radiator must be straight.
>>
>>>> Caution:
>>>> Above details not yet "printed" in a book so it must be considered
>>>> questionable.
>>>> Regards
>>>> Art
>>
>>> you have a nice little web site, please publish the design file and
>>> picture of the antenna so we can all have a good laugh at it.
>>
>> I expect to put some more things on my page
>> especially the model that I am honing now.
>> Now I have a 8 inch dia coil about 4 inches high relatively close
>> wound. Inside is the counter wound coil connected to the other coil to
>> make a closed circuit. It is placed on a perfect ground in leau of a
>> reflector. What I have done is balanced the inductance with the
>> capacitance, as you move around in frequency it will always be close
>> to resistive because of the balancing I have done.
>> It takes a while for the program to work from near

>> near resistance (.01 ohms) and I have now reached 11 ohms for 16.5 dbi
>> gain where the lower resistance gave me about 30 dbi
>> The resistance values are wave like as is the variation in gain per
>> cycle. Field shape so far varies from elliptical to something like the
>> double. zepp. My intention is to plot up to 20 ohms and that will take
>> several times longer than that taken already. The model has about a
>> dozen sections per
>> winding and I am pretty much limited to 10 segments per section. All
>> very interesting because I am following the idea of canceling all
>> lumped loads in line with Maxwells laws that deals only with
>> distributed loads. Frequency range covered up to now is 685 to 1200Mhz
>> With this amount of information you can start laughing now well
>> before I put it up
>> Art
>
> just did a check at 3 Ghz. 20 dbi at 5 ohm resistive
> so I may not get to 20- ohm resistive So after I get a reasonable
> graph I will have to modify the model
> to see if I can increase the resistance spam.
> Note that the metallic resistance calculated is to gauge losses and is
> not the source impeadance

I assume you are using AOPro, since that is what you have previously stated when asked what you use for analysis. AOPro is an old version of Mininec wrapped in an optimizer with 2D and 3D result presentation. It has none of the current corrections to fix the mathematical mistakes that were made in the original Mininec. Sometimes those mistakes are relevant, sometimes not. In the case of an antenna like you describe, they probably mostly are.

If AOPro say 5 ohms + or - j something, the 5 is the real part of the feedpoint impedance. It is not the loss as you state.

The maximum wire diameters of your model seem to be impractical for use with Mininec where it is not advisable to go beyond .001 wavelengths from what I'm able to determine. Based on that assumption I get a maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000 it's a number not even on the AWG table I have -38. So to model this antenna at 3000MHz you should use 38 AWG or smaller wire for any chance of accurate results.

You also stated that it is close spaced but gave no numbers, so I can't comment on that. But I have a feeling that too may violate the limits of Mininec's calculation engine.

Be careful of what you model and how you model it. Distrust miraculous results not confirmed by other methods.

tom
K0TAR

2152. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 03:34:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4c0b1737$0$636$8046368a@newsreader.iphouse.net>
Source record: 9252

On 6/5/2010 10:27 PM, tom wrote:

> The maximum wire diameters of your model seem to be impractical for use
> with Mininec where it is not advisable to go beyond .001 wavelengths
> from what I'm able to determine. Based on that assumption I get a
> maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000
> it's a number not even on the AWG table I have -38. So to model this
> antenna at 3000MHz you should use 38 AWG or smaller wire for any chance
> of accurate results.

The guage was not meant to be -38, I missed the spacebar. It should
have read

"not even on the AWG table I have - 38."

tom
K0TAR

2153. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 03:39:05 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0m5v8.9ld.gsm@cable.mendelson.com>
Source record: 9253

Jeff Liebermann wrote:

> My guess(tm) is that they are less expensive than oddities such as an
> N-connector for RG-6a/u. They also have the advantage of being
> reusable. When you destroy your coax cable, just unscrew the adapters
> and use a new F connector.

I don't know. I've never seen them.

>>OK, So where do you get your adaptors?
>
> It varies. Once a year, I got to one local hamfest and stock up.

What's a hamfest? There are none here.

><http://www.rfcoaxconnectors.com>

I'll check them out.

> Their mix is really bizarre. They offer Nickel, Tin, Silver and Gold
> plating, but not in every type of connector. For example, F adapters
> are available only in Nickel or Gold, while UHF connector are only
> available in Nickel and Silver. Trying to avoid dissimilar metals is
> difficult.

It's less important here. It rains about 14 days a year spread over 6
months. It rained for about 10 minutes in April, has looked like, but did
not rain at all in May, and won't do it again until around November 1.

><http://www.santacruzelectronics.com>

I'll look at them too.
>
> I don't know what to suggest. It sounds like getting someone in
> Europe to throw together a collection of connectors for you seems
> easier than importing them one at a time.

Actually that's a myth. While I am geographicaly closer, postage from the
US is much cheaper than Europe. The only way shipping becomes cheaper if I
were to load a container full on a ship. Then sending it from a Mediterranean
port would be cheaper.

Sending a single package from the US is cheaper and faster than anywhere
else in the world with the usual, but not always exception of elsewhere
in Israel.

A single envelope, even one containing electronic components takes a week
from a vendor to my door. A small box takes 2-3 and I have to go pick it

up at the post office, even if they are the same cost and weight.

The same with internet access, I can download files from the US at twice the speed from the UK, and 4-5 times that from continental Europe.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

2154. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 08:45:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D8FBED52E348nonenowhere@61.9.191.5>
Source record: 9254

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in
news:slrni0lpcg.u5b.gsm@cable.mendelson.com:

...
>> I buy N, BNC, UHF, etc connectors that are of Chinese original that
>> are economical and excellent quality. But... you have to be picky,
>> price is not a good indicator of quality.
>
> URLs??? Please.
>

Jyebao is Taiwanese, not Chinese, and excellent quality. They have an agent
in Israel.

http://www.jyebao.com.tw/agent-u.htm

Owen

2155. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 11:33:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <e4d3de3c-e66b-4b8c-8fc2-072fb8b7f26b@x27g2000yqb.googlegroups.com>
Source record: 9255

On Jun 5, 7:59 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On May 27, 6:22 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On May 23, 2:17 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > I just modeled two coils counter wound and one inside the other as a
> > > complete closed circuit , end fed. Counter winding is quite the norm
> > > with special purpose machinery to prevent inter tangling of coils when
> > > compressed.
> > > With the coils wound opposite to each other
> > > it made quite a nice antenna when placed on a flat plate. Beam was
> > > pencil shaped without side lobes and sensitive to all polarities.Thus
> > > any such dishes could be used for 'point to point' using any type
> > > circular polarization. Smaller in size compared to other designs is
> > > rather obvious. Where Kraus determined such an antenna single wound
> > > form demanded a certain angular pitch such a requirement is not
> > > apparent with this design. Kraus assumed a certain pitch was required
> > > when wave composition clashed, but the opposite happens when particles
> > > vectors add. Another example of particle versus waves disputes.It also
> > > confirms Maxwells equation by removing the effect of lumped loads
> > > which was not included in his equation as was not the stipulation that
> > > a radiator must be straight.
>
> > > Caution:
> > > Above details not yet "printed" in a book so it must be considered
> > > questionable.
> > > Regards
> > > Art
>
> > you have a nice little web site, please publish the design file and
> > picture of the antenna so we can all have a good laugh at it.
>
> I expect to put some more things on my page
> especially the model that I am honing now.
> Now I have a 8 inch dia coil about 4 inches high relatively close
> wound. Inside is the counter wound coil connected to the other coil to
> make a closed circuit. It is placed on a perfect ground in leau of a
> reflector. What I have done is balanced the inductance with the
> capacitance, as you move around in frequency it will always be close
> to resistive because of the balancing I have done.
> It takes a while for the program to work from near
> near resistance (.01 ohms) and I have now reached 11 ohms for 16.5 dbi

> gain where the lower resistance gave me about 30 dbi
> The resistance values are wave like as is the variation in gain per
> cycle. Field shape so far varies from elliptical to something like the
> double. zepp. My intention is to plot up to 20 ohms and that will take
> several times longer than that taken already. The model has about a
> dozen sections per
> winding and I am pretty much limited to 10 segments per section. All
> very interesting because I am following the idea of canceling all
> lumped loads in line with Maxwells laws that deals only with
> distributed loads. Frequency range covered up to now is 685 to 1200Mhz
> With this amount of information you can start laughing now well
> before I put it up
> Art

Art you must have quite an impressive antenna lab and range. I will be in Peoria in a couple of weeks for about 3 weeks I would like to come over and see your setup.

Jimmie

2156. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 12:25:25 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0n4rh.qh9.gsm@cable.mendelson.com>
Source record: 9256

Owen Duffy wrote:

> Jyebao is Taiwanese, not Chinese, and excellent quality. They have an agent
> in Israel.
>
> http://www.jyebao.com.tw/agent-u.htm

Thanks. Interestingly enough, they have F-plugs to N jacks, (i.e. cables
with F plugs on them to connect to a radio with an N jack) but not
F plugs to PL-259(UHF) jacks. :-(

73,

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or
understanding, as in he has a sub-wikipedia understanding of the situation.
i.e possessing less facts or information than can be found in the Wikipedia.

2157. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 12:54:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <de1a1dea-f551-4ffa-b2ce-aba8c7a3bf63@d8g2000yqf.googlegroups.com>
Source record: 9257

On Jun 5, 6:15 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Certainly a standing wave is not a wave that transfers energy.

Since a standing "wave" is not a wave, by definition, doesn't that
give you a clue that you may be being duped by an illusion?
--
73, Cecil, w5dxp.com

2158. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 12:54:31 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <e3c15588-9b5c-427d-8cda-f096318fc3ef@c10g2000yqi.googlegroups.com>
Source record: 9258

On Jun 5, 1:05 pm, lu6etj <lu6...@gmail.com> wrote:
> Hi. ¡Good evening (here) to all..!
>
> > We need to carefully understand the meaning of the words. Power is
> > energy that is moving;
>
> Since the energy can be dissipated also transmitted, If we talk in
> power FLUX terms (instead power only), I think the issue it would be a
> little more understandable because surfaces may have associated
> vectors (with "power moving" I believe you are thinking about power
> crossing an imaginary surface)
> (Note: when I spoke about "unidimensional" nature of a TL space I am
> pointing to "degrees of freedom" of energy flux circumscribed to its
> physical path, of course).
>
> For the sake of example we could imaginate a coaxial TL provided with
> a resistive inner conductor and perfectly conductive outer one. On
> such TL perhaps we could clearly visualize power flux vector (Poynting
> vector) "slanted" towards inner conductor to "see" -through simple
> vectorial decomposition on (over?) the inner wire and pependicular to
> it directions both => transmission and dissipative nature of
> phenomenom.
> At the same time I believe will be also more ease to account for net
> power FLUX of opposite directions traveling waves and do not confuse
> with net power being zero, leading us to the idea of zero energy
> stored in a ideal resonant TL. Note: In my last mensage I forget to
> clear that with "resonant line" I was speaking about a section of TL
> with its ends open or shorted (or a mix) to force a "chemically pure"
> standing wave :>)
>
> I believe we always must escape from words as "real" or
> "true" (outside of safe environments such mathematics or digital
> logic), because "she" easily leads us to the Holy Inquisition
> dangers :>) Let us the Wave word to be free for jointing with
> standing, sine, hand, etc, etc. and do we make efforts to understand
> its conceptual meaning on each context :>)

Good day Miguel,

I do not disagree with anything you have written, but I do think it
is much too early to introduce Poynting vectors and lossy conductors
to the discussion.

Some of the posters to this group have basic misunderstandings of
the behaviour of transmission lines and using Poynting to address

these misunderstandings is like trying to use quantum mechanics to address misunderstandings of Newton’s third law. And it will be just as unsuccessful.

The basic misunderstanding is believing that a reflected wave necessarily and always transports energy. Rather than using basic circuit theory to demonstrate that this assumption is incorrect, these posters introduce Poynting, optics and photons to reinforce their beliefs. Believing that a reflected wave necessarily transports energy then begs the question ‘where does this energy go?’. At one time it was a commonly held belief that this reflected ‘energy’ entered the transmitter and fried the final. This notion has generally disappeared, but has been replaced by faulty concepts attempting to explain how the reflected ‘energy’ is re-reflected so that is does not enter the transmitter. And all this effort is expended because of a misunderstanding of the nature of reflected ‘energy’.

Until these basic behaviours are properly understood, optics, photons and Poynting merely assist with obfuscation.

...Keith

2159. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 13:45:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3c8e0546-9a23-4c1e-90f4-8df26d92228d@x27g2000yqb.googlegroups.com>
Source record: 9259

On Jun 5, 6:28 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> There are indeed negative values. These occur when the energy is
> flowing in the other direction, ...

Let's take a close look at the illusion that you are seeing and not comprehending. Observe a snapshot of the instantaneous power envelope of a traveling wave. It is a sinusoidal envelope with peak instantaneous power levels and zero instantaneous power levels. When it is traveling in the forward direction we consider that to be positive power. When it is traveling in the reverse direction, we consider that to be negative power. It is only a directional *convention* not proof that negative power exists. The only waves that can exist as waves on a transmission line are traveling waves.

Since the forward wave and reverse wave do not interact while Z0 remains constant, they have zero effect on each other and we can just simply algebraically add the two instantaneous powers to obtain the net instantaneous power. Thus, when the instantaneous power in the forward wave is a greater magnitude than the instantaneous power in the reverse wave, the net instantaneous power is positive. When the instantaneous power in the forward wave is a lesser magnitude than the instantaneous power in the reverse wave, the net instantaneous power is negative. At the point where they are equal, the net instantaneous power is zero. This is the illusion, based on net instantaneous power, that you are observing. Please note that net instantaneous power is an oxymoron. Is it net or is it instantaneous? How can it be both?

All you are observing is that sometimes the instantaneous power in the forward traveling wave is more, less, or equal to the instantaneous power in the reverse traveling wave which causes the net instantaneous Poynting vector direction to alternate. But it is all a moot point because photons cannot perform the feats of magic that you are ascribing to them. You are simply being fooled by an illusion based on the misguided algebraic addition of two separate and distinct instantaneous powers that you believe are interacting but while Z0 remains constant, they are not interacting in any way and it is impossible for the photons to change direction without a physical cause. Your mashed-potatoes version of energy doesn't even obey Maxwell's equations. Why do you think the concept can possibly be meaningful?

In "Optics", Hecht says instantaneous power is "of limited utility." You seem to have discovered that limit, stepped over it, and stepped in it. :-)
--

73, Cecil, w5dxp.com

2160. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 13:55:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9355c3b3-ad95-4928-a1f3-fac92d343cf3@d8g2000yqf.googlegroups.com>
Source record: 9260

On Jun 5, 6:33 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> This simplified form works for sinusoids. It is derived from
> P(t)=V(t)I(t),
> but loses information since the result is just the average value.

Note that P(t)=V(t)I(t) is just Pfor(t) - Pref(t) which loses
information when the subtraction is performed and is not important in
any meaningful way. If, as you say, loss of information is to be
avoided, you should be using Pfor(t) and Pref(t) instead of net P(t).
--
73, Cecil, w5dxp.com

2161. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 14:09:22 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6eb7d4cb-bb7b-47bd-80e0-1518e6fd757a@i28g2000yqa.googlegroups.com>
Source record: 9261

On Jun 6, 7:54 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Some of the posters to this group have basic misunderstandings of
> the behaviour of transmission lines and using Poynting to address
> these misunderstandings is like trying to use quantum mechanics
> to address misunderstandings of Newton’s third law. And it will
> be just as unsuccessful.

Translation: I object to anything, including technical references and
laws of physics, that shoots my argument down. :-)

> The basic misunderstanding is believing that a reflected wave
> necessarily and always transports energy.

Please define "transport". An EM wave cannot exist without ExH energy.
If the energy associated with an EM reflected wave is equal to zero,
then the reflected wave cannot be measured and doesn't exist. But we
know that reflected waves do exist just by looking in a mirror -
causing the reflected photonic energy to be incident upon our retinas.
All of the transported energy in the reflected wave in a transmission
line is recovered during the transient state immediately following key
down. Tracking reflected energy from beginning to end result is not
difficult - optical physicists have been doing it for decades. But,
unlike your ideas, their results do not require the violation of the
laws of physics.
--
73, Cecil, w5dxp.com

2162. what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 14:22:02 UTC
From: JC <menardjc@orange.fr>
Message-ID: <4c0baf0a$0$27574$ba4acef3@reader.news.orange.fr>
Source record: 9262

Basic question (at least for me) for a very poor antenna matching :
-100 w reach the antenna and 50 w are radiated.
- 50 w are "reflected", what is their fate ?
Are they definitely lost for radiation and just heat the line, the final....
JC

2163. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 14:42:31 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c8f90222-5cd1-4812-8a89-abaf00089c01@s9g2000yqd.googlegroups.com>
Source record: 9263

On 6 jun, 16:22, "JC" <menar...@orange.fr> wrote:
> Basic question (at least for me) for a very poor antenna matching :
> -100 w reach the antenna and 50 w are radiated.
> - 50 w are "reflected", what is their fate ?
> Are they definitely lost for radiation and just heat the line, the final....
> JC

Hello,

If the source has a linear 50 Ohms output impedance (assuming 50 Ohm cable, no loss), all power will go back into the source. Partly in the form of heat, partly in the form of power saving. However a PA is not a 50 Ohms source, so what happens may vary.

It is very likely that some reverse power reflects back to the antenna (as the transmitter is not a source with 50 Ohms output impedance). So the reading on an instrument that measures true forward power is the sum of the real incident power plus the reflected power from the transmitter towards the antenna. Changing the load may result in a reduction or increase of total forward power. In case of a real 50 Ohms source, the forward power will not change, no matter the load.

The bad match seen from the transmitter may result in a reduction of DC input power (input current reduces), but may also result in an increase of DC input power.

So when you have reverse power reading of 50W, you cannot just say that the PA has to dissipate an extra 50W, it can be more, less and even negative. The negative case is when the input power reduces significantly and the active element has to dissipate less (with respect to the best match condition). In particular high efficiency amplifiers (where the active devices are used as switches), show strong variation in supply current versus load change. Under certain load conditions such amplifiers may show a strong decrease in efficiency resulting in high relative increase of device dissipation.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

2164. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 15:00:42 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hugd5c$2g1$1@news.eternal-september.org>
Source record: 9264

Geoffrey S. Mendelson Inscribed thus:

> I recently was able to use a crimp on tool for F connectors for RG-6
> quad shield coax. To make sure everyone understands, I am in Israel,
> and RG-6 quad shield coax is cheap and easy to find.
>
> Any other coax is almost impossible to find. Pl-259 connectors, called
> "UHF" connectors here are rare items. I can get them locally, but I
> have to special order them and they are expensive. Since I can not see
> them before I order them, I am as likely to get nickle plated ones
> with phenolic insulation as I am to get any other kind, and once
> ordered are not returnable.
>
> BNC to PL-259 adaptors, are easy to get, and can be ordered from a
> reliable local souce for a relatively small price. The same with N to
> PL-259.
>
> Looking around at the crimp-on F connectors before I ordered them, I
> found that you can get crimp on BNC connectors for RG-6 quad shield
> coax.
>
> Here's my questions, Note when I say crimp-on, I mean the ones that
> crimp from the rear, like commerical F connectors, not the ones that
> crimp around the plug. I have never been able to get any of them to
> "fit right":
>
> 1. Can I connect a 75ohm BNC plug (which is a different size) to a
> 50oHm BNC socket?

The short answer is yes ! A 75 ohm BNC plug is identical to a 50 ohm
one, save that the male pin in a 75 ohm plug is smaller in diameter.
The other way round, a 50 ohm BNC plug will damage a 75 ohm BNC socket.

> 2. Are there crimp on 50 ohm BNC plugs which will work with RG6 quad
> shield?

Yes. But you have to be careful to get the right sleeve size and
fitting them is not straightforward.

> I know there are variations, but most are similar in size.
>
> 3. Are there crimp on N connectors that would fit the RG6 quad shield
> coax?

There should be, but I'm not certain.

> More likely due to the size a crimp on center element that screws
> into the plug body?
>
> 4. Are there crimp on PL-259 connectors?

Yes ! Spit spit, yuk... I've always had trouble with these even used
indoors. Usually the plating fails and gives intermittent connections

> Thanks in advance,
>
> Geoff.

It might pay you to Google "Greenpar, Amphenol, Wellshow, Synergy" and
the like. There is a lot of good data out there.

--
Best Regards:
Baron.

2165. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 15:13:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <07019637-7a7a-4114-b0ba-fe1efac6a59c@j8g2000yqd.googlegroups.com>
Source record: 9265

On Jun 6, 9:22 am, "JC" <menar...@orange.fr> wrote:
> Basic question (at least for me) for a very poor antenna matching :
> -100 w reach the antenna and 50 w are radiated.
> - 50 w are "reflected", what is their fate ?
> Are they definitely lost for radiation and just heat the line, the final....

What happens to the 50 joules/second of reflected energy depends upon the phasing between the source wave and the reflected wave at the source impedance. What most amateurs don't understand is there are two mechanisms that can redistribute reflected energy back toward the antenna. Those mechanisms are a re-reflection based on the physical reflection coefficient (what RF engineers understand) and wave interaction resulting in constructive/destructive interference (what most RF engineers don't seem to understand) because, unlike optical physicists, have not been forced to follow the energy flow.

If the reflected wave arrives 180 degrees out of phase with the source wave, the two waves undergo destructive interference and all of the reflected power is redistributed as constructive interference energy back toward the antenna. This is what happens at the Z0-match established at the input of an antenna tuner.

Thus your conditions of 100w forward power and 50w reflected power could be accomplished with a 50w matched source.

If the reflected wave arrives 90 degrees out of phase with the source wave, there is zero interference and the reflected power is dissipated in the source resistor (in a source with a source resistor).

If the reflected wave arrives in phase with the source wave, all of the reflected power and more than 1/2 of the source power can be dissipated in the source resistor.

Such knowledge is old hat for optical physicists who don't have the luxury of measuring voltages in light waves. They rely on a power density (irradiance) equation.

Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)

where A is the phase angle between the electric fields of two waves. The last term is called the "interference term" and that value is what most amateurs are missing in their energy analysis. If the sign of the interference term is negative, the interference is destructive. If the sign of the interference term is positive, the interference is constructive.
--
73, Cecil, w5dxp.com

2166. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 17:00:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1lkn06hf3gmeqa5sije85mmv478vrc9fa2@4ax.com>
Source record: 9266

On Sun, 6 Jun 2010 07:42:31 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>However a PA is not a 50 Ohms source

Hi Wimpie,

You say this like others, with the air of "knowing." However, when I
ask in response of those who "know" what the PA is NOT, what IS it?

Give me the Z value of your transmitter. Specify all initial
conditions.

We have had lengthy correspondence with Walt Maxwell's very rigorously
measured Kenwood TS830s that demonstrates a Z of 50 Ohms, or nearly
that as is practicable (say +/- 20%); and yet your voice was missing
from this discussion with evidence to the contrary.

73's
Richard Clark, KB7QHC

2167. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 18:01:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4add5d6e-abcd-4315-a85a-65e30697206e@k39g2000yqb.googlegroups.com>
Source record: 9267

On Jun 6, 3:13 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 6, 9:22 am, "JC" <menar...@orange.fr> wrote:
>
> > Basic question (at least for me) for a very poor antenna matching :
> > -100 w reach the antenna and 50 w are radiated.
> > - 50 w are "reflected", what is their fate ?
> > Are they definitely lost for radiation and just heat the line, the final....
>
> What happens to the 50 joules/second of reflected energy depends upon
> the phasing between the source wave and the reflected wave at the
> source impedance. What most amateurs don't understand is there are
> two mechanisms that can redistribute reflected energy back toward the
> antenna. Those mechanisms are a re-reflection based on the physical
> reflection coefficient (what RF engineers understand) and wave
> interaction resulting in constructive/destructive interference (what
> most RF engineers don't seem to understand) because, unlike optical
> physicists, have not been forced to follow the energy flow.
>
> If the reflected wave arrives 180 degrees out of phase with the source
> wave, the two waves undergo destructive interference and all of the
> reflected power is redistributed as constructive interference energy
> back toward the antenna. This is what happens at the Z0-match
> established at the input of an antenna tuner.
>
> Thus your conditions of 100w forward power and 50w reflected power
> could be accomplished with a 50w matched source.
>
> If the reflected wave arrives 90 degrees out of phase with the source
> wave, there is zero interference and the reflected power is dissipated
> in the source resistor (in a source with a source resistor).
>
> If the reflected wave arrives in phase with the source wave, all of
> the reflected power and more than 1/2 of the source power can be
> dissipated in the source resistor.
>
> Such knowledge is old hat for optical physicists who don't have the
> luxury of measuring voltages in light waves. They rely on a power
> density (irradiance) equation.
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)
>
> where A is the phase angle between the electric fields of two waves.
> The last term is called the "interference term" and that value is what
> most amateurs are missing in their energy analysis. If the sign of the

> interference term is negative, the interference is destructive. If the
> sign of the interference term is positive, the interference is
> constructive.
> --
> 73, Cecil, w5dxp.com

as in the other thread, what is the mechanism of that 'interaction'
between waves? i contend there can be no 'interaction' between
forward and reflected waves if the device is linear. so in an ideal
case of a voltage or current source and ideal source resistance there
is no interaction, it is reflected by and/or absorbed in the source
depending on the impedance of the line and source. if the source is
not linear then you would have to calculate the effect of the sum of
the voltages or currents at the source to determine the effect.

2168. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 18:26:51 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4e3c4625-6adc-4838-bb88-f9dcfb7df6ad@w31g2000yqb.googlegroups.com>
Source record: 9268

On Jun 5, 10:34 pm, tom <news4...@taring.org> wrote:
> On 6/5/2010 10:27 PM, tom wrote:
>
> > The maximum wire diameters of your model seem to be impractical for use
> > with Mininec where it is not advisable to go beyond .001 wavelengths
> > from what I'm able to determine. Based on that assumption I get a
> > maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000
> > it's a number not even on the AWG table I have -38. So to model this
> > antenna at 3000MHz you should use 38 AWG or smaller wire for any chance
> > of accurate results.
>
> The guage was not meant to be -38, I missed the spacebar. It should
> have read
>
> "not even on the AWG table I have - 38."
>
> tom
> K0TAR

The important point that I put forward is that the program is based
around Maxwells formula. In the engineering world this is factual. If
something deviates from Maxwells laws you cannot say 'don't go there'
and you cannot overthrow what the program provides and at the same
time when it is in accordance with Maxwells laws. To follow that path
is to over throw Maxwell to reinforce your own will. That is not
science.
This approach overthrows fact for success in favor of the present
approach on this group that is based on perceived probabilities that
all other competing theories are based upon.
I continue to use my program and let all the chips fall where they
may. So far, and I have a long way to go, is that skin depth minimises
as current flow
moves out of the metallic member and closer to encapsulating particles
provided by the Gaussian equation. There is no reason to put a halt to
this work until it is proven that the program deviates from Maxwells
equations and thus is fraudulent.
I and nobody else, has pointed at any specific point of my work that
specifically states that my approach is in error based on known
boundary rules and classical physics. All assaults have been based
purely on opinion, mostly in a derogatory way to preserve resistance
to change rather than the path of better understanding.

2169. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 19:13:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fc6ffee9-fa3b-435a-8a61-d515b1280f68@j8g2000yqd.googlegroups.com>
Source record: 9269

On Jun 6, 6:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Jun 5, 10:34 pm, tom <news4...@taring.org> wrote:
>
>
>
> > On 6/5/2010 10:27 PM, tom wrote:
>
> > > The maximum wire diameters of your model seem to be impractical for use
> > > with Mininec where it is not advisable to go beyond .001 wavelengths
> > > from what I'm able to determine. Based on that assumption I get a
> > > maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000
> > > it's a number not even on the AWG table I have -38. So to model this
> > > antenna at 3000MHz you should use 38 AWG or smaller wire for any chance
> > > of accurate results.
>
> > The guage was not meant to be -38, I missed the spacebar. It should
> > have read
>
> > "not even on the AWG table I have - 38."
>
> > tom
> > K0TAR
>
> The important point that I put forward is that the program is based
> around Maxwells formula. In the engineering world this is factual. If
> something deviates from Maxwells laws you cannot say 'don't go there'
> and you cannot overthrow what the program provides and at the same
> time when it is in accordance with Maxwells laws. To follow that path
> is to over throw Maxwell to reinforce your own will. That is not
> science.
> This approach overthrows fact for success in favor of the present
> approach on this group that is based on perceived probabilities that
> all other competing theories are based upon.
> I continue to use my program and let all the chips fall where they
> may. So far, and I have a long way to go, is that skin depth minimises
> as current flow
> moves out of the metallic member and closer to encapsulating particles
> provided by the Gaussian equation. There is no reason to put a halt to
> this work until it is proven that the program deviates from Maxwells
> equations and thus is fraudulent.
> I and nobody else, has pointed at any specific point of my work that
> specifically states that my approach is in error based on known
> boundary rules and classical physics. All assaults have been based
> purely on opinion, mostly in a derogatory way to preserve resistance

> to change rather than the path of better understanding.

oh please put an end to it... i will tell you outright that the program deviates from maxwell's equations! at very small or very large extremes it deviates quite a lot! and that is of course why all your results that you let it optimize too far are garbage, you are not conforming with maxwell.

2170. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 19:18:47 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6f6ef563-5d2b-4236-9608-fee8779f2228@z10g2000yqb.googlegroups.com>
Source record: 9270

On Jun 6, 2:13 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 6, 6:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Jun 5, 10:34 pm, tom <news4...@taring.org> wrote:
>
> > > On 6/5/2010 10:27 PM, tom wrote:
>
> > > > The maximum wire diameters of your model seem to be impractical for use
> > > > with Mininec where it is not advisable to go beyond .001 wavelengths
> > > > from what I'm able to determine. Based on that assumption I get a
> > > > maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000
> > > > it's a number not even on the AWG table I have -38. So to model this
> > > > antenna at 3000MHz you should use 38 AWG or smaller wire for any chance
> > > > of accurate results.
>
> > > The guage was not meant to be -38, I missed the spacebar. It should
> > > have read
>
> > > "not even on the AWG table I have - 38."
>
> > > tom
> > > K0TAR
>
> > The important point that I put forward is that the program is based
> > around Maxwells formula. In the engineering world this is factual. If
> > something deviates from Maxwells laws you cannot say 'don't go there'
> > and you cannot overthrow what the program provides and at the same
> > time when it is in accordance with Maxwells laws. To follow that path
> > is to over throw Maxwell to reinforce your own will. That is not
> > science.
> > This approach overthrows fact for success in favor of the present
> > approach on this group that is based on perceived probabilities that
> > all other competing theories are based upon.
> > I continue to use my program and let all the chips fall where they
> > may. So far, and I have a long way to go, is that skin depth minimises
> > as current flow
> > moves out of the metallic member and closer to encapsulating particles
> > provided by the Gaussian equation. There is no reason to put a halt to
> > this work until it is proven that the program deviates from Maxwells
> > equations and thus is fraudulent.
> > I and nobody else, has pointed at any specific point of my work that
> > specifically states that my approach is in error based on known

> > boundary rules and classical physics. All assaults have been based
> > purely on opinion, mostly in a derogatory way to preserve resistance
> > to change rather than the path of better understanding.
>
> oh please put an end to it... i will tell you outright that the
> program deviates from maxwell's equations! at very small or very
> large extremes it deviates quite a lot! and that is of course why all
> your results that you let it optimize too far are garbage, you are not
> conforming with maxwell.

no facts. just opinion

2171. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 19:21:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <15tn069f7lnbsgnf6sej4dllld88chk6v0@4ax.com>
Source record: 9271

On Sun, 6 Jun 2010 12:13:10 -0700 (PDT), K1TTT <k1ttt@arrl.net> wrote:

>your results that you let it optimize too far are garbage

Models are doomed to succeed.

There should be a cautionary label applied to them all:
"Use only with the supervision of a curious child."

73's
Richard Clark, KB7QHC

2172. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 19:23:13 UTC
From: Gaius <bin@127.0.0.1>
Message-ID: <MPG.267605fec4a673c0989695@news.zen.co.uk>
Source record: 9272

In article <hugd5c$2g1$1@news.eternal-september.org>,
baron.nospam@linuxmaniac.nospam.net says...
>

> A 75 ohm BNC plug is identical to a 50 ohm
> one, save that the male pin in a 75 ohm plug is smaller in diameter.
> The other way round, a 50 ohm BNC plug will damage a 75 ohm BNC socket.

Sorry. Not so. This is one of the most common urban myths in RF
engineering. The pin diameters of BNCs are identical between 50 and 75R.
(Measure them !!)

The 50R and 75R connectors are mechanically compatible in BOTH
directions. Don't take my word for it - check Amphenol's specifications:
"Two distinct types of 75ohm BNCs are available, and both mate with each
other and with 50ohm BNCs. "

I've been using 75R and 50R interchangeably for about thirty years, and
I've had NO mating damage problems. (Mismatches don't worry me - HF
only).

Note - type N and type C connectors WILL be damaged if you try to mix
75R and 50R varieties. I suspect this is the source of the BNC myth.

Also - some Chinese made BNCs are so badly made that they will damage
other connectors - but this is a manufacturing tolerance issue.

2173. Modelling with AO pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 20:11:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5fc0e503-3db1-4500-807b-a94b2a40ec5e@z10g2000yqb.googlegroups.com>
Source record: 9273

Years ago I pointed out that extending the boundary laws on the
Gaussian law of statics.becoming the same as Maxwells laws pointed out
the presence of particles beyond doubt. All engineers and the
following chatters went along that this was false. This because there
was no mention of this in any book. It took a couple of years that
Richard came upon an utterance by Feyman that pointed that the path I
took was not fraudulent and at last it was written in a book. So years
past before Feymans writings was more widely known and this group
finally changed its approach based only on what is written and not the
path taken to show the presence of particles. No doubt that all
opposed changes to the books and thus lost all their credability with
respect to the understanding of radiation.
Now we have the attack on a computer program and alsothe total
accuracy of Maxwells equationand science itself. Boundary rules are
only good for a single unknown which is why Maxwell was successful.
All programs on antennas use the idea of two resistances, radiation
and metallic. With this they made an ASSUMPTION, and that was skin
depth was a constant which allowed the removal of one unknown leaving
the last unknown to equal what it takes for all factors must equal
zero per Newtons laws.
The program was accepted even tho it didn't result in total facts and
was disregarded by the addition of various don't go there. Fortunately
they left the program as representing Maxwells equation
and did not tweak it to make it what they wanted it to be.Fortunately
they did not tinker with the program to make it a constant
and its integrity was adhered to.

Facts
Use of Gaussian law shows the presence of particles.

Use of the above shows that skin depth of current flow is not a
constant.

Use of the above produces arrays where everything is in equilibrium
required by the natural laws of physics.

Use of the above provides reactiion to the gravity and rotation of the
earth when subjected to boundary rules.

Use of the above shows elevation and accelleration of particles with
radiation which Maxwell called displacement current
because of the units presented.

Present progress shows a "wave" effect on
radiation such as "
packets" which reflect the tank circuit upon which radiation is based.

LIKE ALL NEW VENTURES IN SCIENCE
it is not written in the books until point by point it is accepted by its peers and I will carry on based on my own thinking until all pieces mesh together in the same way they have upto now, so that those with credibility outside this forum can accept my approach ,or point out areas where there is doubts based on the basis of science

The group has shown that when classical
physics are overuled by the consideration of probabilities the result always end in auguments mainly based around interpretations.
For myself I am following classical rules based on the idea that Maxwells equations as well as the AO pro
program is based on fact without any added changes.
Regards
Art Unwin KB9MZ.....xg (uk)

2174. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 20:12:10 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hugvdbses1@news.eternal-september.org>
Source record: 9274

Hi Gaius,
Gaius Inscribed thus:

> In article <hugd5c$2g1$1@news.eternal-september.org>,
> baron.nospam@linuxmaniac.nospam.net says...
>>
>
>> A 75 ohm BNC plug is identical to a 50 ohm
>> one, save that the male pin in a 75 ohm plug is smaller in diameter.
>> The other way round, a 50 ohm BNC plug will damage a 75 ohm BNC
>> socket.

Thats what I said... :-(

> Sorry. Not so. This is one of the most common urban myths in RF
> engineering. The pin diameters of BNCs are identical between 50 and
> 75R. (Measure them !!)

I did... :-(

> The 50R and 75R connectors are mechanically compatible in BOTH
> directions. Don't take my word for it - check Amphenol's
> specifications: "Two distinct types of 75ohm BNCs are available, and
> both mate with each other and with 50ohm BNCs. "

I did check that documentation... :-(

> I've been using 75R and 50R interchangeably for about thirty years,
> and I've had NO mating damage problems. (Mismatches don't worry me -
> HF only).

I've probably used them for nearer 50 years, and had to replace damaged
sockets because the bifurcated female pin had one side broken off. I
am aware that some of the early plugs didn't have solidly captive pins
and could move forward and cause damage. Greenpar package the
plugs/sockets clearly marked 50 or 75 ohm. In all that time I've never
bothered to check the specifications until now.

> Note - type N and type C connectors WILL be damaged if you try to mix
> 75R and 50R varieties. I suspect this is the source of the BNC myth.

Having taken your words and accept that I'm wrong, I can only agree that
you're right and it is a myth.

Thanks for the insight.

> Also - some Chinese made BNCs are so badly made that they will damage
> other connectors - but this is a manufacturing tolerance issue.

73's
--
Best Regards:
Baron.

2175. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 20:40:08 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <1686d7fb-591b-4320-9a5f-372d2e063d83@u26g2000yqu.googlegroups.com>
Source record: 9275

On Jun 6, 9:55 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 5, 6:33 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > This simplified form works for sinusoids. It is derived from
> > P(t)=V(t)I(t),
> > but loses information since the result is just the average value.
>
> Note that P(t)=V(t)I(t) is just Pfor(t) - Pref(t) which loses
> information when the subtraction is performed and is not important in
> any meaningful way. If, as you say, loss of information is to be
> avoided, you should be using Pfor(t) and Pref(t) instead of net P(t).
> --
> 73, Cecil, w5dxp.com

In the past you have insisted that only average powers were relevent.
Does this mean you are ready to look at power (i.e. energy flow) in
the
time domain?

If so, you might appreciate
http://sites.google.com/site/keithdysart/radio6.

...Keith

2176. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 20:48:13 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <62544a4c-4c3a-4304-9201-dfceb5f2c345@g19g2000yqc.googlegroups.com>
Source record: 9276

On Jun 6, 10:09 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 6, 7:54 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Some of the posters to this group have basic misunderstandings of
> > the behaviour of transmission lines and using Poynting to address
> > these misunderstandings is like trying to use quantum mechanics
> > to address misunderstandings of Newton’s third law. And it will
> > be just as unsuccessful.
>
> Translation: I object to anything, including technical references and
> laws of physics, that shoots my argument down. :-)

A rather poor translation.

> > The basic misunderstanding is believing that a reflected wave
> > necessarily and always transports energy.
>
> Please define "transport". An EM wave cannot exist without ExH energy.
> If the energy associated with an EM reflected wave is equal to zero,
> then the reflected wave cannot be measured and doesn't exist. But we
> know that reflected waves do exist just by looking in a mirror -

You do seem to mention looking in the mirror quite frequently, as if
it
had something to do with understanding the behaviour of a
transmission
line.

> causing the reflected photonic energy to be incident upon our retinas.
> All of the transported energy in the reflected wave in a transmission
> line is recovered during the transient state immediately following key
> down. Tracking reflected energy from beginning to end result is not
> difficult - optical physicists have been doing it for decades. But,
> unlike your ideas, their results do not require the violation of the
> laws of physics.

My main idea is basic electricity. If the voltage or current is
always 0, so is the power. This does not violate any physics of which
I am aware.

...Keith

2177. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 20:55:48 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <812o061kcc5qqt014k1agdupva4pe7ihb2@4ax.com>
Source record: 9277

On Sun, 6 Jun 2010 11:01:20 -0700 (PDT), K1TTT <k1ttt@arrl.net> wrote:

>as in the other thread, what is the mechanism of that 'interaction'
>between waves? i contend there can be no 'interaction' between
>forward and reflected waves if the device is linear. so in an ideal
>case of a voltage or current source and ideal source resistance there
>is no interaction, it is reflected by and/or absorbed in the source
>depending on the impedance of the line and source.

There is no mixing as in multiplication of waveforms. Perhaps I can offer a simple analogy. Instead of two AC waveforms (forward and reflected), use a DC equivalent. Start with two DIFFERENT batteries. Connect the two negative ends together and declare that to be ground. Connect a resistor between the positive terminals. The two voltages most certainly "interact" across the resistor, resulting in the current and power being proportional to the difference between the two battery voltages. Nothing in this crude example is non-linear, so there's no need for mixing in order to get interaction.

Similarly, the coax cable acts much in the same way. The two batteries are replaced by the incident and reflected signals. At any time, or position on the transmission line, the model can be frozen and the instantaneous voltages and currents be calculated.

>if the source is
>not linear then you would have to calculate the effect of the sum of
>the voltages or currents at the source to determine the effect.

If the source (or load) is non-linear, then the waveforms seen on the transmission line will be distorted. This is unlikely because we usually don't install diodes in antennas, or build HF amplifiers with substantial non-linearities (i.e. distortion).

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2178. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 20:59:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <74b5c631-f43f-457f-a51f-bc5d39946b8c@k39g2000yqb.googlegroups.com>
Source record: 9278

```
On Jun 6, 7:18 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Jun 6, 2:13 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 6, 6:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Jun 5, 10:34 pm, tom <news4...@taring.org> wrote:
>
> > > > On 6/5/2010 10:27 PM, tom wrote:
>
> > > > > The maximum wire diameters of your model seem to be impractical for use
> > > > > with Mininec where it is not advisable to go beyond .001 wavelengths
> > > > > from what I'm able to determine. Based on that assumption I get a
> > > > > maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000
> > > > > it's a number not even on the AWG table I have -38. So to model this
> > > > > antenna at 3000MHz you should use 38 AWG or smaller wire for any chance
> > > > > of accurate results.
>
> > > > The guage was not meant to be -38, I missed the spacebar.  It should
> > > > have read
>
> > > > "not even on the AWG table I have - 38."
>
> > > > tom
> > > > K0TAR
>
> > > The important point that I put forward is that the program is based
> > > around Maxwells formula. In the engineering world this is factual. If
> > > something deviates from Maxwells laws you cannot say 'don't go there'
> > > and you cannot overthrow what the program provides and at the same
> > > time when it is in accordance with Maxwells laws. To follow that path
> > > is to over throw Maxwell to reinforce your own will. That is not
> > > science.
> > > This approach overthrows fact for success in favor of the present
> > > approach on this group that is based on perceived probabilities that
> > > all other competing theories are based upon.
> > > I continue to use my program and let all the chips fall where they
> > > may. So far, and I have a long way to go, is that skin depth minimises
> > > as current flow
> > > moves out of the metallic member and closer to encapsulating particles
> > > provided by the Gaussian equation. There is no reason to put a halt to
> > > this work until it is proven that the program deviates from Maxwells
> > > equations and thus is fraudulent.
```

> > > I and nobody else, has pointed at any specific point of my work that
> > > specifically states that my approach is in error based on known
> > > boundary rules and classical physics. All assaults have been based
> > > purely on opinion, mostly in a derogatory way to preserve resistance
> > > to change rather than the path of better understanding.
>
> > oh please put an end to it... i will tell you outright that the
> > program deviates from maxwell's equations! at very small or very
> > large extremes it deviates quite a lot! and that is of course why all
> > your results that you let it optimize too far are garbage, you are not
> > conforming with maxwell.
>
> no facts. just opinion

yes, that is my opinion as a professional software developer who has written simulation programs that model lightning on high voltage power lines, on towers, and in ground conductors. And also as a user of AO from many years ago... that program is prone to optimizing into unrealizable and obviously incorrect results, often first seen as rapid changes in currents and gain values. so if you really want to continue, have fun, we all get a good laugh out of your naivety and attempts to explain it with your own version of physics.

2179. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 21:00:10 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <83ef4169-8469-4b09-8d6f-305f0496f33a@i28g2000yqa.googlegroups.com>
Source record: 9279

On Jun 6, 9:45 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 5, 6:28 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > There are indeed negative values. These occur when the energy is
> > flowing in the other direction, ...
>
> Let's take a close look at the illusion that you are seeing and not
> comprehending. Observe a snapshot of the instantaneous power envelope
> of a traveling wave. It is a sinusoidal envelope with peak
> instantaneous power levels and zero instantaneous power levels. When
> it is traveling in the forward direction we consider that to be
> positive power. When it is traveling in the reverse direction, we
> consider that to be negative power. It is only a directional
> *convention* not proof that negative power exists. The only waves that
> can exist as waves on a transmission line are traveling waves.

Ahhh. I see part of your problem. You are thinking envelopes.

You need to change your point of view to be a particular point on the
line.
At this point, there is a function that describes the voltage: V(t).
It
may or may not be a sinusoid. There is a function for the current:
I(t).
And from these can trivialy be derived a function for power:
P(t)=V(t)I(t).

When I clip my instantaneous voltmeter across a line and measure 0 for
all time, I can confidently say that no energy is flowing, for there
is
not. I am curious as to what you would answer?

> In "Optics", Hecht says instantaneous power is "of limited utility."
> You seem to have discovered that limit, stepped over it, and stepped
> in it. :-)

Well, Hecht may have his limitations when dealing with Optics, but
there
is no reason to expect these same limitations to apply to circuit
analysis.

...Keith

2180. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 21:10:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e2bcbd05-3fd1-43d5-b6a0-a9c96fc0ab2e@u26g2000yqu.googlegroups.com>
Source record: 9280

On Jun 6, 8:55 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Sun, 6 Jun 2010 11:01:20 -0700 (PDT), K1TTT <k1...@arrl.net> wrote:
> >as in the other thread, what is the mechanism of that 'interaction'
> >between waves? i contend there can be no 'interaction' between
> >forward and reflected waves if the device is linear. so in an ideal
> >case of a voltage or current source and ideal source resistance there
> >is no interaction, it is reflected by and/or absorbed in the source
> >depending on the impedance of the line and source.
>
> There is no mixing as in multiplication of waveforms. Perhaps I can
> offer a simple analogy. Instead of two AC waveforms (forward and
> reflected), use a DC equivalent. Start with two DIFFERENT batteries.
> Connect the two negative ends together and declare that to be ground.
> Connect a resistor between the positive terminals. The two voltages
> most certainly "interact" across the resistor, resulting in the
> current and power being proportional to the difference between the two
> battery voltages. Nothing in this crude example is non-linear, so
> there's no need for mixing in order to get interaction.

it is very misleading to try to make a lumped circuit analogy out of a
transmission line problem. the first step in any circuits 101 course
would be to simplify the two batteries into one then solve for the
single simple current across the resistor... no waves, no back and
forth, no interaction between batteries, just a single current and
voltage.

>
> Similarly, the coax cable acts much in the same way. The two
> batteries are replaced by the incident and reflected signals. At any
> time, or position on the transmission line, the model can be frozen
> and the instantaneous voltages and currents be calculated.

they can be, but what does it prove? i want to freeze it just as the
first wave gets to the load, there is no reflected wave yet, so what
good is that? in order to use our common equations there are many
unstated but necessary assumptions. the most restrictive of which is
that we normally only solve for the sinusoidal steady state waves...
this requires that a long time(in terms of the length of the line) has
passed since the source was energized, that it is a single frequency
pure sine wave, and that nothing is changing in time in the load or
line characteristics. given all that there is no need for
instantaneous values, sure they can be calculated or measured, but
they are of no use in most cases.

>
> >if the source is
> >not linear then you would have to calculate the effect of the sum of
> >the voltages or currents at the source to determine the effect.
>
> If the source (or load) is non-linear, then the waveforms seen on the
> transmission line will be distorted. This is unlikely because we
> usually don't install diodes in antennas, or build HF amplifiers with
> substantial non-linearities (i.e. distortion).

and obviously if either one is non-linear then all the simple
equations can be abandoned and a more complete analysis must be done.

>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

2181. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 21:21:16 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <fa909412-d5b0-4599-aff2-419ee5c22eb4@s9g2000yqd.googlegroups.com>
Source record: 9281

On Jun 6, 10:22 am, "JC" <menar...@orange.fr> wrote:
> Basic question (at least for me) for a very poor antenna matching :
> -100 w reach the antenna and 50 w are radiated.
> - 50 w are "reflected", what is their fate ?
> Are they definitely lost for radiation and just heat the line, the final....
> JC

I assume that your numbers were obtained using a directional
wattmeter,
that is, forward power is 100W, 50W are reflected and by subtraction,
it is computed that 50W enter the antenna, some of which is dissipated
in the antenna losses and some of which is radiated.

The 100W forward and 50W reflected have no relation to actual powers
but
are simply values that are constructed so that when they are
subtracted
the result is the average power flowing towards the load.

From these numbers alone it is impossible to decide whether the system
is operating as it should or to compute where the losses might be, or
whether there are any losses at all. With an appropriate antenna tuner
it is entirely possible that the transmitter is delivering its design
output of 50W to the line and all of this energy is reaching the
antenna and being radiated.

Thus the whole question of "where does the reflected power go?", is
rather misleading.

...Keith

2182. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 21:27:10 UTC
From: walt <walt@w2du.com>
Message-ID: <3c7d162d-ff3a-4a07-8820-1e77a04f8ac0@c7g2000vbc.googlegroups.com>
Source record: 9282

On Jun 6, 4:55 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Sun, 6 Jun 2010 11:01:20 -0700 (PDT), K1TTT <k1...@arrl.net> wrote:
> >as in the other thread, what is the mechanism of that 'interaction'
> >between waves? i contend there can be no 'interaction' between
> >forward and reflected waves if the device is linear. so in an ideal
> >case of a voltage or current source and ideal source resistance there
> >is no interaction, it is reflected by and/or absorbed in the source
> >depending on the impedance of the line and source.
>
> There is no mixing as in multiplication of waveforms. Perhaps I can
> offer a simple analogy. Instead of two AC waveforms (forward and
> reflected), use a DC equivalent. Start with two DIFFERENT batteries.
> Connect the two negative ends together and declare that to be ground.
> Connect a resistor between the positive terminals. The two voltages
> most certainly "interact" across the resistor, resulting in the
> current and power being proportional to the difference between the two
> battery voltages. Nothing in this crude example is non-linear, so
> there's no need for mixing in order to get interaction.
>
> Similarly, the coax cable acts much in the same way. The two
> batteries are replaced by the incident and reflected signals. At any
> time, or position on the transmission line, the model can be frozen
> and the instantaneous voltages and currents be calculated.
>
> >if the source is
> >not linear then you would have to calculate the effect of the sum of
> >the voltages or currents at the source to determine the effect.
>
> If the source (or load) is non-linear, then the waveforms seen on the
> transmission line will be distorted. This is unlikely because we
> usually don't install diodes in antennas, or build HF amplifiers with
> substantial non-linearities (i.e. distortion).
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

Looks like I should step in here, as the answer to this question is
the main theme in the book Reflections--Transmission Lines and
Antennas, the first edition published in 1990, the second in 2001, and
the third in just this past month of May, released at Dayton.

The notion that ANY reflected power enters the source, such as an RF power amp using tubes and a pi-network, is FALSE!!! The output source resistance of these amps is non-dissipative, and totally re-reflects all reflected power from a mismatched antenna. The same is true when using an antenna tuner. When correctly adjusted the antenna tuner totally reflects all reflected power, resulting in a conjugate match at the antenna-coax mismatch, canceling all reactances in the system to zero, thus tuning the non-resonant antenna to resonance. This action if fundamental, and has been a misunderstood myth for centuries.

For proof of the above statements I invite you to read Chapter 23 of Reflections, which you can find on my web page at www.w2du.com. Click on 'Read Chapters from Reflections 2' and then click on Chapter 23.

In addition, Chapter 19 gives more insight, and the addition to Chapter 19 can be found by clicking on 'Preview Chapters from Reflections 3'. The addition shows measured data proving that the output source impedance of the RF amp is the conjugate of the complex load impedance when the pi-network is adjusted to deliver all the available power at a given level of grid drive.

Furthermore, a completely revised edition of Chapter 23 and the total Chapter 19 appear in Reflections 3, which is now available from CQ Magazine.

Walt Maxwell, W2DU

2183. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 21:32:20 UTC
From: walt <walt@w2du.com>
Message-ID: <54fd4a3f-d9c2-41d4-8ee1-f773bc99c063@k31g2000vbu.googlegroups.com>
Source record: 9283

On Jun 6, 5:27 pm, walt <w...@w2du.com> wrote:
> On Jun 6, 4:55 pm, Jeff Liebermann <je...@cruzio.com> wrote:
>
>
>
> > On Sun, 6 Jun 2010 11:01:20 -0700 (PDT), K1TTT <k1...@arrl.net> wrote:
> > >as in the other thread, what is the mechanism of that 'interaction'
> > >between waves? i contend there can be no 'interaction' between
> > >forward and reflected waves if the device is linear. so in an ideal
> > >case of a voltage or current source and ideal source resistance there
> > >is no interaction, it is reflected by and/or absorbed in the source
> > >depending on the impedance of the line and source.
>
> > There is no mixing as in multiplication of waveforms. Perhaps I can
> > offer a simple analogy. Instead of two AC waveforms (forward and
> > reflected), use a DC equivalent. Start with two DIFFERENT batteries.
> > Connect the two negative ends together and declare that to be ground.
> > Connect a resistor between the positive terminals. The two voltages
> > most certainly "interact" across the resistor, resulting in the
> > current and power being proportional to the difference between the two
> > battery voltages. Nothing in this crude example is non-linear, so
> > there's no need for mixing in order to get interaction.
>
> > Similarly, the coax cable acts much in the same way. The two
> > batteries are replaced by the incident and reflected signals. At any
> > time, or position on the transmission line, the model can be frozen
> > and the instantaneous voltages and currents be calculated.
>
> > >if the source is
> > >not linear then you would have to calculate the effect of the sum of
> > >the voltages or currents at the source to determine the effect.
>
> > If the source (or load) is non-linear, then the waveforms seen on the
> > transmission line will be distorted. This is unlikely because we
> > usually don't install diodes in antennas, or build HF amplifiers with
> > substantial non-linearities (i.e. distortion).
>
> > --
> > Jeff Liebermann   je...@cruzio.com
> > 150 Felker St #D   http://www.LearnByDestroying.com
> > Santa Cruz CA 95060http://802.11junk.com
> > Skype: JeffLiebermann   AE6KS   831-336-2558
>
> Looks like I should step in here, as the answer to this question is

> the main theme in the book Reflections--Transmission Lines and
> Antennas, the first edition published in 1990, the second in 2001, and
> the third in just this past month of May, released at Dayton.
>
> The notion that ANY reflected power enters the source, such as an RF
> power amp using tubes and a pi-network, is FALSE!!! The output source
> resistance of these amps is non-dissipative, and totally re-reflects
> all reflected power from a mismatched antenna. The same is true when
> using an antenna tuner. When correctly adjusted the antenna tuner
> totally reflects all reflected power, resulting in a conjugate match
> at the antenna-coax mismatch, canceling all reactances in the system
> to zero, thus tuning the non-resonant antenna to resonance. This
> action if fundamental, and has been a misunderstood myth for
> centuries.
>
> For proof of the above statements I invite you to read Chapter 23 of
> Reflections, which you can find on my web page atwww.w2du.com. Click
> on 'Read Chapters from Reflections 2' and then click on Chapter 23.
>
> In addition, Chapter 19 gives more insight, and the addition to
> Chapter 19 can be found by clicking on 'Preview Chapters from
> Reflections 3'. The addition shows measured data proving that the
> output source impedance of the RF amp is the conjugate of the complex
> load impedance when the pi-network is adjusted to deliver all the
> available power at a given level of grid drive.
>
> Furthermore, a completely revised edition of Chapter 23 and the total
> Chapter 19 appear in Reflections 3, which is now available from CQ
> Magazine.
>
> Walt Maxwell, W2DU

Forgot to mention that the output of the RF power amp is LINEAR, even
though the input is non-linear. The reason is that the the pi-network
tank circuit is not only an impedance transformer, it's an energy-
storage device that isolates the output from the input. The linearity
of the output is indicated by the sinusoidal shape of the output wave,
and that the voltage and current are in phase when the load impedance
is resistive.

Walt, W2DU

2184. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 21:58:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <UMidnTO6Ee2Hh5HRnZ2dnUVZ_j6dnZ2d@giganews.com>
Source record: 9284

Richard Fry wrote:
> On Jun 4, 8:25 pm, Roy Lewallen <w...@eznec.com> wrote:
>> It is indeed accepted that the radiation resistance of a monopole over a
>> perfect ground of infinite extent has the characteristics you ascribe,
>> and computer models show this independence as they should. (I haven't
>> yet received your model which you feel seems to show differently.)
>
> The .EZ files for Case 1 and Case 2 were emailed to you this morning.

I've responded, explaining the apparent error. Basically, the models included wire loss which caused the base resistance to include some loss in addition to the radiation resistance. The models also included a loading inductor which wasn't at the base. This alters the current distribution relative to an unloaded or base loaded vertical, resulting in an a change in radiation resistance as observed at the base.

The reason that adding 25 ohms of resistance resulted in not exactly 25 ohms of increased base resistance is that part of that resistance was added at the loading coil which wasn't at the base. Impedances added anywhere except at the base will be transformed in value when observed at the base, because the current at the point where the impedance is placed is different than the current at the base. This is why, for example, a center loading coil must have more inductance than a base loading coil to effect the same change in reactance at the base.

There was nothing wrong with the models, but they don't represent the classic simplified antenna analyzed in the paper. They were easily modified to do so.

> I had also modeled this short monopole system earlier with basically
> the same parameters, using another NEC-2 program (results follow):
> . . .
> . . .

> NEC-Win Plus+ INPUT FILE
> ------------------------
> C:\Program Files\NEC-WIN\RJF Antenna Files\Case 1.NWP
>
> CM
> CE
> GW 1 12 0 0 0 0 0 9.84 0.125
> GW 30901 1 9901.0000 9901.0000 9901.0000 9901.0001 9901.0001
> 9901.0001 .00001
> GS 0 0 .3048
> GE 1
> GN 1

```
> EX 0 30901 1 0 0.0 1.0
> LD 4 1 1 1 0 2050
> NT 30901 1 1 1 0 0 0 1 0 0
> FR 0 1 0 0 1.65 1
> RP 0 1 360 1000 90 1 1 1
> RP 0 181 1 1000 -90 0 1 1
> EN
> . . .
```

Well, if you use "basically the same parameters" you'll get "basically" the same results. But if you want exactly the same results you'll have to take more care to use exactly the same parameters.

This model contains no wire loss, and the loading coil is placed at the same segment as the source. Because it differs in these ways from the EZNEC model, you should expect to get different results, as indeed happened. Various implementations of NEC-2 should always give very nearly the same results for the same model. In virtually all cases, as this one, where they didn't seem to, it was because the models were different.

Roy Lewallen, W7EL

2185. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 22:21:59 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d5d3eeaa-63a8-4d94-9312-e0ed7176c884@5g2000yqz.googlegroups.com>
Source record: 9285

On 6 jun, 19:00, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 6 Jun 2010 07:42:31 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >However a PA is not a 50 Ohms source
>
> Hi Wimpie,
>
> You say this like others, with the air of "knowing." However, when I
> ask in response of those who "know" what the PA is NOT, what IS it?
>
> Give me the Z value of your transmitter. Specify all initial
> conditions.
>
> We have had lengthy correspondence with Walt Maxwell's very rigorously
> measured Kenwood TS830s that demonstrates a Z of 50 Ohms, or nearly
> that as is practicable (say +/- 20%); and yet your voice was missing
> from this discussion with evidence to the contrary.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

Try the following experiment:

Measure the forward power of your PA at a convenient load. Use a
directional coupler for that, not a voltage meter calibrated for
power. The "SET" or "CAL" position of a VSWR meter can be used as
forward power indicator.

Now make some mismatch (for example VSWR=2 at different phase) and
read the forward power. Did it change? If so, the output impedance is
no (longer) 50 Ohms. If possible, disable automatic protection to
avoid changing drive level. I don't know the value for my FT7B, but I
know forward power changes with load variations (as I use it as
"measuring instrument" sometimes).

Virtually all power amplifiers I designed do not have a large signal
output impedance of 50 ohms under significant load change. For some I
measured it because of a discussion on this between colleges.

Measuring method used: change in resistive load, from voltage change
you can calculate the current change, hence the output impedance. One
note, except two, all where solid state.

All high efficiency designs (class E, D) that I did have output impedance far from the expected load impedance. With "far" I mean > factor 2 or < factor 0.5. I did not measure that (as it is not important in virtually all cases), but know it from the overload simulation/measurement and I did the design myself.

The reason for not being 50 Ohms (after matching) is that when you change the load, the active device will go into voltage or current saturation. This is not a hard process, so for small load variation (low VSWR values), forward power will not change much. I think this is especially true for vacuum triode PA where you have significant tube-internal feedback. For large variation (for example VSWR = 2.5, reflected power 18%), you will notice change in forward power for most power amplifiers.

High efficiency CW amplifiers use saturated switches (for example half, full bridge or push-pull), so behave (seen at the active device) as a voltage source. Depending on the total phase shift of the filter sections this may convert to a current source behavior (seen at the output). I had to spent much time to avoid destruction of some circuits in case of mismatch.

If you can drop me a link to the discussion of the TS830s, I would appreciate that.

Best regards,

Wim
PA3DJS
www.tetech.nl
Remove abc first in case of PM.

2186. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 22:33:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4c0c2249$0$633$8046368a@newsreader.iphouse.net>
Source record: 9286

On 6/6/2010 1:26 PM, Art Unwin wrote:
> On Jun 5, 10:34 pm, tom<news4...@taring.org> wrote:
>> On 6/5/2010 10:27 PM, tom wrote:
>>
>>> The maximum wire diameters of your model seem to be impractical for use
>>> with Mininec where it is not advisable to go beyond .001 wavelengths
>>> from what I'm able to determine. Based on that assumption I get a
>>> maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000
>>> it's a number not even on the AWG table I have -38. So to model this
>>> antenna at 3000MHz you should use 38 AWG or smaller wire for any chance
>>> of accurate results.
>>
>> The guage was not meant to be -38, I missed the spacebar. It should
>> have read
>>
>> "not even on the AWG table I have - 38."
>>
>> tom
>> K0TAR
>
> The important point that I put forward is that the program is based
> around Maxwells formula. In the engineering world this is factual. If
> something deviates from Maxwells laws you cannot say 'don't go there'
> and you cannot overthrow what the program provides and at the same
> time when it is in accordance with Maxwells laws. To follow that path
> is to over throw Maxwell to reinforce your own will. That is not
> science.
> This approach overthrows fact for success in favor of the present
> approach on this group that is based on perceived probabilities that
> all other competing theories are based upon.
> I continue to use my program and let all the chips fall where they
> may. So far, and I have a long way to go, is that skin depth minimises
> as current flow
> moves out of the metallic member and closer to encapsulating particles
> provided by the Gaussian equation. There is no reason to put a halt to
> this work until it is proven that the program deviates from Maxwells
> equations and thus is fraudulent.
> I and nobody else, has pointed at any specific point of my work that
> specifically states that my approach is in error based on known
> boundary rules and classical physics. All assaults have been based
> purely on opinion, mostly in a derogatory way to preserve resistance
> to change rather than the path of better understanding.

You need to get a grip. All I did was point out that you may be exceeding the limits of the program you use.

Take your meds.

tom
K0TAR

2187. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 22:36:10 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <4832eb84-c928-4bc7-afb9-0ea39f932710@c33g2000yqm.googlegroups.com>
Source record: 9287

On 6 jun, 19:00, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 6 Jun 2010 07:42:31 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >However a PA is not a 50 Ohms source
>
> Hi Wimpie,
>
> You say this like others, with the air of "knowing." However, when I
> ask in response of those who "know" what the PA is NOT, what IS it?
>
> Give me the Z value of your transmitter. Specify all initial
> conditions.
>
> We have had lengthy correspondence with Walt Maxwell's very rigorously
> measured Kenwood TS830s that demonstrates a Z of 50 Ohms, or nearly
> that as is practicable (say +/- 20%); and yet your voice was missing
> from this discussion with evidence to the contrary.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

Walt did respond and did a solid statement regarding the amplifier
with matching section to obtain maximum output (so I know the
conditions) This is the point where the tube/transistor is at the
edge of current/voltage saturation.

At that operating point the output impedance is 50 Ohms (for small
load variations). When you change the load significantly (or change
drive level), current or voltage saturation will dominate, hence the
output impedance is no longer 50 Ohms. This is also the reason that
PA intermodulation may occur in close spaced transmitters where some
power from transmitter A enters the amplifier of transmitter B and
vice versa. This also proves that there is no linear 50 Ohms output
impedance.

Best regards,

Wim
PA3DJS
www.tetech.nl

2188. Re: Replacement for W9INN Center Connector

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 22:48:09 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <huh8jd$5s16$1@tr22n12.aset.psu.edu>
Source record: 9288

On 6/4/2010 12:31 PM, aRKay wrote:
> This posting is more of an update. I pulled the old W9INN down for
> inspection and found a crack in the PVC. It was interesting to note the
> imprint on the top of the center conductor (not a balun) says W2AU;
> however, it does not look like a W2AU on any web page. It has ground
> strap running from top to bottom. To make a long story short, the
> crack in top of the device was easily repaired using PVC cement and
> it passed all continuity tests. It is back in place and working FB.

That was the old or original style of the W2AU center insulator. You could get with or without a balun inside. The strap was to provide a way to ground the shield of the coax for lighting protection via the hanging eyelet. I remember them from the seventies as a common connection method.

John W3JXP

2189. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 23:19:42 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <huhaej$5s18$1@tr22n12.aset.psu.edu>
Source record: 9289

On 6/5/2010 5:49 PM, Geoffrey S. Mendelson wrote:
> I recently was able to use a crimp on tool for F connectors for RG-6 quad
> shield coax. To make sure everyone understands, I am in Israel, and RG-6
> quad shield coax is cheap and easy to find.
>
> Any other coax is almost impossible to find. Pl-259 connectors, called
> "UHF" connectors here are rare items. I can get them locally, but I have
> to special order them and they are expensive. Since I can not see them
> before I order them, I am as likely to get nickle plated ones with
> phenolic insulation as I am to get any other kind, and once ordered are
> not returnable.
>
> BNC to PL-259 adaptors, are easy to get, and can be ordered from a reliable
> local souce for a relatively small price. The same with N to PL-259.
>
> Looking around at the crimp-on F connectors before I ordered them, I found
> that you can get crimp on BNC connectors for RG-6 quad shield coax.
>
> Here's my questions, Note when I say crimp-on, I mean the ones that crimp
> from the rear, like commerical F connectors, not the ones that crimp
> around the plug. I have never been able to get any of them to "fit right":
>
> 1. Can I connect a 75ohm BNC plug (which is a different size) to a
> 50oHm BNC socket?

No the size of the center conductor pin is different between 75 and 50
ohm connectors and will either make bad contact or damage the socket.

>
> 2. Are there crimp on 50 ohm BNC plugs which will work with RG6 quad shield?
> I know there are variations, but most are similar in size.

I don't think so, as there are large differences in the diameter of the
2 kinds of coax, both the diameter of the center conductor and the
outside diameter of the coax.
>
> 3. Are there crimp on N connectors that would fit the RG6 quad shield coax?
> More likely due to the size a crimp on center element that screws into the
> plug body?

I've never seen any and can't think of any commercial reason that anyone
would make one.
>
> 4. Are there crimp on PL-259 connectors?

Yes, I use them all the time. I like them much better than the solder on type. Most need the center pin soldered but the crimp connection to the shield is much easier and better done than when soldered
>
> Thanks in advance,
>
> Geoff.
>

It's my experience that Teflon insulated PL259's are inferior to the phenolic insulation type. The PL259 is a non constant impedance connector that gains no benefit from Teflon insulation as to impedance. The ability of Teflon to hold the center pin in placed is greatly inferior to phenolic. One of the advertised benefits of Teflon is to withstand more heat, true but by the time the connector is heated enough to hurt the phenolic, the coax your trying to install is melted way. Nickel is harder to solder to than silver but the real problem with cheap PL259s is the inside diameter of the area with holes your supposed to solder through. I've measured a few and found them to uniformly to have a too big of an inside diameter. This means there is a larger gap between the metal of the connector and the shield than should be. This gap is hard to impossible to fill with solder and makes for poor heat transfer to the braid of the shield. Finding good connectors is much harder than it used to be as most high-end equipment manufacture are not using PL259s anymore and what hams can get are largely junk I'm afraid. I've seen on ham equipment SO239, the jack half, ones that were molded metal instead of machined brass. Those are hard to thread on a plug onto and are of a soft pot metal that cracks or binds.

John Passaneau W3JXP

2190. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-06 23:51:15 UTC
From: walt <walt@w2du.com>
Message-ID: <8b803596-9e73-41bb-b847-6ab9d382e389@z10g2000yqb.googlegroups.com>
Source record: 9290

On Jun 6, 6:36 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 6 jun, 19:00, Richard Clark <kb7...@comcast.net> wrote:
>
>
>
> > On Sun, 6 Jun 2010 07:42:31 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> > wrote:
>
> > >However a PA is not a 50 Ohms source
>
> > Hi Wimpie,
>
> > You say this like others, with the air of "knowing." However, when I
> > ask in response of those who "know" what the PA is NOT, what IS it?
>
> > Give me the Z value of your transmitter. Specify all initial
> > conditions.
>
> > We have had lengthy correspondence with Walt Maxwell's very rigorously
> > measured Kenwood TS830s that demonstrates a Z of 50 Ohms, or nearly
> > that as is practicable (say +/- 20%); and yet your voice was missing
> > from this discussion with evidence to the contrary.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hello Richard,
>
> Walt did respond and did a solid statement regarding the amplifier
> with matching section to obtain maximum output (so I know the
> conditions) This is the point where the tube/transistor is at the
> edge of current/voltage saturation.
>
> At that operating point the output impedance is 50 Ohms (for small
> load variations). When you change the load significantly (or change
> drive level), current or voltage saturation will dominate, hence the
> output impedance is no longer 50 Ohms. This is also the reason that
> PA intermodulation may occur in close spaced transmitters where some
> power from transmitter A enters the amplifier of transmitter B and
> vice versa. This also proves that there is no linear 50 Ohms output
> impedance.
>
> Best regards,
>

> Wim
> PA3DJSwww.tetech.nl

Sorry Wim, I can't agree with some of your statements in your last post. Concerning maximum output, I will agree that saturation will occur when the minimum of the peak AC plate voltage equals the peak AC grid voltage. This condition occurs when the tube is delivering its total maximum possible power. However, when the grid drive level is less than that which brings the plate-voltage minimum down to the grid-voltage level, saturation does not occur.

In addition, when the pi-network has been adjusted to deliver all the available power at some drive level less than the maximum possible power, the source resistance at the output of the pi-network will be exactly equal to its load resistance, not somewhat higher or lower. This follows from the Maximum Power Transfer Theorem. This is not speculation, but proof determined by data from many, many measurements.

Walt, W2DU

2191. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 00:17:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <QISdnV85h-AHp5HRnZ2dnUVZ_vOdnZ2d@giganews.com>
Source record: 9291

John Passaneau wrote:
> On 6/5/2010 5:49 PM, Geoffrey S. Mendelson wrote:

>> 1. Can I connect a 75ohm BNC plug (which is a different size) to a
>> 50oHm BNC socket?
>
> No the size of the center conductor pin is different between 75 and 50
> ohm connectors and will either make bad contact or damage the socket.

That's not necessarily true. I have some RG-59 cables with male 75 ohm BNC connectors that mate fine with 50 ohm connectors. The diameter of the 75 ohm connector center pin is the same diameter as 50 ohm connectors. The difference is that the dielectric surrounding the center pin of the 75 ohm connector is much thinner. And at the point where the pin enters the solid dielectric at the bottom, the 75 ohm pin doesn't step up in diameter.

Others have said that there are some 75 ohm BNC connectors which won't interconnect without damage. But I do know there are some that mate with no problem. 50 ohm BNC connectors and adapters are very common. I suggest you get one and compare the center pin diameter with that of your 75 ohm connector. If it's the same, the two can interconnect without damage.

I also have a lot of RG-59 cables with 50 ohm BNC connectors. That's probably more common, since 50 ohm connectors are much more common, and the connector choice won't make any practical difference in the vast majority of applications.

Roy Lewallen, W7EL

2192. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 00:23:11 UTC
From: Gaius <bin@127.0.0.1>
Message-ID: <MPG.26764c4fba588f7c989696@news.zen.co.uk>
Source record: 9292

In article <huhaej$5s18$1@tr22n12.aset.psu.edu>, w3jxp@arrl.net says...
> >
> No the size of the center conductor pin is different between 75 and 50
> ohm connectors and will either make bad contact or damage the socket.
>
Please support that allegation with evidence.

What are the specified diameters of the inner conductor mating surfaces
of 75R and 50R BNC plugs ?

Include allowable manufacturing tolerances, and quote your sources.

2193. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 00:40:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4c0c3ff4$0$50145$8046368a@newsreader.iphouse.net>
Source record: 9293

On 6/6/2010 1:26 PM, Art Unwin wrote:
>
> The important point that I put forward is that the program is based
> around Maxwells formula. In the engineering world this is factual. If
> something deviates from Maxwells laws you cannot say 'don't go there'
> and you cannot overthrow what the program provides and at the same
> time when it is in accordance with Maxwells laws. To follow that path
> is to over throw Maxwell to reinforce your own will. That is not
> science.
> This approach overthrows fact for success in favor of the present
> approach on this group that is based on perceived probabilities that
> all other competing theories are based upon.
> I continue to use my program and let all the chips fall where they
> may. So far, and I have a long way to go, is that skin depth minimises
> as current flow
> moves out of the metallic member and closer to encapsulating particles
> provided by the Gaussian equation. There is no reason to put a halt to
> this work until it is proven that the program deviates from Maxwells
> equations and thus is fraudulent.
> I and nobody else, has pointed at any specific point of my work that
> specifically states that my approach is in error based on known
> boundary rules and classical physics. All assaults have been based
> purely on opinion, mostly in a derogatory way to preserve resistance
> to change rather than the path of better understanding.

And people have pointed out gaping holes (monstrously large errors) in
the nonsense you proclaim on a daily basis. You just refuse to
acknowledge it.

Time for the rubber room again for a while.

tom
K0TAR

2194. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 01:04:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q9go06p546njdf52hjfoo2qqt9knlldi7a@4ax.com>
Source record: 9294

On Sun, 6 Jun 2010 15:21:59 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>Try the following experiment:

-sigh-

Hi Wimpie,

This is not what I asked for. You said what the source was NOT, but
you cannot say what the source IS.

The source is not a bipedal reptile. The source is not an elongated
diphthong. The source is not the resurrection of a deity (some may
argue that more than I would care to follow). The source is not....

There are many ways to say what the source is NOT, and that will never
inform us about the source. I see many draw deuces to this question
and try to convince everyone that the card is a pair of winning aces.

>Now make some mismatch (for example VSWR=2 at different phase) and
>read the forward power. Did it change? If so, the output impedance is
>no (longer) 50 Ohms.

What IS it now? If you could measure it once, you should be able to
tell us what it is this time too. I did this for years to methods set
by the National Bureau of Standards. You have drawn a deuce, not two
aces.

>Measuring method used: change in resistive load, from voltage change
>you can calculate the current change, hence the output impedance. One
>note, except two, all where solid state.

Yes, that is called a load pull, but you offer no data - another
deuce. I have done a lot of load pulls.

>All high efficiency designs (class E, D) that I did have output
>impedance far from the expected load impedance. With "far" I mean >
>factor 2 or < factor 0.5. I did not measure that (as it is not
>important in virtually all cases), but know it from the overload
>simulation/measurement and I did the design myself.

You didn't measure it, but you can state the value - interesting state
of guessing. So, what did the simulation/non-measurement give you as
a value? What IS the value? Another deuce.

>The reason for not being 50 Ohms

Reasons abound. BP is giving us reasons why the Gulf Coast shouldn't worry. Data has proven that reasons don't work and neither does their well. That is a Joker draw.

>High efficiency CW amplifiers

The TS830S is not such an animal. Another Deuce.

>If you can drop me a link to the discussion of the TS830s, I would
>appreciate that.

Google "Plate Resistance" in this group.

73's
Richard Clark, KB7QHC

2195. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 01:04:40 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <a4ho06tct3nh9r4bhov6gehm8d18ic0pjr@4ax.com>
Source record: 9295

On Sun, 06 Jun 2010 17:17:25 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>I also have a lot of RG-59 cables with 50 ohm BNC connectors. That's
>probably more common, since 50 ohm connectors are much more common, and
>the connector choice won't make any practical difference in the vast
>majority of applications.

Just a minor note, but coaxial cable Arcnet connectors, using 93 ohm
RG-62a/u coax cable, also used 50 ohm BNC connectors. The terminators
were 93 ohm resistors inside 50 ohm BNC connectors:
<http://theory.cs.uni-bonn.de/info5/system/arcnet.html>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2196. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 01:27:49 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <cd18048f-f929-434f-a857-b3a8f7b22d4f@i28g2000yqa.googlegroups.com>
Source record: 9296

On Jun 6, 3:59 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 6, 7:18 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Jun 6, 2:13 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 6, 6:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Jun 5, 10:34 pm, tom <news4...@taring.org> wrote:
>
> > > > > On 6/5/2010 10:27 PM, tom wrote:
>
> > > > > > The maximum wire diameters of your model seem to be impractical for use
> > > > > > with Mininec where it is not advisable to go beyond .001 wavelengths
> > > > > > from what I'm able to determine. Based on that assumption I get a
> > > > > > maximum usable wire gauge for 685MHz of 25, and for 1200MHz 30. At 3000
> > > > > > it's a number not even on the AWG table I have -38. So to model this
> > > > > > antenna at 3000MHz you should use 38 AWG or smaller wire for any chance
> > > > > > of accurate results.
>
> > > > > The guage was not meant to be -38, I missed the spacebar. It should
> > > > > have read
>
> > > > > "not even on the AWG table I have - 38."
>
> > > > > tom
> > > > > K0TAR
>
> > > > The important point that I put forward is that the program is based
> > > > around Maxwells formula. In the engineering world this is factual. If
> > > > something deviates from Maxwells laws you cannot say 'don't go there'
> > > > and you cannot overthrow what the program provides and at the same
> > > > time when it is in accordance with Maxwells laws. To follow that path
> > > > is to over throw Maxwell to reinforce your own will. That is not
> > > > science.
> > > > This approach overthrows fact for success in favor of the present
> > > > approach on this group that is based on perceived probabilities that
> > > > all other competing theories are based upon.
> > > > I continue to use my program and let all the chips fall where they
> > > > may. So far, and I have a long way to go, is that skin depth minimises
> > > > as current flow
> > > > moves out of the metallic member and closer to encapsulating particles
> > > > provided by the Gaussian equation. There is no reason to put a halt to

> > > > this work until it is proven that the program deviates from Maxwells
> > > > equations and thus is fraudulent.
> > > > I and nobody else, has pointed at any specific point of my work that
> > > > specifically states that my approach is in error based on known
> > > > boundary rules and classical physics. All assaults have been based
> > > > purely on opinion, mostly in a derogatory way to preserve resistance
> > > > to change rather than the path of better understanding.
>
> > > oh please put an end to it... i will tell you outright that the
> > > program deviates from maxwell's equations! at very small or very
> > > large extremes it deviates quite a lot! and that is of course why all
> > > your results that you let it optimize too far are garbage, you are not
> > > conforming with maxwell.
>
> > no facts. just opinion
>
> yes, that is my opinion as a professional software developer who has
> written simulation programs that model lightning on high voltage power
> lines, on towers, and in ground conductors. And also as a user of AO
> from many years ago... that program is prone to optimizing into
> unrealizable and obviously incorrect results, often first seen as
> rapid changes in currents and gain values.   so if you really want to
> continue, have fun, we all get a good laugh out of your naivety and
> attempts to explain it with your own version of physics.

I have no problem with your view point and it is something I am
concerned about. Since I have followed this path however, every thing
is meshing
and I am reporting it as I do not fear failure. But to my mind I have
not hit anything to cause me to give up. On top of that nobody has
raised any particular points of discussion either. Remember it took me
years to convince all that extending Gauss
was OK and it provided arrays where all elements were resonant each of
which can be fed. So I was right there and everybody else was in
error, relying on books only and not there own education.
Now I am spreading my wings based on what the former has shown and
will re evaluate again when done. At each time I will continue to
share results
even if it finally shows some errors But I certainly will not stop
because of intuitions from the group which up to now has been proved
wrong. Nothing wrong with following the teachings of the books as
followers but I am attempting to be a leader in finding truths about
radiation. So far I have proved the presence of particles, realised
equilibrium in every way and now I appear to be proving that skin
depth is not a constant. A lot of work to do but as an engineer I knew
it would take a while and on top of that I supplied it to a academic
to break it down
as one always should get an independent evaluation. So far every thing
that Einstein predicted has shown up in my workings such that if he
had seen it there would have been no need for alternate physics

proposals, not that they were without success. The final point is that it is accepted that the machinations of radiation have not yet been proven and so far following thru with classical physics has provided with interesting view points that oppose the present teachings. So I am a fool to place my engineering experience in search of the truth where others may be happy as things are.
So I am different from the rest and what is so bad about that? It is for the group to show that I am inadequate from my aproach and to this point all
that has been presented has been proven false and I still prevail. I yearn for closure which could come from those really interested in the outcome. But at the same time in their absence I will carry on.
Future info will be on the new thread since this one is now dead and placed in the archives.
Regards
Art

2197. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 01:39:32 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <80cd6c3c-a560-4788-9c3c-51c42f63e392@r27g2000yqb.googlegroups.com>
Source record: 9297

On 7 jun, 01:51, walt <w...@w2du.com> wrote:
> On Jun 6, 6:36 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 6 jun, 19:00, Richard Clark <kb7...@comcast.net> wrote:
>
> > > On Sun, 6 Jun 2010 07:42:31 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> > > wrote:
>
> > > >However a PA is not a 50 Ohms source
>
> > > Hi Wimpie,
>
> > > You say this like others, with the air of "knowing." However, when I
> > > ask in response of those who "know" what the PA is NOT, what IS it?
>
> > > Give me the Z value of your transmitter. Specify all initial
> > > conditions.
>
> > > We have had lengthy correspondence with Walt Maxwell's very rigorously
> > > measured Kenwood TS830s that demonstrates a Z of 50 Ohms, or nearly
> > > that as is practicable (say +/- 20%); and yet your voice was missing
> > > from this discussion with evidence to the contrary.
>
> > > 73's
> > > Richard Clark, KB7QHC
>
> > Hello Richard,
>
> > Walt did respond and did a solid statement regarding the amplifier
> > with matching section to obtain maximum output (so I know the
> > conditions) This is the point where the tube/transistor is at the
> > edge of current/voltage saturation.
>
> > At that operating point the output impedance is 50 Ohms (for small
> > load variations). When you change the load significantly (or change
> > drive level), current or voltage saturation will dominate, hence the
> > output impedance is no longer 50 Ohms.   This is also the reason that
> > PA intermodulation may occur in close spaced transmitters where some
> > power from transmitter A enters the amplifier of transmitter B and
> > vice versa. This also proves that there is no linear 50 Ohms output
> > impedance.
>

> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl

Hello Walt,

I think the problem is in the initial conditions that we use as
starting point. Your starting point is matched to maximum power output
in all cases, also under bad antenna VSWR. My starting point was a
fixed tuned amplifier, made for 50 Ohms and experiencing large
mismatch (50W reflected, 100W forward).
>
> Sorry Wim, I can't agree with some of your statements in your last
> post. Concerning maximum output, I will agree that saturation will
> occur when the minimum of the peak AC plate voltage equals the peak AC
> grid voltage. This condition occurs when the tube is delivering its
> total maximum possible power. However, when the grid drive level is
> less than that which brings the plate-voltage minimum down to the grid-
> voltage level, saturation does not occur.

In that case the final tube will more or less behave like a current
source (LF appraoch, there will be feedback via capacitance), so the
impedance will change from the value for maximum power.

There are two saturation conditions: voltage saturation, this lowers
the plate impedance, current saturation (below maximum voltage swing),
this increases the plate impedance (especially for pentodes).

We start with a maximim power matched situation (so ZL = Zout) and
don't touch the tuning.
When you now change the load (for example VSWR =2), you will probably
have a strong voltage saturation condition or strong current
saturation condition, so voltage source or current source behavior
dictates, but not both. Therefore the output impedance at the plate
will rise (current saturation) or decrease (voltage saturation). For
triodes the effect is less then for pentodes as the transition for
current saturation to voltage saturation is relatively smooth for
triodes.
>
> In addition, when the pi-network has been adjusted to deliver all the
> available power at some drive level less than the maximum possible
> power, the source resistance at the output of the pi-network will be
> exactly equal to its load resistance, not somewhat higher or lower.
> This follows from the Maximum Power Transfer Theorem. This is not
> speculation, but proof determined by data from many, many
> measurements.

Fully agree with this, but is this always the case under practical
circumstance?

When you change one of the paramers (drive level or VSWR, but not the matching), you will divert from the optimum setting, hence impedance will change. You can try the VSWR dependence by measuring the forward power under varying VSWR. I am sure it will change (keeping drive level and pi filter matching the same).

Most solid state amplifiers do not have the possibility of matching when you change VSWR, so with bad VSWR, you will be in the current or voltage saturating range of the active device and your output impedance will change.

Virtually all high efficient amplifiers work in voltage saturated mode and are therefore not operated at maximum available power, therefore their output impedance doens't match the expected load.

Except for CW, most SSB amplifiers run in the current saturated mode (so below maximum voltage swing), so they do not work at their maximum power point given the instantaneous drive level (or you need to modulate your supply also).

In real world the situation is more complex because of phase changes in VSWR and parasitic feedback that may change the gain of the active device (worst case spoken, you may get instability). I discovered (when I was younger) that with a class C fixed tuned amplifier, small changes in VSWR resulted in change of forward power, but significant change in DC supply current (and heatsink temperature). So what happens with the reflected power depends on many factors.

>
> Walt, W2DU

Wim
PA3DJS
www.tetech.nl

2198. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 02:06:17 UTC
From: tom <news4792@taring.org>
Message-ID: <4c0c5418$0$50148$8046368a@newsreader.iphouse.net>
Source record: 9298

On 6/6/2010 8:27 PM, Art Unwin wrote:
> On Jun 6, 3:59 pm, K1TTT<k1...@arrl.net> wrote:
>> yes, that is my opinion as a professional software developer who has
>> written simulation programs that model lightning on high voltage power
>> lines, on towers, and in ground conductors. And also as a user of AO
>> from many years ago... that program is prone to optimizing into
>> unrealizable and obviously incorrect results, often first seen as
>> rapid changes in currents and gain values. so if you really want to
>> continue, have fun, we all get a good laugh out of your naivety and
>> attempts to explain it with your own version of physics.
>
> I have no problem with your view point and it is something I am
> concerned about. Since I have followed this path however, every thing
> is meshing
> and I am reporting it as I do not fear failure. But to my mind I have
> not hit anything to cause me to give up. On top of that nobody has
> raised any particular points of discussion either. Remember it took me
> years to convince all that extending Gauss
> was OK and it provided arrays where all elements were resonant each of
> which can be fed. So I was right there and everybody else was in
> error, relying on books only and not there own education.
> Now I am spreading my wings based on what the former has shown and
> will re evaluate again when done. At each time I will continue to
> share results
> even if it finally shows some errors But I certainly will not stop
> because of intuitions from the group which up to now has been proved
> wrong. Nothing wrong with following the teachings of the books as
> followers but I am attempting to be a leader in finding truths about
> radiation. So far I have proved the presence of particles, realised
> equilibrium in every way and now I appear to be proving that skin
> depth is not a constant. A lot of work to do but as an engineer I knew
> it would take a while and on top of that I supplied it to a academic
> to break it down
> as one always should get an independent evaluation. So far every thing
> that Einstein predicted has shown up in my workings such that if he
> had seen it there would have been no need for alternate physics
> proposals, not that they were without success. The final point is that
> it is accepted that the machinations of radiation have not yet been
> proven and so far following thru with classical physics has provided
> with interesting view points that oppose the present teachings. So I
> am a fool to place my engineering experience in search of the truth
> where others may be happy as things are.
> So I am different from the rest and what is so bad about that? It is
> for the group to show that I am inadequate from my aproach and to this

> point all
> that has been presented has been proven false and I still prevail. I
> yearn for closure which could come from those really interested in the
> outcome. But at the same time in their absence I will carry on.
> Future info will be on the new thread since this one is now dead and
> placed in the archives.
> Regards
> Art

Yup, meds.

2199. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 02:06:53 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <7b3404e3-af6a-48ec-a092-fb6c9e426247@23g2000pre.googlegroups.com>
Source record: 9299

On Jun 6, 3:21 pm, Wimpie <wimabc...@tetech.nl> wrote:

> Measuring method used: change in resistive load, from voltage change
> you can calculate the current change, hence the output impedance. One
> note, except two, all where solid state.

Of course, since the source impedance may be anywhere in the complex
plane, you need to change more than just the resistive part of the
load, I believe, to get an accurate picture...
>
> All high efficiency designs (class E, D) that I did have output
> impedance far from the expected load impedance. With "far" I mean >
> factor 2 or < factor 0.5. I did not measure that (as it is not
> important in virtually all cases), but know it from the overload
> simulation/measurement and I did the design myself.

What I've seen in similar situations is that the source impedance is
likely to be strongly reactive, depending on the filter network you
use to get sinusoidal output. In any event, the source impedance is
likely to have a reflection coefficient magnitude that is quite close
to unity. That is exactly what you should expect: there's nothing to
absorb reflections. You could (theoretically at least) use feedback
to make the output look like 50 ohms, but just as you say, Wim ...
why?? There's really almost never any point in doing so.

...

Cheers,
Tom

2200. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 02:13:01 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b2b3fbb5-6ea8-476f-bd0e-709f7b1b1def@g7g2000yqj.googlegroups.com>
Source record: 9300

On 6 jun, 18:00, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 6, 9:45 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 5, 6:28 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > There are indeed negative values. These occur when the energy is
> > > flowing in the other direction, ...
>
> > Let's take a close look at the illusion that you are seeing and not
> > comprehending. Observe a snapshot of the instantaneous power envelope
> > of a traveling wave. It is a sinusoidal envelope with peak
> > instantaneous power levels and zero instantaneous power levels. When
> > it is traveling in the forward direction we consider that to be
> > positive power. When it is traveling in the reverse direction, we
> > consider that to be negative power. It is only a directional
> > *convention* not proof that negative power exists. The only waves that
> > can exist as waves on a transmission line are traveling waves.
>
> Ahhh. I see part of your problem. You are thinking envelopes.
>
> You need to change your point of view to be a particular point on the
> line.
> At this point, there is a function that describes the voltage: V(t).
> It
> may or may not be a sinusoid. There is a function for the current:
> I(t).
> And from these can trivialy be derived a function for power:
> P(t)=V(t)I(t).
>
> When I clip my instantaneous voltmeter across a line and measure 0 for
> all time, I can confidently say that no energy is flowing, for there
> is
> not. I am curious as to what you would answer?
>
> > In "Optics", Hecht says instantaneous power is "of limited utility."
> > You seem to have discovered that limit, stepped over it, and stepped
> > in it. :-)
>
> Well, Hecht may have his limitations when dealing with Optics, but
> there
> is no reason to expect these same limitations to apply to circuit
> analysis.
>
> ...Keith

Hi folks, good night (from here).

> I do not disagree with anything you have written, but I do think it
> is much too early to introduce Poynting vectors and lossy conductors
> to the discussion.

Hello Keith, Yes, I understand your comment, I introduced Poynting vector only because both, energy and power, are scalars and we can not talk about scalars having direction without get in conceptual troubles; flux of power instead, have direction because surface vector presence in its definition gives directive characteristics to power crossing an imaginary surface.
Slanted flux of electromagnetic power (Poynting) due resistive conductor simply seems to me a good example of a power flux in a TL not totally coincident with axial direction to provide a little more supporting to "directive" notion of Power Flux.
However IMHO power flux do not seems to me more complicated than power, work, voltage, potential, energy, E and H fields, etc. All of them -I believe- are not very simple stuff :>(, but they are very funny and interesting, indeed...!! :>D. What do you think?
.....
Please would you mind tell me why "sine wave" it is not a correct use of "wave" word. The only dictionary I have => "Oxford advanced english dictionary of current english defines wave as: "move to and fro, up and down", I believe also in english there are word qualifiers (sine, traveling, standing, etc) who specify the precise meaning of them in diverse contexts. Am I wrong about this?.
....
Sorry by my insistence about convenience of discuss about "models". Please let me bring a citation:
"At times, two quite differents models may serve equally well, but eventually one is usually found to prevail, not because it is right, but because it is both more convenient and more logically constructed. After all, models are constructed for convenience in thinking and recording, not as photographic images of nature"
(From "Electromagnetic Engineering", Ronold W.P. King (PhD), page 94. McGraw Hill.1946).
....
I studied "Principle of Conjugates Impedance Matching" in my early student days and the "mirror reflection" explained by Walter Maxwell in his article agree with my undestanding about "where the reflected waves go" because to balance magnitudes it is necessary that they found a full mismatch on its way (path?) to generator. My own limited analisis led me to the same notion even without conjugate match if I calculate Incident and reflected voltages values in a half wave TL (as my early thread example),
As I said, reading Cecil's web page quarter wave line examples led me to considerate another possible representations of the problem, in addition Owen's own ideas about it also made me consider the issue from another point of view.

Thank you very nuch.

Miguel Ghezzi - LU6ETJ

2201. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 02:24:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0oluk.d97.gsm@cable.mendelson.com>
Source record: 9201

Roy Lewallen wrote:
> I also have a lot of RG-59 cables with 50 ohm BNC connectors. That's
> probably more common, since 50 ohm connectors are much more common, and
> the connector choice won't make any practical difference in the vast
> majority of applications.

Well, we will see in a couple of weeks what I get. I broke down and bought a set consisting of a BNC crimping tool, a wire stripper and 50 rg-59 BNC plugs from an eBay store.

They did not have any rg-6 plugs, so I'm hoping that the RG6-QS I've got works.

It's the heavy duty kind that looks like a heavy duty side crimp tool, except that the wire goes in the top and the plug is pushed together from the handle end (bottom).

I'll report back.

Thanks for all the help and support so far.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

2202. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 02:24:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <uvlo06he2ch8rp5ivpc9he2e1gp90o60q5@4ax.com>
Source record: 9202

On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>The 100W forward and 50W reflected have no relation to actual powers

From HP Journal V.7n.2:

If an incident wave is applied at
the left as shown in the diagram, the
wave passes down the main arm. In
the region where the lines are cou
pled, a wave 20 db below the inci
dent wave will be coupled to the
"Forward" terminal, while a second
wave 20 db below the incident wave
will be coupled to the resistive ter
mination in the "Reverse" arm.
Since the combined power in the
two split-off waves amounts to only
2% of the power in the main wave,
the main wave is essentially unalt
ered and continues to the right-hand
terminal.
A wave applied at the right end
of the coupler is coupled in an analo
gous manner. Waves 20 db below the
left-traveling wave will be coupled
to the "Reverse" terminal and to the
resistive termination in the "For
ward" arm, while the main part of
the wave continues to the left-hand
terminal.
The couplers thus provide equal
fractions of right-traveling and left traveling
waves at separate termin
als. The ratio of these waves will be
equal to p *, the magnitude of the
reflection coefficient of any device
connected to the output of the cou
pler. This ratio can be measured
(Fig. 4) by applying the outputs of
the "Forward" and "Reverse" ter
minals to the -hp- 416A Ratio Meter,
using suitable detectors to demodu
late the amplitude-modulated power

which must be used with the system. In an ideal directional coupler, no power from a forward wave would be received at the reverse terminal and no power from a reverse wave would be received at the forward ter minal. In practice some undesired power is received at these terminals, although it has been possible to de sign the couplers so that this unde sired power is at least 46 db below the parent wave, i.e, at least 26 db below the desired wave at the oppo site terminal. In other words the di rectivity of the couplers is at least 26 db (30 db in the lower frequency couplers) over the complete fre quency range [Fig. 3(a), (b)]. The coupling mechanism itself consists of quarter-wavelength sec tions of the conductors placed suit ably near one another to achieve the desired degree of coupling. The combined effects of electrical and magnetic coupling impart directiv ity to the coupled wave. The unused terminal of each of the auxiliary arms is terminated in a special widerange low-reflection resistor to ab sorb any power coupled to that ter minal.

73's
Richard Clark, KB7QHC

2203. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 02:29:20 UTC
From: walt <walt@w2du.com>
Message-ID: <bf192ca1-11d4-40ef-bc22-bf579c34a9aa@q13g2000vbm.googlegroups.com>
Source record: 9203

On Jun 6, 10:06 pm, K7ITM <k7...@msn.com> wrote:
> On Jun 6, 3:21 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Measuring method used: change in resistive load, from voltage change
> > you can calculate the current change, hence the output impedance. One
> > note, except two, all where solid state.
>
> Of course, since the source impedance may be anywhere in the complex
> plane, you need to change more than just the resistive part of the
> load, I believe, to get an accurate picture...
>
>
>
> > All high efficiency designs (class E, D) that I did have output
> > impedance far from the expected load impedance. With "far" I mean >
> > factor 2 or < factor 0.5. I did not measure that (as it is not
> > important in virtually all cases), but know it from the overload
> > simulation/measurement and I did the design myself.
>
> What I've seen in similar situations is that the source impedance is
> likely to be strongly reactive, depending on the filter network you
> use to get sinusoidal output. In any event, the source impedance is
> likely to have a reflection coefficient magnitude that is quite close
> to unity. That is exactly what you should expect: there's nothing to
> absorb reflections. You could (theoretically at least) use feedback
> to make the output look like 50 ohms, but just as you say, Wim ...
> why?? There's really almost never any point in doing so.
>
> ...
>
> Cheers,
> Tom

Again Wim, we're not on the same page, so let me quote from your
eariler post:

"Virtually all high efficient amplifiers work in voltage saturated
mode
and are therefore not operated at maximum available power, therefore
their output impedance doens't match the expected load."

I have not been talking about MAXIMUM available power, only the power
available with some reasonable value of grid drive. In the real world
of amateur radio operations, of which I'm talking, when we adjust the
pi-network for that given drive level, we adjust for delivering all

the AVAILABLE power at that drive level. When all the available power is thus delivered, the output source resistance equals the load resistance by definition. We're now not talking about changing the load, phase or SWR--we're talking about the single condition arrived at after the loading adjustments have been made.

And Tom, why would the source be reactive when the pi-network is tuned to resonance? And because the source resistance of the (tube) power amp is non-dissipative, its reflection coefficient is 1.0 by definition, and so it cannot absorb any reflected energy, and therefore re-reflects it.

Walt, W2DU

2204. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 02:34:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <69mo06lhqq1pet6bmo7tpfcf63k62g99dg@4ax.com>
Source record: 9204

On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>The 100W forward and 50W reflected have no relation to actual powers

From HP Journal V4n5-6:

The multi-hole coupler design has now
been extended to a 3 db coupler, that is, a
coupler in which half the power entering the
main guide is coupled into the auxiliary
guide.
...
The -hp- multi-hole couplers consist of
two sections of wave guide mutually coupled
by two rows of coupling holes (Fig. 2).
Power entering the input arm of the coupler
flows down the main guide and divides at the
coupling mechanism. Part of the power con
tinues down the main guide where it will be
incident on any device connected at the end
of the guide. The other part of the power is
coupled into the auxiliary guide. It is a prop
erty of directional couplers that the power
coupled into the auxiliary guide flows essen
tially in only one direction. In the -hp- coup
ler, this power flow is in the same direction
as the power in the primary guide.
...
R E F L E C T O M E T E R S E T - U P
...
Two directional
couplers are connected back-to-back
as shown.
****
I will leave it to the readership to imagine why.

73's
Richard Clark, KB7QHC

2205. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 03:04:15 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <8boo06h23c66la1uh6hg537fa1l5ja2h63@4ax.com>
Source record: 9205

On Mon, 7 Jun 2010 02:24:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@cable.mendelson.com> wrote:

>Well, we will see in a couple of weeks what I get. I broke down and bought
>a set consisting of a BNC crimping tool, a wire stripper and 50 rg-59
>BNC plugs from an eBay store.

What's the item number? I'll check if you bought the correct
connectors for RG-6a/u QS coax.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2206. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 03:16:06 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <1fafec87-6f67-4e4f-b8cb-bc61d15ad97e@c33g2000yqm.googlegroups.com>
Source record: 9206

On Jun 6, 9:34 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
>
> <keith.dys...@gmail.com> wrote:
> >The 100W forward and 50W reflected have no relation to actual powers
>
> From HP Journal V4n5-6:
>
> The multi-hole coupler design has now
> been extended to a 3 db coupler, that is, a
> coupler in which half the power entering the
> main guide is coupled into the auxiliary
> guide.
> ...
> The -hp- multi-hole couplers consist of
> two sections of wave guide mutually coupled
> by two rows of coupling holes (Fig. 2).
> Power entering the input arm of the coupler
> flows down the main guide and divides at the
> coupling mechanism. Part of the power con
> tinues down the main guide where it will be
> incident on any device connected at the end
> of the guide. The other part of the power is
> coupled into the auxiliary guide. It is a prop
> erty of directional couplers that the power
> coupled into the auxiliary guide flows essen
> tially in only one direction. In the -hp- coup
> ler, this power flow is in the same direction
> as the power in the primary guide.
> ...
> R E F L E C T O M E T E R S E T - U P
> ...
> Two directional
> couplers are connected back-to-back
> as shown.
> *******
> I will leave it to the readership to imagine why.
>
> 73's
> Richard Clark, KB7QHC

Walter was the first to place things in a book and a book is the first
point of reference in this newsgroup
Nothing personal Richard, but it is obvious that engineers are totally

split as to what theorem is correct and the one to be used. There is no way
you will get agreement if they all insist their position is correct and thus other positions are not worth consideration.You may be correct in your position but the idea of change is not in your favor.

2207. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 03:19:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0op0n.eeg.gsm@cable.mendelson.com>
Source record: 9207

Jeff Liebermann wrote:
> On Mon, 7 Jun 2010 02:24:04 +0000 (UTC), "Geoffrey S. Mendelson"
>
> What's the item number? I'll check if you bought the correct
> connectors for RG-6a/u QS coax.

Thanks.

380197598600

Though to be honest, if they are not the correct ones, I'll still probably use them anyway.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
New word I coined 12/13/09, "Sub-Wikipedia" adj, describing knowledge or understanding, as in he has a sub-wikipedia understanding of the situation. i.e possessing less facts or information than can be found in the Wikipedia.

2208. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1275890700@panix.com>
Source record: 9208
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

2209. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 06:24:20 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <k62p0695o97hhbr8moc933b5dhkarm5q72@4ax.com>
Source record: 9209

On Mon, 7 Jun 2010 03:19:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@cable.mendelson.com> wrote:

>Jeff Liebermann wrote:
>> On Mon, 7 Jun 2010 02:24:04 +0000 (UTC), "Geoffrey S. Mendelson"
>>
>> What's the item number? I'll check if you bought the correct
>> connectors for RG-6a/u QS coax.

>380197598600
>
>Though to be honest, if they are not the correct ones, I'll still probably
>use them anyway.

I don't think you can use them. Those connectors won't fit RG-6a/u
QS. Different outer diameter and center conductor diameter. The
RG-59 is slightly smaller than the RG-6QS. The RG-6a/u QS will most
likely not even fit into the connector.

Note the difference:
<http://www.firefold.com/RG6U-Male-F-Compression-Connector-PPC-P2291C1145.aspx>
<http://www.firefold.com/RG59U-Male-F-Compression-Connector-P1966C1145.aspx>

Like I ranted, you should have gotten F connector and used adapters
such as this:
<http://www.firefold.com/BNC-Male-to-Female-F-Type-Adapter-P2782C1145.aspx>

The compression tool seems tolerable. However, I've had some
experience with the stripping tool. They work, but the blade
cartridge wears out rather quickly. My guess is about 30 connectors
and it's gone. I use a thermal wire stripper at home and in the
office, and my pocket knife in the field.

There are tools and connectors on eBay for RG-6:
<http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=130343999448>

I like Thomas and Betts Snap-n-Seal connectors:
<http://www-public.tnb.com/ps/endeca/index.cgi?a=nav&Ne=3951&N=3949+950+4294951388&Ntt=&more=1&nk=3951>
<http://tnblnx3.tnb.com/emAlbum/albums//070%20Connectors%20USA/SNS%20Wall%20Chart%20Final%202009.pdf>
<http://www.tnb.com/contractor/docs/snapnseal.pdf>
Note that there are different connectors for RG6, RG6 QS, RG59 and
RG59 QS.

--
Jeff Liebermann jeffl@cruzio.com

150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2210. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 06:37:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1s4p0698sqk23evd0ii00lkavifl7pbf4m@4ax.com>
Source record: 9210

On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>The 100W forward and 50W reflected have no relation to actual powers

From HP Journal V.3n7-8

DIRECTIONAL couplers have been used
widely in wave guide applications for
such purposes as monitoring power, meas
uring reflections, mixing, and for isolation
of signal sources. All of these applications
make use of the property that power flowing
in one direction in the main branch of the
coupler induces a power flow in only one
direction in the auxiliary circuit.

73's
Richard Clark, KB7QHC

2211. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 06:42:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <135p061tquthn4dndbvgu5qg5d5238m23i@4ax.com>
Source record: 9211

On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>The 100W forward and 50W reflected have no relation to actual powers

From HP Journal V.6n.1-2:

Power from the source flows down
the main arms of the two couplers
(Fig. 2) and impinges on the load.
The power split off by the 20 db
forward coupler is all passed to the
forward detector, since the directiv
ity characteristic of the multi-hole
directional couplers prevents any
but a negligible amount of the splitoff
power from turning back and
being absorbed in the coupler's in
ternal termination. The power split
off the incident wave by the 10 db
reverse coupler, however, is essen
tially all absorbed in that coupler's
internal termination because of the
reversed direction of connection of
that coupler (Fig. 2).
If the magnitude of the reflection
coefficient ~.T. of the load is, say, 0.1,
Ã□f of the incident voltage will be
reflected back toward the source. As
this reflection passes back through
the main arm of the reverse coupler,
a 10 db split occurs and is applied
to the reverse detector. The remain
der of the reflection will proceed
back toward the generator where it
will be absorbed in the generator
impedance and in the termination
in the forward coupler.

****

Of course, in regard to this last sentence, HP engineers didn't know
jack-shit about power reflections, especially what could be absorbed
by the source.

73's
Richard Clark, KB7QHC

2212. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 06:54:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D90AC082D2BEnonenowhere@61.9.191.5>
Source record: 9212

Jeff Liebermann <jeffl@cruzio.com> wrote in
news:k62p0695o97hhbr8moc933b5dhkarm5q72@4ax.com:

> I like Thomas and Betts Snap-n-Seal connectors:
>

These are known generically as "compression connectors", and I recommended the BNC type earlier, because when used with either a BNC-F on the antenna, or a BNC/N adapter to an N-F they are waterproof, and neither depends critically on the retaining nut torque for good electrical connection (as do UHF, SMA and F connectors). Compression connectors do not use a normal hex crimp tool, but a tool unique to themselves, and in the rest of the world, the tools are pretty inexpensive (<US20).

Whilst I say they are waterproof, with force, it is possible to break the front of the connector out of the connector body in the types that I have tested.

If you use ordinary (ie non waterproof) crimp BNCs, you need to figure some way to waterproof the cable jacket to the connector body. Most do not lend themselves to glue lined heatshrink for this purpose. Of course, you could always treat them like UHF series, and wrap the entire joint.

Owen

2213. Re:Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 07:44:17 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <lr1Pn.1494$Ls1.425@news-server.bigpond.net.au>
Source record: 9213

I have just read an article regarding an AR Op using a carbon fibre fishing rod to make a 12 foot mobile antenna for mobiling.

My question is, does carbon fibre absorb RF?

The operator has wound 5.2 metres (approx 17 feet) of insulated house wiring in a helical fashion around the rod. He uses an SG-237 tuner as well.

If indeed that carbon fibre is conductive, and he claims he is getting outstanding results whilst operating stationery mobile, then what is happening?

I would appreciate comments.
73.
John
VK2KC

2214. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 07:52:28 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c0ca542$0$2599$65785112@news.neostrada.pl>
Source record: 9214

"lu6etj" <lu6etj@gmail.com> wrote
news:b2b3fbb5-6ea8-476f-bd0e-709f7b1b1def@g7g2000yqj.googlegroups.com...
>.....
>Please would you mind tell me why "sine wave" it is not a correct use
>of "wave" word. The only dictionary I have => "Oxford advanced
>english dictionary of current english defines wave as: "move to and
>fro, up and down", I believe also in english there are word qualifiers
>(sine, traveling, standing, etc) who specify the precise meaning of
>them in diverse contexts. Am I wrong about this?.

Sine wave is an ideal wave. The motion to and fro are simmetrical.
In reality no such. The wave source push the medium strongly but it come
back with the lower intensity.
For this reason the wave flow transmits the energy from the source to
distant places.
In fluids take place also the mass flow.
S*

2215. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 08:12:46 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <fda40c34-830f-438d-830e-0c1c23d2bc44@c10g2000yqi.googlegroups.com>
Source record: 9215

On Jun 7, 7:54 am, Owen Duffy <n...@no.where> wrote:
> Jeff Liebermann <je...@cruzio.com> wrote
innews:k62p0695o97hhbr8moc933b5dhkarm5q72@4ax.com:
>
> > I like Thomas and Betts Snap-n-Seal connectors:
>
> These are known generically as "compression connectors", and I
> recommended the BNC type earlier, because when used with either a BNC-F
> on the antenna, or a BNC/N adapter to an N-F they are waterproof, and
> neither depends critically on the retaining nut torque for good
> electrical connection (as do UHF, SMA and F connectors). Compression
> connectors do not use a normal hex crimp tool, but a tool unique to
> themselves, and in the rest of the world, the tools are pretty
> inexpensive (<US20).
>
> Whilst I say they are waterproof, with force, it is possible to break the
> front of the connector out of the connector body in the types that I have
> tested.
>
> If you use ordinary (ie non waterproof) crimp BNCs, you need to figure
> some way to waterproof the cable jacket to the connector body. Most do
> not lend themselves to glue lined heatshrink for this purpose. Of course,
> you could always treat them like UHF series, and wrap the entire joint.
>
> Owen

BNC's are still 50 or 75 Ohm. Old versions had different diameter
centre pins in order to acheive the correct characteristic impedance.

If you plugged a 50 Ohm plug into a 75 Ohm socket the larger centre
pin would splay out the female centre connector, so when you plugged a
75 Ohm back in again it wouldn't make contact. It used to be fairly
common practice to paint the body of the connector purple or green in
order to quickly identify the type and so prevent damage.

For the past 20 or so years most manufacturers have used the same
sized centre pin, but the 50 Ohm version has a PTFE skirt in order to
provide the correct charateristic impedance. So they are now
mechanically interchangeable.

UKM

2216. Re: Re:Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 10:36:26 UTC
From: Peter <pm@hotmail.com>
Message-ID: <_tWdnbvmgpAlVpHRnZ2dnUVZ7o6dnZ2d@westnet.com.au>
Source record: 9216

Put some in a microwave oven and see if it gets warm.
Don't tell the wife!

Cheers

Peter VK6YSF

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

"VK2KC" <vk2kcjohn@gmail.com> wrote in message
news:lr1Pn.1494$Ls1.425@news-server.bigpond.net.au...
>I have just read an article regarding an AR Op using a carbon fibre fishing
>rod to make a 12 foot mobile antenna for mobiling.
>
> My question is, does carbon fibre absorb RF?
>
> The operator has wound 5.2 metres (approx 17 feet) of insulated house
> wiring in a helical fashion around the rod. He uses an SG-237 tuner as
> well.
>
> If indeed that carbon fibre is conductive, and he claims he is getting
> outstanding results whilst operating stationery mobile, then what is
> happening?
>
> I would appreciate comments.
> 73.
> John
> VK2KC
>

2217. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 11:57:53 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <05b5501a-695c-4d09-a5f2-c78ae7f69217@j8g2000yqd.googlegroups.com>
Source record: 9217

On 7 jun, 04:29, walt <w...@w2du.com> wrote:
> On Jun 6, 10:06 pm, K7ITM <k7...@msn.com> wrote:
>
>
>
> > On Jun 6, 3:21 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > Measuring method used: change in resistive load, from voltage change
> > > you can calculate the current change, hence the output impedance. One
> > > note, except two, all where solid state.
>
> > Of course, since the source impedance may be anywhere in the complex
> > plane, you need to change more than just the resistive part of the
> > load, I believe, to get an accurate picture...
>
> > > All high efficiency designs (class E, D) that I did have output
> > > impedance far from the expected load impedance. With "far" I mean >
> > > factor 2 or < factor 0.5. I did not measure that (as it is not
> > > important in virtually all cases), but know it from the overload
> > > simulation/measurement and I did the design myself.
>
> > What I've seen in similar situations is that the source impedance is
> > likely to be strongly reactive, depending on the filter network you
> > use to get sinusoidal output. In any event, the source impedance is
> > likely to have a reflection coefficient magnitude that is quite close
> > to unity. That is exactly what you should expect: there's nothing to
> > absorb reflections. You could (theoretically at least) use feedback
> > to make the output look like 50 ohms, but just as you say, Wim ...
> > why?? There's really almost never any point in doing so.
>
> > ...
>
> > Cheers,
> > Tom
>
> Again Wim, we're not on the same page, so let me quote from your
> eariler post:
>
> "Virtually all high efficient amplifiers work in voltage saturated
> mode
> and are therefore not operated at maximum available power, therefore
> their output impedance doens't match the expected load."
>
> I have not been talking about MAXIMUM available power, only the power

> available with some reasonable value of grid drive. In the real world
> of amateur radio operations, of which I'm talking, when we adjust the
> pi-network for that given drive level, we adjust for delivering all
> the AVAILABLE power at that drive level. When all the available power
> is thus delivered, the output source resistance equals the load
> resistance by definition. We're now not talking about changing the
> load, phase or SWR--we're talking about the single condition arrived
> at after the loading adjustments have been made.

Walt, this restriction was not given in the original posting, it is added by you and you exclude many other practical amplifier solutions (like push pull 3...30 MHz no-tune amplifiers, fixed tuned single band amplifiers, emerging high efficiency designs for constant envelope modulation schemes and/or AM with supply voltage modulation).

I fully agree with your statement on optimum matching given certain drive and output impedance in case of (pi-filter) matching, no doubt about this. However there are more flavors as I tried to explain.

Even during SSB modulation with an optimally tuned amplifier without power supply modulation, the amplifier is most of the time operated into current saturation mode (instead of optimally tuned output, given a certain drive). For tetrode/pentode, assuming no voltage saturation, the RF plate impedance is seldom equal to the conjugated load impedance (load impedance will be lower). I think for a triode in common grid operation, this will apply also because of the cathode is not grounded for AC, hence plate impedance increases. I have to be careful now to avoid that I have to do a lot of work to fulfill Richard's requests. I dismantled my PL519 common grid amplifier (<22 years ago), so a cannot measure it anymore.

All amateurs that do not have a tuner inside their PA, have to live with non-optimum VSWR (hence amplifier not operating at optimal tuning, even under CW) or have to insert a tuner. For the latter case, the problem now reduces to a cable and tuner loss problem, as after successful tuning, there will be now power reflected to the PA, hence the PA's output impedance doesn't matter.

Maybe the JC could provide some background behind his question.

>
> And Tom, why would the source be reactive when the pi-network is tuned
> to resonance? And because the source resistance of the (tube) power
> amp is non-dissipative, its reflection coefficient is 1.0 by
> definition, and so it cannot absorb any reflected energy, and
> therefore re-reflects it.
>
> Walt, W2DU

Best regards,

Wim
PA3DJS

www.tetech.nl
without abc, PM will reach me

2218. Simple hack to get $800 to your home.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 12:41:24 UTC
From: SUHASINI <texaspeso20@gmail.com>
Message-ID: <86d9a433-2bee-4b53-ae43-f8fdc2f7ed7a@q39g2000prh.googlegroups.com>
Source record: 9218

Simple hack to get $800 to your home at http://fullenjoy.tk

Due to high security risks,i have hidden the cheque link in an
image. in that website on left side below search box, click on image
and enter your name and address where you want to receive your
cheque.please dont tell to anyone.

2219. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 13:11:58 UTC
From: Gaius <bin@127.0.0.1>
Message-ID: <MPG.2677007864d5d3e9989697@news.zen.co.uk>
Source record: 9219

In article <fda40c34-830f-438d-830e-0c1c23d2bc44
@c10g2000yqi.googlegroups.com>, ukmonitor@hotmail.com says...

> BNC's are still 50 or 75 Ohm. Old versions had different diameter
> centre pins in order to acheive the correct characteristic impedance.

Can you (or anyone !) provide some evidence of this, in terms of actual measurements or manufacturers' specifications showing a difference in the "Old" versions ? You are also confusing the effects of conductor diameter versus mating surface diameter. 75R and 50R STILL have different inner conductor diameters to achieve correct Zo; it's the MATING SURFACES which are the same.

> If you plugged a 50 Ohm plug into a 75 Ohm socket the larger centre
> pin would splay out the female centre connector, so when you plugged a
> 75 Ohm back in again it wouldn't make contact. It used to be fairly
> common practice to paint the body of the connector purple or green in
> order to quickly identify the type and so prevent damage.

I (professionally) used many thousands of BNCs during the timescale you mention. While it IS true that some 75R sockets could be damaged, in EVERY case it was due to the inner conductor of the plug being off-centre. 75R sockets were/are inherently rather fragile.
The problem was caused by a mechanical design weakness in some brands of plugs (I don't remember which manufacturers).
AFAIR, the BBC used 50R plugs/sockets in some 75R video equipment, simply because the 50R socket was more robust, by design.

> For the past 20 or so years most manufacturers have used the same
> sized centre pin, but the 50 Ohm version has a PTFE skirt in order to
> provide the correct charateristic impedance. So they are now
> mechanically interchangeable.

I have lots of old stock and recovered BNCs dating back at least 20 years. All the 50R and 75R components mate without problem.

2220. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 13:30:56 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <utsp06h3u6a2jer84bcm37j67mpli8pkkk@4ax.com>
Source record: 9220

On Mon, 07 Jun 2010 07:44:17 GMT, "VK2KC" <vk2kcjohn@gmail.com> wrote:

>I have just read an article regarding an AR Op using a carbon fibre fishing
>rod to make a 12 foot mobile antenna for mobiling.
>
>My question is, does carbon fibre absorb RF?
>
>The operator has wound 5.2 metres (approx 17 feet) of insulated house wiring
>in a helical fashion around the rod. He uses an SG-237 tuner as well.
>
>If indeed that carbon fibre is conductive, and he claims he is getting
>outstanding results whilst operating stationery mobile, then what is
>happening?
>
>I would appreciate comments.
>73.
>John
>VK2KC
>
My experience with Radio Controlled Model Airplanes has led me to the
conclusion that Carbon Fiber and its relationship to RF is
unpredictable.
John Ferrell W8CCW

2221. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 14:02:34 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <2f777fd7-7137-41ee-a43f-d1b8ca892343@y4g2000yqy.googlegroups.com>
Source record: 9221
Body handling: HTML body converted to readable text

On Jun 7, 2:11 pm, Gaius wrote:
> In article @c10g2000yqi.googlegroups.com>, ukmoni...@hotmail.com says...
>
> > BNC's are still 50 or 75 Ohm. Old versions had different diameter
> > centre pins in order to acheive the correct characteristic impedance.
>
> Can you (or anyone !) provide some evidence of this, in terms of actual
> measurements or manufacturers' specifications showing a difference in
> the "Old" versions ? You are also confusing the effects of conductor
> diameter versus mating surface diameter. 75R and 50R STILL have
> different inner conductor diameters to achieve correct Zo; it's the
> MATING SURFACES which are the same.
>
> > If you plugged a 50 Ohm plug into a 75 Ohm socket the larger centre
> > pin would splay out the female centre connector, so when you plugged a
> > 75 Ohm back in again it wouldn't make contact. It used to be fairly
> > common practice to paint the body of the connector purple or green in
> > order to quickly identify the type and so prevent damage.
>
> I (professionally) used many thousands of BNCs during the timescale you
> mention. While it IS true that some 75R sockets could be damaged, in
> EVERY case it was due to the inner conductor of the plug being off-
> centre. 75R sockets were/are inherently rather fragile.
> The problem was caused by a mechanical design weakness in some brands of
> plugs (I don't remember which manufacturers).
> AFAIR, the BBC used 50R plugs/sockets in some 75R video equipment,
> simply because the 50R socket was more robust, by design.
>
> > For the past 20 or so years most manufacturers have used the same
> > sized centre pin, but the 50 Ohm version has a PTFE skirt in order to
> > provide the correct charateristic impedance. So they are now
> > mechanically interchangeable.
>
> I have lots of old stock and recovered BNCs dating back at least 20
> years. All the 50R and 75R components mate without problem.

Well I've got some old 75 Ohm female to female adaptors in front of
me, marked RS part number 455-933 (but the type associated with the
part number has changed many times over the years). I also have one
marked G37534 which looks fairly similar. Most have been opened up
because they have had a 50 Ohm shoved into them.

However on the one pristine 75 Ohm adaptor I could find, the outer
part of the 75 Ohm centre receptacle is so narrow it would easily fit

the inside of a 50 Ohm centre receptacle.

Unfortunately I can’t find any old Greenpar (or similar) mechanical drawings on the web only the newer types.

UKM

2222. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 14:18:22 UTC
From: UKMonitor <ukmonitor@hotmail.com>
Message-ID: <67a5f63e-f114-48a1-bcd5-aa2b4d6c311f@e5g2000yqn.googlegroups.com>
Source record: 9222
Body handling: HTML body converted to readable text

On Jun 7, 3:02 pm, UKMonitor wrote:
> On Jun 7, 2:11 pm, Gaius wrote:
>
>
>
>
>
> > In article > @c10g2000yqi.googlegroups.com>, ukmoni...@hotmail.com says...
>
> > > BNC's are still 50 or 75 Ohm. Old versions had different diameter
> > > centre pins in order to acheive the correct characteristic impedance.
>
> > Can you (or anyone !) provide some evidence of this, in terms of actual
> > measurements or manufacturers' specifications showing a difference in
> > the "Old" versions ? You are also confusing the effects of conductor
> > diameter versus mating surface diameter. 75R and 50R STILL have
> > different inner conductor diameters to achieve correct Zo; it's the
> > MATING SURFACES which are the same.
>
> > > If you plugged a 50 Ohm plug into a 75 Ohm socket the larger centre
> > > pin would splay out the female centre connector, so when you plugged a
> > > 75 Ohm back in again it wouldn't make contact. It used to be fairly
> > > common practice to paint the body of the connector purple or green in
> > > order to quickly identify the type and so prevent damage.
>
> > I (professionally) used many thousands of BNCs during the timescale you
> > mention. While it IS true that some 75R sockets could be damaged, in
> > EVERY case it was due to the inner conductor of the plug being off-
> > centre. 75R sockets were/are inherently rather fragile.
> > The problem was caused by a mechanical design weakness in some brands of
> > plugs (I don't remember which manufacturers).
> > AFAIR, the BBC used 50R plugs/sockets in some 75R video equipment,
> > simply because the 50R socket was more robust, by design.
>
> > > For the past 20 or so years most manufacturers have used the same
> > > sized centre pin, but the 50 Ohm version has a PTFE skirt in order to
> > > provide the correct charateristic impedance. So they are now
> > > mechanically interchangeable.
>
> > I have lots of old stock and recovered BNCs dating back at least 20
> > years. All the 50R and 75R components mate without problem.
>
> Well I've got some old 75 Ohm female to female adaptors in front of

> me, marked RS part number 455-933 (but the type associated with the
> part number has changed many times over the years). I also have one
> marked G37534 which looks fairly similar. Most have been opened up
> because they have had a 50 Ohm shoved into them.
>
> However on the one pristine 75 Ohm adaptor I could find, the outer
> part of the 75 Ohm centre receptacle is so narrow it would easily fit
> the inside of a 50 Ohm centre receptacle.
>
> Unfortunately I can’t find any old Greenpar (or similar) mechanical
> drawings on the web only the newer types.
>
> UKM- Hide quoted text -
>
> - Show quoted text -

Looks like they were prior to IEC 169-8 (1978) which defined
mechanical interchangeability.

UKM

2223. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 15:38:30 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <0d4q06daenc0l399b78bjvr2pj2ljsn3jk@4ax.com>
Source record: 9223

On Mon, 7 Jun 2010 14:11:58 +0100, Gaius <bin@127.0.0.1> wrote:

>In article <fda40c34-830f-438d-830e-0c1c23d2bc44
>@c10g2000yqi.googlegroups.com>, ukmonitor@hotmail.com says...
>
>> BNC's are still 50 or 75 Ohm. Old versions had different diameter
>> centre pins in order to acheive the correct characteristic impedance.
>
>Can you (or anyone !) provide some evidence of this, in terms of actual
>measurements or manufacturers' specifications showing a difference in
>the "Old" versions ?

I downloaded the mechanical drawings from the Amphenol web pile and
found that the center pin diameter is missing from the drawings. I'll
look elsewhere when I have time.
<http://www.amphenolconnex.com/products/bnc.asp>

I have a box full of 75 coax patch cables I salvaged from a radio
station cleanup. They all mate fine with a 50 ohm BNC jack. The only
difference is that the 75 ohm plug has no dielectric, while the 50 ohm
jack does.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

2224. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 16:18:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <huj652$9kk$1@news.jpl.nasa.gov>
Source record: 9228

Jeff Liebermann wrote:
> On Mon, 7 Jun 2010 14:11:58 +0100, Gaius <bin@127.0.0.1> wrote:
>
>> In article <fda40c34-830f-438d-830e-0c1c23d2bc44
>> @c10g2000yqi.googlegroups.com>, ukmonitor@hotmail.com says...
>>
>>> BNC's are still 50 or 75 Ohm. Old versions had different diameter
>>> centre pins in order to acheive the correct characteristic impedance.
>> Can you (or anyone !) provide some evidence of this, in terms of actual
>> measurements or manufacturers' specifications showing a difference in
>> the "Old" versions ?
>
> I downloaded the mechanical drawings from the Amphenol web pile and
> found that the center pin diameter is missing from the drawings. I'll
> look elsewhere when I have time.
> <http://www.amphenolconnex.com/products/bnc.asp>
>
> I have a box full of 75 coax patch cables I salvaged from a radio
> station cleanup. They all mate fine with a 50 ohm BNC jack. The only
> difference is that the 75 ohm plug has no dielectric, while the 50 ohm
> jack does.
>

http://www.wbdg.org/ccb/FEDMIL/prf39012_16h.pdf is the MIL drawing for
the plug.
note they only have ONE drawing for the center contact.

They also call out MIL-STD-348 for the pin contact interface.
http://www.dscc.dla.mil/Programs/MilSpec/listdocs.asp?BasicDoc=MIL-STD-348
http://www.dscc.dla.mil/Downloads/MilSpec/Docs/MIL-STD-348/idstd348.pdf
is probably the one you want.

on the plug/pin, dimension C (the ID of the insulation inside the outer
conductor) has a minimum, but no maximum.

Likewise on the socket, dimension E, which mates with dimension C on the
plug does have a maximum, but no minimum, implying you can have a "no
dielectric" version.

Dimension D on the plug (the pin diameter) has only one value 0.052 to
0.054 inches.

Dim M on the socket (OD of center conductor) is 0.081 to 0.089,
presumably to correspond roughly with dimension R on the plug, which is
the same.

2225. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 16:19:59 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <2b217e33-bbb5-44b8-becd-b95aa1bc6551@x27g2000prf.googlegroups.com>
Source record: 9224

On Jun 6, 7:29 pm, walt <w...@w2du.com> wrote:
...
> And Tom, why would the source be reactive when the pi-network is tuned
> to resonance? And because the source resistance of the (tube) power
> amp is non-dissipative, its reflection coefficient is 1.0 by
> definition, and so it cannot absorb any reflected energy, and
> therefore re-reflects it.
>
> Walt, W2DU

If you allow that the thing driving the pi network has an effective source impedance different from the load that the pi network presents to it, then clearly the output impedance seen at the other end (the "50 ohm" end) of the pi network won't be 50 ohms. Try it with some numbers; for example, assume a pi network that transforms your 50 ohm load to a 4k ohm load to the amplifier output, and assume an amplifier output stage that looks like a 20k ohm source. Design the pi network for a loaded Q of 10. I believe you'll find that the source impedance seen by the 50 ohm load is about 11+j18 ohms.

As Wim has pointed out, requiring an amplifier to be loaded and driven in a very particular way unnecessarily dismisses some very important classes of amplifier. What do you do, for example, with a linear amplifier? What do you do with an amplifier that drives a voltage very hard (and for which a simple pi network is inappropriate for matching to a load)? Perhaps an even more basic question is: why exactly do we tune a pi network to present a particular load to an RF amplifier stage? Why should we operate a 6146 with, say, a 3000 ohm plate load? Why not 1000, or 6000?

And what if I set up a tube and pi network for operation such that the apparent output source impedance is 50 ohms (while driving a 50 ohm load), and then I add feedback to the amplifier in such a way that the operating conditions are not changed, but the impedance looking back into the plate is changed?

How did we get to the source resistance of "the (tube) power amp" being non-dissipative? I know there are some of us who don't buy into that...

Cheers,
Tom

2226. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 16:33:30 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <4c1b3999-dd14-4068-8aad-2f53769a700f@z10g2000yqb.googlegroups.com>
Source record: 9225

Hello Walt,

I did some simulations with EL34.

Conditions:
Common Grid circuit, Valve connected as triode, 3.6 MHz.
Vsupply, 600V, Vgrid -58V, bias current 40mA (yes I know that it will run very hot).

Maximum available input power: 9.2W out of 600 Ohms, sinusoidal.

Anode loaded with 20uH, 96pF, 3800 Ohms (parallel circuit), QL= 8.4, so the anode voltage has sinusoidal shape.

Without changing the drive (9.2W), 3800 Ohms with 96pF gives highest output power of 64W (Vanode = 698Vp). So power gain is 7.0.

Output impedance:
Change to 4100 Ohms load gives Zout = 1826 (voltage saturation),
Change to 3500 Ohms load gives Zout = 4350 (current saturation),
So for small change in Zload, Zout will be close the load resistor that gives maximum power. This supports that under well-matched conditions, given a certain drive level, Zout = ZLoad.

Input power reduced with 3 dB, output becomes 32.6W (Vanode = 497.5Vp, gain = 7.08). There is a slight increase in gain showing that at 64W the amplifier is not into deep voltage saturation.

Output impedance at 32.6W output:
Change from 3800 to 3500 Ohms gives Zout = 8100 Ohms.
This shows that reducing the drive level (without changing the matching) results in Zout not equal to Zload for this triode common grid circuit.

Also shown that small changes in load (reduction or increase seen at the anode) results in changes in output impedance. That is why I used three resistance values for determining Zout at well-matched output.
I used low frequency to avoid endless matching because of parasitic capacitances and I also skipped the output matching (I have to work sometimes, so time is limited).

It is not strange to see an RF swing above supply voltage as this is a common grid circuit with cathode grounded for DC.

If you like, I could do same exercise for modern amplifier topologies, but be prepared to see unexpected results (As Tom, K7ITM already noted).

Best regards,

Wim
PA3DJS
www.tetech.nl
remove abc first in case of PM.

2227. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 16:34:41 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <huj731$pf8$1@news.jpl.nasa.gov>
Source record: 9229

nm5k@wt.net wrote:
> On Jun 3, 3:41 am, "-.-. --.-" <a...@a.com> wrote:
>> "-.-. --.-" <a...@a.com> ha scritto nel messaggionews:hu7nt7$80o$1@speranza.aioe.org...
>>
>>> Hello,
>>> my mobile setup is composed by a 2 meter vertical whip feeded immediately
>>> close to it by an automatic antenna tuner.
>> Missed that the expected frequency of the system is between 14 and 30 MHz,
>> but just curious if i had any chance to work 40 meters :)
>>
>> -.-. --.-
>
> It's possible.. But feeding a whip with a tuner usually does not
> make
> for an efficient mobile antenna. Not only are many/most tuners more
> lossy than say using a loading coil on the whip, but current
> distribution
> suffers.

Can you give measured data for the losses? (or reasonably high fidelity
model data). I don't think the losses are *big* in either case, so you
might be looking at the difference between 5% loss and 7% loss, which is
negligible in the overall scheme of things.

I'd be willing to bet a six pack of frosty cold beverages (not the
antenna) that it's not a 75% loss vs 10% loss situation..

Maximum current will be at the tuner which is not desirable.

yes and no. I don't think, on a short antenna (2 meters long, here, but
let's say up to 3 meters) the difference will be significant;especially
when viewed in the context that the whip is next to a big giant metallic
object. They're ALL short compared to a wavelength, so the difference
in ideal gain is going to be somewhere between 1.64dBi (infinitely short
dipole) and 2.15dBi (half wavelength dipole)... And, given it's a
(mostly) vertical antenna, for which you have no real control over the
propagation path, who's to say that the fatter lobe on the infinitely
short dipole might not be better than the slightly skinnier one on the
half wavelength one.

(yes, it's a monopole..same idea though)

> The location of the loading coil has a large effect on the current
> distribution
> and efficiency of the antenna.

Quantify "large"...

Is it bigger than 3 dB? (100%)
Bigger than 1 dB? (25%)

You're already taking a 5-6 dB hit just by having it bolted to a car
driving down the road. While I wouldn't say you should capriciously
throw away performance, you're already in a compromise situation.
Having less wind drag or a broader operating band might be a bigger
advantage than a dB or two.

Where you have it is about the worst
> possible
> place. :(
> I have lots of people ask me about running whips matched with tuners..
> I pretty much have a standard reply.. No! Not on my watch!
> Chortle..
> My mobile antenna is center loaded in the driving config.

And what's your operating bandwidth? Can you tune anywhere in the 40m
or 80m band? What's the efficiency of your system when you're not right
at the "sweet spot"...

The efficiency of the autotuner system is pretty constant across the band.

Now, it's possible all one needs to do is check into the nets at fixed
frequencies within a few kHz.. In which case the fixed tune system works
fine (assuming you've tuned it while actually driving...)

If you operate "mobile" (as opposed to portable, parked by the side of
the road), the autotuner takes care of the substantial change in antenna
impedance as the wind pushes it back. Or, one could mount it in the
center of the roof and guy it.. (been there, done that)

. Even higher
> if
> I add the 3 foot lower mast, but that's only when parked. In the
> parked config,
> my loading coil is 8 ft above the base of the whip. "14 ft tall whip"
> And yes, you can tell a pretty good difference from the normal driving
> config,
> with the coil at 5 ft above the base. "11 foot tall whip"

measured difference?

2228. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 16:36:28 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <huj76c$pf8$2@news.jpl.nasa.gov>
Source record: 9230

Cecil Moore wrote:
> On Jun 3, 11:03 pm, n...@wt.net wrote:
>> But feeding a whip with a tuner usually does not
>> make for an efficient mobile antenna.
>
> A 11.5 foot (~3.5m) whip driven by an SG-230 autotuner was measured to
> be 12 dB down from the top-rated bugcatchers and screwdrivers at one
> of the CA 75m mobile shootouts back in the 1980's.
>

that's a pretty big difference.. (12 dB implies a factor of 16.. that's like most of the Tx power being dissipated somewhere, and that sounds like "component melting" levels)

Have you a link to the data and test methodology?

2229. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 16:48:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <28a3b8b3-fc04-4771-9a00-80373fca0d18@g19g2000yqc.googlegroups.com>
Source record: 9226

On Jun 6, 4:58 pm, Roy Lewallen <w...@eznec.com> wrote:
> This is why, for
> example, a center loading coil must have more inductance than a base
> loading coil to effect the same change in reactance at the base.

The following is based on a fixed length antenna.

The phase shift at the top of each coil is associated with the abrupt shift in characteristic impedances at the coil-stinger junction (according to W8JI). When a base section is added to a base-loaded antenna, there is an opposite abrupt shift in characteristic impedance at the base-coil junction. That bottom (negative) phase shift subtracts from the (positive) phase shift at the coil-stinger junction so more phase shift must be added through the coil to compensate for the phase shift lost at the base-coil junction. Increasing the coil length provides the necessary additional phase shift.

Assume a loading coil has a characteristic impedance of 4000 ohms and the stinger has a characteristic impedance of 600 ohms at the coil-stinger junction. Given the impedance looking into the stinger, it is easy to calculate the phase shift at the coil-stinger junction. Let's (for instance) say the stinger's input impedance is 0.25 - j2500 ohms. If we normalize that impedance to the assumed Z0=600 ohms of the stinger, we get very close to -j4.167. The impedance at the very top of the coil is the same and if we normalize to the assumed Z0=4000 ohms of the coil, we get -j0.625 ohms. If we subtract the arctangent of those two values, we get the phase shift: 76.5 - 32 degrees = 44.5 degrees at the top of the loading coil. We can also read that same value from a Smith Chart.

When we go to a center-loaded coil, the calculations are complicated by the resistive portion of the impedance, but we will find a negative phase shift at the bottom of the coil that subtracts from the positive phase shift at the top of the coil. Since we have reduced the total system phase shift by moving the coil to the center of the antenna, we need to add more length to the coil to increase the phase shift through the coil in order to compensate for the negative phase shift lost at the bottom of the coil.

One can emulate the loading coil problem using pieces of transmission line with different Z0s. The basics of shortened dual-Z0 stubs are covered here:

http://www.w5dxp.com/shrtstub.htm

For instance, the following shortened stub has a resonant frequency at which it is electrically 1/4WL long even though it is only 1/8WL long physically because of the 45 degree phase shift between the two sections.

-----22.5 deg 300 ohm-----+-----22.5 deg 50 ohms-----

What happens to the resonant frequency if we move half of the 50 ohm line to the bottom?

----11.25 deg 50 ohm---+---22.5 deg 300 ohm---+---11.25 deg 50 ohm

How many degrees do we need to add to the 300 ohm line to achieve the same resonant frequency as before?
Can anyone out there solve this problem?
--
73, Cecil, w5dxp.com

2230. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 17:00:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c1d48e9e-af38-4302-8a46-b9b70c8ee283@k39g2000yqb.googlegroups.com>
Source record: 9227

On Jun 6, 1:01 pm, K1TTT <k1...@arrl.net> wrote:
> as in the other thread, what is the mechanism of that 'interaction'
> between waves? i contend there can be no 'interaction' between
> forward and reflected waves if the device is linear.

David, you are preaching to the choir. I explained before that there is NO interaction between forward and reflected waves because they are traveling in different directions. The only time that coherent, collimated waves can interact is when they are traveling in the same direction in a transmission line.

Keith's argument requires that forward waves and reflected waves interact. I say they cannot interact in a constant Z0 environment. You say they cannot interact. We are on the same side of this argument.

The mechanism of the interaction of two coherent, collimated waves traveling in the same direction is that the superposition process is irreversible. The source photons and the reflected photons are indistinguishable.
--
73, Cecil, w5dxp.com

2231. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 17:46:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9laq06turlno5msp5cjupvlvr4dvlh8b43@4ax.com>
Source record: 9231

On Mon, 7 Jun 2010 09:19:59 -0700 (PDT), K7ITM <k7itm@msn.com> wrote:

>As Wim has pointed out, requiring an amplifier to be loaded and driven
>in a very particular way unnecessarily dismisses some very important
>classes of amplifier.

This is the standard rebuff with "the rest of the world works
differently" distractions to Walt having stated a premise, described
initial conditions, taken measurements, and having shown the data
supports his hypothesis. The hypothesis is dismissed through shifting
initial conditions to suit an avoidance of committing an honest answer
to Walt's specific and very explicit observation.

Walt, if this community were pressed for an "up or down" vote:

"Does Walt's data support the evidence of a Conjugate Match?"

then you would be out in the weeds with your only supporting vote from
me (and maybe from others who would do this by email).

I doubt this will set off a stampede to the ballot box, but what few
votes are stuffed in, I bet they will have the "up or down" stapled to
a dissertation of "however...."

To this last, if I sinned in that regard, I used only Walt's data, his
equipment references, and his citation sources. As no one else seems
to tread that narrow path, much less commit beyond grandiose
statements, I don't feet too bad.

73's
Richard Clark, KB7QHC

2232. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 18:14:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <28f10dcc-599a-4601-9453-b587fca1f453@c10g2000yqi.googlegroups.com>
Source record: 9232

On Jun 7, 1:37 am, Richard Clark <kb7...@comcast.net> wrote:
All of these applications
> make use of the property that power flowing
> in one direction in the main branch of the
> coupler induces a power flow in only one
> direction in the auxiliary circuit.

Power flow??? Heaven forbid.
--
73, Cecil, w5dxp.com

2233. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 18:23:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <Pbmdnela3YSwpJDRnZ2dnUVZ_o6dnZ2d@giganews.com>
Source record: 9233

In the admittedly very few looks I've had at mobile "shootout" results, there seems to be more of a correlation between vehicle size and field strength than antenna and field strength. This comes as no surprise, since the vehicle is usually a comparable or even greater part of the radiating system than the titular antenna, and its coupling to ground has a large impact on the efficiency.

Roy Lewallen, W7EL

2234. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 18:37:01 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <h$hU1NHNxTDMFwEj@g3ohx.demon.co.uk>
Source record: 9234

In message <Xns9D8F5C244B404nonenowhere@61.9.191.5>, Owen Duffy
<none@no.where> writes
>"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in
>news:slrni0lh9d.qns.gsm@cable.mendelson.com:
>

>>
>> 1. Can I connect a 75ohm BNC plug (which is a different size) to a
>> 50oHm BNC socket?
>
>There is such a thing as a 75 ohm BNC connector, but you are almost
>certainly looking at 50 ohm connectors designed for use on 75 ohm cable.
>My recollection is that the 75 ohm connectors are incompatible with the
>50 ohm connectors, and in some combinations will spread the female inner
>part.
>
For all intents and purposes, 50 and 75 ohm BNCs (both male and female)
are interchangeable. They have essentially the same dimensions. You
might just see that the 50 ohm male has a rather stubby point, whereas
the 75 ohm version has a somewhat more steadily-tapered pin - but,
unlike N-connectors, the 50 ohm male certainly doesn't cause damage to a
75 ohm female.

The thing which mainly causes the impedances to differ is the amount of
PTFE dielectric present, in both sexes. On the 75 ohm version, you will
normally see that it has been reduced considerably compared with the 50
ohm. Even with less dielectric, the 75 ohm version is still a bit
unhappy with having too much, and this tends to lower the impedance to
somewhat less than 75 ohms.

However, for all intents and purposes, you probably won't notice any
significant difference between 50 and 75 ohm BNCs (mixed or not).
--
Ian

2235. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 18:46:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <dc161daa-da0d-4b78-9c08-76f7a1c8f03b@j8g2000yqd.googlegroups.com>
Source record: 9235

On Jun 7, 11:36 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Have you a link to the data and test methodology?

I summarized the data from three CA 75m mobile shootouts at:

http://www.w5dxp.com/shootout.htm

I don't recall a test methodology being published. The test receiver consisted of a ferrite loop antenna in the far field feeding a lab-grade RF voltmeter. The power incident upon the 75m mobile antenna system was assumed to be forward power minus reflected power on the coax to the antenna system, measured using two Birds. The receive results were normalized accordingly. I may have left out a detail or two.

The SG-230 plus 11.5 whip at -12 dB was equal to a 75m hamstick. I entered both the top-rated (0 dB reference) antenna and the (-12 dB) autotuner+whip on the same vehicle. When I "superposed" all of the three results, I assumed 0 dB for each top-rated antenna and let the rest fall where they might. That may or may not have been a reasonable assumption.

I suspect the SG-230 is designed to dissipate 100 watts (using large #2 material powdered-iron toroids). During one shootout episode, I forgot to attach the antenna to the mobile mount. The SG-230 faithfully tuned to close to a 1:1 match on the input - with a near-infinite SWR on the output. It was a damp foggy day and the mobile mount arced. That taught me not to mount the SG-230 unobserved in the attic. :-)
--
73, Cecil, w5dxp.com

2236. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 18:48:31 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <27d2b5ad-d3af-4891-8e55-561a8b2bf60f@g19g2000yqc.googlegroups.com>
Source record: 9236

On Jun 7, 1:23 pm, Roy Lewallen <w...@eznec.com> wrote:
> In the admittedly very few looks I've had at mobile "shootout" results,
> there seems to be more of a correlation between vehicle size and field
> strength than antenna and field strength. This comes as no surprise,
> since the vehicle is usually a comparable or even greater part of the
> radiating system than the titular antenna, and its coupling to ground
> has a large impact on the efficiency.

Which is why, in this case, it is well to note that the 0 dB top-rated
antenna and the -12 dB antenna were mounted on the same vehicle
(mine).
--
73, Cecil, w5dxp.com

2237. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 19:09:23 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7b879e7c-f0bc-4d06-b245-d5f075d0c566@x21g2000yqa.googlegroups.com>
Source record: 9237

On 7 jun, 19:46, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 7 Jun 2010 09:19:59 -0700 (PDT), K7ITM <k7...@msn.com> wrote:
> >As Wim has pointed out, requiring an amplifier to be loaded and driven
> >in a very particular way unnecessarily dismisses some very important
> >classes of amplifier.
>
> This is the standard rebuff with "the rest of the world works
> differently" distractions to Walt having stated a premise, described
> initial conditions, taken measurements, and having shown the data
> supports his hypothesis. The hypothesis is dismissed through shifting
> initial conditions to suit an avoidance of committing an honest answer
> to Walt's specific and very explicit observation.
>
> Walt, if this community were pressed for an "up or down" vote:
>
>   "Does Walt's data support the evidence of a Conjugate Match?"
>
> then you would be out in the weeds with your only supporting vote from
> me (and maybe from others who would do this by email).
>
> I doubt this will set off a stampede to the ballot box, but what few
> votes are stuffed in, I bet they will have the "up or down" stapled to
> a dissertation of "however...."
>
> To this last, if I sinned in that regard, I used only Walt's data, his
> equipment references, and his citation sources. As no one else seems
> to tread that narrow path, much less commit beyond grandiose
> statements, I don't feet too bad.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

I think, most people that are willing to read will support Walt's
statements on output impedance of an amplifier under matched output
power (given a certain drive condition). However there are many
practical circumstances where Walt's conditions are not met.

As soon as you change the drive (for example during an AM or SSB
transmission), your matching is no longer guaranteed, especially when
using circuits with current behavior (tetrode/pentode, common grid,
etc). See my EL34 posting. Note that under practical circumstances,
this is no problem.

As soon as you change the load (without changing the matching), you may run into current or voltage saturation, of course depending on phase of VSWR. As you know many people use non-tune solid-state amplifiers, so they don't have the possibility to tune/match for maximum output given certain drive. That means, live with it, or use an external tuner where you don't tune for maximum power, but for minimum VSWR presented to the PA.

Amplifiers for constant envelope modulation use saturation to increase efficiency (and accept the loss in gain). These are deliberately used under mismatch, therefore the gain is less with respect to a non-saturating approach. You can also see this from the Pout versus Pin curve for FM transistors. I know that severak CB owners retuned (or even modified) the output stage to get 1 dB more power, but they did forget that the final transistor had dissipate 2dB more. Result: some japanese transistors became very popular (2SC1306, 1307, 1969, etc).

High efficiency circuits are the extreme case and are entering the amateur world. Active devices behave like switches, output impedance can have every value as long as it is close to the edge of the passive Smith Chart. Amplitude modulation with these topologies can only be done via supply voltage modulation. Tuning for maximum power with an external tuner will surely destroy the amplifier if no protection is present.

For me it was a surprise how this thread developed.

Best regards,

Wim
PA3DJS
www.tetech.nl

2238. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 19:29:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <560b229e-ad60-4dc4-87e5-670767e89180@u26g2000yqu.googlegroups.com>
Source record: 9238

On Jun 7, 2:09 pm, Wimpie <wimabc...@tetech.nl> wrote:
> As soon as you change the drive (for example during an AM or SSB
> transmission), your matching is no longer guaranteed, ...

AM should be the easiest mode to analyze since it requires linear
finals.
--
73, Cecil, w5dxp.com

2239. Re: Re:Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 19:35:18 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4c0d49f5$0$31370$4fafbaef@reader1.news.tin.it>
Source record: 9239

> If indeed that carbon fibre is conductive, and he claims he is getting
> outstanding results whilst operating stationery mobile, then what is
> happening?
>
> I would appreciate comments.
> 73.
> John
> VK2KC

I can tell you my experience with an about 7.5-meter carbon-fibre fishing rod, that I was intending to use as support for a 10-MHz vertical (the rod was secured to an insulated support, with some radials lying on the ground).

What is did is to run a bare copper wire along the rod, fixing it to the rod every 30cm or so using scotch tape. So, the antenna was the wire, and the rod was just a support.

After tuning the wire for perfect resonance at 10.1 MHz, I applied 1kW RF power to the antenna. The result was that the rod (and the tape) got quickly burned at most of the points where the wire was fixed to the rod (the high-voltage points).

It can be easily concluded that:

- the carbon-fire rod is indeed conductive
- its resistance is however too high for plainly using it as a radiator (i.e.without the copper wire)
- even though running low power one would probably not experience the problems I had, the antenna loss (in dB) caused to the fairly high rod resistivity would anyway be significant, independently of whether one runs low or high power.

73

Tony I0JX
Rome, Italy

2240. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 20:03:03 UTC
From: Gaius <bin@127.0.0.1>
Message-ID: <MPG.267760d0bd027b27989698@news.zen.co.uk>
Source record: 9240

Time to sum up where we are in this cause cï¿œlï¿œbre, I think.

The diameter of the centre pin in current production BNC plugs is specified as between 1.32 and 1.37mm (0.052 and 0.054 inches). This is the same for 75R connectors which are detailed in MIL-STD-348B (9Feb 2009), and 50R connectors, shown in MIL-STD-348 (20 April 1988). The earlier document does not refer to the Zo, but the drawing is clearly of a 50R socket with the extended dielectric surrounding the split pin.

Therefore - all compliant BNC connectors are mechanically compatible between 50R and 75R from April 1988 onwards. There are NO mating damage problems for current production items.

It has been suggested that prior to the introduction of IEC 169-8 in 1978, which defined interchangeability, there may have been differences in the pin diameters between 50R and 75R plugs. This will only be resolved by the actual measurement of plugs known to have been manufactured prior to 1978 - or someone producing specification documents from the time.

The definitive specification of BNC connectors would appear to be contained within IEC standard document 169-8. This does not seem to be easily available - copies must be purchased at considerable expense from the IEC. Has anyone got access to a copy of this document ?

2241. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 20:36:41 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <0OCdnVh49JTAxZDRnZ2dnUVZ_oSdnZ2d@giganews.com>
Source record: 9241

I haven't followed this thread since it's been beaten to death so many times here before. But there's an interesting fact that might have been overlooked, and might (or might not) be relevant:

If you put a directional coupler such as a Bruene circuit at the output of a transmitter, and use its "forward" output to control the transmitter power to keep the "forward" directional coupler output constant, you'll find that the power output vs load resistance characteristic is exactly the same as if the transmitter had 50 ohm output impedance. This is assuming that the directional coupler is designed for a 50 ohm system, and that the load is purely resistive. It also assumes that any load is left in place long enough for the feedback circuit to stabilize. The effective source impedance to a very rapidly varying load (that is, one changing so fast that the ALC feedback system doesn't have time to respond) would be the open-loop output impedance which could be quite different. I haven't taken the time to analyze how it behaves with a complex load.

I stumbled across this some time ago when designing a rig using this ALC method and found it interesting. I believe many if not most modern solid-state transmitters use this ALC method.

Roy Lewallen, W7EL

2242. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 20:39:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <0OCdnVt49JScxJDRnZ2dnUVZ_oSdnZ2d@giganews.com>
Source record: 9242

I'm told that composite carbon materials have quite different conductivities in different directions, like a laminated transformer core. At least this should minimize eddy currents.

Roy Lewallen, W7EL

2243. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 20:51:16 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <dtednWaUGIlUxpDRnZ2dnUVZ_q6dnZ2d@giganews.com>
Source record: 9243

N connectors don't have any dielectric in the mating region, so the pin diameter would have to be made smaller for a 75 ohm impedance. Maybe N connector incompatibility issues have morphed into misconceptions about BNCs. I don't think I have any 75 ohm N connectors (assuming such things exist) to look at.

Roy Lewallen, W7EL

2244. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:08:55 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <wa7AczKn$VDMFwkI@g3ohx.demon.co.uk>
Source record: 9244

In message <dtednWaUGIlUxpDRnZ2dnUVZ_q6dnZ2d@giganews.com>, Roy Lewallen
<w7el@eznec.com> writes
>N connectors don't have any dielectric in the mating region, so the pin
>diameter would have to be made smaller for a 75 ohm impedance. Maybe N
>connector incompatibility issues have morphed into misconceptions about
>BNCs. I don't think I have any 75 ohm N connectors (assuming such
>things exist) to look at.
>
That certainly explains why the diameter of the 75 ohm N pin is much,
much less than the 50 ohm. The two are certainly not mateable.

I must admit that, in the back of my mind, I'd occasionally wondered why
- and now, after over 46 years of successfully not getting them mixed up
too often (at work, it was a hanging offence to put a 50 ohm male in a
75 ohm female), all is clear! I don't know why it never dawned on me.
I'm fully familiar with the difference between the BNCs.
--
Ian

2245. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:18:06 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4c0d6209$0$18650$4fafbaef@reader3.news.tin.it>
Source record: 9245

"Roy Lewallen" <w7el@eznec.com> ha scritto nel messaggio
news:0OCdnVt49JScxJDRnZ2dnUVZ_oSdnZ2d@giganews.com...
> I'm told that composite carbon materials have quite different conductivities
> in different directions, like a laminated transformer core. At least this
> should minimize eddy currents.
>
> Roy Lewallen, W7EL

It looks like the rod I have used was built by winding a narrow tape on a
tapered cylindrical support (in spiral fashion).

73

Tony I0JX

2246. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:21:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7ef27051-9844-40f4-93e5-a202d3b6dd54@e5g2000yqn.googlegroups.com>
Source record: 9246

On Jun 7, 5:00 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 6, 1:01 pm, K1TTT <k1...@arrl.net> wrote:
>
> > as in the other thread, what is the mechanism of that 'interaction'
> > between waves? i contend there can be no 'interaction' between
> > forward and reflected waves if the device is linear.
>
> David, you are preaching to the choir. I explained before that there
> is NO interaction between forward and reflected waves because they are
> traveling in different directions. The only time that coherent,
> collimated waves can interact is when they are traveling in the same
> direction in a transmission line.
>
> Keith's argument requires that forward waves and reflected waves
> interact. I say they cannot interact in a constant Z0 environment. You
> say they cannot interact. We are on the same side of this argument.
>
> The mechanism of the interaction of two coherent, collimated waves
> traveling in the same direction is that the superposition process is
> irreversible. The source photons and the reflected photons are
> indistinguishable.
> --
> 73, Cecil, w5dxp.com

This is what YOU said:

>What happens to the 50 joules/second of reflected energy depends upon
>the phasing between the source wave and the reflected wave at the
>source impedance. What most amateurs don't understand is there are
>two mechanisms that can redistribute reflected energy back toward the
>antenna. Those mechanisms are a re-reflection based on the physical
>reflection coefficient (what RF engineers understand) and wave
>interaction resulting in constructive/destructive interference (what
>most RF engineers don't seem to understand) because, unlike optical
>physicists, have not been forced to follow the energy flow.

There is no interaction between the waves, they may be superimposed,
and maybe their photons are indistinguishable, but there is no
'interaction'. interaction implies that one wave affects the other,
energy is transferred or fields are affected, such things occur in non-
linear media, but not in linear ones.

2247. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:27:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2809ad3d-c062-4b57-b2c6-01eb085d8e9f@k39g2000yqd.googlegroups.com>
Source record: 9247

On Jun 7, 2:06 am, tom <news4...@taring.org> wrote:
> On 6/6/2010 8:27 PM, Art Unwin wrote:
>
>
>
> > On Jun 6, 3:59 pm, K1TTT<k1...@arrl.net> wrote:
> >> yes, that is my opinion as a professional software developer who has
> >> written simulation programs that model lightning on high voltage power
> >> lines, on towers, and in ground conductors. And also as a user of AO
> >> from many years ago... that program is prone to optimizing into
> >> unrealizable and obviously incorrect results, often first seen as
> >> rapid changes in currents and gain values.   so if you really want to
> >> continue, have fun, we all get a good laugh out of your naivety and
> >> attempts to explain it with your own version of physics.
>
> > I have no problem with your view point and it is something I am
> > concerned about. Since I have followed this path however, every thing
> > is meshing
> > and I am reporting it as I do not fear failure. But to my mind I have
> > not hit anything to cause me to give up. On top of that nobody has
> > raised any particular points of discussion either. Remember it took me
> > years to convince all that extending Gauss
> > was OK and it provided arrays where all elements were resonant each of
> > which can be fed. So I was right there and everybody else was in
> > error, relying on books only and not there own education.
> > Now I am spreading my wings based on what the former has shown and
> > will re evaluate again when done. At each time I will continue to
> > share results
> > even if it finally shows some errors But I certainly will not stop
> > because of intuitions from the group which up to now has been proved
> > wrong. Nothing wrong with following the teachings of the books as
> > followers but I am attempting to be a leader in finding truths about
> > radiation. So far I have proved the presence of particles, realised
> > equilibrium in every way and now I appear to be proving that skin
> > depth is not a constant. A lot of work to do but as an engineer I knew
> > it would take a while and on top of that I supplied it to a academic
> > to break it down
> > as one always should get an independent evaluation. So far every thing
> > that Einstein predicted has shown up in my workings such that if he
> > had seen it there would have been no need for alternate physics
> > proposals, not that they were without success. The final point is that
> > it is accepted that the machinations of radiation have not yet been
> > proven and so far following thru with classical physics has provided
> > with interesting view points that oppose the present teachings. So I

> > am a fool to place my engineering experience in search of the truth
> > where others may be happy as things are.
> > So I am different from the rest and what is so bad about that? It is
> > for the group to show that I am inadequate from my aproach and to this
> > point all
> > that has been presented has been proven false and I still prevail. I
> > yearn for closure which could come from those really interested in the
> > outcome. But at the same time in their absence I will carry on.
> > Future info will be on the new thread since this one is now dead and
> > placed in the archives.
> > Regards
> > Art
>
> Yup, meds.

STRONG meds!

2248. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:33:20 UTC
From: walt <walt@w2du.com>
Message-ID: <c8835b01-3c5b-41b2-83f7-b7bd38bbc146@h13g2000yqm.googlegroups.com>
Source record: 9248

On Jun 7, 12:19 pm, K7ITM <k7...@msn.com> wrote:
> On Jun 6, 7:29 pm, walt <w...@w2du.com> wrote:
> ...
>
> > And Tom, why would the source be reactive when the pi-network is tuned
> > to resonance? And because the source resistance of the (tube) power
> > amp is non-dissipative, its reflection coefficient is 1.0 by
> > definition, and so it cannot absorb any reflected energy, and
> > therefore re-reflects it.
>
> > Walt, W2DU
>
> If you allow that the thing driving the pi network has an effective
> source impedance different from the load that the pi network presents
> to it, then clearly the output impedance seen at the other end (the
> "50 ohm" end) of the pi network won't be 50 ohms. Try it with some
> numbers; for example, assume a pi network that transforms your 50 ohm
> load to a 4k ohm load to the amplifier output, and assume an amplifier
> output stage that looks like a 20k ohm source. Design the pi network
> for a loaded Q of 10. I believe you'll find that the source impedance
> seen by the 50 ohm load is about 11+j18 ohms.
>
> As Wim has pointed out, requiring an amplifier to be loaded and driven
> in a very particular way unnecessarily dismisses some very important
> classes of amplifier. What do you do, for example, with a linear
> amplifier? What do you do with an amplifier that drives a voltage
> very hard (and for which a simple pi network is inappropriate for
> matching to a load)? Perhaps an even more basic question is: why
> exactly do we tune a pi network to present a particular load to an RF
> amplifier stage? Why should we operate a 6146 with, say, a 3000 ohm
> plate load? Why not 1000, or 6000?
>
> And what if I set up a tube and pi network for operation such that the
> apparent output source impedance is 50 ohms (while driving a 50 ohm
> load), and then I add feedback to the amplifier in such a way that the
> operating conditions are not changed, but the impedance looking back
> into the plate is changed?
>
> How did we get to the source resistance of "the (tube) power amp"
> being non-dissipative? I know there are some of us who don't buy into
> that...
>
> Cheers,
> Tom

Hello Tom,

Well, the reason I chose to discuss only the tube amp with a pi-network filter and impedance transformer is that that arrangement is the only one I've measured, and that I'm not sufficiently acquainted with other arrangements to discuss them.

As to your question, why not use plate loads of 3000, 6000 or 1000? Because the transceivers I measured using two 6146s in parallel are Kenwood TS-830S and Heathkit HW-100. I don't remember the exact plate load with the HW-100, close to 1400 ohms, while the TS-830S was 1400 ohms. I had no control over those plate loads because the plate and grid voltages were preset, and 1400 ohms is the RL I measured at the input of the pi-network when the grid drive and the network were adjusted to deliver precisely 100w to the load 50-ohm load.

Now concerning the non-dissipative source resistance of the tube-type power amp. There are two separate resistances in the amp, the cathode-to-plate resistance, Rpd, that accounts for all the dissipation in the tube; and the output-source resistance that is non-dissipative. It is a common myth that an RF power amp cannot have an efficiency greater than 50% when conjugate matched to the load, because half the RF power is dissipated in the source resistance. This is not true, because when the amp is operating properly, resistance Rpd is less than the output source resistance, thus allowing more power delivered to the load than that dissipated in the plate-to-cathode resistance. The output source resistance is derived from the voltage-current ratio E/I that appears at the output terminals of the pi-network. A ratio, as such, cannot dissipate energy, but the load it feeds does.

Using an example from Terman's Radio Engineer's Handbook I explain this phenomenon in great detail in Chapter 19 in Reflections, and further in Chapter 19A, an addition to Chapter 19. Both are available on my web page at www.w2du.com. Chapter 19 appears in 'Read Chapters from Reflections 2', and 19A appears in 'Preview Chapter from Reflections 3'. The entire Chapter 19 appears in Reflections 3, which is now available from CQ. I invite you to review these Chapters.

Walt, W2DU

2249. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:36:04 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hujoo3$af6$1@news.jpl.nasa.gov>
Source record: 9102

Roy Lewallen wrote:
> In the admittedly very few looks I've had at mobile "shootout" results,
> there seems to be more of a correlation between vehicle size and field
> strength than antenna and field strength. This comes as no surprise,
> since the vehicle is usually a comparable or even greater part of the
> radiating system than the titular antenna, and its coupling to ground
> has a large impact on the efficiency.
>
> Roy Lewallen, W7EL

that seems quite plausible. A bigger vehicle essentially means a
physically larger antenna (think of the whole system as a dipole fed off
center, and a fan on one side but not the other.

2250. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:37:31 UTC
From: Howard Eisenhauer <howarde@NOSPAMhfx.eastlink.ca>
Message-ID: <lfpq06l5cl55pupulo821oqvj07nmhk966@4ax.com>
Source record: 9249

On Sun, 06 Jun 2010 19:19:42 -0400, John Passaneau <w3jxp@arrl.net>
wrote:

Snip

>No the size of the center conductor pin is different between 75 and 50
>ohm connectors and will either make bad contact or damage the socket.

Snip
>
>John Passaneau W3JXP

Not in years, they used to be made with different sized pins but now
rely on different dielectrics for impedance.

H.

Who used to get yelled at by his boss for inserting 50 ohm males into
75 ohm females.

2251. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:37:56 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hujorj$af6$2@news.jpl.nasa.gov>
Source record: 9101

Cecil Moore wrote:
> On Jun 7, 11:36 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> Have you a link to the data and test methodology?
>
> I summarized the data from three CA 75m mobile shootouts at:
>
> http://www.w5dxp.com/shootout.htm
>
> I don't recall a test methodology being published. The test receiver
> consisted of a ferrite loop antenna in the far field feeding a lab-
> grade RF voltmeter. The power incident upon the 75m mobile antenna
> system was assumed to be forward power minus reflected power on the
> coax to the antenna system, measured using two Birds. The receive
> results were normalized accordingly. I may have left out a detail or
> two.

Were those all mounted in the same place on the same vehicle, e.g. the
license plate bracket?

2252. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 21:52:40 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <14aa2cfe-fc32-4799-aee5-cb6c9cc4c467@g19g2000yqc.googlegroups.com>
Source record: 9250

On 7 jun, 22:36, Roy Lewallen <w...@eznec.com> wrote:
> I haven't followed this thread since it's been beaten to death so many
> times here before. But there's an interesting fact that might have been
> overlooked, and might (or might not) be relevant:
>
> If you put a directional coupler such as a Bruene circuit at the output
> of a transmitter, and use its "forward" output to control the
> transmitter power to keep the "forward" directional coupler output
> constant, you'll find that the power output vs load resistance
> characteristic is exactly the same as if the transmitter had 50 ohm
> output impedance. This is assuming that the directional coupler is
> designed for a 50 ohm system, and that the load is purely resistive. It
> also assumes that any load is left in place long enough for the feedback
> circuit to stabilize. The effective source impedance to a very rapidly
> varying load (that is, one changing so fast that the ALC feedback system
> doesn't have time to respond) would be the open-loop output impedance
> which could be quite different. I haven't taken the time to analyze how
> it behaves with a complex load.
>
> I stumbled across this some time ago when designing a rig using this ALC
> method and found it interesting. I believe many if not most modern
> solid-state transmitters use this ALC method.
>
> Roy Lewallen, W7EL

Hello Roy,

If you have sufficient headroom and under the conditions you
mentioned, you mimic a 50 Ohms source. I think it also works for any
(complex) loads (I couldn’t find why not).

The difference between a real 50 Ohms circuit may be that the phase of
the belonging EMF may change, in many amplifiers phase shift is
somewhat excitation dependent, but who bothers?

I expect such scheme in combination with VSWR measurement also, as
several PAs have a reverse power indicator present (the other half of
a the Bruene circuit). You need the reverse power indication to avoid
destroying active devices and/or intermodulation distortion due to
voltage saturation.

Imagine that you have full reflection |RC| = 1 and it appears at your
active device as RC=-1. You want to maintain the original forward
power. Your active device has to deliver in that case double the
current at zero collector/plate voltage to maintain same forward power
as under matched condition. The actual power delivered to the load is

zero (as the active device supplies current, but no voltage, RC=-1 means a short circuit). This will result in massive dissipation in the active device.

In case of RC=+1, it has to provide double the voltage with no current. In other circumstances you will have a significant phase shift between current and voltage resulting also in increased device dissipation and inconvenient combinations of instantaneous voltage and current. So above some value for VSWR, you may have to reduce the forward power

I had a discussion recently about the power control scheme for TETRA terminals, but we couldn't find the answer to what is happening under high VSWR (so we have measure it). It only states VSWR<2.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

2253. Re: Resonant condition

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 22:12:46 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <e5b1455c-9304-4ab8-9ace-b5f9a00d53db@u7g2000yqm.googlegroups.com>
Source record: 9103

On Jun 7, 11:48 am, Cecil Moore <w5...@hotmail.com> wrote:
> For instance, the following shortened stub has a resonant frequency at
> which it is electrically 1/4WL long even though it is only 1/8WL long
> physically because of the 45 degree phase shift between the two
> sections. ...

Are you stating that such a radiator with a physical length of 1/8-lambda has ALL of the electrical characteristics of a self-resonant, 1/4-wave radiator -- including its radiation resistance, radiation pattern, and peak gain in dBi?

Zero reactance at the input terminals of an electrically short radiator does not mean that such a radiator is the electrical equal of every other radiator with zero reactance at its input terminals.

Zero input reactance for short radiators can be attained by various means, but the intrinsic, real radiation resistance/pattern/gain of an antenna is a function of the electrical length, configuration, and installation environment of the conductor(s) exposed to free space, regardless of the reactance at the feedpoint -- whether that reactance is zero or not.

RF

2254. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 22:13:35 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <QN2dnaERhc6O8pDRnZ2dnUVZ_sqdnZ2d@giganews.com>
Source record: 9104

Wimpie wrote:
> . . .
> I expect such scheme in combination with VSWR measurement also, as
> several PAs have a reverse power indicator present (the other half of
> a the Bruene circuit). You need the reverse power indication to avoid
> destroying active devices and/or intermodulation distortion due to
> voltage saturation.
> . . .

Yes, I was referring to the operating region at which normal power is maintained. As you pointed out, rigs employing this method will only maintain the same "forward" power over some range of SWR beyond which they'll begin reducing it, otherwise they'd self-destruct in the attempt. In the reduced power region, the apparent 50 ohm output impedance of course no longer holds.

Roy Lewallen, W7EL

2255. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 22:49:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <o9rq06pnqdhnk7inp9297ddju0mb77fl52@4ax.com>
Source record: 9105

On Mon, 07 Jun 2010 13:36:41 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>I haven't followed this thread since it's been beaten to death so many
>times here before. But there's an interesting fact that might have been
>overlooked, and might (or might not) be relevant:
>
>If you put a directional coupler such as a Bruene circuit at the output
>of a transmitter, and use its "forward" output to control the
>transmitter power to keep the "forward" directional coupler output
>constant, you'll find that the power output vs load resistance
>characteristic is exactly the same as if the transmitter had 50 ohm
>output impedance. This is assuming that the directional coupler is
>designed for a 50 ohm system, and that the load is purely resistive. It
>also assumes that any load is left in place long enough for the feedback
>circuit to stabilize. The effective source impedance to a very rapidly
>varying load (that is, one changing so fast that the ALC feedback system
>doesn't have time to respond) would be the open-loop output impedance
>which could be quite different. I haven't taken the time to analyze how
>it behaves with a complex load.
>
>I stumbled across this some time ago when designing a rig using this ALC
>method and found it interesting. I believe many if not most modern
>solid-state transmitters use this ALC method.
>
>Roy Lewallen, W7EL

Hi Roy,

This application that you describe was written up in exactly the same
terms within the recent HP Journals I have posted extracts here. HP
used Directional Couplers (the Bruene circuit, also called a bridge,
qualifies too but uses a non-wave design) to separate out the forward
from the reverse power reflected from the mismatch to create a
reference power. Later, HP and others strapped the signals back into
the source in much the manner you describe.

The rudimentary version can be found in HP Journal v.6 n.1-2. HP
Journal v.12 n.4 strengthens the concept with hard copy sweeps of the
reflection coefficient of a load. By HP Journal v.16 n.6, we have the
description of automatic level control. For the 45 years beyond that
last article, more refinements.

73's
Richard Clark, KB7QHC

2256. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-07 22:59:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jttq065kark9cgn1dkibuvqm1g38131mp0@4ax.com>
Source record: 9106

On Mon, 7 Jun 2010 12:09:23 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>I think, most people that are willing to read will support Walt's
>statements on output impedance of an amplifier under matched output
>power (given a certain drive condition). However there are many
>practical circumstances where Walt's conditions are not met.

So, that is one vote for (with bulky provisos), and one vote against
(with bulky provisos) going into the ballot box.

Walt, if this community were pressed for an "up or down" vote:

"Does Walt's data support the evidence of a Conjugate Match?"

It seems writing the phrase "Conjugate Match is shown by Walt's data"
is a fearsome (loathsome) step to take, or can be taken with
qualifiers and other soporifics to deaden the pain.

Walt's data shows evidence of a Conjugate Match.

73's
Richard Clark, KB7QHC

2257. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 00:38:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nq3r06d12s08ee6rlm5sc21ve74u2nl0qg@4ax.com>
Source record: 9107

On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>The 100W forward and 50W reflected have no relation to actual powers

From a current NARDA specification:

GENERAL COUPLER OPERATION
A coaxial directional coupler has the general appearance
of a section of coaxial line, with the addition of a second
parallel section of line and with one end terminated (see
Figure 9). These two sections are known as the main and
auxiliary lines. The two lines are internally separated from
each other; the amount of spacing between lines determines
the amount of RF energy that may be transferred
from the main line to the auxiliary line. In operation, assume
that energy is fed into port A of the main line. Most of
this energy will appear at output port B of the main line.
However, a fraction of this energy (determined by coupling
value) will also appear at the coupled port C, of the
auxiliary line.
A dual-directional coaxial coupler, such as the
reflectometer coupler, consists essentially of two single-
ended couplers connected back-to-back. Perhaps
the most important characteristic of the directional coupler
(and the one from which its name originates) is its
directivity.
...
For reflectometry applications,
the dual directional coupler, incorporating two
auxiliary outputs, permits the simultaneous sampling of incident
and reflected power.
...
RF power applied to
the load is reflected to some degree depending on load
characteristics, thereby resulting in a voltage standing
wave ratio (VSWR) which is reflected back to the main line
output port. this reflected power is coupled out of the reflected
output port at a level 10 dB down from the reflected
power level at the load.

73's
Richard Clark, KB7QHC

2258. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 00:39:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v43r06tfoq71hpfmkkmfogbeobg1ql1tgl@4ax.com>
Source record: 9108

On Mon, 07 Jun 2010 15:49:04 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>The rudimentary version can be found in HP Journal v.6 n.1-2. HP
>Journal v.12 n.4 strengthens the concept with hard copy sweeps of the
>reflection coefficient of a load. By HP Journal v.16 n.6, we have the
>description of automatic level control. For the 45 years beyond that
>last article, more refinements.

HP Journal Nov. 1970 is dedicated to all system elements going into
one box, 8620A, 8632A (with options for an external Directional
Coupler and Power Meters).

73's
Richard Clark, KB7QHC

2259. Re: Radiating coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 01:21:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4c0d9b2b$0$633$8046368a@newsreader.iphouse.net>
Source record: 9109

On 6/7/2010 4:27 PM, K1TTT wrote:
> On Jun 7, 2:06 am, tom<news4...@taring.org> wrote:
>> On 6/6/2010 8:27 PM, Art Unwin wrote:
>>
>>
>>
>>> On Jun 6, 3:59 pm, K1TTT<k1...@arrl.net> wrote:
>>>> yes, that is my opinion as a professional software developer who has
>>>> written simulation programs that model lightning on high voltage power
>>>> lines, on towers, and in ground conductors. And also as a user of AO
>>>> from many years ago... that program is prone to optimizing into
>>>> unrealizable and obviously incorrect results, often first seen as
>>>> rapid changes in currents and gain values. so if you really want to
>>>> continue, have fun, we all get a good laugh out of your naivety and
>>>> attempts to explain it with your own version of physics.
>>
>>> I have no problem with your view point and it is something I am
>>> concerned about. Since I have followed this path however, every thing
>>> is meshing
>>> and I am reporting it as I do not fear failure. But to my mind I have
>>> not hit anything to cause me to give up. On top of that nobody has
>>> raised any particular points of discussion either. Remember it took me
>>> years to convince all that extending Gauss
>>> was OK and it provided arrays where all elements were resonant each of
>>> which can be fed. So I was right there and everybody else was in
>>> error, relying on books only and not there own education.
>>> Now I am spreading my wings based on what the former has shown and
>>> will re evaluate again when done. At each time I will continue to
>>> share results
>>> even if it finally shows some errors But I certainly will not stop
>>> because of intuitions from the group which up to now has been proved
>>> wrong. Nothing wrong with following the teachings of the books as
>>> followers but I am attempting to be a leader in finding truths about
>>> radiation. So far I have proved the presence of particles, realised
>>> equilibrium in every way and now I appear to be proving that skin
>>> depth is not a constant. A lot of work to do but as an engineer I knew
>>> it would take a while and on top of that I supplied it to a academic
>>> to break it down
>>> as one always should get an independent evaluation. So far every thing
>>> that Einstein predicted has shown up in my workings such that if he
>>> had seen it there would have been no need for alternate physics
>>> proposals, not that they were without success. The final point is that
>>> it is accepted that the machinations of radiation have not yet been
>>> proven and so far following thru with classical physics has provided

>>> with interesting view points that oppose the present teachings. So I
>>> am a fool to place my engineering experience in search of the truth
>>> where others may be happy as things are.
>>> So I am different from the rest and what is so bad about that? It is
>>> for the group to show that I am inadequate from my aproach and to this
>>> point all
>>> that has been presented has been proven false and I still prevail. I
>>> yearn for closure which could come from those really interested in the
>>> outcome. But at the same time in their absence I will carry on.
>>> Future info will be on the new thread since this one is now dead and
>>> placed in the archives.
>>> Regards
>>> Art
>>
>> Yup, meds.
>
> STRONG meds!

And all these miraculous claims without a shred of evidence or formulas
one can check.

And yet he prevails.

2260. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 01:49:18 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <71d3a49e-bab2-4f8d-85a5-56e7b7e8934c@w31g2000yqb.googlegroups.com>
Source record: 9110

On Jun 6, 10:13 pm, lu6etj <lu6...@gmail.com> wrote:
> On 6 jun, 18:00, Keith Dysart <keith.dys...@gmail.com> wrote:
> > On Jun 6, 9:45 am, Cecil Moore <w5...@hotmail.com> wrote:
> > > On Jun 5, 6:28 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > > There are indeed negative values. These occur when the energy is
> > > > flowing in the other direction, ...
>
> > > Let's take a close look at the illusion that you are seeing and not
> > > comprehending. Observe a snapshot of the instantaneous power envelope
> > > of a traveling wave. It is a sinusoidal envelope with peak
> > > instantaneous power levels and zero instantaneous power levels. When
> > > it is traveling in the forward direction we consider that to be
> > > positive power. When it is traveling in the reverse direction, we
> > > consider that to be negative power. It is only a directional
> > > *convention* not proof that negative power exists. The only waves that
> > > can exist as waves on a transmission line are traveling waves.
>
> > Ahhh. I see part of your problem. You are thinking envelopes.
>
> > You need to change your point of view to be a particular point on the
> > line.
> > At this point, there is a function that describes the voltage: V(t).
> > It
> > may or may not be a sinusoid. There is a function for the current:
> > I(t).
> > And from these can trivialy be derived a function for power:
> > P(t)=V(t)I(t).
>
> > When I clip my instantaneous voltmeter across a line and measure 0 for
> > all time, I can confidently say that no energy is flowing, for there
> > is
> > not. I am curious as to what you would answer?
>
> > > In "Optics", Hecht says instantaneous power is "of limited utility."
> > > You seem to have discovered that limit, stepped over it, and stepped
> > > in it. :-)
>
> > Well, Hecht may have his limitations when dealing with Optics, but
> > there
> > is no reason to expect these same limitations to apply to circuit
> > analysis.
>
> > ...Keith
>

> Hi folks, good night (from here).
>
> > I do not disagree with anything you have written, but I do think it
> > is much too early to introduce Poynting vectors and lossy conductors
> > to the discussion.
>
> Hello Keith, Yes, I understand your comment, I introduced Poynting
> vector only because both, energy and power, are scalars and we can not
> talk about scalars having direction without get in conceptual
> troubles; flux of power instead, have direction because surface vector
> presence in its definition gives directive characteristics to power
> crossing an imaginary surface.
> Slanted flux of electromagnetic power (Poynting) due resistive
> conductor simply seems to me a good example of a power flux in a TL
> not totally coincident with axial direction to provide a little more
> supporting to "directive" notion of Power Flux.
> However IMHO power flux do not seems to me more complicated than
> power, work, voltage, potential, energy, E and H fields, etc. All of
> them -I believe- are not very simple stuff :>(, but they are very
> funny and interesting, indeed...!! :>D. What do you think?

My interests lie in understanding the behaviour of transmission lines
to a level necessary to predict their basic behaviour. I did not find
that I needed power flux to achieve this so I have not explored it. I
suspect that you are right and it is an interesting topic.

> .....
> Please would you mind tell me why "sine wave" it is not a correct use
> of "wave" word. The only dictionary I have => "Oxford advanced
> english dictionary of current english defines wave as: "move to and
> fro, up and down", I believe also in english there are word qualifiers
> (sine, traveling, standing, etc) who specify the precise meaning of
> them in diverse contexts. Am I wrong about this?.

Sine wave. Square wave. Triangle wave. Sawtooth wave. Waveform.
Waveshape. 'Wave' seems to fit well with many words. I do not see a
problem.

> ....
> Sorry by my insistence about convenience of discuss about "models".
> Please let me bring a citation:
> "At times, two quite differents models may serve equally well, but
> eventually one is usually found to prevail, not because it is right,
> but because it is both more convenient and more logically constructed.
> After all, models are constructed for convenience in thinking and
> recording, not as photographic images of nature"
> (From "Electromagnetic Engineering", Ronold W.P. King (PhD), page 94.
> McGraw Hill.1946).

It seems to me that all is well as long as the model is used properly
in the contexts in which it yields answers which are adequately
accurate.

> ....
> I studied "Principle of Conjugates Impedance Matching" in my early
> student days and the "mirror reflection" explained by Walter Maxwell
> in his article agree with my undestanding about "where the reflected
> waves go" because to balance magnitudes it is necessary that they
> found a full mismatch on its way (path?) to generator. My own limited
> analisis led me to the same notion even without conjugate match if I
> calculate Incident and reflected voltages values in a half wave TL (as
> my early thread example),
> As I said, reading Cecil's web page quarter wave line examples led me
> to considerate another possible representations of the problem, in
> addition Owen's own ideas about it also made me consider the issue
> from another point of view.

When I was trying to understand the behaviour of reflections in
transmission lines, I found it extremely valuable to consider
waveforms
other than sinusoids. Step functions into open, shorted and properly
terminated lines were quite enlightening. The arithmetic is much
easier to perform than for sine waves and some of the results rather
surprising.

For example, apply a step function from a matched generator to an
open transmission line. After the step makes one round trip, there
will be a constant voltage everywhere on the line and the current
will be zero everywhere. The wave reflection will show that there
is a constant forward wave which is summed with a constant reflected
wave to produce the constant voltage on the line. This is a strong
example of why there is not necessarily power in the forward and
reflected wave.

Other interesting thought experiments are pulses and pulse trains.
Arrange the timing so that a forward pulse collides with a reflected
in the middle of the line. What are the voltages and currents that
would be observed? Try alternating positive and negative pulses.

And lastly, inject signals simultaneously from both ends of a
transmission line. What is the result?

When doing these, I would compute the power provided by the source
and dissipated in the source resistor (I tend towards ideal
Thevenin generators to simplify the analysis, though it is
worth occasionaly doing the same with Norton), the energy stored
in the line and the energy being dissipated in the load resistor,
if there is one. Dealing with all of this in the time domain can
help make the energy flows clear.

These simple thought experiments definitely helped my understanding.
Some of the assertions that have been made can be shown to be false
when tested with these waveforms and analysis.

...Keith

2261. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 02:11:54 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2a36e183-ffda-4eff-931d-4013bfb90a6b@i28g2000yqa.googlegroups.com>
Source record: 9111

On Jun 6, 3:40 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> In the past you have insisted that only average powers were relevent.
> Does this mean you are ready to look at power (i.e. energy flow) in
> the time domain?

Your concepts violate the laws of physics so no, I am not going to
discuss it with you until you correct your numerous technical
blunders. You need to give up on waves that violate Maxwell's
equations. You need to give up on the occurrence of reflections where
reflections are impossible. You need to give up on the concept that
photons obey your every whim.
--
73, Cecil, w5dxp.com

2262. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 02:27:36 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8cbb67f5-e42f-492d-8203-a64c30d9b0d4@c33g2000yqm.googlegroups.com>
Source record: 9112

On Jun 6, 3:48 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> You do seem to mention looking in the mirror quite frequently, as if
> it had something to do with understanding the behaviour of a
> transmission line.

Are you aware that visible light and RF waves are identical phenomena,
just at different frequencies? An RF transmission lines operates much
the same as fiber optics.

> When I clip my instantaneous voltmeter across a line and measure
> 0 for all time, I can confidently say that no energy is flowing, for
> there is not. I am curious as to what you would answer?

I have already answered. I agree with you that there is no NET energy
flowing across that boundary. All it means is that the forward
Poynting vector and reverse Poynting vector are of equal magnitudes.
The reflection coefficient at that zero voltage point is zero so
reflections are impossible. Yet, your concept requires a reflection at
every node - which violates the laws of physics. Until you eliminate
those magical metaphysical functions from your concepts, they are "of
limited utility", to quote Hecht.

Again, you are saying that there is zero traffic on the Golden Gate
Bridge because the northbound vehicles equal the southbound vehicles.
There is zero NET traffic, but such information is worthless. Someone
still has to repair the bridge.
--
73, Cecil, w5dxp.com

2263. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 02:39:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <de788ac5-c250-4f1d-8468-6b7dbaad0f26@w31g2000yqb.googlegroups.com>
Source record: 9113

On Jun 6, 9:13 pm, lu6etj <lu6...@gmail.com> wrote:
> I studied "Principle of Conjugates Impedance Matching" in my early
> student days and the "mirror reflection" explained by Walter Maxwell
> in his article agree with my undestanding about "where the reflected
> waves go" because to balance magnitudes it is necessary that they
> found a full mismatch on its way (path?) to generator. My own limited
> analisis led me to the same notion even without conjugate match if I
> calculate Incident and reflected voltages values in a half wave TL (as
> my early thread example),
> As I said, reading Cecil's web page quarter wave line examples led me
> to considerate another possible representations of the problem, in
> addition Owen's own ideas about it also made me consider the issue
> from another point of view.

Miguel, you might be surprised to know that I got the constructive/
destructive interference concepts first from Walter Maxwell's,
"Reflections". Take a look at "Sec 4.3 Reflection Mechanics of Stub
Matching". Walt says:

"The destructive wave interference between these two complementary
waves at the stub point causes a complete cancellation of energy flow
in the direction toward the generator."

"Conversely, the constructive wave interference produces an energy
maximum in the direction toward the load, resulting from the sum of
the two reflected waves and the source wave."

Walt clearly understands that wave cancellation, interference, and
redistribution of reflected energy back toward the load is involved
with his "conjugate mirror" and virtual-short-circuit concepts.

So you see the concept of wave cancellation of complimentary reflected
waves at a Z0-match didn't come first from me. The concept of all of
that energy involved in wave cancellation changing direction and
joining the forward wave didn't come first from me. I only resorted to
the field of optics to gain additional technical information and
expanded on Walt's original "Reflections" concepts in my article.
--
73, Cecil, w5dxp.com

2264. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 03:03:26 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1e4d6de2-6d18-4fdb-8f38-5a39a5413f87@s9g2000yqd.googlegroups.com>
Source record: 9114

On Jun 7, 4:21 pm, K1TTT <k1...@arrl.net> wrote:
> There is no interaction between the waves, they may be superimposed,
> and maybe their photons are indistinguishable, but there is no
> 'interaction'. interaction implies that one wave affects the other,
> energy is transferred or fields are affected, such things occur in non-
> linear media, but not in linear ones.

Note that I was not talking about forward and reflected waves in a constant Z0 transmission line. I am talking about the four wavefront components that are generated at an impedance discontinuity. It has been proven in experimentally that those waves indeed interact. In fact, the transfer of destructive interference energy from wave cancellation to the areas that permit constructive interference is obviously interaction since the canceled waves disappear in their original direction of travel. But, as the FSU web page says, they are not annihilated - their energy components simply change direction.

How can you possibly argue that wave cancellation doesn't require wave interaction? Those two waves completely disappear in the direction of destructive interference. Dr. Best argued that those two waves don't interact and continue propagating (completely devoid of energy) forever in the direction of original travel. I asked him to prove that his phantom waves exist but he could not. Is there such a proof available?

At a 1/4WL thin-film coating on non-reflective glass, when the internal reflected wave arrives with equal magnitude and 180 degrees out of phase with the external reflection, wave cancellation occurs. That is an *obvious* effect that one wave has on the other. Wave cancellation is an obvious interaction. In the s-parameter equation:

b1 = s11*a1 + s12*a2 = 0

the s11*a1 wavefront has obviously interacted with the s12*a2 wavefront to accomplish wave cancellation.
--
73, Cecil, w5dxp.com

2265. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 03:05:02 UTC
From: Bob Bob <bob3bob3@bigpond.com>
Message-ID: <i8o0e7-da4.ln1@p1600bob.personal.bigpond.net>
Source record: 9115

Hi John

As I remember too if you use plastic conduit (in VK) the orange stuff has no carbon but the grey stuff does. ie it has carbon mixed in when it is extruded.

I don't know how good that info is, it's comes from way back in anecdotal land. I just assume grey stuff is not to be used for radio antenna system!

Not directly on topic but may be related.

Cheers Bob VK2YQA

VK2KC wrote:
>
> My question is, does carbon fibre absorb RF?
>
>

2266. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 05:26:59 UTC
From: Peter <pm@hotmail.com>
Message-ID: <f6Cdna3p_uQsSZDRnZ2dnUVZ7o6dnZ2d@westnet.com.au>
Source record: 9116

"Bob Bob" <bob3bob3@bigpond.com> wrote in message
news:i8o0e7-da4.ln1@p1600bob.personal.bigpond.net...
> Hi John
>
> As I remember too if you use plastic conduit (in VK) the orange stuff
> has no carbon but the grey stuff does. ie it has carbon mixed in when it
> is extruded.
>
> I don't know how good that info is, it's comes from way back in
> anecdotal land. I just assume grey stuff is not to be used for radio
> antenna system!
>
I have heard the same thing, but have used the grey conduit for antenna
construction in the past. I noted that a 2mtr band slim jim (J pole variant)
antenna had the same low SWR with and with out being inside a length of 32mm
grey conduit. I would assume some affect on the SWR if there was any
interaction.

--
Peter VK6YSF

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

2267. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 07:47:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <c8tr061iu9rpuspsic867ea5q5g9aeem1a@4ax.com>
Source record: 9117

On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>The 100W forward and 50W reflected have no relation to actual powers

From MECA, makers of Isolators - their application:

The isolator is placed in the measurement path of a test bench between a signal source and the device under test (DUT) so that any reflections caused by any mismatches will end up at the termination of the isolator and not back into the signal source. This example also clearly illustrates the need to be certain that the termination at the isolated port is sufficient to handle 100% of the reflected power should the DUT be disconnected while the signal source is at full power. If the termination is damaged due to excessive power levels, the reflected signals will be directed back to the receiver because of the circular signal flow.
...
MECA offers twenty-four models of isolators and circulators in both N and SMA-female connectors with average power ratings from 2 - 250 watts.

73's
Richard Clark, KB7QHC

2268. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 09:50:17 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <3adc00a9-c9f8-4490-90b2-29d8eb9e8b01@c10g2000yqi.googlegroups.com>
Source record: 9118

On 7 jun, 03:04, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 6 Jun 2010 15:21:59 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >Try the following experiment:
>
> -sigh-
>
Did you do the experiment (forward power versus mismatch)?

> Hi Wimpie,
>
> This is not what I asked for. You said what the source was NOT, but
> you cannot say what the source IS.
>
> The source is not a bipedal reptile. The source is not an elongated
> diphthong. The source is not the resurrection of a deity (some may
> argue that more than I would care to follow). The source is not....
>
> There are many ways to say what the source is NOT, and that will never
> inform us about the source. I see many draw deuces to this question
> and try to convince everyone that the card is a pair of winning aces.

Probably you consumed something wrong here.

> >Now make some mismatch (for example VSWR=2 at different phase) and
> >read the forward power. Did it change? If so, the output impedance is
> >no (longer) 50 Ohms.
>
> What IS it now? If you could measure it once, you should be able to
> tell us what it is this time too. I did this for years to methods set
> by the National Bureau of Standards. You have drawn a deuce, not two
> aces.

Some values:
9 +/-1 Ohm (real impedance), reference impedance 16 Ohms, 8 MHz
amplifier (ISM). Exact value requried because of additional filtering,
based on several IRF110, push pull.

<2 Ohms (small reactance present), 10V/1A driver (sinusoidal), 700
kHz, slightly saturating class C output stage based on single mosfet.
RF feedback present to guarantee value below 2 Ohms. also here,
certain maximum value was required for the application

|RC| > 0.80 (actual value depending on type of additional filtering in
between), >5kW pulsed power amplfiier, non 50 Ohm application.

Actual value not important, but is a recent project, so I knew from
memory.

See also EL34 example in posting to Walt.

>
> >Measuring method used: change in resistive load, from voltage change
> >you can calculate the current change, hence the output impedance. One
> >note, except two, all where solid state.
>
> Yes, that is called a load pull, but you offer no data - another
> deuce. I have done a lot of load pulls.
>
> >All high efficiency designs (class E, D) that I did have output
> >impedance far from the expected load impedance. With "far" I mean >
> >factor 2 or < factor 0.5. I did not measure that (as it is not
> >important in virtually all cases), but know it from the overload
> >simulation/measurement and I did the design myself.
>
> You didn't measure it, but you can state the value - interesting state
> of guessing. So, what did the simulation/non-measurement give you as
> a value? What IS the value? Another deuce.

Please read again last part of sentence above your text.

>
> >The reason for not being 50 Ohms
>
> Reasons abound. BP is giving us reasons why the Gulf Coast shouldn't
> worry. Data has proven that reasons don't work and neither does their
> well. That is a Joker draw.
>
> >High efficiency CW amplifiers
>
> The TS830S is not such an animal. Another Deuce.

Not al hams use TS830S, See more recent reply of Walt to Tom's
posting.
>
> >If you can drop me a link to the discussion of the TS830s, I would
> >appreciate that.
>
> Google "Plate Resistance" in this group.

>
> 73's
> Richard Clark, KB7QHC

I hope, further replies from you will be constructive,

Wim
PA3DJS

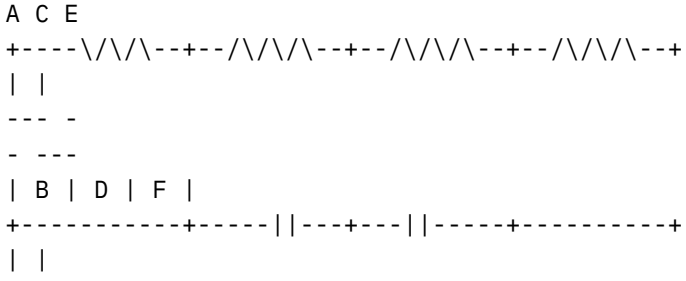
2269. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 10:30:53 UTC
From: joe <none@domain.invalid>
Message-ID: <hul5ss$d7p$1@speranza.aioe.org>
Source record: 9119

Keith Dysart wrote:

> These simple thought experiments definitely helped my understanding.
> Some of the assertions that have been made can be shown to be false
> when tested with these waveforms and analysis.
>
> ...Keith

Here is a thought experiment for you.



Four resistors, equal value.
Four DC sources, equal value.
Voltage A-B = 0, no power past here.
Voltage C-D = 0, no power past here.
Voltage E-F = 0, no power past here.

No power crossing the boundaries on either side of the resistor between
A and C. The resistor is not directly connected to a supply, how is it
dissipating power, if any?

(Yes, I do know the answer.)

2270. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 10:57:44 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <5379d0c1-c024-4c54-b40d-39f4bfccf8c8@s9g2000yqd.googlegroups.com>
Source record: 9120

On Jun 8, 3:47 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
>
> <keith.dys...@gmail.com> wrote:
> >The 100W forward and 50W reflected have no relation to actual powers
>
> From MECA, makers of Isolators - their application:
>
> The isolator is placed in the measurement path of a test bench between
> a signal source and the device under test (DUT) so that any
> reflections caused by any mismatches will end up at the termination of
> the isolator and not back into the signal source. This example also
> clearly illustrates the need to be certain that the termination at the
> isolated port is sufficient to handle 100% of the reflected power
> should the DUT be disconnected while the signal source is at full
> power. If the termination is damaged due to excessive power levels,
> the reflected signals will be directed back to the receiver because of
> the circular signal flow.
> ...
> MECA offers twenty-four models of isolators and circulators in both N
> and SMA-female connectors with average power ratings from 2 - 250
> watts.

Good day Richard,

You have located several examples from reputable vendors where the
behaviour of directional couplers is described in terms of power
in a forward and reflected wave. This model of behaviour works within
its limits and allows for convenient computation and prediction of
the behaviour. But all of these papers have the appropriate
discipline and do not ask the question "where does the reflected
energy go?" which is good, for this exceeds the limits of the
model.

As soon as one assigns tangible energy to the reflected wave, it
becomes reasonable to ask for an accounting of this energy and
the model is incapable of properly accounting for the energy.

Following this weakness back through the model, the root cause
is the attempt to assign tangible energy to the reflected wave.
Think of it as a reflected voltage or current wave and all will
be well, but assign power to it and eventually incorrect
conclusions will be drawn.

For those who understand this, and know that "where did the
reflected energy go?" is an invalid question, using the power

model within its limits will not cause difficulties. But for those who are not careful, great difficulties arise and a lot of fancy dancing is offered to work around the difficulties, unsuccessfully.

Just for fun, here is a simple example.

100V DC source, connected to a 50 ohm source resistor, connected to 50 ohm transmission line, connected to a 50 ohm load resistor. Turn on the source. A voltage step propagates down the line to the load. The impedances are matched, so there are no reflections. The source provides 100W. 100W is dissipated in the source resistor. 100W is dissipated in the load resistor. Energy moves along the transmission line from the source to the load at the rate of 50W.
All is well.

Disconnect the load. A voltage step propagates back along the line from the load to the source. In front of this step current continues to flow. Behind the step, the current is 0. When the step reaches the source there is no longer any current flowing. The source is no longer providing energy, the source resistor is dissipating nothing, and neither is the load resistor.

Proponensts of the power model claim that energy is still flowing down the line, being reflected from the open end and flowing back to the source. Since the source is clearly no longer providing energy, great machinations are required to explain why the reflected 'energy' is re-reflected to provide the forward 'energy'.

But really, does anyone believe that a length of transmission line, charged to 100V voltage with zero current flowing, is actually simultaneously transporting energy in both directions?

For even more fun, replace the ideal conductors in the transmission line with some lossy conductors. How much of the reflected and re-reflected energy flowing up and down the line will be dissipated in the conductors? Remember that the current is zero, everywhere along the line.

...Keith

2271. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 11:04:51 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <a03e1c74-8215-4bf6-b251-43889eeb84eb@c33g2000yqm.googlegroups.com>
Source record: 9121

On Jun 7, 10:11 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 6, 3:40 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > In the past you have insisted that only average powers were relevent.
> > Does this mean you are ready to look at power (i.e. energy flow) in
> > the time domain?
>
> Your concepts violate the laws of physics so no, I am not going to
> discuss it with you until you correct your numerous technical
> blunders. You need to give up on waves that violate Maxwell's
> equations. You need to give up on the occurrence of reflections where
> reflections are impossible. You need to give up on the concept that
> photons obey your every whim.
> --
> 73, Cecil, w5dxp.com

It took a lot of words to say "no, I am not ready."

It is too bad, because the time domain is quite enlightening.

...Keith

2272. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 12:51:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d781df8c-b763-422c-a7dc-3a6e654761e9@d8g2000yqf.googlegroups.com>
Source record: 9122

On Jun 8, 5:30 am, joe <n...@domain.invalid> wrote:
> Here is a thought experiment for you.

Does anyone know of a better Google solution to reading an ASCII
schematic than copying from Google and pasting to Notepad?
--
73, Cecil, w5dxp.com

2273. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 12:54:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <514b296d-98b8-4994-9f56-055772e32e9f@i31g2000yqm.googlegroups.com>
Source record: 9123

On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> It is too bad, because the time domain is quite enlightening.

Nothing wrong with a time domain analysis but analyzing problems whose
basic premises violate the laws of physics is a waste of my time and
yours.
--
73, Cecil, w5dxp.com

2274. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 14:14:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <18ae54df-f4ef-477b-9d7a-c35442e7f268@h13g2000yqm.googlegroups.com>
Source record: 9124

On Jun 8, 5:57 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> As soon as one assigns tangible energy to the reflected wave, it
> becomes reasonable to ask for an accounting of this energy and
> the model is incapable of properly accounting for the energy.

Then one is using the wrong model which is typical of many RF engineers. Optical physicists have been accounting for reflected energy for decades. That one is ignorant of where reflected energy goes is not a good reason to abandon the law of physics that says that *ALL* EM waves contain ExH energy, including reflected EM waves. EM waves cannot exist without ExH energy so you might as well say that reflected waves do not exist at all because that is the logical conclusion based on your false premises.

Optical physicists have been aware of the power-density/interference equation for a long, long time. It is covered in any good reference book on optics, e.g. by Hecht and by Born and Wolf. I have posted the details - why do choose to remain ignorant? At least take time to comprehend the technical information available from the field of optics and report back to us why many decades of that EM wave knowledge is wrong. Here is the equation that explains where the reflected energy goes. All you have to to is track the energy back in time.

Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)

where A is the angle between the two voltages. The last term is known as the "interference term".

When two coherent, collimated, signals interfere while traveling in the same direction in a transmission line: If they are 90 degrees apart, there is zero interference and the I and Q components are easily recovered.

If they are less than 90 degrees apart, the interference is constructive and the phasor superposition of the two waves results in *more power in the total superposed wave* than in the arithmetic sum of the two powers. The extra energy has to come from somewhere. In the absence of a local source, the extra energy has to come from destructive interference in the opposite direction, e.g. at a Z0-match.

If they are between 90 degrees and 180 degrees apart, the interference is destructive and the phasor superposition of the two waves results in *less power in the total superposed wave* than in the arithmetic sum of the two waves. The "left-over" energy has to go somewhere so it

has to be delivered in the opposite direction to the area that supports constructive interference.

Here is what Hecht said: "Briefly then, optical (EM wave) interference corresponds to the interaction of two or more (EM) lightwaves yielding a resultant irradiance (power density) that deviates from the sum of the component irradiances."

Hecht's statement hints to where the reflected energy goes. In the case of wave cancellation at a Z0-match that eliminates ExH reflected energy flowing toward the load, all of the ExH reflected energy is recovered and redistributed back toward the load.

> Following this weakness back through the model, the root cause
> is the attempt to assign tangible energy to the reflected wave.
> Think of it as a reflected voltage or current wave and all will
> be well, but assign power to it and eventually incorrect
> conclusions will be drawn.

Only if the model is inadequate. Optical physicists assign tangible energy to reflected waves all the time. Many are probably reading these postings and laughing at the collective ignorance about EM waves.

Take a look at this web page:

http://www.teachspin.com/instruments/moderni/experiments.shtml

Scroll down to, "Using Dielectric Beamsplitters to find the "missing energy" in destructive interference". There it is, all spelled out for you - where the reflected energy goes. Reflected energy is never actually missing - what are missing are a few of the brain cells that need to be used to think about reflected energy. :-)

> For those who understand this, and know that "where did the
> reflected energy go?" is an invalid question, using the power
> model within its limits will not cause difficulties. But for
> those who are not careful, great difficulties arise and a lot
> of fancy dancing is offered to work around the difficulties,
> unsuccessfully.

Yes, throughout history, ignorant people have brought great difficulties upon themselves because they refuse to alleviate their ignorance. Those who refuse to learn from their mistakes are destined to repeat those same mistakes. And you were making these exact same mistakes years ago. You can lead a horse to water ...

In his Nov/Dec 2001 QEX article, Dr. Best attempted to explain where the reflected energy goes. Shackled by ignorance, he got many things wrong e.g. phantom EM waves that exist without energy. But the article alludes to the conceptual path that needs to be taken to alleviate that ignorance. In "Wave Mechanics of Transmission Lines, Part 3", Dr. Best published the above power-density/interference equation although

he ignorantly asserted on this newsgroup that interference did not exist.

Interference resulting from superposition at an impedance discontinuity is the key missing link in explaining everything that happens to the energy in a transmission line including Roy's food-for-thought article. Why is there so much reluctance to adopt a proven law of EM wave physics from the field of optics?
--
73, Cecil, w5dxp.com

2275. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 15:42:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aios06lm0nqmors8765lafdg5vhjrmg3kv@4ax.com>
Source record: 9125

On Tue, 8 Jun 2010 03:57:44 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>But all of these papers have the appropriate
>discipline

Hi Keith,

But? A pejorative tied to the phrase "appropriate discipline?" What an interesting segue into denial. Quite original.

>and do not ask the question "where does the reflected
>energy go?"

OK, their having stated explicitly that, and having it in black and white from competent authority is just as insufficient as Walt's method and data. Bench experience to this issue makes a lot of armchair theorists uncomfortable.

To your credit, you responded to the witness of evidence. It's like the rest threw you under the bus.

73's
Richard Clark, KB7QHC

2276. Re: Replacement for W9INN Center Connector

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 15:52:08 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-34930C.10520808062010@62-183-169-81.bb.dnainternet.fi>
Source record: 9126

In article <huh8jd$5s16$1@tr22n12.aset.psu.edu>,
John Passaneau <w3jxp@arrl.net> wrote:

> On 6/4/2010 12:31 PM, aRKay wrote:
> > This posting is more of an update. I pulled the old W9INN down for
> > inspection and found a crack in the PVC. It was interesting to note the
> > imprint on the top of the center conductor (not a balun) says W2AU;
> > however, it does not look like a W2AU on any web page. It has ground
> > strap running from top to bottom. To make a long story short, the
> > crack in top of the device was easily repaired using PVC cement and
> > it passed all continuity tests. It is back in place and working FB.
>
>
> That was the old or original style of the W2AU center insulator. You
> could get with or without a balun inside. The strap was to provide a way
> to ground the shield of the coax for lighting protection via the hanging
> eyelet. I remember them from the seventies as a common connection method.
>
>
>
> John W3JXP

John,

Thank you for the clarification.

Too bad it is no longer available. I think the current W2AU is a true
balun rather than a center insulator. I never used the strap for
lightning protection.

The last balun I owned or used was tossed in the Atlantic Ocean on
1980 and I have never used one since then. I will have to live
with my repaired W9INN center insulator.

Dick AA5VU

2277. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 16:52:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nhrs06hul61rebohvsmrlne265u7ddii75@4ax.com>
Source record: 9127

On Tue, 8 Jun 2010 03:57:44 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>Just for fun, here is a simple example.

-sigh-

No wonder traffic dies here. This stuff is a wheeze:

>The source is no longer
>providing energy,

If it had been a battery instead, then the battery would have as much
energy as it had the moment before - (minus) the few coulombs taken
during the short step interval.

Stick with the topic, draw from authorities (that are agreeable to all
parties) that demonstrate the concepts at the bench using the ordinary
tools of the trade (well, ordinary for a Metrologist, perhaps, but is
increasingly available at Ham fests) on actual equipment (what we
actually use in the Shack).

73's
Richard Clark, KB7QHC

2278. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 17:47:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lfts061iim1n2ltprhcrpftr158bn1qdf6@4ax.com>
Source record: 9128

On Tue, 8 Jun 2010 02:50:17 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>> There are many ways to say what the source is NOT, and that will never
>> inform us about the source. ï¿½I see many draw deuces to this question
>> and try to convince everyone that the card is a pair of winning aces.
>
>Probably you consumed something wrong here.

Hi Wimpie,

Hmmm, an ad hominem usually reserved for Art, but I will let it pass
as your perceiving it as a response in kind. Fair enough.

>> >Now make some mismatch (for example VSWR=2 at different phase) and
>> >read the forward power. Did it change? If so, the output impedance is
>> >no (longer) 50 Ohms.
>>
>> What IS it now? ï¿½If you could measure it once, you should be able to
>> tell us what it is this time too. ï¿½I did this for years to methods set
>> by the National Bureau of Standards. ï¿½You have drawn a deuce, not two
>> aces.
>
>Some values:
>9 +/-1 Ohm (real impedance), reference impedance 16 Ohms, 8 MHz
>amplifier (ISM).

Taking my statement and your response at face value, you are
describing how a source that formerly exhibited 50 Ohms was drawn down
to 9 +/-1 Ohm (real impedance). What "real impedance" is? is not
something that I will dwell on. Instead, I will ask how this shift
was induced. Or perhaps you are using a 16 Ohm system. If so, this
lacks too many details for consideration. When I had Walt's 300+ line
hypothesis, I also had access to his service manual for his equipment,
the final tube specification, and his measurement data. In short, I
am impressed only by data, not results.

Given the "some values" that you offer continues in disjointed
discussion as a sort of short-hand description for a project known
only to you, then these distractions draw this further away from a
conclusion. I also see your directions to wander the threads for
vague side bars of discussion. Supposedly, this is instruction for me
to draw together and connect the important details of your point for
you. No, thank you. Too many in this group contribute teasing
details in their coy writing and none of them have the power to
intrigue me with that.

Your "some values" looks vaguely interesting, but I would suggest you put effort into describing your complete scenario with as much care as Walt's 300+ line posting that laid bare his complete hypothesis. I offered you a specifically new thread that I originated solely for one issue where I see no discussion from you - quid pro quo?

And returning to the matter at hand - Up or Down:

"Does Walt's data support the evidence of a Conjugate Match?"

I cannot see pursuing your inquiry with your own example if you cannot offer a fixed answer here. That would put me in a position of embarking on a ponderous journey where, simultaneously, you and Walt both DID AND DID NOT demonstrate your claims. Paradox is suitable only for Operetta by Gilbert and Sullivan.

73's
Richard Clark, KB7QHC

2279. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 19:17:37 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <a3a2319f-1e02-4bba-9566-d5e1a2daf1c4@y4g2000yqy.googlegroups.com>
Source record: 9129

Hello Richard,

You asked for what it IS, several times, so you virtually left me no choice.

Especially the first one (Zout = 9 ohms where the load is 16 Ohms, RCout = -0.28) is very well documented as it was designed to have this value. Without the extra measures, the value was below 9 Ohms. The amplifier is time limited fully short circuit proof, so it was not difficult to determine Zout at various loads. I put myself into problems when publishing the documentation over here.

When we go back to my first posting in this thread (the first reply) where I stated that amplifiers do not show 50 Ohms in general, is not that strange and doesn't violate Walt's conclusions.

When I understand it well, Walt assumes tuning for maximum output at a given drive (not necessarily the maximum drive). As mentioned earlier, I support his findings.

When you don't touch the plate and load capacitor and change from 50 Ohms to a load with VSWR = 2, you violate Walt's conditions and the amplifier will no long behave as a 50 Ohms source, hence what happens with the 50W reflected power from JC's posting becomes more complicated then just a transmission line problem.

Walt made a statement in this thread that an amplifier that obeys ZL = Zout can have higher then 50% efficiency. I fully support this statement also (Example Class C amplifier with narrow conduction angle at the edge of current/voltage saturation, with efficiency over 75%). However, change the load and you get a complete other situation. You have to retune to get back to Walt's condition.

From my experience, many devices with conventional amplifiers (like the valve with pi-filter, or single transistor stages) are now being replaced by other topologies where ZL <> Zout under specified load (as these types of amplifiers are not optimized for maximum gain, but for maximum power added efficiency). I think Tom, KT7ITM also have this experience.

The example given by JC (huge reflection) and my own experience with conventional and high efficiency topologies resulted in my statement that a PA is not a 50 Ohms source. Maybe I had to be more precise to mention the exceptions: forward power control loop as mentioned by Roy, -tuning to maximum output after each change of load, -specially designed negative feedback, -adding an attenuator. The reader can now determine the category for his PA.

In case of doubt use the forward power measurement technique, when it changes under varying load, your amplifier doesn’t behave as a 50 Ohms source.

Best Regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

2280. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 21:20:03 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <eaec3a5c-2e47-4d6f-a4fc-a043601a1780@b35g2000yqi.googlegroups.com>
Source record: 9130

On 8 jun, 09:54, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > It is too bad, because the time domain is quite enlightening.
>
> Nothing wrong with a time domain analysis but analyzing problems whose
> basic premises violate the laws of physics is a waste of my time and
> yours.
> --
> 73, Cecil, w5dxp.com

Good day. Sorry for the large extension of this post, my friends...

> My interests lie in understanding the behaviour of transmission lines
> to a level necessary to predict their basic behaviour. I did not find
> that I needed power flux to achieve this so I have not explored it. I
> suspect that you are right and it is an interesting topic.

OK. I understand. I suposse you are more interested in "know how".
When I complained about "the bench" at Richard, I was thinking on so
many "know how" working years in my life. Today, I have more time to
the "know WHYs" and I am trying to take my chance... :>)
A knowledge on Smith Chart (or software equivalent tools) using, solve
most (if not all) of our ham practical and professional situations and
provide enough basic theory for design purposes, I think in such sense
I agree with you about it; however seems to me this topic thread have
dealt a little more in the why's than the how's :>)

Look, several years ago many hams in my country -Argentine- came from
technical schools, I become a ham in my seventeens (1969) when I was a
very young electronic technician student. Here we have three
fundamental educative levels: Primary, secondary (college?) and
terciary (university). In secondary and terciary levels one of the
first matters we study is physics. If we study electronics -on RF
speciality-, only when we reach later study years of each level we
learn transmission lines in the frequency domain with infinite
lattices of RLCG, Telegrafer's equations solution, Smith charts,
impedances, reactances, etc.
If you do not go to study any RF especialities, the only knowledge you
will have about transmission lines will be the physics ones. Physics
models teach us the associated phenomena reffering basically to
electromagnetic fields => we learn about, E field, H field, power and
energy in more basics terms that frequency domain later more advanced
studies. We do not learn typical AC models in basic physics (as you
can see in Resnick-Hallyday books, for example, I can not give you

college's references books because I study from local authors).
In addition at very early physical mechanics courses we learn stationary and traveling waves, superposition principle and late, interference, in optics.
Probably this is not the way to approaching to this topic that medium Ham employ because our natural ansiety to put the rig to work :>D but seems to be a consensus about what is more basic and what more complex in formal pedagogic/understanding approaches to this matters.

May be for that some of us tend to emphasize in directional power flux and other similar "ugly stuff" to analize transmission line questions, Perhaps for this reason it is easy and illustrative to me the Cecil's bridge car analogy about net energy flux, in addition, energy fluxes crossing areas results very intuitive to me because I can easily visualize (imagine) thousands of them hit and cross my body all the time. Sun light and infrared energy flux, light in houses, streets lights, sky diffused light, RF waves from broadcast and Hams, cellular phones, etc. Instead it is not so ease visualize in such intuitive context a single point with a permanent zero voltage (or E field, better) all the time.

Measurement of interference phenomenom requires much more sofisticated and special reductive technics to simplify the problem. One of this technics it is, for example, voltage measurement on a transmission line point with a zero volt pure AC voltage node; but as Cecil et al said, a zero voltage point does not implicate not power flux crossing that point, that is a very known wave interference phenomenom, it is a little easy to visualize it if we remember that fields are "force fields" -fields are forces acting on testing devices- (charges, compass needles, etc), as we learnt in Coulomb laws. Fields being forces let us intuite that having two horses pulling a rock in right angles results in rock moving on a direction resulting of composition of that forces. Seem to be only one force acting in movement direction but are two!. also you can have both horses pulling in opposite directions, then we do not measure any movement and we could think there is not any force acting on the rock!, but our zero force measurement do not implicate there are not two horse pulling the rock! , zero net force it is different of zero force, I think we agree in that.

I believe I undestand your reasoning: P=V*I, => not V, not P!, it is OK. But power not represent the internal system energy, power implicate "energy developed => work/time", you need energy (applied during certain time, then "power") to accelerate a charge, but the charge can have cinetic energy of its own; then, zero volt line point simply are a point where not any energy it is ADDED to the charges. not a point where there is not have (or not can have) preexistent electric energy (current) flowing; why zero volt net force field point would be stop travelling wave energy flow?; think of zero volt line point as a zero potential energy point, not acceleration in it, as the lowest part of a roller coaster...

Incidentally, Poynting vector is defined as "speed of energy flux by unity of area", it is a different thing that power developed on interchange of energy phenomena such electric energy converted to heat or chemical reaction or movement, if we remember what we learn about P=V*I in Joule law (electric to heat transformation) it is a little more evident its transforming (not transport) energy context. Thus, transmited power its different than "developed power" in the other sense (perhaps here my translation not be clear enough). What is your opinion?

Miguel Ghezzi LU6ETJ

PS: I have some more things in my inkwell about models used on our issue but I have to leave it for future postings :>)

2281. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 22:25:53 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a64fd9c9-429e-4740-b3d6-beb05a486686@a30g2000yqn.googlegroups.com>
Source record: 9131

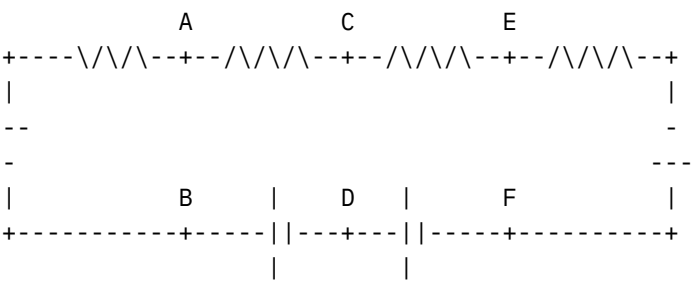
On Jun 8, 4:20 pm, lu6etj <lu6...@gmail.com> wrote:
> I believe I undestand your reasoning: P=V*I, => not V, not P!, it is
> OK. But power not represent the internal system energy, power
> implicate "energy developed => work/time", you need energy (applied
> during certain time, then "power") to accelerate a charge, ...

One comment here. "Power" is defined differently in pure physics vs engineering. In physics, power requires work to be done. In engineering, one definition of power is energy passing a point in a unit of time, i.e. the energy doesn't have to be used up to be defined as power. One might think of it as potential power waiting to be used. These two quite different definitions of "power" are at the root of a lot of disagreements.

For RF engineers we should probably honor "The IEEE Dictionary" definition: "power - the rate of generating, transferring, or using energy". Since energy cannot be destroyed, all energy that has been generated and is so far unused, is in the process of being transferred. Thus any reflected energy in a transmission line that is in the process of being transferred will be used (lost to heat or radiated) during the transient state following key-up.
--
73, Cecil, w5dxp.com

2282. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 23:24:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <985241a9-bca7-4335-a27b-e84e78a023c0@a30g2000yqn.googlegroups.com>
Source record: 9132

On Jun 8, 10:30 am, joe <n...@domain.invalid> wrote:
> Here is a thought experiment for you.
>


>
> Four resistors, equal value.
> Four DC sources, equal value.
> Voltage A-B = 0, no power past here.
> Voltage C-D = 0, no power past here.
> Voltage E-F = 0, no power past here.
>
> No power crossing the boundaries on either side of the resistor between
> A and C. The resistor is not directly connected to a supply, how is it
> dissipating power, if any?
>
> (Yes, I do know the answer.)

the first step of the analysis of this circuit is to combine the 4
voltage sources into a single source, thus rendering point b,d,f
irrelevant. you can then analyze for the currents and voltages
through the 4 resistors easily and show that current flows one way
through all 4 of them equally. circuits 101, 2nd day.

2283. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 23:28:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0a81c344-a83d-4895-a6eb-bc4b4fdefaec@w12g2000yqj.googlegroups.com>
Source record: 9133

On Jun 8, 2:14 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 8, 5:57 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > As soon as one assigns tangible energy to the reflected wave, it
> > becomes reasonable to ask for an accounting of this energy and
> > the model is incapable of properly accounting for the energy.
>
> Then one is using the wrong model which is typical of many RF
> engineers. Optical physicists have been accounting for reflected
> energy for decades. That one is ignorant of where reflected energy
> goes is not a good reason to abandon the law of physics that says that
> *ALL* EM waves contain ExH energy, including reflected EM waves. EM
> waves cannot exist without ExH energy so you might as well say that
> reflected waves do not exist at all because that is the logical
> conclusion based on your false premises.
>
> Optical physicists have been aware of the power-density/interference
> equation for a long, long time. It is covered in any good reference
> book on optics, e.g. by Hecht and by Born and Wolf. I have posted the
> details - why do choose to remain ignorant? At least take time to
> comprehend the technical information available from the field of
> optics and report back to us why many decades of that EM wave
> knowledge is wrong. Here is the equation that explains where the
> reflected energy goes. All you have to to is track the energy back in
> time.
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)
>
> where A is the angle between the two voltages. The last term is known
> as the "interference term".
>
> When two coherent, collimated, signals interfere while traveling in
> the same direction in a transmission line: If they are 90 degrees
> apart, there is zero interference and the I and Q components are
> easily recovered.
>
> If they are less than 90 degrees apart, the interference is
> constructive and the phasor superposition of the two waves results in
> *more power in the total superposed wave* than in the arithmetic sum
> of the two powers. The extra energy has to come from somewhere. In the
> absence of a local source, the extra energy has to come from
> destructive interference in the opposite direction, e.g. at a Z0-
> match.
>

> If they are between 90 degrees and 180 degrees apart, the interference
> is destructive and the phasor superposition of the two waves results
> in *less power in the total superposed wave* than in the arithmetic
> sum of the two waves. The "left-over" energy has to go somewhere so it
> has to be delivered in the opposite direction to the area that
> supports constructive interference.
>
> Here is what Hecht said: "Briefly then, optical (EM wave) interference
> corresponds to the interaction of two or more (EM) lightwaves yielding
> a resultant irradiance (power density) that deviates from the sum of
> the component irradiances."
>
> Hecht's statement hints to where the reflected energy goes. In the
> case of wave cancellation at a Z0-match that eliminates ExH reflected
> energy flowing toward the load, all of the ExH reflected energy is
> recovered and redistributed back toward the load.
>
> > Following this weakness back through the model, the root cause
> > is the attempt to assign tangible energy to the reflected wave.
> > Think of it as a reflected voltage or current wave and all will
> > be well, but assign power to it and eventually incorrect
> > conclusions will be drawn.
>
> Only if the model is inadequate. Optical physicists assign tangible
> energy to reflected waves all the time. Many are probably reading
> these postings and laughing at the collective ignorance about EM
> waves.
>
> Take a look at this web page:
>
> http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> Scroll down to, "Using Dielectric Beamsplitters to find the "missing
> energy" in destructive interference". There it is, all spelled out for
> you - where the reflected energy goes. Reflected energy is never
> actually missing - what are missing are a few of the brain cells that
> need to be used to think about reflected energy. :-)
>
> > For those who understand this, and know that "where did the
> > reflected energy go?" is an invalid question, using the power
> > model within its limits will not cause difficulties. But for
> > those who are not careful, great difficulties arise and a lot
> > of fancy dancing is offered to work around the difficulties,
> > unsuccessfully.
>
> Yes, throughout history, ignorant people have brought great
> difficulties upon themselves because they refuse to alleviate their
> ignorance. Those who refuse to learn from their mistakes are destined
> to repeat those same mistakes. And you were making these exact same
> mistakes years ago. You can lead a horse to water ...

>
> In his Nov/Dec 2001 QEX article, Dr. Best attempted to explain where
> the reflected energy goes. Shackled by ignorance, he got many things
> wrong e.g. phantom EM waves that exist without energy. But the article
> alludes to the conceptual path that needs to be taken to alleviate
> that ignorance. In "Wave Mechanics of Transmission Lines, Part 3", Dr.
> Best published the above power-density/interference equation although
> he ignorantly asserted on this newsgroup that interference did not
> exist.
>
> Interference resulting from superposition at an impedance
> discontinuity is the key missing link in explaining everything that
> happens to the energy in a transmission line including Roy's food-for-
> thought article. Why is there so much reluctance to adopt a proven law
> of EM wave physics from the field of optics?
> --
> 73, Cecil, w5dxp.com

interference is nothing but what you observe after you superimpose two
or more waves. the general principle at work is superposition, giving
it more specific names like destructive or constructive interference
is just describing the result that you observe.

2284. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-08 23:39:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b7081cc0-ae3e-4f23-8fae-ae50918df26e@s9g2000yqd.googlegroups.com>
Source record: 9134

On Jun 8, 10:57 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 8, 3:47 am, Richard Clark <kb7...@comcast.net> wrote:
>
>
>
> > On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
>
> > <keith.dys...@gmail.com> wrote:
> > >The 100W forward and 50W reflected have no relation to actual powers
>
> > From MECA, makers of Isolators - their application:
>
> > The isolator is placed in the measurement path of a test bench between
> > a signal source and the device under test (DUT) so that any
> > reflections caused by any mismatches will end up at the termination of
> > the isolator and not back into the signal source. This example also
> > clearly illustrates the need to be certain that the termination at the
> > isolated port is sufficient to handle 100% of the reflected power
> > should the DUT be disconnected while the signal source is at full
> > power. If the termination is damaged due to excessive power levels,
> > the reflected signals will be directed back to the receiver because of
> > the circular signal flow.
> > ...
> > MECA offers twenty-four models of isolators and circulators in both N
> > and SMA-female connectors with average power ratings from 2 - 250
> > watts.
>
> Good day Richard,
>
> You have located several examples from reputable vendors where the
> behaviour of directional couplers is described in terms of power
> in a forward and reflected wave. This model of behaviour works within
> its limits and allows for convenient computation and prediction of
> the behaviour. But all of these papers have the appropriate
> discipline and do not ask the question "where does the reflected
> energy go?" which is good, for this exceeds the limits of the
> model.
>
> As soon as one assigns tangible energy to the reflected wave, it
> becomes reasonable to ask for an accounting of this energy and
> the model is incapable of properly accounting for the energy.
>
> Following this weakness back through the model, the root cause
> is the attempt to assign tangible energy to the reflected wave.

> Think of it as a reflected voltage or current wave and all will
> be well, but assign power to it and eventually incorrect
> conclusions will be drawn.
>
> For those who understand this, and know that "where did the
> reflected energy go?" is an invalid question, using the power
> model within its limits will not cause difficulties. But for
> those who are not careful, great difficulties arise and a lot
> of fancy dancing is offered to work around the difficulties,
> unsuccessfully.
>
> Just for fun, here is a simple example.
>
> 100V DC source, connected to a 50 ohm source resistor,
> connected to 50 ohm transmission line, connected to a 50 ohm
> load resistor. Turn on the source. A voltage step propagates
> down the line to the load. The impedances are matched, so
> there are no reflections. The source provides 100W. 100W is
> dissipated in the source resistor. 100W is dissipated in the
> load resistor. Energy moves along the transmission line
> from the source to the load at the rate of 50W.
> All is well.

lets see, when steady state is reached you have 100v through 2 50ohm
resistors in series i assume since you say the source provides 100w...
that would mean the current is 1a and each resistor is dissipating
50w.

>
> Disconnect the load. A voltage step propagates back along
> the line from the load to the source. In front of this
> step current continues to flow. Behind the step, the
> current is 0. When the step reaches the source there is
> no longer any current flowing. The source is no longer
> providing energy, the source resistor is dissipating
> nothing, and neither is the load resistor.
>
> Proponensts of the power model claim that energy is
> still flowing down the line, being reflected from the
> open end and flowing back to the source. Since the
> source is clearly no longer providing energy, great
> machinations are required to explain why the reflected
> 'energy' is re-reflected to provide the forward 'energy'.

why would there be power flowing down the line, in this simple dc case
once the voltage in the line equals the source voltage, which in this
perfect case would be after one transient down the line, all is in
equilibrium... and art is happy.

HOWEVER!!! replace that dc source with an AC one and everything
changes, now there are forward and reflected waves continuously going

down the line and back. your DC analysis is no longer valid as it is a very special case. now you have to go back to the general equations and use the length of the line to transform the open circuit back to the source based on the length of the line in wavelengths... for the specific case of the line being 1/4 wave long the open now looks like a short and the current in the source resistor doubles, now making it dissipate 100w!

>
> But really, does anyone believe that a length of
> transmission line, charged to 100V voltage with zero
> current flowing, is actually simultaneously transporting
> energy in both directions?
>
> For even more fun, replace the ideal conductors in the
> transmission line with some lossy conductors. How much
> of the reflected and re-reflected energy flowing up and
> down the line will be dissipated in the conductors?
> Remember that the current is zero, everywhere along
> the line.
>
> ...Keith

2285. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 00:07:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i0jt069lk5k0896807gt6a6ch37rhhe8r6@4ax.com>
Source record: 9135

On Tue, 8 Jun 2010 12:17:37 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>When we go back to my first posting in this thread (the first reply)
>where I stated that amplifiers do not show 50 Ohms in general, is not
>that strange and doesn't violate Walt's conclusions.

Hi Wimpie,

Time to rewind:

>On Thu, 27 May 2010 19:32:40 -0700 (PDT), walt <walt@w2du.com> wrote:
>
>>The source resistance data reported in Secs 19.8 and 19.9 were
>>obtained using the load variation method with resistive loads. Note
>>that of the six measurements of output source resistance reported in
>>Table 19.1, the average value of the resistance is 50.3 ohms obtained
>>with the reference load resistance of 51.2 ohms, exhibiting an error
>>of only 1.8 percent.

Considering these two explicit initial conditions and findings:

>1. Using a Kenwood TS-830S transceiver as the RF source, the tuning
>and loading of the pi-network are adjusted to deliver all the
>available power into a 50 + j0-ohm load with the grid drive adjusted
>to deliver the maximum of 100 watts at 4 MHz, thus establishing the
>area of the RF power window at the input of the pi-network, resistance
>RLP at the plate, and the slope of the load line. The output source
>resistance of the amplifier in this condition will later be shown to
>be 50 ohms. In this condition the DC plate voltage is 800 v and plate
>current is 260 ma. DC input power is therefore 800 v ? 0.26 a = 208 w.
>Readings on the Bird 43 wattmeter indicate 100 watts forward and zero
>watts reflected. (100 watts is the maximum RF output power available
>at this drive level.) From here on the grid drive is left undisturbed,
>and the pi-network controls are left undisturbed until Step 10.
>
>2. The amplifier is now powered down and the load resistance RL is
>measured across the input terminals of the resonant pi-network tank
>circuit (from plate to ground) with an HP-4815 Vector Impedance Meter.
>The resistance is found to be approximately 1400 ohms. Because the
>amplifier was adjusted to deliver the maximum available power of 100
>watts prior to the resistance measurement, the averaged resistance RLP
>looking into the plate (upstream from the network terminals) is also
>approximately 1400 ohms. Accordingly, a non-reactive 1400-ohm resistor
>is now connected across the input terminals of the pi-network tank
>circuit and source resistance ROS is measured looking rearward into

>the output terminals of the network. Resistance ROS was found to be 50
>ohms.

Quite explicit. Rated power into the rated Z load revealed a
conjugate basis Z match (afterall 50=50) or an image basis Z match
(50=50). The pi-network simply transformed the source/load. Anyone
skilled with the concept of the Smith Chart can immediately follow
that logical construct.

We even get the plate resistance which conforms to within published
specifications for the pair of tubes.

We even get the near classic result of a conjugate basis Z match
efficiency (however, only in the first pass approximation).

How asking the same question:

"Does Walt's data support the evidence of a Conjugate Match?"

migrates into responses to other issues is a strange dance. I ask "up
or down," and everyone wants to vote sideways.

>When you don't touch the plate and load capacitor and change from 50
>Ohms to a load with VSWR = 2, you violate Walt's conditions

I have not the vaguest idea where you got the idea that I changed
anything. The totality of my discussion never budged from steps 1 and
2 and I deliberately and clearly confined all matters there and
repeated them more than occasionally.

>In case of doubt use the forward power measurement technique,

I have, and the data I've asked from you was not intended for some
one-time design for a unique application. This is an Ham radio group,
and the object under consideration is an Ham transmitter. Feel free
to substitute freely among a similar class (frequency range, power
output) such that others might compare their own.

>when it
>changes under varying load, your amplifier doesnï¿½t behave as a 50 Ohms
>source.

This is the most curious statement that eventually comes down the
pike. It is like I am talking to a novice to explain:
"That is what the tuner is for!"

>Maybe I had to be more precise to
>mention the exceptions: forward power control loop as mentioned by
>Roy,

What Roy is describing is nothing close to Walt's hypothesis that I
have confined to a single point observation. No one has advanced
claims made that demonstrate:
1. Constant Z across all loads;
2. Constant Z across all frequencies;

3. Constant Power across all loads;
4. Constant Power across all frequencies.
No competent Ham expects that of any Ham transmitter.

Walt reported a 50 Ohm source Z from a tube rig. I have measured a 50 Ohm Z from two of my own transistor rigs. The difference in technology is not an issue. I have also been responsible for measuring RF power and source/load specifications within the chain of national standards laboratories. Stretching the term RF, this spanned from DC to 12GHz for power levels up to 100W. The sources across the board exhibited 50 Ohms Source Z.

Your own national lab is represented at:
http://www.vsl.nl/
They undoubtedly use the same reference citations as our National Institutes for Science and Technology.

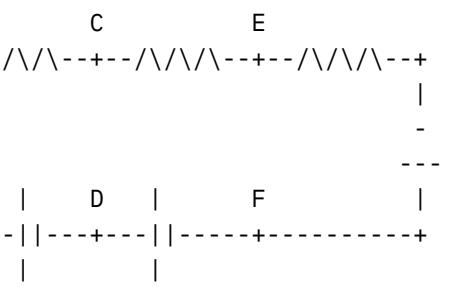
****

Putting the entirety of this discussion aside, and returning to your very special project with an 9 Ohm source of RF at 8 Mhz. How efficient was its operation feeding a 50 Ohm line to a 50 Ohm load? Can you document this with schematics, parts description, and measured data at key points from drain through to the load? This was the level of available resources that came with Walt's discussion.

73's
Richard Clark, KB7QHC

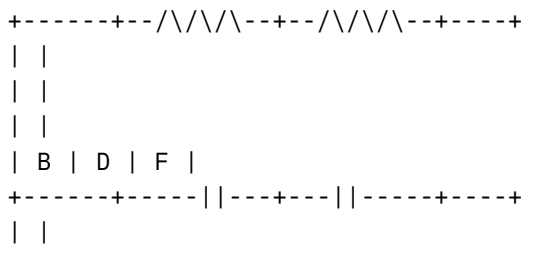
2286. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 00:33:07 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <3377e3ff-a08e-4c67-b5c9-440b6a48a0bd@i31g2000yqm.googlegroups.com>
Source record: 9136

On Jun 8, 6:30 am, joe <n...@domain.invalid> wrote:
> Keith Dysart wrote:
> > These simple thought experiments definitely helped my understanding.
> > Some of the assertions that have been made can be shown to be false
> > when tested with these waveforms and analysis.
>
> > ...Keith
>
> Here is a thought experiment for you.
>
>


>
> Four resistors, equal value.
> Four DC sources, equal value.
> Voltage A-B = 0, no power past here.
> Voltage C-D = 0, no power past here.
> Voltage E-F = 0, no power past here.
>
> No power crossing the boundaries on either side of the resistor between
> A and C. The resistor is not directly connected to a supply, how is it
> dissipating power, if any?
>
> (Yes, I do know the answer.)

Very nice. How about:



In any case, ABCD do not form a network, being, in fact, two
disjoint networks. All bets are off.

Consider:

There can be current flowing at C and at D, as well as a large voltage difference between C and D, but these have nothing to do with each other and are not an indication of energy flow.

For Cecil, using Google Groups, look for 'Options' and select 'Fixed Font'.

...Keith

2287. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 01:33:00 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <c4c011e6-d17d-45ea-9ee2-20806a89663d@a30g2000yqn.googlegroups.com>
Source record: 9137

On Jun 8, 8:54 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > It is too bad, because the time domain is quite enlightening.
>
> Nothing wrong with a time domain analysis but analyzing problems whose
> basic premises violate the laws of physics is a waste of my time and
> yours.

I assume that you do not consider that the problems you propose to be
ones "whose basic premises violate the laws of physics".

Consider then, the problem you propose in http://www.w5dxp.com/nointfr.htm.
A time domain analysis (http://sites.google.com/site/keithdysart/
radio6),
demonstrates that the analysis presented in http://www.w5dxp.com/nointfr.htm
results in the wrong answers.

Perhaps you could locate a flaw in the time domain analysis. Finding a
flaw
would pretty much settle the matter.

...Keith

2288. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 02:04:10 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <d62123b5-4868-4fab-884d-a581733d4f74@z8g2000yqz.googlegroups.com>
Source record: 9138

On Jun 8, 7:39 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 8, 10:57 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 8, 3:47 am, Richard Clark <kb7...@comcast.net> wrote:
>
> > > On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
>
> > > <keith.dys...@gmail.com> wrote:
> > > >The 100W forward and 50W reflected have no relation to actual powers
>
> > > From MECA, makers of Isolators - their application:
>
> > > The isolator is placed in the measurement path of a test bench between
> > > a signal source and the device under test (DUT) so that any
> > > reflections caused by any mismatches will end up at the termination of
> > > the isolator and not back into the signal source. This example also
> > > clearly illustrates the need to be certain that the termination at the
> > > isolated port is sufficient to handle 100% of the reflected power
> > > should the DUT be disconnected while the signal source is at full
> > > power. If the termination is damaged due to excessive power levels,
> > > the reflected signals will be directed back to the receiver because of
> > > the circular signal flow.
> > > ...
> > > MECA offers twenty-four models of isolators and circulators in both N
> > > and SMA-female connectors with average power ratings from 2 - 250
> > > watts.
>
> > Good day Richard,
>
> > You have located several examples from reputable vendors where the
> > behaviour of directional couplers is described in terms of power
> > in a forward and reflected wave. This model of behaviour works within
> > its limits and allows for convenient computation and prediction of
> > the behaviour. But all of these papers have the appropriate
> > discipline and do not ask the question "where does the reflected
> > energy go?" which is good, for this exceeds the limits of the
> > model.
>
> > As soon as one assigns tangible energy to the reflected wave, it
> > becomes reasonable to ask for an accounting of this energy and

> > the model is incapable of properly accounting for the energy.
>
> > Following this weakness back through the model, the root cause
> > is the attempt to assign tangible energy to the reflected wave.
> > Think of it as a reflected voltage or current wave and all will
> > be well, but assign power to it and eventually incorrect
> > conclusions will be drawn.
>
> > For those who understand this, and know that "where did the
> > reflected energy go?" is an invalid question, using the power
> > model within its limits will not cause difficulties. But for
> > those who are not careful, great difficulties arise and a lot
> > of fancy dancing is offered to work around the difficulties,
> > unsuccessfully.
>
> > Just for fun, here is a simple example.
>
> > 100V DC source, connected to a 50 ohm source resistor,
> > connected to 50 ohm transmission line, connected to a 50 ohm
> > load resistor. Turn on the source. A voltage step propagates
> > down the line to the load. The impedances are matched, so
> > there are no reflections. The source provides 100W. 100W is
> > dissipated in the source resistor. 100W is dissipated in the
> > load resistor. Energy moves along the transmission line
> > from the source to the load at the rate of 50W.
> > All is well.
>
> lets see, when steady state is reached you have 100v through 2 50ohm
> resistors in series i assume since you say the source provides 100w...
> that would mean the current is 1a and each resistor is dissipating
> 50w.

Ouch. I can't even get the arithmetic right. You are, of course,
correct. Fortunately, the rest of the examples do not attempt
to compute actual values.

> > Disconnect the load. A voltage step propagates back along
> > the line from the load to the source. In front of this
> > step current continues to flow. Behind the step, the
> > current is 0. When the step reaches the source there is
> > no longer any current flowing. The source is no longer
> > providing energy, the source resistor is dissipating
> > nothing, and neither is the load resistor.
>
> > Proponensts of the power model claim that energy is
> > still flowing down the line, being reflected from the
> > open end and flowing back to the source. Since the
> > source is clearly no longer providing energy, great
> > machinations are required to explain why the reflected
> > 'energy' is re-reflected to provide the forward 'energy'.
>

> why would there be power flowing down the line,

Exactly. And yet, were you to attach a DC-couple directional
wattmeter to the line, it would indicate 50W forward and 50W
reflected (using your corrected numbers).

> in this simple dc case
> once the voltage in the line equals the source voltage, which in this
> perfect case would be after one transient down the line, all is in
> equilibrium... and art is happy.
>
> HOWEVER!!! replace that dc source with an AC one and everything
> changes,

Not at all. The measurements and computations for forward and
reflected
power that work for AC, work perfectly well for DC, pulses, steps,
or pick your waveform. There is no magic related to AC.

> now there are forward and reflected waves continuously going
> down the line and back. your DC analysis is no longer valid as it is
> a very special case.

Not so. And if it were, at exactly what very low frequency does
the AC analysis begin to fail?

> now you have to go back to the general equations
> and use the length of the line to transform the open circuit back to
> the source based on the length of the line in wavelengths... for the
> specific case of the line being 1/4 wave long the open

The transformation properties apply only to sinusoidal AC (note, for
example, that the line length is expressed in wavelengths), but
reflection coefficients and the the computation of forward and
reflected voltages, currents and powers are waveshape independant.

When analyzing in the time domain, use the delay of the line to decide
the values of the signals to superposed. Doing this for sinusoids
will lead to exactly the same results that are expected from, for
example, 1/4 wave lines.

...Keith

2289. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 02:52:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e992703f-798d-464d-ace5-7a06bfcab7cd@u7g2000yqm.googlegroups.com>
Source record: 9139

On Jun 8, 6:28 pm, K1TTT <k1...@arrl.net> wrote:
> interference is nothing but what you observe after you superimpose two
> or more waves. the general principle at work is superposition, giving
> it more specific names like destructive or constructive interference
> is just describing the result that you observe.

Yes, interference is the result of superposition. Sometimes
superposition results in wave cancellation which is destructive
interference that redistributes the energy in the canceled waves in
the opposite direction in a transmission line - the only direction
that supports constructive interference. The point is that at an
impedance discontinuity in a transmission line, in the absence of a
local source, destructive interference in one direction *requires*
constructive interference in the other direction. That's how a Z0-
match redistributes all the reflected energy back toward the load
while none reaches the source. It is exactly how a 1/4WL thin-film
coating cancels reflections on a piece of non-reflective glass.

The important thing is that a power density equation exists that
predicts the energy flow as a result of superposition.

Maybe if you reviewed "Sec 4.3 Reflection Mechanics of Stub Matching"
in "Reflections", it will be more clear?
--
73, Cecil, w5dxp.com

2290. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 03:05:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <19d2a40a-d37b-465b-97c8-debb277df98f@x21g2000yqa.googlegroups.com>
Source record: 9140

On Jun 8, 8:33 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Perhaps you could locate a flaw in the time domain analysis. Finding a
> flaw would pretty much settle the matter.

Everything I covered is covered in "Optics", by Hecht. If you can
locate a flaw, you need to convince Hecht (and Born & Wolf) to expand
their reference books to cover your pet subjects that they consider
"of limited utility".
--
73, Cecil, w5dxp.com

2291. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 03:27:03 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <e5831b4e-bcbf-4479-bb6c-a8b15d1b37f5@x21g2000yqa.googlegroups.com>
Source record: 9141

On 8 jun, 22:33, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 8, 8:54 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > It is too bad, because the time domain is quite enlightening.
>
> > Nothing wrong with a time domain analysis but analyzing problems whose
> > basic premises violate the laws of physics is a waste of my time and
> > yours.
>
> I assume that you do not consider that the problems you propose to be
> ones "whose basic premises violate the laws of physics".
>
> Consider then, the problem you propose inhttp://www.w5dxp.com/nointfr.htm.
> A time domain analysis (http://sites.google.com/site/keithdysart/
> radio6),
> demonstrates that the analysis presented inhttp://www.w5dxp.com/nointfr.htm
> results in the wrong answers.
>
> Perhaps you could locate a flaw in the time domain analysis. Finding a
> flaw
> would pretty much settle the matter.
>
> ...Keith

Hi Cecil. Yes, good comment, definitions of terms specifying their
meanings in each context avoid innecessary disagreements. I think that
it is an essential predialogal "must".

Keith: I just saw your web page => http://sites.google.com/site/keithdysart/radio3
where you seems disagree (please correct me if I am wrong) with our
ideas about superposition principle. I search examples in the Net -for
not paid the price of my hard and slow translations ;>)- What do you
think about them?

http://www.physics.ucla.edu/demoweb/ntnujava/waveSuperposition/waveSuperposition.html

http://www.phy.ntnu.edu.tw/ntnujava/index.php?topic=18.0

73

Miguel Ghezzi - LU6ETJ

2292. Simple hack to get $1000 to your home.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 04:35:33 UTC
From: SUHASINI <texaspeso20@gmail.com>
Message-ID: <37eed947-48a6-406b-8c70-5e18ffa6f54e@z13g2000prh.googlegroups.com>
Source record: 9142

Simple hack to get $1000 to your home at http://latestnewsupdate.tk

Due to high security risks,i have hidden the cheque link in an
image. in that website on left side below search box, click on image
and enter your name and address where you want to receive your
cheque.please dont tell to anyone.

2293. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 07:53:32 UTC
From: VK2KC <vk2kcjohn@gmail.com>
Message-ID: <0MHPn.1877$Ls1.573@news-server.bigpond.net.au>
Source record: 9143

Bob,
Have just wound a coil on 4" grey UPVC, but before I did I whacked it into the microwave, and it certainly didn't show any signs of warming.
Maybe they have removed the carbon?

73
John
VK2KC
"Bob Bob" <bob3bob3@bigpond.com> wrote in message
news:i8o0e7-da4.ln1@p1600bob.personal.bigpond.net...
> Hi John
>
> As I remember too if you use plastic conduit (in VK) the orange stuff
> has no carbon but the grey stuff does. ie it has carbon mixed in when it
> is extruded.
>
> I don't know how good that info is, it's comes from way back in
> anecdotal land. I just assume grey stuff is not to be used for radio
> antenna system!
>
> Not directly on topic but may be related.
>
> Cheers Bob VK2YQA
>
> VK2KC wrote:
>>
>> My question is, does carbon fibre absorb RF?
>>
>>
>

2294. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 11:44:58 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <b2e80cab-758f-4a4f-9503-ba36f81d9aa3@x21g2000yqa.googlegroups.com>
Source record: 9144

On Jun 8, 11:27 pm, lu6etj <lu6...@gmail.com> wrote:
> On 8 jun, 22:33, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 8, 8:54 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > It is too bad, because the time domain is quite enlightening.
>
> > > Nothing wrong with a time domain analysis but analyzing problems whose
> > > basic premises violate the laws of physics is a waste of my time and
> > > yours.
>
> > I assume that you do not consider that the problems you propose to be
> > ones "whose basic premises violate the laws of physics".
>
> > Consider then, the problem you propose inhttp://www.w5dxp.com/nointfr.htm.
> > A time domain analysis (http://sites.google.com/site/keithdysart/
> > radio6),
> > demonstrates that the analysis presented inhttp://www.w5dxp.com/nointfr.htm
> > results in the wrong answers.
>
> > Perhaps you could locate a flaw in the time domain analysis. Finding a
> > flaw
> > would pretty much settle the matter.
>
> > ...Keith
>
> Hi Cecil. Yes, good comment, definitions of terms specifying their
> meanings in each context avoid innecessary disagreements. I think that
> it is an essential predialogal "must".
>
> Keith: I just saw your web page =>http://sites.google.com/site/keithdysart/radio3
> where you seems disagree (please correct me if I am wrong) with our
> ideas about superposition principle. I search examples in the Net -for
> not paid the price of my hard and slow translations ;>)- What do you
> think about them?
>
> http://www.physics.ucla.edu/demoweb/ntnujava/waveSuperposition/waveSu...
>

> http://www.phy.ntnu.edu.tw/ntnujava/index.php?topic=18.0

Superposition works just fine for voltage and current, but is mostly
invalid for power. Attempting to apply superposition to power will
lead to inaccurate results.

From any circuit analysis, superposition is used to find the voltages
and the currents, and then the resulting total voltages and currents
are
used to compute powers. Doing it in the other order does not work.

I am curious as to what I wrote on the web page that suggested
disagreement with the superposition principle.

...Keith

2295. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 11:49:25 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <d3ccc173-9a89-4670-a293-70d16a162500@g19g2000yqc.googlegroups.com>
Source record: 9145

On Jun 9, 7:44 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 8, 11:27 pm, lu6etj <lu6...@gmail.com> wrote:
>
>
>
>
>
> > On 8 jun, 22:33, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > On Jun 8, 8:54 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > > It is too bad, because the time domain is quite enlightening.
>
> > > > Nothing wrong with a time domain analysis but analyzing problems whose
> > > > basic premises violate the laws of physics is a waste of my time and
> > > > yours.
>
> > > I assume that you do not consider that the problems you propose to be
> > > ones "whose basic premises violate the laws of physics".
>
> > > Consider then, the problem you propose inhttp://www.w5dxp.com/nointfr.htm.
> > > A time domain analysis (http://sites.google.com/site/keithdysart/
> > > radio6),
> > > demonstrates that the analysis presented inhttp://www.w5dxp.com/nointfr.htm
> > > results in the wrong answers.
>
> > > Perhaps you could locate a flaw in the time domain analysis. Finding a
> > > flaw
> > > would pretty much settle the matter.
>
> > > ...Keith
>
> > Hi Cecil. Yes, good comment, definitions of terms specifying their
> > meanings in each context avoid innecessary disagreements. I think that
> > it is an essential predialogal "must".
>
> > Keith: I just saw your web page =>http://sites.google.com/site/keithdysart/radio3
> > where you seems disagree (please correct me if I am wrong) with our
> > ideas about superposition principle. I search examples in the Net -for
> > not paid the price of my hard and slow translations ;>)- What do you
> > think about them?
>

> >http://www.physics.ucla.edu/demoweb/ntnujava/waveSuperposition/waveSu...
>
> >http://www.phy.ntnu.edu.tw/ntnujava/index.php?topic=18.0
>
> Superposition works just fine for voltage and current, but is mostly
> invalid for power. Attempting to apply superposition to power will
> lead to inaccurate results.
>
> From any circuit analysis, superposition is used to find the voltages
> and the currents, and then the resulting total voltages and currents
> are
> used to compute powers. Doing it in the other order does not work.
>
> I am curious as to what I wrote on the web page that suggested
> disagreement with the superposition principle.
>
> ...Keith

I should have mentioned that the two references you provide are
superposing amplitude (i.e. voltage or current) and not power.

2296. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 12:33:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <60804cd7-0e77-4970-8a4c-117c6c05f9d0@w31g2000yqb.googlegroups.com>
Source record: 9146

On Jun 9, 6:44 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Superposition works just fine for voltage and current, but is mostly
> invalid for power. Attempting to apply superposition to power will
> lead to inaccurate results.

It is invalid to try to use superposition on scalar values. There is a particular way to obtain the total power from the superposition of two EM waves. It's called the power density equation and contains an interference term, the sign of which tells us whether destructive, constructive, or zero interference results when the two EM waves are superposed. It agrees perfectly with calculating the total power from the voltage and current end products of superposition. It would explain everything that Roy is missing in his food-for-thought article. I first saw this equation in Dr. Best's QEX article.

Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)

where A is the angle between the electric fields (voltages) of the two superposed waves.

We get the same equation when we square the s-parameter equations.

(b1)^2 = (s11*a1 + s12*a2)^2, where (b1)^2 is the reflected power toward the load.

(s11*a1 + s12*a2)^2 = (s11*a1)^2 + (s12*a2)^2 + 2(s11*a1)(s12*a2)

If it is not obvious, this is the same equation as the power density equation above. The interference term in the squared s-parameter equation contains phasors whose dot product involves cos(A), where A is the angle between those two phasors. More s-parameter information available below - Please note pages 16 and 17 involving powers.

http://www.sss-mag.com/pdf/hpan95-1.pdf
--
73, Cecil, w5dxp.com

2297. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 12:55:29 UTC
From: joe <none@domain.invalid>
Message-ID: <huo2o2$586$1@speranza.aioe.org>
Source record: 9147

Keith Dysart wrote:
> On Jun 8, 11:27 pm, lu6etj <lu6...@gmail.com> wrote:
>> On 8 jun, 22:33, Keith Dysart <keith.dys...@gmail.com> wrote:
>>
>>
>>
>>
>>
>>> On Jun 8, 8:54 am, Cecil Moore <w5...@hotmail.com> wrote:
>>>> On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>>>>> It is too bad, because the time domain is quite enlightening.
>>>> Nothing wrong with a time domain analysis but analyzing problems whose
>>>> basic premises violate the laws of physics is a waste of my time and
>>>> yours.
>>> I assume that you do not consider that the problems you propose to be
>>> ones "whose basic premises violate the laws of physics".
>>> Consider then, the problem you propose inhttp://www.w5dxp.com/nointfr.htm.
>>> A time domain analysis (http://sites.google.com/site/keithdysart/
>>> radio6),
>>> demonstrates that the analysis presented inhttp://www.w5dxp.com/nointfr.htm
>>> results in the wrong answers.
>>> Perhaps you could locate a flaw in the time domain analysis. Finding a
>>> flaw
>>> would pretty much settle the matter.
>>> ...Keith
>> Hi Cecil. Yes, good comment, definitions of terms specifying their
>> meanings in each context avoid innecessary disagreements. I think that
>> it is an essential predialogal "must".
>>
>> Keith: I just saw your web page =>http://sites.google.com/site/keithdysart/radio3
>> where you seems disagree (please correct me if I am wrong) with our
>> ideas about superposition principle. I search examples in the Net -for
>> not paid the price of my hard and slow translations ;>)- What do you
>> think about them?
>>
>> http://www.physics.ucla.edu/demoweb/ntnujava/waveSuperposition/waveSu...
>>
>> http://www.phy.ntnu.edu.tw/ntnujava/index.php?topic=18.0
>
> Superposition works just fine for voltage and current, but is mostly
> invalid for power. Attempting to apply superposition to power will
> lead to inaccurate results.
>
> From any circuit analysis, superposition is used to find the voltages

> and the currents, and then the resulting total voltages and currents
> are
> used to compute powers. Doing it in the other order does not work.
>
> I am curious as to what I wrote on the web page that suggested
> disagreement with the superposition principle.
>
> ...Keith

I think the issue is the assertion there is no energy flow when I or V is 0 is where people disagree.

I've tried to show with very simple (EE101) circuits that just because v = 0 at some points in a circuit there is still energy flowing.

But, nobody apparently saw that.

The leap from v=0 to energy flow=0 is the source of contention. Just because the amount of power sourced in one part of a circuit matches the power dissipated in that portion does not mean that all the power sourced in a portion of a circuit stayed in that portion to be dissipated there. The whole rest of the circuit is involved.

When you do your Spice evaluation you only see the _net_ results of the underlaying evaluation and note the _apparent_ lack of energy flow.

By selecting situations that give the results you want, you are reinforcing the misperception. If the generators did not put out identical pulses would you see the same lack of energy transfer?

A linear system, where superposition applies should not change based on minor changes to the signals in it.

Limiting any analysis to steady state sine waves or uniform pulse trains may cause you to reach the wrong conclusions.

2298. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 13:26:10 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <e4940fd5-1d7a-449e-91b9-c78fb61a8ed1@c10g2000yqi.googlegroups.com>
Source record: 9148

On Jun 8, 11:05 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 8, 8:33 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Perhaps you could locate a flaw in the time domain analysis. Finding a
> > flaw would pretty much settle the matter.
>
> Everything I covered is covered in "Optics", by Hecht. If you can
> locate a flaw, you need to convince Hecht (and Born & Wolf) to expand
> their reference books to cover your pet subjects that they consider
> "of limited utility".

Let us follow the chain:
1. Hecht writes a book on OPTICS that includes some models.
2. Cecil reads the book.
3. Cecil interprets his readings.
4. Cecil applies his interpretations of the models to transmission
lines.
5. Cecil draws some conclusions on the behaviours.
6. Keith, using basic circuit theory, reflection coefficients and
analysis in the time domain, shows that Cecil's conclusions do not
align with expected behaviours.
7. Cecil says any disagreement with Cecil's conclusions is a
disagreement
with Hecht.

I suggest the error is more likely in steps 2 to 5; Hecht is, after
all,
well respected.

In particular, 4. seems like a candidate. It is quite possible that
Hecht understood the limitations of his models and that these models
do not align with the detailed behaviour on a transmission line,
though
they might be completely adequate for the behaviours with light that
Hecht was addressing in Optics.

One must always be careful when applying a model in a different
domain.

Cecil

...Keith

2299. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 16:23:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <896c5e4b-b79c-4600-a3ae-d5667fc7d454@j4g2000yqh.googlegroups.com>
Source record: 9149

On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> 6. Keith, using basic circuit theory, reflection coefficients and
>   analysis in the time domain, shows that Cecil's conclusions do not
>   align with expected behaviours.

I must have missed the posting where you proved RF waves do not obey the *average* power density (irradiance) equation from "Optics", by Hecht. Neither Hecht nor I have ever said anything about instantaneous virtual power except that it is "of limited usefulness". Nothing you have posted about instantaneous virtual power has disagreed or disproved anything that I have said about *average* power where I simply quoted Hecht. I suspect that your instantaneous virtual power must necessarily obey the conservation of energy principle but I am not going to waste my time trying to prove it. Hecht and I seem to agree 100% that *average* energy flow obeys the laws of physics.

May I suggest that you read "Optics", by Hecht and post anything with which you disagree. I, and others, stopped taking you seriously when you said that an equal magnitude of the forward Poynting vector and the reflected Poynting vector proves that zero energy is crossing the boundary (without adding that it is zero NET energy). You have probably ruined your technical reputation with such nonsense.
--
73, Cecil, w5dxp.com

2300. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 18:00:22 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8fa903d0-875a-4770-8244-172899507eb4@x27g2000yqb.googlegroups.com>
Source record: 9150

On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> 6. Keith, using basic circuit theory, reflection coefficients and
>   analysis in the time domain, shows that Cecil's conclusions do not
>   align with expected behaviours.

I had to run an errand and, as usual, the answer popped into my head.
The problem has to do with the definition of "power". If, in a flat
system, one measures 100 watts at 100 points between the source and
the load, does that mean that there are 10,000 watts of power
available to be dissipated or radiated? Of course not! That is your
conceptual error.

Keith, your instantaneous virtual power is not *real* power until it
is dissipated (or radiated). Thus your instantaneous virtual power is
not required to obey the conservation of energy principle and all bets
are off. If your instantaneous virtual power seems to violate the laws
of physics, it is simply because you are counting it too many times or
too few times.

Instantaneous virtual power is *absolutely irrelevant* until it is
dissipated or radiated. In my resistive-source/resistive-load (no
radiation) example, nothing of value actually happens until power is
dissipated in one of the two resistors. I have accounted for all the
power being dissipated in the two resistors. Your V(t)*V(t)
instantaneous power doesn't matter unless it is being dissipated and
surprise!, it is not, i.e. your instantaneous power doesn't *count*
until it is dissipated. Please feel free to try again.
--
73, Cecil, w5dxp.com

2301. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 18:08:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <huolaarmr1@news.jpl.nasa.gov>
Source record: 9156

VK2KC wrote:
> Bob,
> Have just wound a coil on 4" grey UPVC, but before I did I whacked it into
> the microwave, and it certainly didn't show any signs of warming.
> Maybe they have removed the carbon?
>

basically, RF loss is not a controlled parameter for manufacturing.
Sometimes it might be fine, other times not.

The Tesla Coil builders use lots of PVC pipe as coil forms (as well as
things like cardboard concrete forms: Sonotube(r)) and there is huge
variability in dielectric strength. I would imagine that RF loss also
varies substantially.

If you're really obsessing, the loss varies quite strongly with
humidity. PVC readily takes up and releases moisture from the atmosphere.

2302. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 18:18:42 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <huolsk$1k3$1@news.eternal-september.org>
Source record: 9151

Richard Clark Inscribed thus:

> How asking the same question:
>
> "Does Walt's data support the evidence of a Conjugate Match?"
>
> 73's
> Richard Clark, KB7QHC

Having struggled to keep up and understand the very different points of view, indeed very confusing at times, I'm going to come down on the side of "Yes, Walt's data does support evidence of a Conjugate Match."

--
Best Regards:
Baron.

2303. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 18:37:18 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b7f9731d-bf83-4e2d-8f4b-c1824cce14bd@i31g2000yqm.googlegroups.com>
Source record: 9152

On 9 jun, 13:23, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > 6. Keith, using basic circuit theory, reflection coefficients and
> >   analysis in the time domain, shows that Cecil's conclusions do not
> >   align with expected behaviours.
>
> I must have missed the posting where you proved RF waves do not obey
> the *average* power density (irradiance) equation from "Optics", by
> Hecht. Neither Hecht nor I have ever said anything about instantaneous
> virtual power except that it is "of limited usefulness". Nothing you
> have posted about instantaneous virtual power has disagreed or
> disproved anything that I have said about *average* power where I
> simply quoted Hecht. I suspect that your instantaneous virtual power
> must necessarily obey the conservation of energy principle but I am
> not going to waste my time trying to prove it. Hecht and I seem to
> agree 100% that *average* energy flow obeys the laws of physics.
>
> May I suggest that you read "Optics", by Hecht and post anything with
> which you disagree. I, and others, stopped taking you seriously when
> you said that an equal magnitude of the forward Poynting vector and
> the reflected Poynting vector proves that zero energy is crossing the
> boundary (without adding that it is zero NET energy). You have
> probably ruined your technical reputation with such nonsense.
> --
> 73, Cecil, w5dxp.com

Good evening. (sunny and cold day, here)

> Superposition works just fine for voltage and current,

And electromagnetic waves... We also study TL in physics with a
electromagnetic model (E-H fields).

> but is mostly
> invalid for power. Attempting to apply superposition to power will
> lead to inaccurate results.

Yes. As Cecil pointed, power not apply to superposition because it is
a scalar magnitude.

> I am curious as to what I wrote on the web page that suggested
> disagreement with the superposition principle.

Because my interpretation of this sentences on the wave page:

> What happens when the signals from two identical generators
> at each end of a transmission line collide in the middle?

Term "collide" without quotes suggest (to me) interaction (as particles). I learnt travelling waves do not "collides" in space (or linear mediums), simply they crossing each other (as ghosts).(I do not be sure about this translation)
or, quoting UCLA web page note, "Wave maintain their integrity upon overlapping (without themselves being permanently changed)".

> Does energy cross the midpoint of the transmission line?
> .....
> The plot shows that the voltage in the middle of the transmission
> line is always zero (that's femtoVolts on the left, not a bad
> representation for 0 in a simulation). Recalling that Power =
> (Volts times Amps), if the voltage is always 0, then there
> is no power. With no power, no energy is crossing the
> middle of the transmission line.

My interpretation of last sentence (and reading technical controversy with Cecil and K1TT in thread) make me think that it does not match to superposition principle (except when there are not any travelling waves in system, of course). (I do not considered here spice application to travelling wave model issues).

Please tell me if you agree with Java applets linked -applied to TL travelling waves- to clarify my understanding of your proposition.

73

Miguel Ghezzi - LU6ETJ

PS: I hope to have some time today to make simple test of my own about Cecil, and Roy's web page examples cited on early posts of this thread.

2304. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 18:42:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5omv06tl7gukm4s6po7f2hu4d9vrcephvi@4ax.com>
Source record: 9153

On Wed, 09 Jun 2010 19:18:42 +0100, Baron
<baron.nospam@linuxmaniac.nospam.net> wrote:

>Having struggled to keep up and understand the very different points of
>view, indeed very confusing at times, I'm going to come down on the
>side of "Yes, Walt's data does support evidence of a Conjugate Match."

Hi OM,

Thanks. Clear answers to clear questions are rare.

So:
2ï¿½ "Walt's data does support evidence of a Conjugate Match"
and
ï¿½ "Walt's data does not support evidence of a Conjugate Match"

As for confusion - the split vote must be proxy for the "silent
majority." Or, that majority cannot risk exposure. Shame? The only
issue is either with the data or the expression "Conjugate Match."
None seem anxious to avoid discussion of the expression - in fact that
conversation runs like a party line.

On the other hand, challenge the data? The numbers were cribbed? The
test gear was in the "off" position during a test? No. The data
seems to make sense. Competing data for the same initial conditions?
Hark! The scientific method rises from slumber with interest.

Nope, nada, negatory, no way, not going there.

Scientific method returns to its narcoleptic state.

73's
Richard Clark, KB7QHC

2305. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 18:48:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <09ov065r1lkmoq9o7l85fan31h3bmf2jh5@4ax.com>
Source record: 9154

On Wed, 9 Jun 2010 11:37:18 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Good evening. (sunny and cold day, here)

Hi Miguel,

I've been wondering about your time of day and climate comments until
I realized you live in the outskirts of Buenos Aires. I visited there
a few years ago (and Iguazï¿½ Cataratas). Amazing city. (Most
stupendous water falls imaginable.)

73's
Richard Clark, KB7QHC

2306. Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 19:00:37 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni0vn5p.3ik.gsm@cable.mendelson.com>
Source record: 9155

If you have a resonant antenna, supposedly all of the power is radiated.

(SWR 1:1)

If you have a nonresonant antenna, some of the power is reflected back to
the transmitter.

(SWR > 1:1)

If you connect a tuner and it is "tuned", none of the power is reflected
back to the transmitter.

(SWR at transmitter 1:1, at antenna still > 1:1)

Obviously it has to go somewhere.

Where?

If you are designing a tuner, where would you design it to go?

Thanks in advance

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
I do multitasking. If that bothers you, file a complaint and I will start
ignoring it immediately.

2307. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 19:28:03 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9337920815Fnonenowhere@61.9.191.5>
Source record: 9157

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in
news:slrni0vn5p.3ik.gsm@cable.mendelson.com:

Geoffrey,

I have bad news for you, your post is based heavily on misconceptions,
archetypal ham myths even.

I wrote a short article entitled "A simple VSWR analysis without mirrors"
at http://vk1od.net/blog/?p=1259 , which analyses a mismatched line example
without resorting to dodgy concepts often (and almost exlusively) employed
by hams. The article does deal with why there is a reflected wave, and the
result of that reflected wave on line loss and transmitter loading.

IMHO, you would do best by starting with a reputable text book, and
studying the topic. Certainly, the S/N ratio in ham forums is low, 'facts'
seem to be determined by vote, and your wrong concepts are more likely to
be reinforced than seriously challenged.

Owen

2308. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 19:36:59 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <huoqfcbfj1@news.eternal-september.org>
Source record: 9158

Geoffrey S. Mendelson Inscribed thus:

> If you have a resonant antenna, supposedly all of the power is
> radiated.

Yes

> (SWR 1:1)

With respect to what !

> If you have a nonresonant antenna, some of the power is reflected back
> to the transmitter.
>
> (SWR > 1:1)
>
> If you connect a tuner and it is "tuned", none of the power is
> reflected back to the transmitter.
>
> (SWR at transmitter 1:1, at antenna still > 1:1)
>
> Obviously it has to go somewhere.
>
> Where?

Its radiated, less losses.

> If you are designing a tuner, where would you design it to go?

That would depend upon desired system characteristics.

> Thanks in advance
>
> Geoff.
>

A antenna at resonance does not necessarily match the feeder impedance !
The whole idea of a tuner is to make one end match the other.
Stating a VSWR of unity implies a 50 ohm measurement system, which an
antenna at resonance rarely is.

73's
--
Best Regards:
Baron.

2309. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 19:44:53 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <SIKdnRbebLykcpLRnZ2dnUVZ_tGdnZ2d@giganews.com>
Source record: 9159

Geoffrey S. Mendelson wrote:
> If you have a resonant antenna, supposedly all of the power is radiated.
>
> (SWR 1:1)
>
> If you have a nonresonant antenna, some of the power is reflected back to
> the transmitter.
>
> (SWR > 1:1)
>
> If you connect a tuner and it is "tuned", none of the power is reflected
> back to the transmitter.
>
> (SWR at transmitter 1:1, at antenna still > 1:1)
>
> Obviously it has to go somewhere.
>
> Where?
>
> If you are designing a tuner, where would you design it to go?
>
> Thanks in advance
>
> Geoff.

All of the power produced by a transmitter is either radiated or
dissipated as heat, period. But you'll never understand where the
"reflected power" goes until you understand where it comes from.

Consider a 100 watt transmitter connected to a 50 ohm dummy load or
antenna via a half wavelength of 50 ohm lossless transmission line.

The transmitter sees an impedance of 50 ohms resistive.
The transmitter delivers 100 watts to the transmission line.
The transmission line delivers 100 watts to the load.
The load dissipates 100 watts.
The VSWR on the line is 1:1
The "forward power" in the transmission line is 100 watts.
The "reverse power" in the transmission line is zero.

Ok so far? Now replace the transmission line with one having 200 ohm
impedance.

The transmitter sees an impedance of 50 ohms resistive.
The transmitter delivers 100 watts to the transmission line.
The transmission line delivers 100 watts to the load.

The load dissipates 100 watts.
The VSWR on the line is 4:1.
The "forward power" in the transmission line is 156.25 watts.
The "reverse power" in the transmission line is 56.25 watts.

By changing the line impedance, we somehow created an extra 56.25 watts of "forward power". Neither the transmitter nor the load was aware of this wonderful event, since the transmitter sees the same load impedance as before, and the load sees the same source impedance. The transmitter is delivering exactly the same amount of power as before, and the load is dissipating the same amount. (If the transmission line had loss, it would have increased very slightly, but probably not enough to measure, and certainly much, much less than 56 watts.)

Likewise, neither the transmitter nor the load knows anything about the new "reverse power" which was created at the same time.

So the answer to your question is that the "reverse power" goes to wherever the new excess "forward power" comes from. Once you figure out where that is, you'll have a better understanding of the topic than nearly everyone who has been arguing on this forum about it for years.

As for a tuner, it has the magical property of having different amounts of "forward power" and "reverse power" at its input and output when the amount of actual power flowing is the same on both sides (neglecting tuner loss). So it can create or destroy "forward power" as well as "reverse power" by a simple twist of its knobs. Little does the tuner, transmitter, or load know that as soon as "reverse power" is created, interminable arguments will take place debating about where it goes.

I now return you to your regularly scheduled programming. . .

Roy Lewallen, W7EL

2310. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 22:23:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <an4016d9sq6rjoqnlr7ggqthkmohab9mk0@4ax.com>
Source record: 9160

On Wed, 9 Jun 2010 19:00:37 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@cable.mendelson.com> wrote:

>If you are designing a tuner, where would you design it to go?

Hi Geoff,

You would put it closer to the antenna.

>If you connect a tuner and it is "tuned", none of the power is reflected
>back to the transmitter.
>Obviously it has to go somewhere.

From the perspective of the transmission line in between, when it hits
the discontinuity of the tuner, it is reflected back to the antenna.
The antenna drains away some of that power (just as it did in the
original pass). The process repeats (the antenna is still partially
reflective) and is further sustained with new cycles of energy.

There are finer details that shift these dynamics.

73's
Richard Clark, KB7QHC

2311. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 22:38:54 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hup55ujuq1@news.jpl.nasa.gov>
Source record: 9161

Geoffrey S. Mendelson wrote:
> If you have a resonant antenna, supposedly all of the power is radiated.
>
> (SWR 1:1)
>
> If you have a nonresonant antenna, some of the power is reflected back to
> the transmitter.
>
> (SWR > 1:1)
>
> If you connect a tuner and it is "tuned", none of the power is reflected
> back to the transmitter.
>
> (SWR at transmitter 1:1, at antenna still > 1:1)
>
> Obviously it has to go somewhere.
Differentiate between an antenna that happens to present the wrong non-reactive resistance... the tuner is just a transformer (whether done with linked magnetic fields, or by a narrow band matching network of Ls and Cs)

and an antenna that presents a reactive feedpoint impedance.
In this case: energy circulates between the tuning network and the antenna.

Say your antenna presents a Z that is inductive and you put a parallel capacitor across the feed to exactly cancel the "inductance". What's really happening is that you have the equivalent of an LC tank where the energy moves back and forth between L and C every cycle. In the classic LC, the energy moves between the magnetic field of the L and the electric field of the C. In the antenna case, it's somewhat more complex: the antenna stores energy in the near field in both electric and magnetic fields.

That answers the question...
The problem is that nothing is lossless, so as it moves, there's a loss. If it's a resistive loss, it goes as I^2, so doubling the current results in 4 times the loss. And, if you have an antenna with high stored energy (about which more, later), this square of the current means bad news.

Many antennas don't have an explicit separate matching network, but do the cancelling by doing it within the antenna structure: say by changing element lengths, etc... so now that "circulating current" is circulating between different parts of the antenna.

In fact, the ration between that stored energy and the amount flowing "through" (i.e. radiated away) is related to the directivity of the antenna: high directivity antennas have high stored energy (large magnetic and electric fields): the ratio of stored to radiated energy is "antenna Q" (analogous to the stored energy in a LC circuit leading to resonant rise).

So, high directivity = high stored energy = high circulating energy = high I2R losses.

It circulates between tuner and antenna.

>
> Where?
>
> If you are designing a tuner, where would you design it to go?
>
> Thanks in advance
>
> Geoff.
>

2312. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 23:05:02 UTC
From: Bob Bob <bob3bob3@bigpond.com>
Message-ID: <c8h5e7-rse.ln1@p1600bob.personal.bigpond.net>
Source record: 9162

Tnxs John

Good to know...

Cheers Bob VK2YQA

VK2KC wrote:
> Bob,
> Have just wound a coil on 4" grey UPVC, but before I did I whacked it into
> the microwave, and it certainly didn't show any signs of warming.
> Maybe they have removed the carbon?
>

2313. Re: Carbon Fibre

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-09 23:05:02 UTC
From: Bob Bob <bob3bob3@bigpond.com>
Message-ID: <7fh5e7-jte.ln1@p1600bob.personal.bigpond.net>
Source record: 9163

Hi Jim

Even 101 nylon has a problem like that. When you machine it after its
been sitting on the shelf for a few months you find the diameter has
increased from water absorbtion.

Cheers Bob

Jim Lux wrote:

>
> If you're really obsessing, the loss varies quite strongly with
> humidity. PVC readily takes up and releases moisture from the atmosphere.

2314. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 02:11:37 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <e0942cf4-a4a3-4b62-bb0f-fed75e6a7bba@y4g2000yqy.googlegroups.com>
Source record: 9164

On Jun 9, 8:33 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 9, 6:44 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Superposition works just fine for voltage and current, but is mostly
> > invalid for power. Attempting to apply superposition to power will
> > lead to inaccurate results.
>
> It is invalid to try to use superposition on scalar values.

You may wish to rethink this assertion, otherwise...

Go.... Do not pass Go. Do not collect 200$.

...Keith

2315. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 02:21:33 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <6db0d631-271f-4e9c-a25d-9cf412428fc9@e5g2000yqn.googlegroups.com>
Source record: 9165

On Jun 9, 8:55 am, joe <n...@domain.invalid> wrote:
> Keith Dysart wrote:
> > On Jun 8, 11:27 pm, lu6etj <lu6...@gmail.com> wrote:
> >> On 8 jun, 22:33, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> >>> On Jun 8, 8:54 am, Cecil Moore <w5...@hotmail.com> wrote:
> >>>> On Jun 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> >>>>> It is too bad, because the time domain is quite enlightening.
> >>>> Nothing wrong with a time domain analysis but analyzing problems whose
> >>>> basic premises violate the laws of physics is a waste of my time and
> >>>> yours.
> >>> I assume that you do not consider that the problems you propose to be
> >>> ones "whose basic premises violate the laws of physics".
> >>> Consider then, the problem you propose inhttp://www.w5dxp.com/nointfr.htm.
> >>> A time domain analysis (http://sites.google.com/site/keithdysart/
> >>> radio6),
> >>> demonstrates that the analysis presented inhttp://www.w5dxp.com/nointfr.htm
> >>> results in the wrong answers.
> >>> Perhaps you could locate a flaw in the time domain analysis. Finding a
> >>> flaw
> >>> would pretty much settle the matter.
> >>> ...Keith
> >> Hi Cecil. Yes, good comment, definitions of terms specifying their
> >> meanings in each context avoid innecessary disagreements. I think that
> >> it is an essential predialogal "must".
>
> >> Keith: I just saw your web page =>http://sites.google.com/site/keithdysart/radio3
> >> where you seems disagree (please correct me if I am wrong) with our
> >> ideas about superposition principle. I search examples in the Net -for
> >> not paid the price of my hard and slow translations ;>)- What do you
> >> think about them?
>
> >>http://www.physics.ucla.edu/demoweb/ntnujava/waveSuperposition/waveSu...
>
> >>http://www.phy.ntnu.edu.tw/ntnujava/index.php?topic=18.0
>
> > Superposition works just fine for voltage and current, but is mostly
> > invalid for power. Attempting to apply superposition to power will
> > lead to inaccurate results.
>
> > From any circuit analysis, superposition is used to find the voltages
> > and the currents, and then the resulting total voltages and currents
> > are
> > used to compute powers. Doing it in the other order does not work.

>
> > I am curious as to what I wrote on the web page that suggested
> > disagreement with the superposition principle.
>
> > ...Keith
>
> I think the issue is the assertion there is no energy flow when I or V
> is 0 is where people disagree.
>
> I've tried to show with very simple (EE101) circuits that just because v
> = 0 at some points in a circuit there is still energy flowing.
>
> But, nobody apparently saw that.
>
> The leap from v=0 to energy flow=0 is the source of contention. Just
> because the amount of power sourced in one part of a circuit matches the
> power dissipated in that portion does not mean that all the power
> sourced in a portion of a circuit stayed in that portion to be
> dissipated there. The whole rest of the circuit is involved.
>
> When you do your Spice evaluation you only see the _net_ results of the
> underlaying evaluation and note the _apparent_ lack of energy flow.
>
> By selecting situations that give the results you want, you are
> reinforcing the misperception. If the generators did not put out
> identical pulses would you see the same lack of energy transfer?

Of course not, because then there would be. And the measurement of
voltage and current would show it to be so. P=VI holds.

If one selects a V and I that are not appropriately related then one
does not compute a useful power, though the units may still be J/s.
As an illustrative example, if I measure the voltage across my stove
and the current through my light, I can multiply them together to
get watts, but it does not mean much.

> A linear system, where superposition applies should not change based on
> minor changes to the signals in it.

Agreed. The computations done with the altered signals will
successfully
predict the altered outcome.

> Limiting any analysis to steady state sine waves or uniform pulse trains
> may cause you to reach the wrong conclusions

Yes, and no. I suggest that the models that are claimed to
successfully
predict the behaviour for sinusoids should also successfully predict
the
behaviour for simpler examples. Otherwise the models are suspect. So I
use the simpler examples to show that the models break down.

...Keith

2316. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 02:29:52 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <937c37b1-51bb-4026-9107-2f4f812ab34b@w31g2000yqb.googlegroups.com>
Source record: 9166

On Jun 9, 12:23 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > 6. Keith, using basic circuit theory, reflection coefficients and
> >   analysis in the time domain, shows that Cecil's conclusions do not
> >   align with expected behaviours.
>
> I must have missed the posting where you proved RF waves do not obey
> the *average* power density (irradiance) equation from "Optics", by
> Hecht. Neither Hecht nor I have ever said anything about instantaneous
> virtual power except that it is "of limited usefulness". Nothing you
> have posted about instantaneous virtual power has disagreed or
> disproved anything that I have said about *average* power where I
> simply quoted Hecht.

Ahhh, so you are only claiming that 'on average', the energy does not
enter the PA or 'on average' the energy is reflected.

The finer grained time domain analysis, reveals that some energy does
enter the PA, but that it comes back out again to keep the average the
same.

So if you want to live with the coarser, less complete models, that
is
fine as long as you understand the limitations of your model. It would
be good if you were to articulate these limitations to the readers
to reduce confusion.

Of course, if you are happy with averages, it is not obvious to me
why you want to bother with separating the signal in to forward
and reflected. Why not just use the overall average energy flowing
towards the load.

...Keith

2317. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 02:55:13 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <19fb1ba1-18b2-4666-b37f-93c2325b8ef3@z8g2000yqz.googlegroups.com>
Source record: 9167

On Jun 9, 2:37 pm, lu6etj <lu6...@gmail.com> wrote:
> On 9 jun, 13:23, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > 6. Keith, using basic circuit theory, reflection coefficients and
> > >   analysis in the time domain, shows that Cecil's conclusions do not
> > >   align with expected behaviours.
>
> > I must have missed the posting where you proved RF waves do not obey
> > the *average* power density (irradiance) equation from "Optics", by
> > Hecht. Neither Hecht nor I have ever said anything about instantaneous
> > virtual power except that it is "of limited usefulness". Nothing you
> > have posted about instantaneous virtual power has disagreed or
> > disproved anything that I have said about *average* power where I
> > simply quoted Hecht. I suspect that your instantaneous virtual power
> > must necessarily obey the conservation of energy principle but I am
> > not going to waste my time trying to prove it. Hecht and I seem to
> > agree 100% that *average* energy flow obeys the laws of physics.
>
> > May I suggest that you read "Optics", by Hecht and post anything with
> > which you disagree. I, and others, stopped taking you seriously when
> > you said that an equal magnitude of the forward Poynting vector and
> > the reflected Poynting vector proves that zero energy is crossing the
> > boundary (without adding that it is zero NET energy). You have
> > probably ruined your technical reputation with such nonsense.
> > --
> > 73, Cecil, w5dxp.com
>
> Good evening. (sunny and cold day, here)
>
> > Superposition works just fine for voltage and current,
>
> And electromagnetic waves... We also study TL in physics with a
> electromagnetic model (E-H fields).

Yes, of course.

> > but is mostly
> > invalid for power. Attempting to apply superposition to power will
> > lead to inaccurate results.

>
> Yes. As Cecil pointed, power not apply to superposition because it is
> a scalar magnitude.

Not quite. It does not apply to power because it does apply to
voltages.
If one doubles the voltage, one gets 4 times the power. There is no
way to make superposition (which is simply addition) simultaneously
work
for voltage and power.

As for scalars... Superposition works quite fine for circuit analysis
with scalars.

> > I am curious as to what I wrote on the web page that suggested
> > disagreement with the superposition principle.
>
> Because my interpretation of this sentences on the wave page:
>
> > What happens when the signals from two identical generators
> > at each end of a transmission line collide in the middle?
>
> Term "collide" without quotes suggest (to me) interaction (as
> particles). I learnt travelling waves do not "collides" in space (or
> linear mediums), simply they crossing each other (as ghosts).(I do
> not be sure about this translation)
> or, quoting UCLA web page note, "Wave maintain their integrity upon
> overlapping (without themselves being permanently changed)".

Superposition is a mathematical trick that allows the solution of
the problem. It does not mean that the pulses pass through each
other, though that is one of the visualizations. Consider a point
on the line where the current is always 0, no electrons cross
this point nor does any energy. Did the pulses cross through
such a point? The voltage envelope appears to, but does that mean
the pulse did?

> > Does energy cross the midpoint of the transmission line?
> > .....
> > The plot shows that the voltage in the middle of the transmission
> > line is always zero (that's femtoVolts on the left, not a bad
> > representation for 0 in a simulation). Recalling that Power =
> > (Volts times Amps), if the voltage is always 0, then there
> > is no power. With no power, no energy is crossing the
> > middle of the transmission line.
>
> My interpretation of last sentence (and reading technical controversy
> with Cecil and K1TT in thread) make me think that it does not match to
> superposition principle (except when there are not any travelling
> waves in system, of course). (I do not considered here spice
> application to travelling wave model issues).
>

> Please tell me if you agree with Java applets linked -applied to TL
> travelling waves- to clarify my understanding of your proposition.

I have no issues with the applets. They show voltage waves crossing each other and appropriately use superposition to derive the results.

Like many optical illusions, there are multiple ways to visualize what is happening. The second one for example can also be seen as the two pulses bouncing off of each other. The response would be identical if the transmission line was cut at the point of collision.

These two simulations do not claim to show energy moving all the way down the line in both directions, nor do they superpose powers. So they look fine.

...Keith

2318. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 04:45:05 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5e26350a-0199-4739-a06c-1fc066e58d25@x21g2000yqa.googlegroups.com>
Source record: 9168

On 9 jun, 23:55, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 9, 2:37 pm, lu6etj <lu6...@gmail.com> wrote:
>
>
>
>
>
> > On 9 jun, 13:23, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > 6. Keith, using basic circuit theory, reflection coefficients and
> > > >   analysis in the time domain, shows that Cecil's conclusions do not
> > > >   align with expected behaviours.
>
> > > I must have missed the posting where you proved RF waves do not obey
> > > the *average* power density (irradiance) equation from "Optics", by
> > > Hecht. Neither Hecht nor I have ever said anything about instantaneous
> > > virtual power except that it is "of limited usefulness". Nothing you
> > > have posted about instantaneous virtual power has disagreed or
> > > disproved anything that I have said about *average* power where I
> > > simply quoted Hecht. I suspect that your instantaneous virtual power
> > > must necessarily obey the conservation of energy principle but I am
> > > not going to waste my time trying to prove it. Hecht and I seem to
> > > agree 100% that *average* energy flow obeys the laws of physics.
>
> > > May I suggest that you read "Optics", by Hecht and post anything with
> > > which you disagree. I, and others, stopped taking you seriously when
> > > you said that an equal magnitude of the forward Poynting vector and
> > > the reflected Poynting vector proves that zero energy is crossing the
> > > boundary (without adding that it is zero NET energy). You have
> > > probably ruined your technical reputation with such nonsense.
> > > --
> > > 73, Cecil, w5dxp.com
>
> > Good evening. (sunny and cold day, here)
>
> > > Superposition works just fine for voltage and current,
>
> > And electromagnetic waves... We also study TL in physics with a
> > electromagnetic model (E-H fields).
>
> Yes, of course.
>

> > > but is mostly
> > > invalid for power. Attempting to apply superposition to power will
> > > lead to inaccurate results.
>
> > Yes. As Cecil pointed, power not apply to superposition because it is
> > a scalar magnitude.
>
> Not quite. It does not apply to power because it does apply to
> voltages.
> If one doubles the voltage, one gets 4 times the power. There is no
> way to make superposition (which is simply addition) simultaneously
> work
> for voltage and power.
>
> As for scalars... Superposition works quite fine for circuit analysis
> with scalars.
>
> > > I am curious as to what I wrote on the web page that suggested
> > > disagreement with the superposition principle.
>
> > Because my interpretation of this sentences on the wave page:
>
> > > What happens when the signals from two identical generators
> > > at each end of a transmission line collide in the middle?
>
> > Term "collide" without quotes suggest (to me) interaction (as
> > particles). I learnt travelling waves do not "collides" in space (or
> > linear mediums), simply they crossing each other (as ghosts).(I do
> > not be sure about this translation)
> > or, quoting UCLA web page note, "Wave maintain their integrity upon
> > overlapping (without themselves being permanently changed)".
>
> Superposition is a mathematical trick that allows the solution of
> the problem. It does not mean that the pulses pass through each
> other, though that is one of the visualizations. Consider a point
> on the line where the current is always 0, no electrons cross
> this point nor does any energy. Did the pulses cross through
> such a point? The voltage envelope appears to, but does that mean
> the pulse did?
>
>
>
>
>
> > > Does energy cross the midpoint of the transmission line?
> > > .....
> > > The plot shows that the voltage in the middle of the transmission
> > > line is always zero (that's femtoVolts on the left, not a bad
> > > representation for 0 in a simulation). Recalling that Power =
> > > (Volts times Amps), if the voltage is always 0, then there

> > > is no power. With no power, no energy is crossing the
> > > middle of the transmission line.
>
> > My interpretation of last sentence (and reading technical controversy
> > with Cecil and K1TT in thread) make me think that it does not match to
> > superposition principle (except when there are not any travelling
> > waves in system, of course). (I do not considered here spice
> > application to travelling wave model issues).
>
> > Please tell me if you agree with Java applets linked -applied to TL
> > travelling waves- to clarify my understanding of your proposition.
>
> I have no issues with the applets. They show voltage waves crossing
> each other and appropriately use superposition to derive the results.
>
> Like many optical illusions, there are multiple ways to visualize
> what is happening. The second one for example can also be seen as
> the two pulses bouncing off of each other. The response would be
> identical if the transmission line was cut at the point of collision.
>
> These two simulations do not claim to show energy moving all the
> way down the line in both directions, nor do they superpose powers.
> So they look fine.
>
> ...Keith- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hello Keith:

I believe I just understand where is the problem You are talking
about "Superposition Theorem" of circuit theory and we are talking
about "Superposition pinciple of waves". There are not the same stuff.
Please read this page from "Physics for scientists and engineers with
modern physics" book to aliviate my translation :>)

http://books.google.com.ar/books?id=wQCMC3ryYzkC&pg=PA501&lpg=PA501&dq=%22superposition+principle%22+%22traveling+waves%22+physics+-quantum&source=bl&ots=SK0b7V6O6y&sig=HzwcgC2DJnXKce2QZliOYq8yhDw&hl=es&ei=-2AQTLqpM8P98Abx_ciFBg&sa=X&oi=book_result&ct=result&resnum=5&ved=0CDUQ6AEwBA#v=onepage&q=%22superposition%20principle%22%20%22traveling%20waves%22%20physics%20-quantum&f=false

Uf, what a large link!! If do not works search on page 501 of Google
books with the appointed title.

Note => "Two travelling waves can pass trough each other without being
destroyed or even altered". (Op. Cit.). (Please pay attention to pond
example).

The applet there do not represent an opticall illusion, You can experiment with different shape opposite end launched pulses in a rope to verify that do not collide but pass through each other. It is a usual student laboratory work on applied physics.

73

Miguel ghezzi LU6ETJ

PS: Yes Richard I live outside of Buenos Aires city. I hope you have been welcome on your visit to Argentine... and... what do you think of our beautiful girls, ah? ;>D

2319. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 06:48:43 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <86840bd7-c1b8-4c12-8255-54c91598df7d@a30g2000yqn.googlegroups.com>
Source record: 9169

```
On 10 jun, 01:45, lu6etj <lu6...@gmail.com> wrote:
> On 9 jun, 23:55, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 9, 2:37 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > > On 9 jun, 13:23, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > > 6. Keith, using basic circuit theory, reflection coefficients and
> > > > >    analysis in the time domain, shows that Cecil's conclusions do not
> > > > >    align with expected behaviours.
>
> > > > I must have missed the posting where you proved RF waves do not obey
> > > > the *average* power density (irradiance) equation from "Optics", by
> > > > Hecht. Neither Hecht nor I have ever said anything about instantaneous
> > > > virtual power except that it is "of limited usefulness". Nothing you
> > > > have posted about instantaneous virtual power has disagreed or
> > > > disproved anything that I have said about *average* power where I
> > > > simply quoted Hecht. I suspect that your instantaneous virtual power
> > > > must necessarily obey the conservation of energy principle but I am
> > > > not going to waste my time trying to prove it. Hecht and I seem to
> > > > agree 100% that *average* energy flow obeys the laws of physics.
>
> > > > May I suggest that you read "Optics", by Hecht and post anything with
> > > > which you disagree. I, and others, stopped taking you seriously when
> > > > you said that an equal magnitude of the forward Poynting vector and
> > > > the reflected Poynting vector proves that zero energy is crossing the
> > > > boundary (without adding that it is zero NET energy). You have
> > > > probably ruined your technical reputation with such nonsense.
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > Good evening. (sunny and cold day, here)
>
> > > > Superposition works just fine for voltage and current,
>
> > > And electromagnetic waves... We also study TL in physics with a
> > > electromagnetic model (E-H fields).
>
```

> > Yes, of course.
>
> > > > but is mostly
> > > > invalid for power. Attempting to apply superposition to power will
> > > > lead to inaccurate results.
>
> > > Yes. As Cecil pointed, power not apply to superposition because it is
> > > a scalar magnitude.
>
> > Not quite. It does not apply to power because it does apply to
> > voltages.
> > If one doubles the voltage, one gets 4 times the power. There is no
> > way to make superposition (which is simply addition) simultaneously
> > work
> > for voltage and power.
>
> > As for scalars... Superposition works quite fine for circuit analysis
> > with scalars.
>
> > > > I am curious as to what I wrote on the web page that suggested
> > > > disagreement with the superposition principle.
>
> > > Because my interpretation of this sentences on the wave page:
>
> > > > What happens when the signals from two identical generators
> > > > at each end of a transmission line collide in the middle?
>
> > > Term "collide" without quotes suggest (to me) interaction (as
> > > particles). I learnt travelling waves do not "collides" in space (or
> > > linear mediums), simply they crossing each other (as ghosts).(I do
> > > not be sure about this translation)
> > > or, quoting UCLA web page note, "Wave maintain their integrity upon
> > > overlapping (without themselves being permanently changed)".
>
> > Superposition is a mathematical trick that allows the solution of
> > the problem. It does not mean that the pulses pass through each
> > other, though that is one of the visualizations. Consider a point
> > on the line where the current is always 0, no electrons cross
> > this point nor does any energy. Did the pulses cross through
> > such a point? The voltage envelope appears to, but does that mean
> > the pulse did?
>
> > > > Does energy cross the midpoint of the transmission line?
> > > > .....
> > > > The plot shows that the voltage in the middle of the transmission
> > > > line is always zero (that's femtoVolts on the left, not a bad
> > > > representation for 0 in a simulation). Recalling that Power =
> > > > (Volts times Amps), if the voltage is always 0, then there
> > > > is no power. With no power, no energy is crossing the
> > > > middle of the transmission line.

>
> > > My interpretation of last sentence (and reading technical controversy
> > > with Cecil and K1TT in thread) make me think that it does not match to
> > > superposition principle (except when there are not any travelling
> > > waves in system, of course). (I do not considered here spice
> > > application to travelling wave model issues).
>
> > > Please tell me if you agree with Java applets linked -applied to TL
> > > travelling waves- to clarify my understanding of your proposition.
>
> > I have no issues with the applets. They show voltage waves crossing
> > each other and appropriately use superposition to derive the results.
>
> > Like many optical illusions, there are multiple ways to visualize
> > what is happening. The second one for example can also be seen as
> > the two pulses bouncing off of each other. The response would be
> > identical if the transmission line was cut at the point of collision.
>
> > These two simulations do not claim to show energy moving all the
> > way down the line in both directions, nor do they superpose powers.
> > So they look fine.
>
> > ...Keith- Ocultar texto de la cita -
>
> > - Mostrar texto de la cita -- Ocultar texto de la cita -
>
> > - Mostrar texto de la cita -
>
> Hello Keith:
>
> I believe I just understand where is the problem You are talking
> about "Superposition Theorem" of circuit theory and we are talking
> about "Superposition pinciple of waves". There are not the same stuff.
> Please read this page from "Physics for scientists and engineers with
> modern physics" book to aliviate my translation :>)
>
> http://books.google.com.ar/books?id=wQCMC3ryYzkC&pg=PA501&lpg=PA501&d...
>
> Uf, what a large link!! If do not works search on page 501 of Google
> books with the appointed title.
>
> Note => "Two travelling waves can pass trough each other without being
> destroyed or even altered". (Op. Cit.). (Please pay attention to pond
> example).
>
> The applet there do not represent an opticall illusion, You can
> experiment with different shape opposite end launched pulses in a rope
> to verify that do not collide but pass through each other. It is a
> usual student laboratory work on applied physics.
>

> 73
>
> Miguel ghezzi LU6ETJ
>
> PS: Yes Richard I live outside of Buenos Aires city. I hope you have
> been welcome on your visit to Argentine... and... what do you think of
> our beautiful girls, ah? ;>D- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Before I forget... Here is early mornig and I am ready for bed (I'm nocturnal habits). I want give a QSL to Cecil's comment on Maxwell article and Joe's example in CC. Also, noblesse oblige, I recall that Cecil make this comment in a very early post in this thread:

> Yes, standing waves are hard to visualize, but there is indeed
> same- cycle interference involving forward waves and reflected
> waves. There is a certain delay from the source signal to the
> load and back that can be calculated if one chooses. The
> wave reflection model is closer to Maxwell's equations than
> is the lumped-circuit model where EM waves propagate
> instantaneously.

Pointing to differences between lumped constants circuit theory models (superposition theorem) and TL issues. I aknowledge his linked page
=>
http://www.google.com/url?sa=D&q=http://www.ttr.com/corum/index.htm&usg=AFQjCNGKvyE7gzlWnW7706V-3Vix1MXnrA
where it said:

"There are no standing waves on a lumped element circuit component. (In fact, lumped-element circuit theory inherently employs the cosmological presupposition that the speed of light is infinite, as every EE sophomore should know. See, e.g., - Electric Circuits, by J.W. Nilsson, Addison-Wesley, 1983, p. 3.)"

Probabily Cecil had in mind this controversy when I submitted my question to this newsgroup. He will correct me if I am wrong.

Thank you very much, and now, I am go to ZZZZZZZ...!

Miguel

2320. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 07:28:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cm11169hu9vea4s0c1btmk7devqgn7uuuo@4ax.com>
Source record: 9170

On Wed, 9 Jun 2010 21:45:05 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>PS: Yes Richard I live outside of Buenos Aires city. I hope you have
>been welcome on your visit to Argentine... and... what do you think of
>our beautiful girls, ah? ;>D

Ah! Cherchez la femme. We did a lot of walking around town (stayed
in the Emperador across from Estaciï¿½n Retiro) and there were certainly
crowds of them on Av (Calle?) Florida and along Av 9 de Julio (24
lanes of traffic as I remember with trying to cross from the Opera
house Teatro Colï¿½n). In the back of my mind was that Buenos Aires
enjoys the world's highest pedestrian death rate. One large truck
replaced it horn with the sound of someone screaming. (The memories
are starting to flood back.)

It was strange to see Spanish headlines about the capture of Saddam
Husein in his spider hole. An out-of-America experience much like the
evening when I was standing on the quay in Acapulco, waiting for the
Liberty launch back to my ship, and a wave of talk spread through our
group that Nixon had just resigned.

However, returning to pretty girls, when I was in Caracas ten years
ago, I was told the poor lived up in the hills that surround the city
like a fish bowl and the girls got plenty of exercise climbing them.
Gave them Miss Universe figures.

As for Buenos Aires hospitality, too much food (huge steaks) at the
wrong hours. When we went to a restaurant at 9PM, it was like we were
arriving for high tea. How gauche of us. Later, we were satisfied to
enjoy empanadas in the late afternoon and call it dinner. We also
took the train from Estaciï¿½n Constituciï¿½n down to La Plata to see the
Catedral. Dinner nearby was Wiener Schnitzel. Enjoyed walking
through Recoleta (and seeing the cemetery). Also got out to Abasto to
see Carlos Gardel's neighborhood (love his Tango, his singing gets
better every year).

It was great!

73's
Richard Clark, KB7QHC

2321. Balenciaga Purse wholesaler Discount Wholesale free shipping paypal payment (httpwww.cntrade09.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 12:16:52 UTC
From: cntrade09 <chenxiangmei84@gmail.com>
Message-ID: <7ea90ac2-aa53-46df-b386-2d87d1bf6f46@x27g2000prf.googlegroups.com>
Source record: 9171
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

Handbags

BOSS Handbag (httpwww.cntrade09.com) - free shipping paypal
payment
Burberry Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
Chanel Handbags (httpwww.cntrade09.com - free shipping
paypal payment
Chloe Handbags Discount Wholesale free shipping paypal payment
Christian Audigier Handbags Discount Wholesale free shipping paypal
payment
Coach Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
D&G Handbags Discount Wholesale free shipping paypal payment
Dooney&Bourke Handbags (httpwww.cntrade09.com) - free
shipping paypal payment
ED Hardy Handbags Discount Wholesale free shipping paypal payment
Fendi Handbags Discount Wholesale free shipping paypal payment
Gucci Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
Hermas Handbags Discount Wholesale free shipping paypal payment
JIMMY CHOO Handbags
Juicy Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
LV Handbags Discount Wholesale free shipping paypal payment
Miu Miu Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
Prada Handbags Discount Wholesale free shipping paypal payment
Versace Handbags Discount Wholesale free shipping paypal payment
Tous Handbag (httpwww.cntrade09.com) - free shipping paypal
payment

Handbags
AAA True Leather Discount Wholesale free shipping paypal payment
Burberry Handbags wholesaler
Balenciaga Handbags wholesaler (httpwww.cntrade09.com) -
(paypal
payment)
Balenciaga Purse wholesaler Discount Wholesale free shipping paypal
payment
Bally Purse wholesaler
BOSS Purse wholesaler (httpwww.cntrade09.com) - (paypal
payment)

Chanel Handbags wholesaler
Chanel Purse wholesaler
Chloe Handbags wholesaler (httpwww.cntrade09.com) - (paypal
payment)
Chloe Purse wholesaler
Coach Handbags wholesaler (httpwww.cntrade09.com) - (paypal
payment)

2322. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 13:10:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <db5765d7-250d-4604-8fa5-d2298a7eb480@j8g2000yqd.googlegroups.com>
Source record: 9172

On Jun 9, 2:44 pm, Roy Lewallen <w...@eznec.com> wrote:
> So the answer to your question is that the "reverse power" goes to
> wherever the new excess "forward power" comes from. Once you figure out
> where that is, you'll have a better understanding of the topic than
> nearly everyone who has been arguing on this forum about it for years.

Let's be careful to point out that "forward power" is a measurement
at a fixed point on a transmission line of the rate of flow of the
forward energy which is traveling at the speed of light in the medium.
Same concept for "reflected power" - reflected energy flowing in the
reverse direction at the speed of light in the medium. EM waves cannot
stand still.

It's easy to figure out where the excess forward energy comes from
especially in an ideal lossless system which I will assume for the
rest of this posting. Consider the following thought experiment. An
ideal lossless system with a one-second long Z0=300 ohm feedline. Why
one-second long? Because the watts (joules/second) and the joules will
be the same magnitude, i.e. If it's a matched line with 100 watts of
forward power, it is easy to show that a one-second feedline has 100
joules of energy in it that has been sourced but not yet delivered to
the load - like a delay line.

Here's an example of a Z0-matched system with an SWR of 6:1 on the
Z0=300 ohm feedline. *Steady-state* conditions are: forward power =
204 watts and reflected power = 104 watts. Power delivered to the load
= 100 watts. There is a steady-state Z0-match at '+'. Zero reflected
energy reaches the source, i.e. the SWR on the 50 ohm line is 1:1.

100w source---50 ohm line---+---1-sec-long 300 ohm line---50 ohm load

During the transient key-down state, the source supplies a number of
joules to the transmission line that do not reach the load. At the
beginning of steady-state that value is 204 joules plus 104 joules
equals 308 joules.

When steady-state is reached there are 308 joules of energy "stored"
in the one second long transmission line that have not been delivered
to the load. Only after the transmission line is charged with steady-
state energy does the load start to accept the same amount of power as
is being sourced. There is no magic here - just a simple accounting
for all the energy. Why otherwise intelligent, educated RF engineers
cannot perform that simple second-grade math is a subject for another
thread.

During steady-state, there are 308 joules of energy "stored" in the transmission line that are performing the Z0-match function. There are 204 joules in the forward wave and 104 joules in the reflected wave. Since RF cannot actually be stored as in a battery, this energy is moving at the speed of EM waves - the speed of light in the medium. 104 joules/second is continuously being reflected at the load. 104 joules/second is continuously being redistributed back toward the load at the Z0-match.

At key-up, steady-state ends and the key-up transient state occurs. During this transient state, all of the 308 joules in the forward wave and reflected wave during steady-state will be dissipated. During the key-down transient state, 308 joules are stored in the one second long transmission line. During the key-up transient state, the 308 joules are dissipated. For those who feel overwhelmed, it is just simple second-grade math

In a Z0-matched system, the entire analysis can be performed using an energy analysis instead of a voltage analysis. The common way to analyze the above system is to assume that 70.7 volts is present on the 50 ohm side of the Z0-match with 1.414 amps flowing into the Z0-match. But with only an energy analysis, we can reverse-engineer the voltage and current conditions at any point in a Z0-matched system.

Fact of Physics: There are exactly enough joules of energy in the mismatched transmission line to support the forward wave power and the reflected wave power. It's not magic nor rocket science. Anyone willing to count the joules that have not reached the load will realize that the energy in the forward and reflected waves consists of real-world joules that cannot be swept under the rug just because some alleged RF guru is ignorant of the laws of physics.

Here's a simple math problem for all of the readers having trouble with this concept. On 10 MHz, we have a 50 ohm antenna being fed with one wavelength of lossless 300 ohm line from a 100w source. During steady-state, how many microjoules of energy are "stored" in the transmission line that have not yet reached the load? How are those microjoules split between the forward wave and reflected wave?
--
73, Cecil, w5dxp.com

2323. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 13:14:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2e0a98b6-a83b-4bc5-9495-4576abdda3f3@e5g2000yqn.googlegroups.com>
Source record: 9173

On Jun 9, 5:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> It circulates between tuner and antenna.

Just a nit: A certain magnitude of energy circulates between tuner and antenna. Experiments with TV signal ghosting prove that it is not the identical energy, just the same magnitude of energy.
--
73, Cecil, w5dxp.com

2324. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 13:32:15 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8d6f440f-93d2-47c1-b651-05f58b790ba3@x21g2000yqa.googlegroups.com>
Source record: 9174

On Jun 9, 1:18 pm, Baron <baron.nos...@linuxmaniac.nospam.net> wrote:
> Richard Clark Inscribed thus:
> > "Does Walt's data support the evidence of a Conjugate Match?"
>
> "Yes, Walt's data does support evidence of a Conjugate Match."

http://www.w2du.com/Appendix09.pdf

A purist might argue that, like a lossless transmission line, an ideal
conjugate match cannot exist in reality because of resistive losses
and non-linearities.

What might be a more accurate statement is: By definition, Walt's data
supports the evidence of a real-world Conjugate Match. Walt has
certainly defined in detail what he means by a "(real-world) Conjugate
Match".
--
73, Cecil, w5dxp.com

2325. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 13:47:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c2ea3145-05ae-42e6-902b-aa05bed515fc@a30g2000yqn.googlegroups.com>
Source record: 9175

On Jun 9, 9:11 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 9, 8:33 am, Cecil Moore <w5...@hotmail.com> wrote:
> > It is invalid to try to use superposition on scalar values.
>
> You may wish to rethink this assertion, otherwise...
>
> Go.... Do not pass Go. Do not collect 200$.

Keith, virtually everyone (except you) knows that English is a
contextual language and that the entire context cannot be repeated
every time a sentence is uttered. You know and I know that the context
is EM waves. The obvious context of my statement is: "It is invalid to
try to use EM wave superposition on scalar values, since scalar values
are not EM waves."

If you feel forced to resort to crap like that, it indicates that you
have already lost any argument.
--
73, Cecil, w5dxp.com

2326. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 14:20:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e0fad73f-51c5-4cb8-be76-f04da28667ab@c33g2000yqm.googlegroups.com>
Source record: 9176

On Jun 9, 9:29 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Ahhh, so you are only claiming that 'on average', the energy does not
> enter the PA or 'on average' the energy is reflected.

Of course, you already knew that because I have never said otherwise.
I have stated my opinion more than once that instantaneous (virtual)
power is not worth discussing. Here is what I said on my web page:

"Please note that any power referred to in this paper is an AVERAGE
POWER. Instantaneous power is beyond the scope of this article,
irrelevant to the following discussion, and "of limited utility"
according to Eugene Hecht. [4]"

I have an ample library and cannot find any reference to instantaneous
(virtual) power other than it is "of limited utility", as Hecht noted.
Most of the references imply that paying close attention to the
reality of instantaneous (virtual) power can lead one down a primrose
path to false assumptions.

> The finer grained time domain analysis, reveals that some energy does
> enter the PA, but that it comes back out again to keep the average the
> same.

So what? If it is not dissipated or radiated, it doesn't matter to
anyone (except you).

> It would
> be good if you were to articulate these limitations to the readers
> to reduce confusion.

I have always said that I was talking about power dissipation in a
source resistor or load resistor (or radiation), but you already knew
that. I have said that instantaneous virtual power is irrelevant and
not worth discussing.

Here is a question for you. Given that P(t)=V(t)*I(t), we measure 10
watts at each of 10 points within a single cm., five just inside a
source and five just outside the source. Does that mean we have 100
watts in that single cm.? What is the physical meaning of being able
to measure an infinite amount of power given an infinite number of
measurement points?
--
73, Cecil, w5dxp.com

2327. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 14:41:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <88d4d4c8-5510-4a4c-b103-6d64fcd3c6e4@h13g2000yqm.googlegroups.com>
Source record: 9177

On Jun 10, 1:48 am, lu6etj <lu6...@gmail.com> wrote:
> "There are no standing waves on a lumped element circuit component.
> (In fact, lumped-element circuit theory inherently employs the
> cosmological presupposition that the speed of light is infinite, as
> every EE sophomore should know. See, e.g., - Electric Circuits, by
> J.W. Nilsson, Addison-Wesley, 1983, p. 3.)"

It probably should have said: "By a (possibly invalid) definition only, there are no standing waves on a lumped element circuit component, even though standing waves might exist in reality". Note that Dr. Corum is NOT saying that there are no standing waves. He is simply repeating the false assumptions of the lumped-element circuit model. In his other paper, he says that if a circuit is electrically longer than about 15 degrees and phase is important, the lumped-element circuit model should not be used.

Any lumped-element circuit analysis can be caused to fail simply by increasing the source frequency.
--
73, Cecil, w5dxp.com

2328. Re: What to use for an underground transponder?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 18:09:20 UTC
From: richardharrison@webtv.net
Message-ID: <18722-4C112A50-16049@storefull-3172.bay.webtv.net>
Source record: 9178

You wrote:
"You can use any insulated wire"

I agree.
I hound in tracing the location of large buried undrground pipelines, the "cooperative method", a transmitter attached to the pipe with a receiver sensing the signal on the pipe worked best. Due to ground characteristics, the lower the frequency, the better. I used 12 Hz.

My transmitter used cpmplementary symmetry power transistors in its output which fed a 400-Hz Variac which proved to work well as a variable impedance matching transformer to the pipeline. Oscillator-amplifier and Variac were about the size of a bread box and weighed much less than the 12-volt car battery which powered them.

The receiver was a common relay coil with an iron core which fed a transistor amplifier which had its output rectified and metered. The coil was attached to a stick which served as a wand. Divers used the coil in rivers and oceans where it followed the signal very well, as on land.

The strongest signal was when the core pointed directly to the pipe, and checking the distance to either side of the pipe the signal could be well received gave an estimate of the depth of the ground covering the pipe, usually 6 to 8 feet in our case. I could go miles down the pipe before the signal faded (once 8 miles).

I don`t know how applicable any of my pipeline experience is to animal burrows but it works well with tracing buried conductors or wires in walls for that matter.

Our pipelines also had rectifiers for cathodic protection and I also keyed these on and off at low frequency to provide a unique signal to follow.

Best regards, Richard Harrison, KB5WZI

2329. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 21:31:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1f4fc303-4b1e-469a-8770-0dd369aa4e1d@b35g2000yqi.googlegroups.com>
Source record: 9179

On Jun 10, 2:55 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 9, 2:37 pm, lu6etj <lu6...@gmail.com> wrote:
>
>
>
> > On 9 jun, 13:23, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 9, 8:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > 6. Keith, using basic circuit theory, reflection coefficients and
> > > >   analysis in the time domain, shows that Cecil's conclusions do not
> > > >   align with expected behaviours.
>
> > > I must have missed the posting where you proved RF waves do not obey
> > > the *average* power density (irradiance) equation from "Optics", by
> > > Hecht. Neither Hecht nor I have ever said anything about instantaneous
> > > virtual power except that it is "of limited usefulness". Nothing you
> > > have posted about instantaneous virtual power has disagreed or
> > > disproved anything that I have said about *average* power where I
> > > simply quoted Hecht. I suspect that your instantaneous virtual power
> > > must necessarily obey the conservation of energy principle but I am
> > > not going to waste my time trying to prove it. Hecht and I seem to
> > > agree 100% that *average* energy flow obeys the laws of physics.
>
> > > May I suggest that you read "Optics", by Hecht and post anything with
> > > which you disagree. I, and others, stopped taking you seriously when
> > > you said that an equal magnitude of the forward Poynting vector and
> > > the reflected Poynting vector proves that zero energy is crossing the
> > > boundary (without adding that it is zero NET energy). You have
> > > probably ruined your technical reputation with such nonsense.
> > > --
> > > 73, Cecil, w5dxp.com
>
> > Good evening. (sunny and cold day, here)
>
> > > Superposition works just fine for voltage and current,
>
> > And electromagnetic waves... We also study TL in physics with a
> > electromagnetic model (E-H fields).
>
> Yes, of course.
>
> > > but is mostly
> > > invalid for power. Attempting to apply superposition to power will

> > > lead to inaccurate results.
>
> > Yes. As Cecil pointed, power not apply to superposition because it is
> > a scalar magnitude.
>
> Not quite. It does not apply to power because it does apply to
> voltages.
> If one doubles the voltage, one gets 4 times the power. There is no
> way to make superposition (which is simply addition) simultaneously
> work
> for voltage and power.
>
> As for scalars... Superposition works quite fine for circuit analysis
> with scalars.
>
> > > I am curious as to what I wrote on the web page that suggested
> > > disagreement with the superposition principle.
>
> > Because my interpretation of this sentences on the wave page:
>
> > > What happens when the signals from two identical generators
> > > at each end of a transmission line collide in the middle?
>
> > Term "collide" without quotes suggest (to me) interaction (as
> > particles). I learnt travelling waves do not "collides" in space (or
> > linear mediums), simply they crossing each other (as ghosts).(I do
> > not be sure about this translation)
> > or, quoting UCLA web page note, "Wave maintain their integrity upon
> > overlapping (without themselves being permanently changed)".
>
> Superposition is a mathematical trick that allows the solution of
> the problem. It does not mean that the pulses pass through each
> other, though that is one of the visualizations. Consider a point
> on the line where the current is always 0, no electrons cross
> this point nor does any energy. Did the pulses cross through
> such a point? The voltage envelope appears to, but does that mean
> the pulse did?
>
>
>
> > > Does energy cross the midpoint of the transmission line?
> > > .....
> > > The plot shows that the voltage in the middle of the transmission
> > > line is always zero (that's femtoVolts on the left, not a bad
> > > representation for 0 in a simulation). Recalling that Power =
> > > (Volts times Amps), if the voltage is always 0, then there
> > > is no power. With no power, no energy is crossing the
> > > middle of the transmission line.
>
> > My interpretation of last sentence (and reading technical controversy

> > with Cecil and K1TT in thread) make me think that it does not match to
> > superposition principle (except when there are not any travelling
> > waves in system, of course). (I do not considered here spice
> > application to travelling wave model issues).
>
> > Please tell me if you agree with Java applets linked -applied to TL
> > travelling waves- to clarify my understanding of your proposition.
>
> I have no issues with the applets. They show voltage waves crossing
> each other and appropriately use superposition to derive the results.
>
> Like many optical illusions, there are multiple ways to visualize
> what is happening. The second one for example can also be seen as
> the two pulses bouncing off of each other. The response would be
> identical if the transmission line was cut at the point of collision.
>

only in the very special case of the far end being an open or short
circuit and the line being lossless. simulate it for a more general
case of a load other than those and see what happens.

2330. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-10 21:52:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fdd6df86-b546-4efc-9c2b-b102c0a0fb70@u26g2000yqu.googlegroups.com>
Source record: 9180

On Jun 9, 2:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 8, 7:39 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 8, 10:57 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > On Jun 8, 3:47 am, Richard Clark <kb7...@comcast.net> wrote:
>
> > > > On Sun, 6 Jun 2010 14:21:16 -0700 (PDT), Keith Dysart
>
> > > > <keith.dys...@gmail.com> wrote:
> > > > >The 100W forward and 50W reflected have no relation to actual powers
>
> > > > From MECA, makers of Isolators - their application:
>
> > > > The isolator is placed in the measurement path of a test bench between
> > > > a signal source and the device under test (DUT) so that any
> > > > reflections caused by any mismatches will end up at the termination of
> > > > the isolator and not back into the signal source. This example also
> > > > clearly illustrates the need to be certain that the termination at the
> > > > isolated port is sufficient to handle 100% of the reflected power
> > > > should the DUT be disconnected while the signal source is at full
> > > > power. If the termination is damaged due to excessive power levels,
> > > > the reflected signals will be directed back to the receiver because of
> > > > the circular signal flow.
> > > > ...
> > > > MECA offers twenty-four models of isolators and circulators in both N
> > > > and SMA-female connectors with average power ratings from 2 - 250
> > > > watts.
>
> > > Good day Richard,
>
> > > You have located several examples from reputable vendors where the
> > > behaviour of directional couplers is described in terms of power
> > > in a forward and reflected wave. This model of behaviour works within
> > > its limits and allows for convenient computation and prediction of
> > > the behaviour. But all of these papers have the appropriate
> > > discipline and do not ask the question "where does the reflected
> > > energy go?" which is good, for this exceeds the limits of the
> > > model.
>
> > > As soon as one assigns tangible energy to the reflected wave, it
> > > becomes reasonable to ask for an accounting of this energy and

> > > the model is incapable of properly accounting for the energy.
>
> > > Following this weakness back through the model, the root cause
> > > is the attempt to assign tangible energy to the reflected wave.
> > > Think of it as a reflected voltage or current wave and all will
> > > be well, but assign power to it and eventually incorrect
> > > conclusions will be drawn.
>
> > > For those who understand this, and know that "where did the
> > > reflected energy go?" is an invalid question, using the power
> > > model within its limits will not cause difficulties. But for
> > > those who are not careful, great difficulties arise and a lot
> > > of fancy dancing is offered to work around the difficulties,
> > > unsuccessfully.
>
> > > Just for fun, here is a simple example.
>
> > > 100V DC source, connected to a 50 ohm source resistor,
> > > connected to 50 ohm transmission line, connected to a 50 ohm
> > > load resistor. Turn on the source. A voltage step propagates
> > > down the line to the load. The impedances are matched, so
> > > there are no reflections. The source provides 100W. 100W is
> > > dissipated in the source resistor. 100W is dissipated in the
> > > load resistor. Energy moves along the transmission line
> > > from the source to the load at the rate of 50W.
> > > All is well.
>
> > lets see, when steady state is reached you have 100v through 2 50ohm
> > resistors in series i assume since you say the source provides 100w...
> > that would mean the current is 1a and each resistor is dissipating
> > 50w.
>
> Ouch. I can't even get the arithmetic right. You are, of course,
> correct. Fortunately, the rest of the examples do not attempt
> to compute actual values.
>
>
>
> > > Disconnect the load. A voltage step propagates back along
> > > the line from the load to the source. In front of this
> > > step current continues to flow. Behind the step, the
> > > current is 0. When the step reaches the source there is
> > > no longer any current flowing. The source is no longer
> > > providing energy, the source resistor is dissipating
> > > nothing, and neither is the load resistor.
>
> > > Proponensts of the power model claim that energy is
> > > still flowing down the line, being reflected from the
> > > open end and flowing back to the source. Since the
> > > source is clearly no longer providing energy, great

> > > machinations are required to explain why the reflected
> > > 'energy' is re-reflected to provide the forward 'energy'.
>
> > why would there be power flowing down the line,
>
> Exactly. And yet, were you to attach a DC-couple directional
> wattmeter to the line, it would indicate 50W forward and 50W
> reflected (using your corrected numbers).

only as you monitored the initial transient. once the transient has
passed there is no power flowing in the line. to drive power requires
a potential difference, without potential difference there is no
current and no power.

>
> > in this simple dc case
> > once the voltage in the line equals the source voltage, which in this
> > perfect case would be after one transient down the line, all is in
> > equilibrium... and art is happy.
>
> > HOWEVER!!! replace that dc source with an AC one and everything
> > changes,
>
> Not at all. The measurements and computations for forward and
> reflected
> power that work for AC, work perfectly well for DC, pulses, steps,
> or pick your waveform. There is no magic related to AC.

ah, but there is... in a sine wave the voltage never stops changing so
there is always a potential difference driving the wave along the
line. with DC you can reach equilibrium in one transit of the cable,
assuming it is lossless and the source and/or load is matched to the
line. otherwise you have to do the infinite sum to approximate the
steady state as for any other transient. complex waveforms get ugly
since they are infinite sums of sine waves, though for lossless and
dispersionless cables they aren't too hard to handle. The magic of a
single frequency AC source is it lets us use simplified equations that
make use of the sinusoidal steady state approximations... this is what
lets us do things like s parameters, phasors, E=IZ, and cecil's simple
power addition equation, without the need for messy summations and
other more detailed calculations.

>
> > now there are forward and reflected waves continuously going
> > down the line and back. your DC analysis is no longer valid as it is
> > a very special case.
>
> Not so. And if it were, at exactly what very low frequency does
> the AC analysis begin to fail?

none, there is no magic cutoff, its just how close you want to look at
it.

>
> > now you have to go back to the general equations
> > and use the length of the line to transform the open circuit back to
> > the source based on the length of the line in wavelengths... for the
> > specific case of the line being 1/4 wave long the open
>
> The transformation properties apply only to sinusoidal AC (note, for
> example, that the line length is expressed in wavelengths),

true, another simplification made possible by the sinusoidal steady
state approximation.

> but
> reflection coefficients and the the computation of forward and
> reflected voltages, currents and powers are waveshape independant.

only as long as the loads are perfectly resistive and linear. real
loads often change impedance with frequency and so distort the
reflection of complex waveforms. use a scope with a good risetime and
a decent fast rise time pulse and you'll see it.

>
> When analyzing in the time domain, use the delay of the line to decide
> the values of the signals to superposed. Doing this for sinusoids
> will lead to exactly the same results that are expected from, for
> example, 1/4 wave lines.
>
> ...Keith

2331. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 00:53:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i42316l8avrght2kgiaditicm69asvtauh@4ax.com>
Source record: 9181

On Thu, 10 Jun 2010 14:52:21 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>real
>loads often change impedance with frequency

Real loads also change Z with power - especially dummy loads. As a
real load has some trait of dummy load in it (loss) the degree of Z
change is in the degree of temperature change.

73's
Richard Clark, KB7QHC

2332. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 03:04:14 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <1f311164-8c16-4796-bc3e-52f377157acb@d8g2000yqf.googlegroups.com>
Source record: 9182

On 25 mayo, 03:35, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 24 May 2010 17:17:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >PSE, with the due respect and consideration toward you an the
> >distinguished colleagues and friends, Would you mind return to the
> >original question? (sorry if it is not this the most polite form to
> >ask it)
>
> Hi Miguel,
>
> I presume by "original question" you mean:
>
> >On Mon, 24 May 2010 13:06:19 -0700 (PDT), lu6etj <lu6...@gmail.com> wrote:
>
> >> Absorb the reflected power or amortiguate the effects of variyng load
> >>impedance?
>
> The answer is YES.
>
> Now, if you mean by absorb that all absorbtion results in heat, then
> the answer is NO.
>
> If you mean by absorb that all energy is combined in a load, then the
> answer is YES.
>
> The difference between YES and NO is the PHASE differences of the two
> energies that are combined.
>
> 73's
> Richard Clark, KB7QHC

Hello folks. (I am learnig new greetings...)

Hi Cecil:
Yesterday I was making some calculations based in your article "An energy Analysis of a Simple Ideal Source, Part:1 Zero Average Interference"
I have checked your and Roy results using three methods: Mathematical solution using the TL Zin obtained from clássical formulas.
Spice simulation with equivalent lumping element resulting of the above cited formulas, and Spice simulation with a RG8U TL loaded with RL's of your and Roy examples..
In all cases results agree between different methods and with your examples (I do.not want to seem pedantic with this last comment ;>))

For this discussion would be relevant the results corresponding to sixth column of your article using a quarter wave line.
They are: 0 - 8 - 22 - 50 - 88.9 - 128 and 200 W (190 W the last one with Spice TL simulation).

Since the refflection coefficient has not changed, if I do not misunderstood the premises, quarter wave line PRs do not seems agree with the hipothesis of Pref adding in Rs with Pfor. I think that is what Ro. Lewallen denote in his "Food for thought: Forward and reverse power" example.
Frankly, I think there are somthing wrong in my interpretation because you (all) should have already performed these checks. I remember you have said something about that your work (article) was not finished yet. I confess actually I have not yet entirely clear your differences but I hope to capture it more accurately.

73 - Miguel LU6ETJ

PS: Hey Richard, I'm glad you liked our city, girls and steaks :>) well you like Gardel (me too) and I like so much your old and classic jazz music. Billie Holiday... she is one of my favorites.
A friend of me living in Caracas now tell me the gift of fifteen for girls consists of the operation to put silicones. must be very dangerous for heart patients, a lot more dangerous than Buenos Aires street traffic ;>)
(SRI, I can not translate => "waiting for the Liberty launch back to my ship", give me a hand PSE)

2333. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 03:26:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k1a316tnn41rcl04cqcthmbgr4e33joduj@4ax.com>
Source record: 9183

On Thu, 10 Jun 2010 20:04:14 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>(SRI, I can not translate => "waiting for the Liberty launch back to
>my ship", give me a hand PSE)

Hi Miguel,

I was in the Navy from 1968 to 1975. Our president Richard Nixon
resigned from the presidency in 1974. My ship was in transit between
Charleston, South Carolina to go to the naval ship yard for overhaul
in Bremerton, Washington (state), near Seattle (where I live).

On the way, we spent 5 days in the harbor of Acapulco. We were
"anchored out," which means resting at anchor in the bay instead of
tied up at a pier.

The only way to get back and forth was by a smaller boat (carries
about 75 people). That boat is called a launch. That name is
qualified with Liberty because those who used it were going on
Liberty. In the Navy, Liberty means "time off" or "free time," which
means we can leave work and do what we want to until 0800 the next
day. If we have to be back by midnight, it is called "Cinderella
Liberty."

I was one of the senior Metrologists in the Fleet Electronics
Calibration Laboratory aboard the USS Holland, AS-32 (now tied up in
retirement in Bremerton). I did precision measurement and calibration
of RF standards and maintained a Cesium Beam Standard (atomic clock)
that set the time for the "Boomers" (nuclear submarines). Later,
after the Navy, I added physical standards (length, pressure, tension,
temperature, torque, smoothness, incline...) to my resumï¿½.

I try to catch as many movies from Argentina as possible (I like
Ricardo Darï¿½n as an actor, and love "Nueve Reinas"). One of my
degrees is Cinema (the other is English). Another title I like (since
it is about an out-of-work programmer) is "Una Sombra ya Pronto
Serï¿½s." Sometimes that title works here too. Hï¿½ctor Olivera, the
director, has done some interesting things.

73's
Richard Clark, KB7QHC

2334. Simple hack to get $500 to your home

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 04:17:26 UTC
From: masti dunia <maaindia6@gmail.com>
Message-ID: <4219ca6f-06b6-478f-ac7f-124f06a255fa@t34g2000prd.googlegroups.com>
Source record: 9184

Simple hack to get $500 to your home at http://ukfullenjoy.co.cc

Due to high security risks,i have hidden the cheque link in an
image. in that website on left side below search box, click on image
and enter your name and address where you want to receive your
cheque.please dont tell to anyone.

2335. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 10:07:10 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <32a66fcc-a742-45c6-bdf1-402ac63a0b4e@c10g2000yqi.googlegroups.com>
Source record: 9185

On Jun 9, 2:44 pm, Roy Lewallen <w...@eznec.com> wrote:

> Consider a 100 watt transmitter connected to a 50 ohm dummy load or
> antenna via a half wavelength of 50 ohm lossless transmission line.
>...
> (clipped)
>...
> Ok so far? Now replace the transmission line with one having
> 200 ohm impedance.
>
> The transmitter sees an impedance of 50 ohms resistive.
> The transmitter delivers 100 watts to the transmission line.
> The transmission line delivers 100 watts to the load.
> The load dissipates 100 watts.
> The VSWR on the line is 4:1.
> The "forward power" in the transmission line is 156.25 watts.
> The "reverse power" in the transmission line is 56.25 watts.

Could you or someone please post the same analysis when the electrical length of the 200 ohm transmission line is 1/4-wave rather than 1/2-wave, including the physical locations/components where r-f output power is dissipated?

RF

2336. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 10:45:30 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b8d493ba-2213-4e52-850a-f8eca4d4fdcb@d37g2000yqm.googlegroups.com>
Source record: 9186

On Jun 9, 10:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> In fact, the ration between that stored energy and the amount flowing
> "through" (i.e. radiated away) is related to the directivity of the
> antenna: high directivity antennas have high stored energy (large
> magnetic and electric fields): the ratio of stored to radiated energy
> is "antenna Q" (analogous to the stored energy in a LC circuit leading
> to resonant rise).
>
> So, high directivity = high stored energy = high circulating energy =
> high I2R losses.

this is a relationship i haven't heard of before... and would be very
wary of stating so simply. it may be true for a specific type of
antenna, MAYBE Yagi's, MAYBE rhombics or or close coupled wire arrays,
but some of the most directive antennas are parabolic dishes which i
would expect to have very low Q and extremely low losses. you could
also have an antenna with very high Q, very high i^2r losses, but very
low directivity, so i would be careful about drawing a direct link
between the two.

2337. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 10:48:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ddbddaf5-7cce-4db9-bb84-39607c317575@a30g2000yqn.googlegroups.com>
Source record: 9187

On Jun 11, 12:53 am, Richard Clark <kb7...@comcast.net> wrote:
> On Thu, 10 Jun 2010 14:52:21 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >real
> >loads often change impedance with frequency
>
> Real loads also change Z with power - especially dummy loads. As a
> real load has some trait of dummy load in it (loss) the degree of Z
> change is in the degree of temperature change.
>
> 73's
> Richard Clark, KB7QHC

yeah, but thats usually a much slower process... unless you get to a
point where it flashes over the insulation!

2338. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 11:16:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D94D8570CCE6nonenowhere@61.9.191.5>
Source record: 9188

Richard Fry <rfry@adams.net> wrote in news:32a66fcc-a742-45c6-bdf1-402ac63a0b4e@c10g2000yqi.googlegroups.com:
...
>
> Could you or someone please post the same analysis when the electrical
> length of the 200 ohm transmission line is 1/4-wave rather than 1/2-
> wave, including the physical locations/components where r-f output
> power is dissipated?

Well Richard, since the example discussion implies lossless line, you know that zero power is dissipated in line losses.

Assuming that you are talking steady state...

If literally, you changed the line length in Roy's example to an electrical quarter wave, then the transmitter will see a load impedance of 800+j0, and it will develop exactly the same power in the actual load (quarter wave 200 ohm line+50+j0 load) as it would in a 800 ohm resistor connected to its output terminals. Since the line is lossless, 100% of the actual transmitter output power is absorbed by the load, dissipated if the load was a resistor. If you were to plot the instantaneous power at the transmitter output terminals vs time, it would always be positive, ie there would not be a reactive component.

The transmitter output power is probably different to that developed in a 50+j0 load for several reasons, but there is not enough information to determine that output power.

Of course, a practical line has line loss, and the heat generated under standing waves varies along the line (ie W/m is not constant), and the impedance seen by the transmitter will be a little different (including being reactive) due to the fact that Zo is not real, the VSWR is not 4, and effects of line attenuation, so actual transmitter power may be a little different.

Owen

2339. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 11:32:03 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <908e1320-965a-4e11-b02b-7ad79b2b5237@w31g2000yqb.googlegroups.com>
Source record: 9189

On Jun 11, 6:16 am, Owen Duffy <n...@no.where> wrote:

> ... The transmitter output power is probably different ...

Thank you, Owen.

Do your comments apply to a transmitter designed/adjusted for, and expecting a 50 + j 0 ohm load?

IOW, if the net output power of such a transmitter (which equals that dissipated in the load) probably is different with such a mismatch, do you expect the reason for that to be related to "reflected power?"

RF

2340. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 14:06:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e428d673-f73b-4f29-9667-abbff33d4cd3@y11g2000yqm.googlegroups.com>
Source record: 9190

On Jun 10, 10:04 pm, lu6etj <lu6...@gmail.com> wrote:
> For this discussion would be relevant the results corresponding to
> sixth column of your article using a quarter wave line.
> They are: 0 - 8 - 22 - 50 - 88.9 - 128 and 200 W (190 W the last one
> with Spice TL simulation).

I'm sorry, Miguel, using a "quarter wave line" is a mistake. You should be using a lossless 1/8WL line. The results in my article are based on a 1/8WL (45 deg) lossless line, NOT on a 1/4WL (90 deg) line. *Please re-run your Spice simulation using a 1/8WL line* and report back to us. When the line is 1/8WL long, the reflected wave arrives back at Rs 90 degrees out of phase with the forward wave and cos(90) = 0, so the interference term is zero and all the reflected power is dissipated in the source resistor. For the special case where cos(A)=0, i.e. the interference term is zero, the power density equation reduces to: Prs = Pfor + Pref + 0

Nowhere in my article did I use a 1/4WL line so please don't say that your Spice results disagree with my chart. It is perfectly understandable that your 1/4WL results do not agree with my 1/8WL results.
--
73, Cecil, w5dxp.com

2341. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 14:13:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b3d549ab-91a6-4489-ab9d-ded3c776469b@r27g2000yqb.googlegroups.com>
Source record: 9191

On Jun 11, 11:32 am, Richard Fry <r...@adams.net> wrote:
> On Jun 11, 6:16 am, Owen Duffy <n...@no.where> wrote:
>
> > ... The transmitter output power is probably different ...
>
> Thank you, Owen.
>
> Do your comments apply to a transmitter designed/adjusted for, and
> expecting a 50 + j 0 ohm load?
>
> IOW, if the net output power of such a transmitter (which equals that
> dissipated in the load) probably is different with such a mismatch, do
> you expect the reason for that to be related to "reflected power?"
>
> RF

NO! NO! NO! the difference is not due to 'reflected power'... any
difference is due to the impedance change seen by the transmitter at
its terminals.

A VERY important method of analyzing sinusoidal steady state response
of a system like a transmission line with a load on the end takes the
load impedance and transforms it using the transmission line equations
(with or without loss) back to the source terminals and then replacing
it with an equivalent impedance. as long as the load is constant and
linear this is a well known and easily proved substitution. you can
then solve for conditions seen by the source ignoring the length of
the line and load and using only a lumped impedance, therefore any
reflected wave is irrelevant when analyzing the response of the
source.

2342. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 14:34:17 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <e494b3cb-0dcb-4c24-a46d-932beeeff8d6@k39g2000yqd.googlegroups.com>
Source record: 9192

On Jun 11, 9:13 am, K1TTT <k1...@arrl.net> wrote:

> NO! NO! NO! the difference is not due to 'reflected power'... any
> difference is due to the impedance change seen by the transmitter
> at its terminals.

If the "forward" power that can be generated by a transmitter is
dependent on the degree of match of the output load to the load
specified for that transmitter, would that not mean that there would
be little/no risk of damage to the transmitter if it was operated into
a load with ~infinite SWR relative to the load it expects, such as a
short or open directly at its r-f output connector?

RF

2343. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 14:38:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <652641ea-9c61-4278-8a22-e117d81ca62c@g19g2000yqc.googlegroups.com>
Source record: 9193

On Jun 11, 10:45 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 9, 10:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
>
>
> > In fact, the ration between that stored energy and the amount flowing
> > "through" (i.e. radiated away) is related to the directivity of the
> > antenna: high directivity antennas have high stored energy (large
> > magnetic and electric fields): the ratio of stored to radiated energy
> > is "antenna Q" (analogous to the stored energy in a LC circuit leading
> > to resonant rise).
>
> > So, high directivity = high stored energy = high circulating energy =
> > high I2R losses.
>
> this is a relationship i haven't heard of before... and would be very
> wary of stating so simply. it may be true for a specific type of
> antenna, MAYBE Yagi's, MAYBE rhombics or or close coupled wire arrays,
> but some of the most directive antennas are parabolic dishes which i
> would expect to have very low Q and extremely low losses. you could
> also have an antenna with very high Q, very high i^2r losses, but very
> low directivity, so i would be careful about drawing a direct link
> between the two.

and yes, this does work for complex loads and multiple stubs and
connections to the line.

this is a reasonable description of the derivation of these
techniques, study especially the Thevenin equivalent impedance
representation on page 2-13 and how it is applied:
http://ee.sharif.edu/~comcir/readings/tran%20line.pdf

2344. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 15:03:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <87443cf0-4822-4c83-a199-d083065fb134@u7g2000yqm.googlegroups.com>
Source record: 9194

On Jun 11, 9:13 am, K1TTT <k1...@arrl.net> wrote:
> NO! NO! NO! the difference is not due to 'reflected power'... any
> difference is due to the impedance change seen by the transmitter at
> its terminals.

Please let's be careful to give all the details. The *virtual*
impedance, the ratio of Vtotal/Itotal, seen by the transmitter at its
terminals is:

Z = Vtotal/Itotal = (Vfor + Vref)/(Ifor + Iref)

where all math is phasor (vector) math. Vref and Iref are components
of the reflected wave. So the mismatch is certainly related to the
magnitude and phase of the reflected wave. If the Z0 of the
transmission line is the impedance for which the transmitter was
designed, we can go as far as to say that the reflected wave causes
the mismatch, the virtual impedance that deviates from the Z0 of the
line. Before the reflected wave arrives back at the transmitter, the
transmitter sees the Z0 of the transmission line. The mismatch
develops when the reflected wave arrives.
--
73, Cecil, w5dxp.com

2345. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 15:36:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2ffa458c-0dfb-40b4-ba0e-d1f3f9d58796@u26g2000yqu.googlegroups.com>
Source record: 9195

On Jun 11, 3:03 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 11, 9:13 am, K1TTT <k1...@arrl.net> wrote:
>
> > NO! NO! NO! the difference is not due to 'reflected power'... any
> > difference is due to the impedance change seen by the transmitter at
> > its terminals.
>
> Please let's be careful to give all the details. The *virtual*
> impedance, the ratio of Vtotal/Itotal, seen by the transmitter at its
> terminals is:
>
> Z = Vtotal/Itotal = (Vfor + Vref)/(Ifor + Iref)
>
> where all math is phasor (vector) math. Vref and Iref are components
> of the reflected wave. So the mismatch is certainly related to the
> magnitude and phase of the reflected wave. If the Z0 of the
> transmission line is the impedance for which the transmitter was
> designed, we can go as far as to say that the reflected wave causes
> the mismatch, the virtual impedance that deviates from the Z0 of the
> line. Before the reflected wave arrives back at the transmitter, the
> transmitter sees the Z0 of the transmission line. The mismatch
> develops when the reflected wave arrives.
> --
> 73, Cecil, w5dxp.com

i wouldn't call it a 'virtual' impedance, it is a very real impedance.
it is the steady state impedance seen by the transmitter at its output
terminals. once the transient response rings down the waves in the
line beyond the terminals are irrelevant and the constant impedance
can be used to calculate the voltage, current, and power in the
source. in the steady state (which except in special cases is
entirely adequate for amateur use) the mechanism of generating that
impedance is irrelevant, waves or not it can be represented by a
constant value and the source won't know the difference.

2346. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 16:10:49 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <d1cadae4-d0ac-4541-807b-20409f9ac358@t10g2000yqg.googlegroups.com>
Source record: 9196

On Jun 10, 4:52 pm, K1TTT <k1...@arrl.net> wrote:

> > but reflection coefficients and the the computation of forward
> > and reflected voltages, currents and powers are waveshape
> > independant.
>
> only as long as the loads are perfectly resistive and linear. real
> loads often change impedance with frequency and so distort the
> reflection of complex waveforms. use a scope with a good risetime
> and a decent fast rise time pulse and you'll see it.

It can be very close, though, if the system is designed/optimized
properly.

Below is a link leading to the r-f pulse measurement of a UHF TV
broadcast antenna system that I made as an RCA field engineer some 35
years ago. The incident and reflected waveforms are very similar.

The Z-match of this antenna was optimized to the transmission line
using a variable transformer at the input to the antenna, which
antenna was installed atop a ~ 1,500 foot tower (note the ~3 µs round
trip for the reflection, at ~492 feet/µs).

The H.A.D. of this sin^2 pulse denotes an r-f bandwidth approximately
as great as can be carried by a 6 MHz analog US TV channel.

http://i62.photobucket.com/albums/h85/rfry-100/RFPulseMeasurement.gif

RF

2347. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 16:18:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <738bea41-ea6c-4208-a31b-9ba711f2b697@x21g2000yqa.googlegroups.com>
Source record: 9197

On Jun 11, 10:36 am, K1TTT <k1...@arrl.net> wrote:
> i wouldn't call it a 'virtual' impedance, it is a very real impedance.

Yes, it meets the (B) non-dissipative definition of impedance from "The IEEE Dictionary". It doesn't meet the (A) dissipative definition and it is not an impedor as it only exists as a V/I ratio. That's why I call it a virtual impedance. There is no resistor, there is no inductor, and there is no capacitor. There is only a V/I ratio caused by something else.

> it is the steady state impedance seen by the transmitter at its output
> terminals.

And it is a V/I ratio caused by the superposition of the forward wave and reflected wave, i.e. it would NOT be the same impedance without the reflected wave. That fact of physics is undeniable.

When we have an actual impedor, i.e. a resistor plus an inductor or a capacitor, the voltage/current ratio is caused by the impedor. When we have a virtual impedance, the cause/effect procedure is reversed and the impedance is caused by the voltage/current ratio which may (or may not) contain both forward and reflected values.

For the two definitions of impedance, (A) and (B), given in "The IEEE Dictionary", cause and effect are reversed.

Let's take an example. Assume a 50 ohm load resistor fed with 1/2WL of 300 ohm lossless line. If we assume a 100 watt (50 ohm) source, the forward power will be 204 watts and the reflected power will be 104 watts.

100w Source----1/2WL 300 ohm feedline----50 ohm load

In the feedline, a forward power of 204 watts is a forward voltage of 247.3 volts and a forward current of 0.825 amps.

In the feedline, a reflected power of 104 watts is a reflected voltage of 176.6 volts and a reflected current of 0.589 amps.

The reflected voltage is 180 degrees out of phase with the forward voltage at the transmitter, so the superposed voltage at the transmitter is 70.7 volts. The reflected current is in phase with the forward current at the transmitter so the superposed current is 1.414 amps. Since everything is either in phase or 180 degrees out of phase, phasor addition is not needed. So I repeat, the impedance seen by the transmitter is:

Z = (Vfor - Vref)/(Ifor + Iref)

Z = (247.3 - 176.6)/(0.825 + 0.589)

Z = 70.7/1.414 = 50 ohms, NON-DISSIPATIVE!

It is clear that the superposition of the forward wave with the reflected wave is the CAUSE of the 50 ohm impedance. That particular impedance cannot exist without the effects of the reflected wave.

Using a math model for answers to problems for so long that one comes to believe that the model dictates reality is a major contributor to the myths and old wives' tales that exist in amateur radio today. It's time to get back to the basics even if it causes a few old rusty brains to be put in gear for the first time in decades.
--
73, Cecil, w5dxp.com

2348. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 17:09:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <6o2dnVU1CYsi8l_RnZ2dnUVZ_rudnZ2d@giganews.com>
Source record: 9198

Richard Fry wrote:
> On Jun 11, 6:16 am, Owen Duffy <n...@no.where> wrote:
>
>> ... The transmitter output power is probably different ...
>
> Thank you, Owen.
>
> Do your comments apply to a transmitter designed/adjusted for, and
> expecting a 50 + j 0 ohm load?
>
> IOW, if the net output power of such a transmitter (which equals that
> dissipated in the load) probably is different with such a mismatch, do
> you expect the reason for that to be related to "reflected power?"
>
> RF

We've had this discussion many times before, but with no apparent change in your perceptions of the nature of "reflected power".

But why would you expect the "reflected power" to have a different effect when the transmission line is a quarter wavelength than when it's a half wavelength? Can you write an equation giving the supposed dissipation caused by "reflected power" as a function of transmission line length?

Roy Lewallen, W7EL

2349. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 17:28:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <17ecec06-4fe5-4b37-905e-cf8c4cc86a14@w12g2000yqj.googlegroups.com>
Source record: 9199

On Jun 11, 4:18 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 11, 10:36 am, K1TTT <k1...@arrl.net> wrote:
>
> > i wouldn't call it a 'virtual' impedance, it is a very real impedance.
>
> Yes, it meets the (B) non-dissipative definition of impedance from
> "The IEEE Dictionary". It doesn't meet the (A) dissipative definition
> and it is not an impedor as it only exists as a V/I ratio. That's why
> I call it a virtual impedance. There is no resistor, there is no

and that is part of the problem in here... 'you call it'. what is the
definition of 'virtual impedance' in the ieee dictionary?

2350. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 17:29:56 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <9596bcb2-e9b4-4f4b-a2c9-5f08117aea58@u26g2000yqu.googlegroups.com>
Source record: 9200

On Jun 11, 12:09 pm, Roy Lewallen <w...@eznec.com> wrote:

> But why would you expect the "reflected power" to have a different
> effect when the transmission line is a quarter wavelength than when it's
> a half wavelength?

If reflected power is fictitious, and the number wavelengths of transmission line of any random impedance compared to the load connected to it makes no difference in the load seen by the transmitter, the output power produced by the transmitter, and the power dissipated in the far-end termination, then what is the reason you chose a 1/2 wavelength of transmission line in your quoted post?

RF

2351. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 17:56:45 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <27c02a0f-975f-4a54-863e-5a92df62ba83@d37g2000yqm.googlegroups.com>
Source record: 9051

On Jun 11, 12:29 pm, Richard Fry <r...@adams.net> wrote:

> If reflected power is fictitious, etc

Followup: Those denying the existence of reflected signals within an
antenna system may wish to view the measurement of such signals, at
the link below.

http://i62.photobucket.com/albums/h85/rfry-100/RFPulseMeasurement.gif

RF

2352. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 19:01:36 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fdf5647e-b156-4ce9-901d-e158f6b2ec21@c33g2000yqm.googlegroups.com>
Source record: 9052

On Jun 11, 12:09 pm, Roy Lewallen <w...@eznec.com> wrote:
> But why would you expect the "reflected power" to have a different
> effect when the transmission line is a quarter wavelength than when it's
> a half wavelength?

Good Grief! Because the interference has the opposite result between
the two examples?
--
73, Cecil, w5dxp.com

2353. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 19:19:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <822865ab-9b79-4f29-9435-c1edcb95c4aa@r27g2000yqb.googlegroups.com>
Source record: 9053

On Jun 11, 12:28 pm, K1TTT <k1...@arrl.net> wrote:
> and that is part of the problem in here... 'you call it'. what is the
> definition of 'virtual impedance' in the ieee dictionary?

"The IEEE Dictionary" has no such definition. Those are my words
adopted from "Reflections", by Walter Maxwell, and designed to
differentiate between the (A) and (B) definitions of "impedance" in
"The IEEE Dictionary". Calling the V/I (B) definition of impedance,
"virtual", is much more descriptive than calling it "the (B)
definition".

Walt is arguing that the impedance of an RF source is "non-
dissipative". Ratios of V/I are non-dissipative if they exist devoid
of an impedor. Walt adopted the word "virtual" from the optics
"virtual image". It is an image that is not really there in reality. A
virtual impedance would therefore be the image of an impedor that is
not really there.

I'm not hung up on the word "virtual". What adjective would you use to
differentiate between a dissipative impedor and a V/I non-dissipative
impedance? I am not trying to be difficult - just trying to
communicate. I'm willing to adopt any convention that you suggest for
the duration of this discussion.
--
73, Cecil, w5dxp.com

2354. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 19:27:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f16aae8e-36a2-46a3-ac4e-5eb229ee2bb2@k39g2000yqb.googlegroups.com>
Source record: 9054

On Jun 11, 12:56 pm, Richard Fry <r...@adams.net> wrote:
> Followup: Those denying the existence of reflected signals within an
> antenna system may wish to view the measurement of such signals, at
> the link below.

Or at this link. Scroll down to "Using Dielectric Beamsplitters to
find the "missing energy" in destructive interference".

http://www.teachspin.com/instruments/moderni/experiments.shtml

I guarantee that every optical physicist who is reading this thread is
laughing at the ignorance of the alleged RF gurus.
--
73, Cecil, w5dxp.com

2355. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 20:08:41 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <510d2db0-df70-4433-a216-46cee2b48a91@c33g2000yqm.googlegroups.com>
Source record: 9055

On Jun 11, 12:09 pm, Roy Lewallen <w...@eznec.com> wrote:

> Can you write an equation giving the supposed dissipation caused
> by "reflected power" as a function of transmission line length?

I'll just quote the following from Chapter 24-11 of REFERENCE DATA FOR RADIO ENGINEERS, 1975 Edition:

QUOTE
A load of 0.4-j2000 ohms is fed through a length of RG-218/U cable at a frequency of 2.0 MHz. What are the input impedance and efficiency for a 24-foot length and a 124-foot length?

(Omitting the number crunching shown...)

Tabulating the results,

Input
Length Impedance Efficiency Loss
(feet) (ohms) (%) (dB)

24 0.106-j95 1.1 19.6
124 1.8+j55 0.03 35

The considerably greater loss for 124 feet compared with 24 feet is because the transmission passes through a current maximum, where the loss per unit length is much higher than at the current minimum.
END QUOTE

As the input Z for each of these lengths is not the same as their 0.4-j2000 ohm termination, this shows the dependence of the performance of such systems on the electrical lengths of the transmission line in use.

I realize we have strayed into the real world here, because RG-218/U transmission line is not lossless even when perfectly matched at both ends.

RF

2356. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 20:31:42 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D954264F43ECnonenowhere@61.9.191.5>
Source record: 9056

Richard Fry <rfry@adams.net> wrote in news:908e1320-965a-4e11-b02b-7ad79b2b5237@w31g2000yqb.googlegroups.com:

> On Jun 11, 6:16 am, Owen Duffy <n...@no.where> wrote:
>
>> ... The transmitter output power is probably different ...
>
> Thank you, Owen.
>
> Do your comments apply to a transmitter designed/adjusted for, and
> expecting a 50 + j 0 ohm load?

In answer to the question you directly asked, yes. But that says nothing of whether such a transmitter, in the general case, is well represented by a Thevenin equivalent circuit with Zeq=50+j0.

As you know, there is a proposition that a transmitter "designed/adjusted for, and expecting a 50 + j 0 ohm load" can be well represented by a Thevenin equivalent circuit and naturally has Zeq=50+j0. However, that proposition is easily proven wrong by valid experiments in the real world, and those of us who have done such experiments are disinclined to accept the proposition.

>
> IOW, if the net output power of such a transmitter (which equals that
> dissipated in the load) probably is different with such a mismatch, do
> you expect the reason for that to be related to "reflected power?"

Average power at the transmitter terminals is given by the average value of the instantaneous product of v and i over time. There is no need for "net" in the calculation. The average power delivered by the transmitter will depend on the load impedance (ie the complex ratio of v/i) at its load terminals, but that dependence is not well predicted in the general case by a Thevenin equivalent circuit.

I gave a link to a simple experiment to test Zeq of a tx, and that uses equipment found in most ham shacks. The article is at http://vk1od.net/blog/?p=1028 .

Owen

2357. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 20:57:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9546B611208nonenowhere@61.9.191.5>
Source record: 9057

Richard Fry <rfry@adams.net> wrote in news:510d2db0-df70-4433-a216-46cee2b48a91@c33g2000yqm.googlegroups.com:

> On Jun 11, 12:09 pm, Roy Lewallen <w...@eznec.com> wrote:
>
>> Can you write an equation giving the supposed dissipation caused
>> by "reflected power" as a function of transmission line length?
>
> I'll just quote the following from Chapter 24-11 of REFERENCE DATA FOR
> RADIO ENGINEERS, 1975 Edition:
>
> QUOTE
...
> The considerably greater loss for 124 feet compared with 24 feet is
> because the transmission passes through a current maximum, where the
> loss per unit length is much higher than at the current minimum.
> END QUOTE

The author acknowledges that loss under standing waves is not uniform, that in this case, it is higher in the region of a current maximum. That is simply explained the I^R effects on the conductors (which account for most of the loss in most practical coax cables at that frequency).

If you treated the forward and reflected waves as travelling independently, and each attenuated by the matched line loss characteristic of the line, you would get a different (and incorrect) result. It happens that we sometimes make that approximation, and under many practical scenarious, it gives a result with acceptable error, it is nevertheless less accurate because the model is poorer.

>
> As the input Z for each of these lengths is not the same as their 0.4-
> j2000 ohm termination, this shows the dependence of the performance of
> such systems on the electrical lengths of the transmission line in
> use.

Yes, it does, and not simply on the VSWR as often inferred.

But that does not change the transmitter's behaviour in its output power being sensitive the the impedance at its load terminals, however that impedance is derived, and your response has not answered Roy's question, well at least in my mind.

>
> I realize we have strayed into the real world here, because RG-218/U
> transmission line is not lossless even when perfectly matched at both

> ends.

Indeed, under some circumstances, the line can have less loss when not perfectly matched. Yes, throw those treasured graphs of ExtraLoss vs VSWR away, they depend on assumptions not usually stated.

Cases similar to the example you quoted can be solved using TLLC at http://www.vk1od.net/calc/tl/tllc.php . An interesting case is to explore the loss in 1m of RG58C/U at 3.6MHz with 50+j0, 500+j0, and 5+j0 loads. The latter two are VSWR=10, but have quite different loss. The first two cases demonstrate that VSWR does not necessarily cause extra loss (compared to the matched line case).

Owen

2358. See Hot Sexy Star KAJOL Nude Bathing Videos In All Angles.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 20:59:45 UTC
From: kajal agarwal <maaindia10@gmail.com>
Message-ID: <1fb97b13-3520-41b7-9efb-b3963f583d5e@n20g2000prh.googlegroups.com>
Source record: 9058

See Hot Sexy Star KAJOL Nude Bathing Videos In All Angles.
at http://mastidunia.co.cc

Due to high sex content,i have hidden the videos in an image. in
that
website on left side below search box click on image and watch
videos in all angles.please dont tell to anyone.

2359. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 21:11:14 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <bf120c7d-cf63-4a5e-9fef-1eddb84ef37c@k39g2000yqd.googlegroups.com>
Source record: 9059

On 11 jun, 11:06, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 10, 10:04 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > For this discussion would be relevant the results corresponding to
> > sixth column of your article using a quarter wave line.
> > They are: 0 - 8 - 22 - 50 - 88.9 - 128 and 200 W (190 W the last one
> > with Spice TL simulation).
>
> I'm sorry, Miguel, using a "quarter wave line" is a mistake. You
> should be using a lossless 1/8WL line. The results in my article are
> based on a 1/8WL (45 deg) lossless line, NOT on a 1/4WL (90 deg) line.
> *Please re-run your Spice simulation using a 1/8WL line* and report
> back to us. When the line is 1/8WL long, the reflected wave arrives
> back at Rs 90 degrees out of phase with the forward wave and cos(90) =
> 0, so the interference term is zero and all the reflected power is
> dissipated in the source resistor. For the special case where
> cos(A)=0, i.e. the interference term is zero, the power density
> equation reduces to: Prs = Pfor + Pref + 0
>
> Nowhere in my article did I use a 1/4WL line so please don't say that
> your Spice results disagree with my chart. It is perfectly
> understandable that your 1/4WL results do not agree with my 1/8WL
> results.
> --
> 73, Cecil, w5dxp.com

Yes it is OK I am not saying your article use 1/4, In a previous post
I said with 1/8 lambda TL, results support your idea of Pref
dissipating on Rs (is correct my interpretation of your idea?).
Yesterdey I posted results calculated for a 1/4 lambda TL to comparing
both ponting to 1/4 lambda results did not agree with a Pref
dissipating on RS.
Then, I thought you are not intending generalize the very common
notion of.Pref returnig to generator but seem to me you are
hypothesizing there are different mechanisms dealing with Pref
depending of the line length. Is It OK?

(Meanwhile I will take a look at the new thread to look if I can find
exactly what is the heart of this question ;>))

73 - Miguel - LU6ETJ

PS: Thanks Richard, I would not have guessed it without your help.
Really a very interesting electronics job! I'm glad you're interested
in our films.. Of course here I grew up with the ubiquitous Hollywood

movies and I am very familiar with it and his old and popular TV series. Before I go to bed this early morning I visited your QTH vía Google streets panoramic photographies. Also I saw David -K1TTT- watching his computer screen via his robotic webcam. I shake hands in front of my PC monitor to greet him but did not see me :>D

2360. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 21:29:17 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <da9977d6-7b42-4e76-be1a-0766a3442682@x27g2000yqb.googlegroups.com>
Source record: 9060

On Jun 11, 7:19 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 11, 12:28 pm, K1TTT <k1...@arrl.net> wrote:
>
> > and that is part of the problem in here... 'you call it'. what is the
> > definition of 'virtual impedance' in the ieee dictionary?
>
> "The IEEE Dictionary" has no such definition. Those are my words
> adopted from "Reflections", by Walter Maxwell, and designed to
> differentiate between the (A) and (B) definitions of "impedance" in
> "The IEEE Dictionary". Calling the V/I (B) definition of impedance,
> "virtual", is much more descriptive than calling it "the (B)
> definition".
>
> Walt is arguing that the impedance of an RF source is "non-
> dissipative". Ratios of V/I are non-dissipative if they exist devoid
> of an impedor. Walt adopted the word "virtual" from the optics
> "virtual image". It is an image that is not really there in reality. A
> virtual impedance would therefore be the image of an impedor that is
> not really there.

what is an 'impedor' in this context? that is a relatively rarely
used term in circuit and wave analysis, but is generically defined as
anything that has an impedance. that doesn't seem to fit your
definition though if you can qualify an impedance as non-dissipative
if they don't have one.

>
> I'm not hung up on the word "virtual". What adjective would you use to
> differentiate between a dissipative impedor and a V/I non-dissipative
> impedance? I am not trying to be difficult - just trying to
> communicate. I'm willing to adopt any convention that you suggest for
> the duration of this discussion.

the ieee dictionary qualifiers of dissipative and non-dissipative seem
adequate to me. no need to make up any other terms or qualifiers.

2361. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 21:49:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ac6fc31f-8034-4aac-b46a-3d3cc49ee32b@s9g2000yqd.googlegroups.com>
Source record: 9061

On Jun 11, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
> what is an 'impedor' in this context?

Hopefully, the same IEEE Dictionary definition as any other context:
"impedor - a device, the purpose of which is to introduce impedance
into an electric circuit." Note that it has a material existence.

> the ieee dictionary qualifiers of dissipative and non-dissipative seem
> adequate to me. no need to make up any other terms or qualifiers.

OK, I will change "virtual impedance" to "non-dissipative impedance"
although if the resistance is zero, that still doesn't solve the
semantic problem. The word "virtual" as used by Walter Maxwell over
the past half-century conveys the meaning as well as any other words,
IMO.

The fact remains that a dissipative impedor is something that exists
in the material world and can cause an outcome. A non-dissipative
impedance is a *result* of a superposed V/I ratio, not a cause of
anything.

Roy once challenged me to detect the difference between a 50 ohm
antenna and a 50 ohm dummy load. I said, "Simple, use a field strength
meter."
--
73, Cecil, w5dxp.com

2362. Re: Question about "Another look at reflections" article.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 21:58:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <de29cf74-d85d-4a42-8b2f-5e00a74e6c9e@k39g2000yqb.googlegroups.com>
Source record: 9062

On Jun 11, 4:11 pm, lu6etj <lu6...@gmail.com> wrote:
> Then, I thought you are not intending generalize the very common
> notion of.Pref returnig to generator but seem to me you are
> hypothesizing there are different mechanisms dealing with Pref
> depending of the line length. Is It OK?

Yes, a 1/8WL line is a *SPECIAL CASE* where zero interference exists.
In the power density equation:

Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)

if A = 90, then cos(A) = 0 and there is no interference term and no
interference. When you go to a 1/4WL line, it is no longer a special
case where cos(A)=0 and I have not published anything on my web page
about that condition.
--
73, Cecil, w5dxp.com

2363. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 22:03:40 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5f33cf88-c2fe-4979-a79b-5770db38b473@b35g2000yqi.googlegroups.com>
Source record: 9063

On 11 jun, 16:27, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 11, 12:56 pm, Richard Fry <r...@adams.net> wrote:
>
> > Followup: Those denying the existence of reflected signals within an
> > antenna system may wish to view the measurement of such signals, at
> > the link below.
>
> Or at this link. Scroll down to "Using Dielectric Beamsplitters to
> find the "missing energy" in destructive interference".
>
> http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> I guarantee that every optical physicist who is reading this thread is
> laughing at the ignorance of the alleged RF gurus.
> --
> 73, Cecil, w5dxp.com

Hello, here we are...! :>)

At the risk of naïve and conciliatory I still thinking that to some
extent this is a problem of "same cat seen from different points of
view".

What if the question is formulated in terms apart, for example =>
generator responses to load differences, and by what mechanism a
transmission line transforms impedances to presents to the generator
those different loads?
In that formulation I think there are room to simple, basic, and
understandable electrical laws to account for generator behaviour and
TL travelling waves interference phenomenom to account for Z
transformings.

From my perspective your main differences are reducible

73

Miguel Ghezzi - LU6ETJ

2364. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 22:14:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c46ebf11-1894-4c69-b5de-24e37ad1605f@d37g2000yqm.googlegroups.com>
Source record: 9064

On Jun 11, 10:03 pm, lu6etj <lu6...@gmail.com> wrote:
> On 11 jun, 16:27, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 11, 12:56 pm, Richard Fry <r...@adams.net> wrote:
>
> > > Followup: Those denying the existence of reflected signals within an
> > > antenna system may wish to view the measurement of such signals, at
> > > the link below.
>
> > Or at this link. Scroll down to "Using Dielectric Beamsplitters to
> > find the "missing energy" in destructive interference".
>
> >http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> > I guarantee that every optical physicist who is reading this thread is
> > laughing at the ignorance of the alleged RF gurus.
> > --
> > 73, Cecil, w5dxp.com
>
> Hello, here we are...! :>)
>
> At the risk of naïve and conciliatory I still thinking that to some
> extent this is a problem of "same cat seen from different points of
> view".
>
> What if the question is formulated in terms apart, for example =>
> generator responses to load differences, and by what mechanism a
> transmission line transforms impedances to presents to the generator
> those different loads?
> In that formulation I think there are room to simple, basic, and
> understandable electrical laws to account for generator behaviour and
> TL travelling waves interference phenomenom to account for Z
> transformings.
>
> From my perspective your main differences are reducible
>
> 73
>
> Miguel Ghezzi - LU6ETJ

of course, but that is no fun!

2365. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 23:27:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ppe5165nnalm8jpobdt62p2s03sfn31dqj@4ax.com>
Source record: 9065

On Fri, 11 Jun 2010 14:29:17 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>you can qualify an impedance as non-dissipative

It's called reactance.

There are certainly some contortions that have evolved from an
argument that the source lacks the ability to dissipate.

Impedance = (R ï¿½ jX) Ohm

This is well known by all and yet it seems unsatisfactory and
impossible to measure in a Tube even when R is exhibited both by
measurement and by heat - something that by all normal accounts is
evidence of dissipation. That same heat seems to be unaccountable
because it's non-linear? If you use this heat on an ice cube, do you
get harmonics? Even or odd?

If it doesn't dissipate it must be because it has NOhms. If we embark
further on this mysterious Load Conjugation with a loss-less resistor,
what would we see for the Load Objurgation formula?

rraaZ = (Rr ï¿½ iR ï¿½ jX) NOhm

We must now have a Nimpedance measured along a second (hither too
unreported) imaginary axis. I can imagine the dawn of the new Photon
Ninterferences that will emerge from this.

KEWEL !

73's
Richard Clark, KB7QHC

2366. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-11 23:41:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <o0i516lk6hechvvr2nfbbb02ap4nvqssvt@4ax.com>
Source record: 9066

On Fri, 11 Jun 2010 20:31:42 GMT, Owen Duffy <none@no.where> wrote:

>there is a proposition that a transmitter "designed/adjusted
>for, and expecting a 50 + j 0 ohm load" can be well represented by a
>Thevenin equivalent circuit and naturally has Zeq=50+j0. However, that
>proposition is easily proven wrong by valid experiments in the real
>world

Using the same transmitter originally "designed/adjusted
for, and expecting a 50 + j 0 ohm load"?

I don't suppose this anecdote has any data behind it, does it?

The easy proof has yet to wrong Walt's proposition - or did he state
something to the contrary my reading that he represented a Thevenin
equivalent circuit in the first two steps of his recent report?

73's
Richard Clark, KB7QHC

2367. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 00:19:34 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9569032E99Enonenowhere@61.9.191.5>
Source record: 9067

Richard Clark <kb7qhc@comcast.net> wrote in
news:o0i516lk6hechvvr2nfbbb02ap4nvqssvt@4ax.com:

> On Fri, 11 Jun 2010 20:31:42 GMT, Owen Duffy <none@no.where> wrote:
...
> I don't suppose this anecdote has any data behind it, does it?

I have performed many tests on many radios. One documented example is at
http://vk1od.net/blog/?p=1045 .

The concept is dealt with in more depth at http://vk1od.net/blog/?p=1028
.

Thing is that those supporting the Zeq=50 proposition, declare that since
the test showed that Zeq (or Zs in the article) is not approximately 50
+j0, then the radio isn't "designed/adjusted for, and expecting a 50 + j
0 ohm load".

Thing is that you cannot use the measured VSWR to reasonably predict the
reduction in power output (Mismatch Loss) on many HF ham radio
transceivers.

I invite you and others to perform the same test. You will realise that
one, or even 100 supporting tests do not prove the proposition, but one
valid test to the contrary is damaging.

Owen

2368. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 00:35:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f8e08808-2f4a-43ab-bb10-4eb0f578d089@r27g2000yqb.googlegroups.com>
Source record: 9068

On Jun 11, 11:27 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 11 Jun 2010 14:29:17 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >you can qualify an impedance as non-dissipative
>
> It's called reactance.

not always. there is a non-dissipative resistance. a lossless
transmission line has a pure real impedance, but no dissipation.

2369. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 00:41:31 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9f7dafd3-2779-4146-9d7b-707ba306ca56@u7g2000yqm.googlegroups.com>
Source record: 9069

On Jun 12, 12:19 am, Owen Duffy <n...@no.where> wrote:
> Richard Clark <kb7...@comcast.net> wrote
innews:o0i516lk6hechvvr2nfbbb02ap4nvqssvt@4ax.com:
>
>
>
> > On Fri, 11 Jun 2010 20:31:42 GMT, Owen Duffy <n...@no.where> wrote:
> ...
> > I don't suppose this anecdote has any data behind it, does it?
>
> I have performed many tests on many radios. One documented example is
athttp://vk1od.net/blog/?p=1045.
>
> The concept is dealt with in more depth athttp://vk1od.net/blog/?p=1028
> .
>
> Thing is that those supporting the Zeq=50 proposition, declare that since
> the test showed that Zeq (or Zs in the article) is not approximately 50
> +j0, then the radio isn't "designed/adjusted for, and expecting a 50 + j
> 0 ohm load".
>
> Thing is that you cannot use the measured VSWR to reasonably predict the
> reduction in power output (Mismatch Loss) on many HF ham radio
> transceivers.
>
> I invite you and others to perform the same test. You will realise that
> one, or even 100 supporting tests do not prove the proposition, but one
> valid test to the contrary is damaging.
>
> Owen

define "mismatch loss".

and why would you expect that vswr is a good predictor of power
output? other than radios that use vswr sensing circuits to reduce
power output to protect their output transistors?

and why would anyone expect the output of an rf amplifier to be linear
except in a narrow range of selected loads and tuning conditions?
thats just plain crazy!

2370. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 01:01:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9570305765Dnonenowhere@61.9.191.5>
Source record: 9070

K1TTT <k1ttt@arrl.net> wrote in
news:9f7dafd3-2779-4146-9d7b-707ba306ca56@u7g2000yqm.googlegroups.com:

>
> define "mismatch loss".

Mismatch loss is the reduction in power available in a mismatched load
compared to a matched load. Mismatch Loss can be calculated in linear
systems with Zs purely real as 1-rho^2. I wrote some notes at
http://vk1od.net/blog/?p=659 which discusses the underlying assumptions.

>
> and why would you expect that vswr is a good predictor of power
> output? other than radios that use vswr sensing circuits to reduce
> power output to protect their output transistors?

The concept of Mismatch Loss is a sound one, but application to a typical
ham transmitter is flawed because the underlying assumptions are violated
.

>
> and why would anyone expect the output of an rf amplifier to be linear
> except in a narrow range of selected loads and tuning conditions?
> thats just plain crazy!
>

Yes.

Owen

2371. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 02:26:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <825de906-a13e-46d4-a03b-736c46676ef6@u7g2000yqm.googlegroups.com>
Source record: 9071

On Jun 11, 5:03 pm, lu6etj <lu6...@gmail.com> wrote:
> From my perspective your main differences are reducible

The basic argument revolves around what math shortcuts can be used to solve a particular problem vs what is actually happening in reality according to the accepted laws of physics. I agree one doesn't necessarily need to understand the laws of physics to solve a problem but one should probably know enough physics to recognize when those laws of physics are being violated by one's argument.
--
73, Cecil, w5dxp.com

2372. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 04:24:49 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <040439cf-88e6-4d22-a93f-2bc73bdee239@u7g2000yqm.googlegroups.com>
Source record: 9072

On 11 jun, 23:26, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 11, 5:03 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > From my perspective your main differences are reducible
>
> The basic argument revolves around what math shortcuts can be used to
> solve a particular problem vs what is actually happening in reality
> according to the accepted laws of physics. I agree one doesn't
> necessarily need to understand the laws of physics to solve a problem
> but one should probably know enough physics to recognize when those
> laws of physics are being violated by one's argument.
> --
> 73, Cecil, w5dxp.com
....
> of course, but that is no fun!
I agree :D :D
.....
As a courtesy to me, a foreigner tourist ham, would you mind stop for
a brief moment your more general differences and tell me if you agree
on the behavior of a Thevenin generator with a series resistance of 50
ohms in relation to changes in impedance of a lossless TL predicted by
the Telegrapher's equations solutions in terms of the power dissipated
on the load resistance and series resistence of Thevenin source?
I am pretty serious about this: until today I could not know if you
agree in that!! :>)

2373. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 10:49:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4d913430-0cbe-41d0-b098-83ce94e3d9c4@y11g2000yqm.googlegroups.com>
Source record: 9073

On Jun 12, 4:24 am, lu6etj <lu6...@gmail.com> wrote:
> On 11 jun, 23:26, Cecil Moore <w5...@hotmail.com> wrote:> On Jun 11, 5:03 pm, lu6etj
<lu6...@gmail.com> wrote:
>
> > > From my perspective your main differences are reducible
>
> > The basic argument revolves around what math shortcuts can be used to
> > solve a particular problem vs what is actually happening in reality
> > according to the accepted laws of physics. I agree one doesn't
> > necessarily need to understand the laws of physics to solve a problem
> > but one should probably know enough physics to recognize when those
> > laws of physics are being violated by one's argument.
> > --
> > 73, Cecil, w5dxp.com
> ....
> > of course, but that is no fun!
>
> I agree :D :D
> .....
> As a courtesy to me, a foreigner tourist ham, would you mind stop for
> a brief moment your more general differences and tell me if you agree
> on the behavior of a Thevenin generator with a series resistance of 50
> ohms in relation to changes in impedance of a lossless TL predicted by
> the Telegrapher's equations solutions in terms of the power dissipated
> on the load resistance and series resistence of Thevenin source?
> I am pretty serious about this: until today I could not know if you
> agree in that!! :>)

sure, if you properly apply the telegrapher's equations and the
thevenin equivalent methods. The real problem is that if you try to
do that for most amateur radio transmitters the source impedance is
not linear, and even worse may be time varying, which renders the
thevenin equivalent source substitution invalid.

Note though that in real world cases you need to use the full set of
equations, usually called by engineers the 'general transmission line
equations'. beware, some places may over simplify the telegrapher's
equations which may make them invalid in some cases. The
Telegrapher's equations (http://en.wikipedia.org/wiki/Telegrapher
%27s_equations), are often considered a subset of the 'General
transmission line equations (http://en.wikipedia.org/wiki/
Transmission_line) that are taught in distributed circuits and fields
and waves courses in engineering schools.

2374. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 10:51:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a5ce8cb6-4cab-422f-b346-21df09369afc@5g2000yqz.googlegroups.com>
Source record: 9074

On Jun 12, 2:26 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 11, 5:03 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > From my perspective your main differences are reducible
>
> The basic argument revolves around what math shortcuts can be used to
> solve a particular problem vs what is actually happening in reality
> according to the accepted laws of physics. I agree one doesn't
> necessarily need to understand the laws of physics to solve a problem
> but one should probably know enough physics to recognize when those
> laws of physics are being violated by one's argument.
> --
> 73, Cecil, w5dxp.com

rather than worrying about basic physics, the real problem here is
that analysis of a non-linear circuit is being attempted using
techniques that are only valid for linear circuits.

2375. Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 12:57:02 UTC
From: David <nospam@nospam>
Message-ID: <p8WdnXAdfpeAGY7RnZ2dnUVZ8iOdnZ2d@bt.com>
Source record: 9075

Antenna is a quarterwave vertical with quarterwave radials.

There is a difference in operation between transmit and receive modes.

In receive mode, an incident plane wave is exciting the radials. The induced currents are a function of angle around the antenna. A system of radials imperfectly reflects the incident wave, and the reflected wave is hard to calculate.

In transmit mode, the antenna base is driven by the source. The currents in the radial system are symmetrical around the antenna, NOT a function of angle, so they produce no net radiation, but do affect the input impedance.

In receive mode, the current induced in each radial is related to the direction of the incoming wave. For example, radials closest to the incoming wave experience the strongest field.

Does the radiation pattern override the direction of the incoming wave? The radiation pattern is omnidirectional or circular.

I suspect that the radiation pattern takes the incoming wave and spreads it evenly around the antenna, forming an electromagnetic field that is the same as the radiation pattern.

Even if parts of the antenna experience the strongest field due to the direction of the incoming wave, the radiation pattern means that the field is symmetrical. Is this correct?

A uniform radiation pattern means that the electromagnetic field is spread evenly around the antenna irrespective of which direction the wave is being received. Is this true?

2376. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 13:10:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0427038e-d15d-41da-a643-8eb9c07519c8@e5g2000yqn.googlegroups.com>
Source record: 9076

On Jun 11, 11:24 pm, lu6etj <lu6...@gmail.com> wrote:
> As a courtesy to me, a foreigner tourist ham, would you mind stop for
> a brief moment your more general differences and tell me if you agree
> on the behavior of a Thevenin generator with a series resistance of 50
> ohms in relation to changes in impedance of a lossless TL predicted by
> the Telegrapher's equations solutions in terms of the power dissipated
> on the load resistance and series resistence of Thevenin source?
> I am pretty serious about this: until today I could not know if you
> agree in that!! :>)

Miguel, I don't think there is much disagreement about things that are easily measured, like voltage and current. One solution to the telegrapher's equations involves forward and reflected waves of voltage and current. The conventional way of handling power (energy/unit-time) is to use the voltages and currents to calculate the power at certain points of interest. The telegrapher's equations do not tell us *why* the power is what it is and the energy is where it is. To obtain the why, one must study the behavior of electromagnetic waves. How does the energy in electromagnetic waves behave? The telegrapher's equations and Thevenin source do not answer that question.

For instance: Most readers here seem to think that the only phenomenon that can cause a reversal of direction of energy flow in a transmission line is a simple EM wave reflection based on the reflection model. When they cannot explain what is happening using that model, they throw up their hands and utter crap like, "Reflected wave energy doesn't slosh back and forth between the load and the source". But not only does it "slosh back and forth", it sloshes back and forth at the speed of light in the medium because nothing else is possible.

These are the people who have allowed their math models to become their religion. They will not change their minds even when accepted technical facts are presented. One response was, "Gobblydegook". (sic)

There is another phenomenon, besides a simple reflection, that causes reflected energy to be redistributed back toward the load and that is wave cancellation involving two wavefronts. If the two wavefronts are equal in magnitude and opposite in phase, total wave cancellation is the result which, in a transmission line, redistributes the wave energy in the only other direction possible which is, surprise, the opposite direction. This is a well known, well understood, mathematically predictable phenomenon that happens all the time in the field of optics, e.g. at the surface of non-reflective glass. It also happens all the time in RF transmission lines when a Z0-match is

achieved.

Using the s-parameter equations (phasor math) at a Z0-match point in a transmission line:

b1 = s11*a1 + s12*a2 = 0 = reflected voltage toward the source
Square this equation to get the reflected power toward the source.

These are the two wavefronts that undergo total wave cancellation, i.e. total destructive interference.

b2 = s21*a1 + s22*a2 = forward voltage toward the load
s22*a2 is the re-reflection. Square this equation to get the forward power toward the load.

If one squares both of those equations, one can observe the interference terms which indicate why and where the energy goes. All of the energy in s11*a1 and s12*a2 reverses direction at the Z0-match and flows back toward the load. All the things that Roy is confused about in his food-for-thought article on forward and reflected power are easily explained by the power density equation (or by squaring the s-parameter equations).

Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)
--
73, Cecil, w5dxp.com

2377. "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 13:13:15 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <3b9c7466-5bb5-46a7-a924-8897432a5365@j4g2000yqh.googlegroups.com>
Source record: 9077

It has been theorized that a circuit consisting of a Class C vacuum-tube r-f amplifier using a tuned tank circuit in its output network provides an operational “non-dissipative source resistance” of 50 ohms for energy present at the output connector of the transmitter.

However the information and measured data provided in the text excerpts below is not very supportive of that theory.

These excerpts discuss and show the effects of the energy entering a transmitter at its output connector by frequencies offset from the transmitter frequency.

There is direct applicability of the conclusions of the paper showing that the operational source impedance of the transmitter near/at the carrier frequency is much different than 50 ohms.

If it WAS a functional 50 ohms, then the termination provided to the transmission line for signals entering the transmitter by its output connector (whether on or off frequency) would not be present at the plate of the PA tube to react with the power being generated by the PA tube.

Rather the data leads to a logical conclusion that the operational source impedance of this configuration at the carrier frequency will be very low (approaching zero), when it is optimally tuned/adjusted to produce its rated output power.

Further discussion or comment is invited.

RF

From:

A STUDY OF RF INTERMODULATION BETWEEN FM BROADCAST TRANSMITTERS SHARING FILTERPLEXED OR CO-LOCATED ANTENNA SYSTEMS, by Geoffrey N. Mendenhall, P.E.*

II. INTERMODULATION AS A FUNCTION OF "TURN-AROUND-LOSS".
"Turn-Around-Loss" or "Mixing Loss" describes the phenomenon whereby the interfering signal mixes with the fundamental and its harmonics within the non-linear output device. This mixing occurs with a net conversion loss, hence the term "Turn-Around-Loss" has become widely used to quantify the ratio of the interfering level to the resulting IM level. A "Turn-Around-Loss" of 10dB means that the IM product fed back to the antenna system will be 10dB below the interfering signal fed into the transmitter's output stage.

"Turn-Around-Loss" will increase if the interfering signal falls outside the passband of the transmitter's output circuit, varying with the frequency separation of the desired signal and the interfering signal. This is because the interfering signal is first attenuated by the selectivity going into the non-linear device and then the IM product is further attenuated as it comes back out through the frequency selective circuit.

"Turn-Around-Loss" can actually be broken down into the sum of three individual parts:
(1) The basic in-band conversion loss of the non-linear device.
(2) The attenuation of the out-of-band interfering signal due to the selectivity of the output stage.
(3) The attenuation of the resulting out-of-band IM products due to the selectivity of the output stage.

Of course, as the "Turn-Around-Loss" increases, the level of undesirable intermodulation products is reduced and the amount of isolation required between transmitters is also reduced.

The small portion of the interfering signal that is not reflected is what causes intermodulation products to be generated. Obviously the lower the output source impedance, the more complete the reflection (lower return loss), with the result being less production of intermodulation products.

III. EQUIPMENT PARAMETERS THAT AFFECT INTERMODULATION LEVELS.
The interfering signal must be coupled into the transmitter's output stage before the IM products are produced and the output level of the intermodulation products will be related to the interfering signal level.

The two parameters (outside of the filterplexing equipment) that most affect the interfering signal level into the transmitter's output circuit are the output loading and the circuit's frequency selectivity (loaded "Q"). These two parameters are interrelated because the degree of output loading will change the loaded "Q" of the output circuit while also affecting the return loss of the interfering signal looking into the output circuit.

"Output Return Loss" is a measure of the amount of interfering signal that is coupled into the output circuit versus the amount that is reflected back from the output circuit without interacting with the non linear device.

To understand this concept more clearly, we must remember that although the output circuit of the transmitter is designed to work into a fifty ohm load, the output source impedance of the transmitter is not fifty ohms. If the source impedance were equal to the fifty ohm transmission line impedance, half of the transmitter's output power would be dissipated in its internal output source impedance. The transmitter's output source impedance must be low compared to the load impedance in order to achieve good efficiency.

The transmitter therefore looks like a voltage source driving a fifty ohm resistive load. While the transmission line is correctly terminated looking toward the antenna (high return loss), THE TRANSMISSION LINE IS GREATLY MISMATCHED LOOKING TOWARD THE OUTPUT CIRCUIT OF THE TRANSMITTER (LOW RETURN LOSS). THIS MEANS THAT POWER COMING OUT OF THE TRANSMITTER IS COMPLETELY ABSORBED BY THE LOAD WHILE INTERFERING SIGNALS FED INTO THE TRANSMITTER ARE ALMOST COMPLETELY REFLECTED BY THE OUTPUT CIRCUIT.

VI. CONCLUSIONS

1. "Turn-Around-Loss" is a function of the particular non-linear device and the amount of loading on its output circuit.
2. "Turn-Around-Loss" increases as the interfering signal and the resulting IM products are moved away from the carrier and out of the output circuit passband.
3. "Turn-Around-Loss" will be least when the interfering signal is within the transmitter's passband.

The figure posted at the link below shows the measured data supplied with this paper.

http://i62.photobucket.com/albums/h85/rfry-100/TAL_Chart.gif

* Geoffrey Mendenhall presently is Vice President, RF Engineering at Harris Corporation Broadcast Division, and a recognized authority on transmitter system design. Harris Broadcast is one of the largest manufacturers in the world of AM/FM/TV broadcast transmitters, rated for power outputs up to 2,000 kW.

2378. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 13:23:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4cee1919-f62e-4966-b9c3-48e95c8eabcd@x27g2000yqb.googlegroups.com>
Source record: 9078

On Jun 12, 5:51 am, K1TTT <k1...@arrl.net> wrote:
> rather than worrying about basic physics, the real problem here is
> that analysis of a non-linear circuit is being attempted using
> techniques that are only valid for linear circuits.

Well, that's certainly one problem but I was talking about linear circuit analysis. When will the effects of linear wave cancellation be understood by the ham radio community?

Walt seems to have sidestepped the non-linear source problem by defining the "source" as the first point in the system at which the source signal becomes linear after filtering. He seems to draw a system box boundary through that point and labels that signal, "the source". The ratio of voltage to current at that point is, by definition, the source impedance. That approach sure does simplify things.

The output of a class-C amp is weighted with odd harmonics. The system is obviously mismatched at the odd harmonic frequencies.
--
73, Cecil, w5dxp.com

2379. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 14:00:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <36400723-3eaf-4d85-9a71-e9b1c998f527@5g2000yqz.googlegroups.com>
Source record: 9079

On Jun 12, 1:23 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 5:51 am, K1TTT <k1...@arrl.net> wrote:
>
> > > rather than worrying about basic physics, the real problem here is
> > > that analysis of a non-linear circuit is being attempted using
> > > techniques that are only valid for linear circuits.
>
> Well, that's certainly one problem but I was talking about linear
> circuit analysis. When will the effects of linear wave cancellation be
> understood by the ham radio community?

they won't because waves don't 'cancel' any more than they 'interact' in linear systems. they do superimpose which gives the illusion of cancellation and intensification. the worst thing causing amateurs problems is using power and trying to think about energy... neither one is a linear phenomenon, but they are often treated as such because of some simple cases where you can add and subtract powers... when someone who doesn't understand the restrictions fully tries to use powers on more general cases they get in trouble. that is why it is always better to use current or voltage where you can (in many more cases) add them linearly and be correct. of course then there are those who try to push even those restrictions back into non-linear realms, like amplifiers, and get into even more trouble.

2380. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 14:12:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e6274633-b8b6-4f08-9ea4-0bbdb1af6f0a@t10g2000yqg.googlegroups.com>
Source record: 9080

On Jun 12, 12:57 pm, "David" <nospam@nospam> wrote:
> Antenna is a quarterwave vertical with quarterwave radials.
>
> There is a difference in operation between transmit and receive modes.
>

no there isn't. the antenna works the same in transmit and receive.
The same pattern can be measured in both modes.

2381. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 14:22:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <442b6783-c0b7-43a5-9c15-44455ad9a1ed@z8g2000yqz.googlegroups.com>
Source record: 9081

On Jun 12, 1:13 pm, Richard Fry <r...@adams.net> wrote:
> It has been theorized that a circuit consisting of a Class C vacuum-
> tube r-f amplifier using a tuned tank circuit in its output network
> provides an operational “non-dissipative source resistance” of 50 ohms
> for energy present at the output connector of the transmitter.
>
> However the information and measured data provided in the text
> excerpts below is not very supportive of that theory.

yeah, lots of words that say things kind of related, but more
confusing than useful for what is really being discussed.

what is so hard about stating:
1. tubes and transistors are non-linear devices
2. tank circuits and other output matching systems TRY to make them
appear more linear to the outside world, but are not perfect.

any circuit that has non-linear characteristics will have a response
that is not like a simple resistance. such systems must be modeled
using appropriate non-linear techniques to get the full and proper
response characteristics. An APPROXIMATION may be used in many
systems that allows an equivalent simple impedance representation, but
often only over SMALL ranges of voltage/current or frequency. The
problem appears to be in this discussion that some people have used
this small signal approximation to derive results in a domain where it
is not applicable and are drawing the wrong conclusions.

2382. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 14:37:22 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2710c6f2-57fe-408b-869c-6a60a56381ba@k39g2000yqd.googlegroups.com>
Source record: 9082

On Jun 12, 9:00 am, K1TTT <k1...@arrl.net> wrote:
> they won't because waves don't 'cancel' any more than they 'interact'
> in linear systems. they do superimpose which gives the illusion of
> cancellation and intensification.

Here's proof otherwise:

b1 = s11*a1 + s12*a2 = 0 = reflected voltage toward the source

The permanent result is that reflected voltage and power equal zero?
How can that possibly be an illusion?

(b1)^2 = (s11*a1 + s12*a2)^2 = 0 = reflected power toward the source.
s11*a1 is not zero, s12*a2 is not zero, they are equal in magnitude
and opposite in phase.

What happens to the non-zero (s11*a1 + s12*a2)^2 power? The answer to
that question is what a lot of people are missing.

Those two reflected wavefronts have interacted destructively and
canceled. That destructive interference energy is redistributed back
toward the load as constructive interference energy in the other s-
parameter equation.

b2 = s21*a1 + s22*a2 = forward voltage toward the load

(b2)^2 = (s21*a1 + s22*a2)^2 = forward power toward the load

Doesn't the fact that reflected energy cannot be traced using only the
wave reflection model indicate that there is something missing from
that procedure?
--
73, Cecil, w6dxp.com

2383. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 14:44:52 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <e08d5129-7575-43e1-ab7c-676a9a4fb73e@t10g2000yqg.googlegroups.com>
Source record: 9083

On 12 jun, 15:13, Richard Fry <r...@adams.net> wrote:
> It has been theorized that a circuit consisting of a Class C vacuum-
> tube r-f amplifier using a tuned tank circuit in its output network
> provides an operational “non-dissipative source resistance” of 50 ohms
> for energy present at the output connector of the transmitter.
>
> However the information and measured data provided in the text
> excerpts below is not very supportive of that theory.
>
>[deleted]

Hello Richard Fry,

First, I use your last name also to avoid confusion with Richard
Clark.

As you may know, I have also doubts about the conjugated match issue.
So I am happy with this posting. It is not that I dispute the
conjugated match condition itself, but whether or not the conditions
are met. In my opinion, required conditions aren't met in many cases,
so output impedance of many amplifiers is not equal to the load
resistor.

To avoid discussions about measurements and traceable measurement
instruments/procedures, I did some simulations on a valve amplifier
and a class C mosfet circuit (that actually isn't operating in class C
mode). Everyone can do these simulations at their own PC en get an
opinion. I also described the difference frequency method that is
easily implemented in simulation and gives the output VSWR almost
directly without complex calculus. The link is: www.tetech.nl/divers/PA_impedance.pdf.

Except for the condition of matching to maximum power output given
certain drive, all output VSWR of the amplifiers is far from expected
load impedance. Just a little voltage saturation (for example to get
better efficiency) did drop the plate impedance below the required
load impedance (voltage source behavior). When reducing the drive, the
plate impedance rises rapidly above the load impedance (current source
behavior).

So power entering the output of the amplifier will mostly be reflected
back into the cable, unless you specially design for output impedance.
I know, this is disputed by some members of this group, but therefore
I did the simulations and presented the results.

I specially took "amateur" examples to avoid comment that I only use
"exotic" examples. I did not copy results from professional

activities, so I will not run into problems. The circuits are simple to ease reproduction in any spice based simulator.

I dispute:
"If the source impedance were equal to
the fifty ohm transmission line impedance, half of the transmitter's output power would be dissipated in its internal output source impedance."

A real class C amplifier with very small conduction angle has efficiency > 50% when optimally tuned. When it operates at the transition of current/voltage saturation is can show 50 Ohms output impedance for very small change in load impedance. But as soon as the load mismatch is above about VSWR = 1.05…1.1, output VSWR/impedance of the amplifier changes rapidly. So practically spoken, most high efficient amplifiers have high output VSWR (or bad Return Loss), but theoretically it can be 50 Ohms (for example). If there are doubts I will add a special simulation example for this.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

2384. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 15:17:02 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <953d814c-b22d-4c5d-a144-f2ac4f16ca68@d8g2000yqf.googlegroups.com>
Source record: 9084

On Jun 12, 9:44 am, Wimpie <wimabc...@tetech.nl> wrote:

> A real class C amplifier with very small conduction angle has
> efficiency > 50% when optimally tuned.

Would that not be evidence that the amplifier source impedance
necessarily is lower than the load impedance?

> When it operates at the
> transition of current/voltage saturation is can show 50 Ohms output
> impedance for very small change in load impedance. But as soon as the
> load mismatch is above about VSWR = 1.05…1.1, output VSWR/impedance of
> the amplifier changes rapidly.

For some additional input -- I have taken part in factory tests of
high-power Class C single-tube/tuned cavity FM broadcast transmitters
driving 50-ohm test loads measured to have < 1.03VSWR, showing a DC
input to r-f output efficiency of the PA to be in excess of 80% --
including the loss in the harmonic filter. Load power was measured
using calorimetric methods. In fact, 80% PA efficiency is the
published spec for this transmitter line as long as load VSWR relative
to 50 ohms is 1.7:1 or less (any phase angle).

Those results don't appear to be fitting very well with the idea that
the tx source impedance can be ~50 ohms for loads with low VSWR.

RF

2385. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 15:56:48 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <b89b82eb-69b1-478a-a025-44c5e9c614cd@t26g2000prt.googlegroups.com>
Source record: 9085

On Jun 12, 8:17 am, Richard Fry <r...@adams.net> wrote:
> On Jun 12, 9:44 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > A real class C amplifier with very small conduction angle has
> > efficiency > 50% when optimally tuned.
>
> Would that not be evidence that the amplifier source impedance
> necessarily is lower than the load impedance?

No, not at all. It is important to realize that a real source is NOT necessarily like either the Thevenin or the Norton equivalent. The Thevenin and Norton equivalents, when discussed in any respectable text, will be noted to behave exactly like any other real linear source with respect to the load, but NOT necessarily with respect to the source itself, and in particular with respect to source efficiency and dissipation.

For example: I can, at least theoretically, build a switching power supply (a source) which measures its output voltage and current and adjusts the voltage down by 50 volts for each amp that's drawn from it. Because it is always operating as a switching supply with very high efficiency, even when it's loaded so the output voltage is half the zero-current output voltage, it's not behaving internally like a Thevenin equivalent, even though it has a 50 ohm output resistance.
>
> > When it operates at the
> > transition of current/voltage saturation is can show 50 Ohms output
> > impedance for very small change in load impedance. But as soon as the
> > load mismatch is above about VSWR = 1.05…1.1, output VSWR/impedance of
> > the amplifier changes rapidly.
>
> For some additional input -- I have taken part in factory tests of
> high-power Class C single-tube/tuned cavity FM broadcast transmitters
> driving 50-ohm test loads measured to have < 1.03VSWR, showing a DC
> input to r-f output efficiency of the PA to be in excess of 80% --
> including the loss in the harmonic filter. Load power was measured
> using calorimetric methods. In fact, 80% PA efficiency is the
> published spec for this transmitter line as long as load VSWR relative
> to 50 ohms is 1.7:1 or less (any phase angle).
>
> Those results don't appear to be fitting very well with the idea that
> the tx source impedance can be ~50 ohms for loads with low VSWR.
>
> RF

As Wim says, the conjugate-matched output impedance is guaranteed only over a very narrow range of conditions. Specifically, it's for the condition where you can't adjust the load impedance in any direction without lowering the power delivered to the load. For a power output stage with a tank that can tune both resistance and reactance (such as a pi network), that should be equivalent to adjusting the pi network to maximize the power delivered to the load with a particular fixed set of bias/drive conditions for that output stage.

But why would I necessarily want to operate the output stage that way? What if I'm providing enough grid drive and plate voltage to my 6146 that it's capable of outputting 150 watts (class C), but if I were to tune up the output matching network to get that much output power, the tube's life would be significantly shortened because the plate dissipation would be too high? What if I'm operating it class AB, with low enough drive so that the plate voltage and current change only by small percentages?

Or to me, more to the point: why would I care what the source impedance of my transmitter is? With the power at the wall outlet in my house, I expect a nearly constant voltage, and have no intention of loading it with a "conjugate match." I don't know WHAT its source resistance is, exactly, but I know it's much lower than the loads I put on it. With an electric motor, I have no intention of putting a load in excess of the motor's rating on it, for fear of burning up the motor, even though I know that for short periods the motor can deliver quite a bit more output power than its nameplate rating. With a switching power supply, same thing: I don't load it to the point of significant drop in output voltage. All I want from ANY of these, including the RF power amplifier, is the ability to deliver the expected power to the rated load.

In the instrumentation systems I deal with professionally, there are times I care very much about source impedance. With respect to ham transmitters and power amplifiers, though, I just can't get excited about caring that much what the source impedance is. The point of the amplifier or transmitter is to deliver power to my antenna system, and the source impedance it represents is irrelevant to that task.

Cheers,
Tom

2386. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 17:04:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c950a8d1-ef1d-4a97-ab52-fd6713aa60f4@e5g2000yqn.googlegroups.com>
Source record: 9086

On Jun 12, 2:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 9:00 am, K1TTT <k1...@arrl.net> wrote:
>
> > they won't because waves don't 'cancel' any more than they 'interact'
> > in linear systems. they do superimpose which gives the illusion of
> > cancellation and intensification.
>
> Here's proof otherwise:
>
> b1 = s11*a1 + s12*a2 = 0 = reflected voltage toward the source
>
> The permanent result is that reflected voltage and power equal zero?
> How can that possibly be an illusion?
>
> (b1)^2 = (s11*a1 + s12*a2)^2 = 0 = reflected power toward the source.
> s11*a1 is not zero, s12*a2 is not zero, they are equal in magnitude
> and opposite in phase.
>
> What happens to the non-zero (s11*a1 + s12*a2)^2 power? The answer to
> that question is what a lot of people are missing.
>
> Those two reflected wavefronts have interacted destructively and
> canceled. That destructive interference energy is redistributed back
> toward the load as constructive interference energy in the other s-
> parameter equation.
>
> b2 = s21*a1 + s22*a2 = forward voltage toward the load
>
> (b2)^2 = (s21*a1 + s22*a2)^2 = forward power toward the load
>
> Doesn't the fact that reflected energy cannot be traced using only the
> wave reflection model indicate that there is something missing from
> that procedure?
> --
> 73, Cecil, w6dxp.com

i don't do s stuff so i have no idea what you just proved... give me
the impedances and voltages/currents.

2387. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 17:36:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dgn516pjnn76k3j2ofp45fs2qkuhs0qn6c@4ax.com>
Source record: 9087

I see that I am going to have to re-assert your own standard:

>On Fri, 11 Jun 2010 20:31:42 GMT, Owen Duffy <none@no.where> wrote:
>
>>there is a proposition that a transmitter "designed/adjusted
>>for, and expecting a 50 + j 0 ohm load" can be well represented by a
>>Thevenin equivalent circuit and naturally has Zeq=50+j0.

On Sat, 12 Jun 2010 00:19:34 GMT, Owen Duffy <none@no.where> wrote:

For the data I asked, you supplied:
>I have performed many tests on many radios. One documented example is at
>http://vk1od.net/blog/?p=1045 .
and offered:
>I invite you and others to perform the same test. You will realise that
>one, or even 100 supporting tests do not prove the proposition, but one
>valid test to the contrary is damaging.

The test of proving the "proposition" invalid is, in part:
>Adjusting the load impedance ... on this load with VSWR(50)=1.5
>... is proof that the equivalent source impedance of the transmitter is not 50+j0Ohm.

I observed how you violated the adjusted-for part of
"designed/adjusted for, and expecting a 50 + j 0 ohm load."

As no claim has been made by anyone about a source being constant in Z
nor in Power across all loads and all frequencies, your response does
not conform to your own reprise of the "proposition."

****

What you have performed is a load pull which constructs a curve of
complex source impedances around the point at which the transmitter
was adjusted for a 50 Ohm load. All well and good. However,
Thevenin's theorem says nothing of this. The correct test, to the
letter of the theorem is a test no one performs: the measured open
circuit voltage divided by the measured short circuit current.

****

If I were to return to another statement from your link offered in my
quote above:
>the transmitter is 50+j0Ohm
is in all likelihood incorrect. I am speaking strictly to what is
reported and to the implied accuracy of 50 ï¿½0.5 Ohms. I seriously
doubt that you have the means to achieve the absolute accuracy of 1%.

To many, this is a trivial point - simply because they, too, are wholly incapable of achieving even ten times this error. That is, measure an RF power in the HF to within ï¿½10%. So I often get shrugged off with a dismissal of "so what?"

What is this scrabbling over decimal points that I am making? IF:
>the equivalent source impedance of the transmitter is not 50+j0Ohms
then it could easily be satisfied by it being 51+j0Ohms, as you do not report what the Z was. I am sure some would condemn 51 Ohms with sneering contempt. Reports of what the Source Z "is not" is not informative in the least. What the significance 1 Ohm has when the likelihood of being able make a measurement with much less range of error is approaching nil and thus does not stand as a very rigorous proof AGAINST the "proposition."

Similarly, IF:
>the equivalent source impedance of the transmitter is 50+j0Ohms
then even this may not qualify if the source impedance MUST be 50+j0Ohms as, again, the likelihood of being able make a measurement within ï¿½1% range of error is approaching nil and thus does not stand as a very rigorous proof FOR the "proposition."

****

Last, I see the lack of rigor in reporting that is so evidenced by Walt's work. I am familiar with EVERY one of his lab instruments (enumerated elsewhere) as I have calibrated ALL like them in three different RF Standards laboratories over my career as a Metrologist. I am wholly informed as to their capabilities and capacities to perform the tests he reports to the precision and accuracies he documents. I am also trained in the methods of performing this work and I have read from Walt's descriptions that he has taken care to observe the proper methods. All of these considerations are scrupulous to his first two steps of his description which amply demonstrate:
>>there is a proposition that a transmitter "designed/adjusted
>>for, and expecting a 50 + j 0 ohm load" can be well represented by a
>>Thevenin equivalent circuit and naturally has Zeq=50+j0.

73's
Richard Clark, KB7QHC

2388. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 17:39:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <40dbcdab-8ebf-417b-a825-c9e86fcecbd3@j8g2000yqd.googlegroups.com>
Source record: 9088

On Jun 12, 2:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 9:00 am, K1TTT <k1...@arrl.net> wrote:
>
> > they won't because waves don't 'cancel' any more than they 'interact'
> > in linear systems. they do superimpose which gives the illusion of
> > cancellation and intensification.
>
> Here's proof otherwise:
>
> b1 = s11*a1 + s12*a2 = 0 = reflected voltage toward the source
>
> The permanent result is that reflected voltage and power equal zero?
> How can that possibly be an illusion?
>
> (b1)^2 = (s11*a1 + s12*a2)^2 = 0 = reflected power toward the source.
> s11*a1 is not zero, s12*a2 is not zero, they are equal in magnitude
> and opposite in phase.
>
> What happens to the non-zero (s11*a1 + s12*a2)^2 power? The answer to
> that question is what a lot of people are missing.
>
> Those two reflected wavefronts have interacted destructively and
> canceled. That destructive interference energy is redistributed back
> toward the load as constructive interference energy in the other s-
> parameter equation.
>
> b2 = s21*a1 + s22*a2 = forward voltage toward the load
>
> (b2)^2 = (s21*a1 + s22*a2)^2 = forward power toward the load
>
> Doesn't the fact that reflected energy cannot be traced using only the
> wave reflection model indicate that there is something missing from
> that procedure?
> --
> 73, Cecil, w6dxp.com

i don't do s stuff so i have no idea what you just proved... give me
the impedances and voltages/currents.

2389. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 17:43:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8daab367-a9fa-43ae-ac5e-5a41fe6a425d@u7g2000yqm.googlegroups.com>
Source record: 9089

On Jun 12, 5:36 pm, Richard Clark <kb7...@comcast.net> wrote:
> I see that I am going to have to re-assert your own standard:
>
> >On Fri, 11 Jun 2010 20:31:42 GMT, Owen Duffy <n...@no.where> wrote:
>
> >>there is a proposition that a transmitter "designed/adjusted
> >>for, and expecting a 50 + j 0 ohm load" can be well represented by a
> >>Thevenin equivalent circuit and naturally has Zeq=50+j0.
> On Sat, 12 Jun 2010 00:19:34 GMT, Owen Duffy <n...@no.where> wrote:
>
> For the data I asked, you supplied:
>
> >I have performed many tests on many radios. One documented example is at
> >http://vk1od.net/blog/?p=1045.
> and offered:
> >I invite you and others to perform the same test. You will realise that
> >one, or even 100 supporting tests do not prove the proposition, but one
> >valid test to the contrary is damaging.
>
> The test of proving the "proposition" invalid is, in part:
>
> >Adjusting the load impedance ... on this load with VSWR(50)=1.5
> >... is proof that the equivalent source impedance of the transmitter is not 50+j0Ohm.
>
> I observed how you violated the adjusted-for part of
> "designed/adjusted for, and expecting a 50 + j 0 ohm load."
>
> As no claim has been made by anyone about a source being constant in Z
> nor in Power across all loads and all frequencies, your response does
> not conform to your own reprise of the "proposition."
>
> *******
>
> What you have performed is a load pull which constructs a curve of
> complex source impedances around the point at which the transmitter
> was adjusted for a 50 Ohm load. All well and good. However,
> Thevenin's theorem says nothing of this. The correct test, to the
> letter of the theorem is a test no one performs: the measured open
> circuit voltage divided by the measured short circuit current.

that assumes the source is linear... with a non-linear source it is
much more complicated to describe the full range of it's response.
you would have to do a series of output voltage vs current curves for
a range of impedances.

2390. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 17:51:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4fh716p8jbh6jt7eorjn3g1uk4kmbtq5vb@4ax.com>
Source record: 9090

On Fri, 11 Jun 2010 17:35:34 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>> >you can qualify an impedance as non-dissipative
>>
>> It's called reactance.
>
>not always. there is a non-dissipative resistance. a lossless
>transmission line has a pure real impedance, but no dissipation.

Hi David,

Ah! The appeal of the infinite, lossless transmission line. You
forgot radiation.

I think we can both agree that it can be measured, even by the
inference of a chain of measurements and those measurements would
consistently show the absence of heat.

I think you would enjoy the absurdity of its appeal to being the plate
"resistance" when the 1400 Ohms there would be embodied in 28
infinitely long lossless cables being tucked inside the tube.

For others,

If it were so (where those 28 infinitely long lines are tucked into
another convenient dimension that sprang into being to satisfy
argument), then what is the source of the heat of the plate that is in
excess of that of the DC operating point?

If some feel compelled to jump on the losslessness of radiation loss
(now, if that isn't a paradox) - all fine and well for Art's short
wound self-resonant radiators that would eventually devolve in size to
the plate tank. If plate resistance was due to radiation, what need
for antennas? Of course, we could add another rhetorical dimension
that absorbs radiation....

73's
Richard Clark, KB7QHC

2391. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 17:57:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <76266546-6d1b-43ef-af0a-a03d1c4d5631@y11g2000yqm.googlegroups.com>
Source record: 9091

On Jun 12, 5:51 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 11 Jun 2010 17:35:34 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >> >you can qualify an impedance as non-dissipative
>
> >> It's called reactance.
>
> >not always. there is a non-dissipative resistance. a lossless
> >transmission line has a pure real impedance, but no dissipation.
>
> Hi David,
>
> Ah! The appeal of the infinite, lossless transmission line. You
> forgot radiation.
>

a lossless line would not be lossless if it lost energy due to
radiation!

2392. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 19:00:26 UTC
From: walt <walt@w2du.com>
Message-ID: <40fd1f3d-72bc-4d1b-ae5b-52642c882d4f@c10g2000yqi.googlegroups.com>
Source record: 9092

On Jun 12, 11:56 am, K7ITM <k7...@msn.com> wrote:
> On Jun 12, 8:17 am, Richard Fry <r...@adams.net> wrote:
>
> > On Jun 12, 9:44 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > A real class C amplifier with very small conduction angle has
> > > efficiency > 50% when optimally tuned.
>
> > Would that not be evidence that the amplifier source impedance
> > necessarily is lower than the load impedance?
>
> No, not at all. It is important to realize that a real source is NOT
> necessarily like either the Thevenin or the Norton equivalent. The
> Thevenin and Norton equivalents, when discussed in any respectable
> text, will be noted to behave exactly like any other real linear
> source with respect to the load, but NOT necessarily with respect to
> the source itself, and in particular with respect to source efficiency
> and dissipation.
>
> For example: I can, at least theoretically, build a switching power
> supply (a source) which measures its output voltage and current and
> adjusts the voltage down by 50 volts for each amp that's drawn from
> it. Because it is always operating as a switching supply with very
> high efficiency, even when it's loaded so the output voltage is half
> the zero-current output voltage, it's not behaving internally like a
> Thevenin equivalent, even though it has a 50 ohm output resistance.
>
>
>
>
>
> > > When it operates at the
> > > transition of current/voltage saturation is can show 50 Ohms output
> > > impedance for very small change in load impedance. But as soon as the
> > > load mismatch is above about VSWR = 1.05…1.1, output VSWR/impedance of
> > > the amplifier changes rapidly.
>
> > For some additional input -- I have taken part in factory tests of
> > high-power Class C single-tube/tuned cavity FM broadcast transmitters
> > driving 50-ohm test loads measured to have < 1.03VSWR, showing a DC
> > input to r-f output efficiency of the PA to be in excess of 80% --
> > including the loss in the harmonic filter. Load power was measured
> > using calorimetric methods. In fact, 80% PA efficiency is the
> > published spec for this transmitter line as long as load VSWR relative

> > to 50 ohms is 1.7:1 or less (any phase angle).
>
> > Those results don't appear to be fitting very well with the idea that
> > the tx source impedance can be ~50 ohms for loads with low VSWR.
>
> > RF
>
> As Wim says, the conjugate-matched output impedance is guaranteed only
> over a very narrow range of conditions. Specifically, it's for the
> condition where you can't adjust the load impedance in any direction
> without lowering the power delivered to the load. For a power output
> stage with a tank that can tune both resistance and reactance (such as
> a pi network), that should be equivalent to adjusting the pi network
> to maximize the power delivered to the load with a particular fixed
> set of bias/drive conditions for that output stage.
>
> But why would I necessarily want to operate the output stage that
> way? What if I'm providing enough grid drive and plate voltage to my
> 6146 that it's capable of outputting 150 watts (class C), but if I
> were to tune up the output matching network to get that much output
> power, the tube's life would be significantly shortened because the
> plate dissipation would be too high? What if I'm operating it class
> AB, with low enough drive so that the plate voltage and current change
> only by small percentages?
>
> Or to me, more to the point: why would I care what the source
> impedance of my transmitter is? With the power at the wall outlet in
> my house, I expect a nearly constant voltage, and have no intention of
> loading it with a "conjugate match." I don't know WHAT its source
> resistance is, exactly, but I know it's much lower than the loads I
> put on it. With an electric motor, I have no intention of putting a
> load in excess of the motor's rating on it, for fear of burning up the
> motor, even though I know that for short periods the motor can deliver
> quite a bit more output power than its nameplate rating. With a
> switching power supply, same thing: I don't load it to the point of
> significant drop in output voltage. All I want from ANY of these,
> including the RF power amplifier, is the ability to deliver the
> expected power to the rated load.
>
> In the instrumentation systems I deal with professionally, there are
> times I care very much about source impedance. With respect to ham
> transmitters and power amplifiers, though, I just can't get excited
> about caring that much what the source impedance is. The point of the
> amplifier or transmitter is to deliver power to my antenna system, and
> the source impedance it represents is irrelevant to that task.
>
> Cheers,
> Tom

Hello Richard Fry,

I quote a sentence from your previous post:

"Would that not be evidence that the amplifier source impedance necessarily is lower than the load impedance?"

What you have said above is the key to the concern over the output resistance of a Clsss C amplifier being non-dissipative. What seems to be universally misunderstood is that there are really two separate resistances in the operation of these amps; one, the cathode-to-plate resistance, which is the dissipative resistance Rpd that accounts for all the heat, due to the electrons striking the plate; and two, the real output resistance that appears at the output of the pi-network, the resistance comprised of the voltage-current ratio E/R. I am speaking only of tube amps using an adjustable pi-network in the output. Due to the energy storage in the pi-network the output of the amp is inherently isolated from the upstream non-linear portion, thus the output is linear. One of the myths concerning the RF amp is that it cannot have efficiency greater than 50% because half of the power is dissipated in the source resistance. This would be correct if the output source resistance was dissipative, like in a classical generator. But in the real RF xmtr this is not true.

Returning now to your quote above, your reference to the source impedance (resistance Rpd) is actually the plate-to-cathode resistance, the dissipative resistance, which is less than the output resistance R = E/I appearing at the terminals of the pi-network. I must add that when the pi-network has been adjusted to deliver all the available power at any particular grid-drive level, the output resistance of the network equals the load resistance, but not necessarily 50 ohms, i.e., whatever the load resistance might be.

If you have doubts concerning the conditions I stated above, I invite you to review Chapter 19 in Reflections 3, which is available in two parts on my web page at www.w2du.com, as the first part appears in Reflections 2 and the second part appears in 'Preview of Chapters in Reflections 3'. In that chapter I use an example taken directly from Terman's 'Radio Engineers Handbook'. You will note that the dissipative resistance Rpd (3315.6 ohms) is less than the output resistance (6405 ohms) obtained from the E/I relationship appearing at the output

This example verifies the explanation in the text. In addition, I also invite you to review the portion of the chapter appearing in the 'Preview Chapters in Reflections 3', in which I report additional measurements that offer additional proof that the output source resistance is non-dissipative. The numbers prove it to be true.

Walt, W2DU

2393. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 19:15:06 UTC
From: walt <walt@w2du.com>
Message-ID: <091a31a1-f7bd-44ae-ae88-07f7c59e2513@k39g2000yqd.googlegroups.com>
Source record: 9093

On Jun 12, 10:12 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 12, 12:57 pm, "David" <nospam@nospam> wrote:
>
> > Antenna is a quarterwave vertical with quarterwave radials.
>
> > There is a difference in operation between transmit and receive modes.
>
> no there isn't. the antenna works the same in transmit and receive.
> The same pattern can be measured in both modes.

K1TTT is correct--the transmit and receive modes are reciprocally
related, and thus are identical in operation. The vertical radiator is
non-directional, and is the receptor in the receiving mode. The
radials are not receptors and are not involved the directivity on
reception.

Walt, W2DU

2394. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 19:52:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D963BB44CF98nonenowhere@61.9.191.5>
Source record: 9094

Richard Clark <kb7qhc@comcast.net> wrote in
news:dgn516pjnn76k3j2ofp45fs2qkuhs0qn6c@4ax.com:

...
> I observed how you violated the adjusted-for part of
> "designed/adjusted for, and expecting a 50 + j 0 ohm load."

The IC7000 has no relevant user adjustments, it is designed for and
adjusted for in its design, manufacture, and alignment.

>
> As no claim has been made by anyone about a source being constant in Z
> nor in Power across all loads and all frequencies, your response does
> not conform to your own reprise of the "proposition."

To be usable, any pretence of linearity at least over a limited range of
loads, power, frequency, Zeq must be sufficiently constant within that
range.

> What you have performed is a load pull which constructs a curve of
> complex source impedances around the point at which the transmitter
> was adjusted for a 50 Ohm load. All well and good. However,

No, I have performed a go/nogo test on whether the transmitter delivers
sufficiently constant forward power into a quite limited range of loads.
The meaning of "sufficiently" is proposed in the reference article
describing the test and providing the mathematical basis for the test.

> Thevenin's theorem says nothing of this. The correct test, to the
> letter of the theorem is a test no one performs: the measured open
> circuit voltage divided by the measured short circuit current.

No, Thevenin's theorem does not speak at all of how to test a source. For
a linear source, your proposed test of o/c voltage and s/c current would
provide sufficient data, as would ANY two points on the (complex) v/i
relationship.

I expect that a typical HF ham transmitter output is not linear over the
entire v/i characteristic, but my test just focuses on whether it is
approximately linear over a limited range of loads.

My recollection of Walt's tests were that they tested at points other
than Zl=0 and Zl=infinity.

>
> *******
>

> If I were to return to another statement from your link offered in my
> quote above:
>>the transmitter is 50+j0Ohm
> is in all likelihood incorrect. I am speaking strictly to what is
> reported and to the implied accuracy of 50 ±0.5 Ohms. I seriously
> doubt that you have the means to achieve the absolute accuracy of 1%.

You dwell at some further length on the implicit accuracy of the stated quantity, but ignore the explicit discussion about a reasonable tolerance for the test.

Owen

2395. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 20:15:18 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <da3e5147-cad8-47f9-9784-f30dd7006888@w12g2000yqj.googlegroups.com>
Source record: 9095

```
...
> > As a courtesy to me, a foreigner tourist ham, would you mind stop for
> > a brief moment your more general differences and tell me if you agree
> > on the behavior of a Thevenin generator with a series resistance of 50
> > ohms in relation to changes in impedance of a lossless TL predicted by
> > the Telegrapher's equations solutions in terms of the power dissipated
> > on the load resistance and series resistence of Thevenin source?
> > I am pretty serious about this: until today I could not know if you
> > agree in that!! :>)
>
> sure, if you properly apply the telegrapher's equations and the
> thevenin equivalent methods.  The real problem is that if you try to
> do that for most amateur radio transmitters the source impedance is
> not linear, and even worse may be time varying, which renders the
> thevenin equivalent source substitution invalid.

OK. Thank you very much. This clarify so much the issue to me. Please,
another question: On the same system-example, who does not agree with
the notion that the reflected power is never dissipated in Thevenin
Rs? (I am referring to habitual posters in these threads, of course)
```

2396. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 20:28:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9641E76CA4Dnonenowhere@61.9.191.5>
Source record: 9096

lu6etj <lu6etj@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-f30dd7006888@w12g2000yqj.googlegroups.com:

...
> OK. Thank you very much. This clarify so much the issue to me. Please,
> another question: On the same system-example, who does not agree with
> the notion that the reflected power is never dissipated in Thevenin
> Rs? (I am referring to habitual posters in these threads, of course)
>

Thevenin's theorem says nothing of what happens inside the source (eg dissipation), or how the source may be implemented.

It is the implementation of the source that provides the answer to your question, and the word "never" is too strong for the general case.

In respect of typical HF ham transmitters, you may find my article entitled "Does SWR damage HF ham transmitters?" at http://vk1od.net/blog/?p=1081 of interest.

Owen

2397. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 20:59:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <85t716hepf5l0hdcl0avao0ocvi1dra0f7@4ax.com>
Source record: 9097

On Sat, 12 Jun 2010 10:57:08 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>a lossless line would not be lossless if it lost energy due to
>radiation!

Hmmm,

You want to reconsider that?

1. How could you tell if a lossless line lost energy by radiation?
B. Radiation was the second in your incomplete list, not a line
characteristic.

73's
Richard Clark, KB7QHC

2398. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 21:01:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mbt7169eb2d1e45p7njt49d5nbn4amlv5e@4ax.com>
Source record: 9098

On Sat, 12 Jun 2010 10:43:37 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>that assumes the source is linear... with a non-linear source it is
>much more complicated to describe the full range of it's response.
>you would have to do a series of output voltage vs current curves for
>a range of impedances.

Ah!

But the difference is that no one is going to go to the bench to see
if this holds true and roll with the punch if they are surprised that
it works out perfectly.

73's
Richard Clark, KB7QHC

2399. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 21:17:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <39831065-27cf-4a32-b877-242944137370@x27g2000yqb.googlegroups.com>
Source record: 9099

On Jun 12, 12:39 pm, K1TTT <k1...@arrl.net> wrote:
> i don't do s stuff so i have no idea what you just proved... give me
> the impedances and voltages/currents.

Too bad about the "s stuff". Here are the RF equations for a Z01 to Z02 impedance discontinuity in a transmission line. The forward voltage on the Z01 side is Vfor1 and the reflected voltage from the impedance discontinuity (back toward the source) is Vref1. The forward voltage on the Z02 side is Vfor2 and the reflected voltage (from the load) is Vref2. Hopefully, the reflection and transmission coefficients are self-explanatory. rho1 is the reflection coefficient encountered by Vfor1, etc.

Vref1 = Vfor1(rho1) + Vref2(tau2) = 0

That is wavefront cancellation in action. The external reflection phasor, Vfor1(rho1), is equal in magnitude and 180 degrees out of phase with the internal reflection phasor, Vref2(tau2), arriving from the mismatched load.

Vfor2 = Vfor1(tau1) + Vref2(rho2)

If these RF equations are normalized to SQRT(Z0), they are the same as the s-parameter equations.
--
73, Cecil, w5dxp.com

2400. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 21:21:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7d5d3f1c-a0df-4759-962e-9363640b814a@j8g2000yqd.googlegroups.com>
Source record: 9100

On Jun 12, 8:59 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 12 Jun 2010 10:57:08 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >a lossless line would not be lossless if it lost energy due to
> >radiation!
>
> Hmmm,
>
> You want to reconsider that?
>
> 1. How could you tell if a lossless line lost energy by radiation?

there would be missing energy?

2401. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 21:34:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0583c4fd-5e42-48b5-b7c3-a546e97f3c88@i28g2000yqa.googlegroups.com>
Source record: 9001

On Jun 12, 9:17 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 12:39 pm, K1TTT <k1...@arrl.net> wrote:
>
> > i don't do s stuff so i have no idea what you just proved... give me
> > the impedances and voltages/currents.
>
> Too bad about the "s stuff". Here are the RF equations for a Z01 to
> Z02 impedance discontinuity in a transmission line. The forward
> voltage on the Z01 side is Vfor1 and the reflected voltage from the
> impedance discontinuity (back toward the source) is Vref1. The forward
> voltage on the Z02 side is Vfor2 and the reflected voltage (from the
> load) is Vref2. Hopefully, the reflection and transmission
> coefficients are self-explanatory. rho1 is the reflection coefficient
> encountered by Vfor1, etc.
>
> Vref1 = Vfor1(rho1) + Vref2(tau2) = 0
>
> That is wavefront cancellation in action. The external reflection
> phasor, Vfor1(rho1), is equal in magnitude and 180 degrees out of
> phase with the internal reflection phasor, Vref2(tau2), arriving from
> the mismatched load.
>
> Vfor2 = Vfor1(tau1) + Vref2(rho2)
>
> If these RF equations are normalized to SQRT(Z0), they are the same as
> the s-parameter equations.
> --
> 73, Cecil, w5dxp.com

ok, so you defined a case where the superposition of the reflected and
refracted waves at a discontinuity results in a zero sum. is that
supposed to prove something? did i ever say that you could not define
such a case??

2402. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 21:36:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <set71655eleuk88h2cedf1na24htckrlo7@4ax.com>
Source record: 9002

On Sat, 12 Jun 2010 19:52:15 GMT, Owen Duffy <none@no.where> wrote:

>To be usable, any pretence of linearity at least over a limited range of
>loads, power, frequency, Zeq must be sufficiently constant within that
>range.

Hi Owen,

Well I see neither data of that Z over Loads over Power over
Frequency, nor do I read what you would call what is "usable."

>The meaning of "sufficiently" is proposed in the reference article
>describing the test and providing the mathematical basis for the test.

"Sufficiently" is a subjective term for which I see no objective
criteria.

>My recollection of Walt's tests were that they tested at points other
>than Zl=0 and Zl=infinity.

Steps 1 and 2 are quite explicit.

>You dwell at some further length on the implicit accuracy of the stated
>quantity, but ignore the explicit discussion about a reasonable tolerance
>for the test.

I see no further discussion of my observation of the possibility of 51
Ohms being, in your terms, "usable, sufficient, or reasonable," so I
dwell on what is known, and not on vacant adjectives.

73's
Richard Clark, KB7QHC

2403. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 21:42:23 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D964E5CBA0C2nonenowhere@61.9.191.5>
Source record: 9003

walt <walt@w2du.com> wrote in
news:40fd1f3d-72bc-4d1b-ae5b-52642c882d4f@c10g2000yqi.googlegroups.com:

...
> What you have said above is the key to the concern over the output
> resistance of a Clsss C amplifier being non-dissipative. What seems to
> be universally misunderstood is that there are really two separate
> resistances in the operation of these amps; one, the cathode-to-plate
> resistance, which is the dissipative resistance Rpd that accounts for
> all the heat, due to the electrons striking the plate; and two, the

It is my understanding that the average power (heat) generated at the anode of a triode can be found by averaging the product of the instantaneous anode current and anode-cathode voltage over time. In a Class C amplifier, the voltage and current are not linearly related to each other, ie there is no constant of proportionality, no constant or fixed resistance.

I don't understand why then, that people try to explain the anode dissipation in terms of some value of resistance.

Owen

2404. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 21:52:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D96501BC6836nonenowhere@61.9.191.5>
Source record: 9004

Richard,

The article does propose a practical tolerance. I quote the relevant paragraph below.

"Of course, nothing is perfect so an acceptable tolerance for depending on the assumed Zs=50+j0? for Mismatch Loss calculations might be that forward power doesn't vary by more than 10% of the reflected power at any point. The worst case reflected power for the experiment as described is 4%, so a variation of forward power by more than 0.4% (ie 0.4W in 100W) at any point would indicate significant error in any Mismatch calculations based on an assumed Zs=50+j0?."

I explained in the articles how I am able to reliably detect such small relative power variation. In one of the tests, the measured variation was 21%.

My intention in publishing the two articles wasn't to prove the propostion one way or the other, but to show practical amateurs a test that they could make with relatively simple equipment, one that is relevant to the application of Zs if it was known, and an explanation of why it works so that they can understand the test and make their own interpretations about significance.

Owen

2405. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-12 23:49:41 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <a2112d85-4886-415c-af14-d2e451bd0e2a@u26g2000yqu.googlegroups.com>
Source record: 9005

On 12 jun, 17:28, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
> f30dd7006...@w12g2000yqj.googlegroups.com:
>
> ...
>
> > OK. Thank you very much. This clarify so much the issue to me. Please,
> > another question: On the same system-example, who does not agree with
> > the notion that the reflected power is never dissipated in Thevenin
> > Rs? (I am referring to habitual posters in these threads, of course)
>
> Thevenin's theorem says nothing of what happens inside the source (eg
> dissipation), or how the source may be implemented.
>
> It is the implementation of the source that provides the answer to your
> question, and the word "never" is too strong for the general case.
>
> In respect of typical HF ham transmitters, you may find my article
> entitled "Does SWR damage HF ham transmitters?" athttp://vk1od.net/blog/?p=1081of
interest.
>
> Owen

Hello Owen thank you for your answer: Sorry I do not quite understand
your answer. I choose a Thevenin model of circuit theory because it is
an idealization consisting of an idealized constant voltaje source in
series with an idealized resistance without any relation with
practical implementation of such imaginary electrical (and
mathematical) entity.

I first interested get from you such idealized model answer as a
reductionistic aproximation method to try arrive later at subsequent
interpretations of practical situations. I think we all used to
working with idealized models and we accept its limitations, but we
also know frequently they are very useful to clear the "field" (as in
football "field")
(I said "never" because Cecil seem say "sometimes").
For example: ideal conjugate mirror in Maxwell article in my
interpretation implicates "never". Reflected power do not return to
the source in that context.
If you prefer I would be equally satisfied knowing who agree with
"never", who with "sometimes" and who with "always". But I would not
be too annoying :>)

73

Miguel Ghezzi LU6ETJ

2406. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 00:00:32 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7323da4b-02e4-40e9-9b88-bd6dfa7d391f@d8g2000yqf.googlegroups.com>
Source record: 9006

On Jun 12, 4:34 pm, K1TTT <k1...@arrl.net> wrote:
> ok, so you defined a case where the superposition of the reflected and
> refracted waves at a discontinuity results in a zero sum. is that
> supposed to prove something? did i ever say that you could not define
> such a case??

I would call two waves superposing to zero indefinitely, "wave
cancellation". If that is not wave cancellation, where did the
reflected and refracted wavefronts go along with their energy
components? The answer to that question will reveal exactly what
happens to the reflected energy.

Here's a brain teaser for you and others. Given a Z01 to Z02 impedance
discontinuity with a power reflection coefficient of 0.25 at the '+'
discontinuity:

------Z01------+------Z02-------load

Pfor1 in the Z01 section is 100 watts. Pref1 in the Z01 section is
zero watts.

What is Pfor2, Pref2, and the SWR in the Z02 section?
--
73, Cecil, w5dxp.com

2407. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 00:10:34 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hiv716tfoapvp8ukvs38k9b97n7psmqlss@4ax.com>
Source record: 9007

On Sat, 12 Jun 2010 13:57:02 +0100, "David" <nospam@nospam> wrote:

>A system of
>radials imperfectly reflects the incident wave, and the reflected wave is
>hard to calculate.

Hi David,

In the proximity of an antenna, you do not encounter mirror-like
reflections, nor anything approaching them. I am sure you have seen
tutorials or references that give the appearance of reflection in
association with an antenna. However, if you look closely, those
reflections are in the far-field (some several to tens to hundreds...
of wavelengths away).

This reflection metaphor is generally illustrated with explanations of
ground mounted verticals. It is a useful concept that is only
observed at a great distance. In other words, for it to work the way
they show it, you can't get close enough to observe it.

73's
Richard Clark, KB7QHC

2408. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 00:30:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bu8816h0fh3hku4nbi58a82f022qj0ffk0@4ax.com>
Source record: 9008

On Sat, 12 Jun 2010 06:13:15 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>It has been theorized that a circuit consisting of a Class C vacuum-
>tube r-f amplifier using a tuned tank circuit in its output network
>provides an operational ï¿½non-dissipative source resistanceï¿½ of 50 ohms
>for energy present at the output connector of the transmitter.
>
>However the information and measured data provided in the text
>excerpts below is not very supportive of that theory.

Hi Richard,

Deja Vu all over again. I suppose you posted this to inspire me to,
once again, remind you from Mendenhall's own notes about Class C
amplifier construction - and so I will:

"It was thus necessary to determine the plate load impedance
= (Eb - Emin) / I1
~= Eb/ Idc
~= 1000 Ohms
[Not very far from Walt's determination of 1400 Ohms from his own
bench.]
"Since this was to be coupled into a Z output of 50 Ohms, a impedance
transformation of 20:1 was needed. This was accomplished by using a
voltage divider of two series capacitors to series tune the plate
circuit."

The tube is an EIMAC 4CX300A running no where near capacity.

All details (and more) written in Mendenhall's own hand.

73's
Richard Clark, KB7QHC

2409. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 01:52:33 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9678C39EE2Bnonenowhere@61.9.191.5>
Source record: 9009

lu6etj <lu6etj@gmail.com> wrote in
news:a2112d85-4886-415c-af14-d2e451bd0e2a@u26g2000yqu.googlegroups.com:

> On 12 jun, 17:28, Owen Duffy <n...@no.where> wrote:
>> lu6etj <lu6...@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
>> f30dd7006...@w12g2000yqj.googlegroups.com:
>>
>> ...
>>
>> > OK. Thank you very much. This clarify so much the issue to me.
>> > Please, another question: On the same system-example, who does not
>> > agree with the notion that the reflected power is never dissipated
>> > in Thevenin Rs? (I am referring to habitual posters in these
>> > threads, of course)
>>
>> Thevenin's theorem says nothing of what happens inside the source (eg
>> dissipation), or how the source may be implemented.
>>
>> It is the implementation of the source that provides the answer to
>> your question, and the word "never" is too strong for the general
>> case.
>>
>> In respect of typical HF ham transmitters, you may find my article
>> entitled "Does SWR damage HF ham transmitters?"
>> athttp://vk1od.net/blog/?p=1081of interest.
>>
>> Owen
>
> Hello Owen thank you for your answer: Sorry I do not quite understand
> your answer. I choose a Thevenin model of circuit theory because it is
> an idealization consisting of an idealized constant voltaje source in
> series with an idealized resistance without any relation with
> practical implementation of such imaginary electrical (and
> mathematical) entity.
>
> I first interested get from you such idealized model answer as a
> reductionistic aproximation method to try arrive later at subsequent
> interpretations of practical situations. I think we all used to
> working with idealized models and we accept its limitations, but we
> also know frequently they are very useful to clear the "field" (as in
> football "field")

Miguel,

From Wikipedia: "Th&#65533;venin's theorem for linear electrical networks states that any combination of voltage sources, current sources and resistors with two terminals is electrically equivalent to a single voltage source V and a single series resistor R. For single frequency AC systems the theorem can also be applied to general impedances, not just resistors."

The theorem does not state or imply that the Thevenin equivalent circuit dissipates the same internal power as the real source, just that any *linear* two terminal circuit containing sources and impedances can be reduced to this two component equivalent (at a single frequency), and V and I at the network terminals will be the same as the original network, irrespective of the external load attached to the network terminals.

It is a simple exercise to develop two source networks with the same Thevenin equivalent circuit, but that have quite different internal efficiencies. It is easy to demonstrate that both networks deliver the same power to any given load, but that the internal dissipation of those source networks is different in both cases, and not explainable simply as absorbing 'reflected power'.

This is basic linear circuit theory.

If there was a valid Thevenin equivalent circuit for a transmitter (and that is questionable), then you can not use that equivalent circuit to make any inference about the internal dissipation of the source (the transmitter in this case), or its efficiency. Nevertheless, I see people trying to do this one way or another in the various threads here.

> (I said "never" because Cecil seem say "sometimes").
> For example: ideal conjugate mirror in Maxwell article in my
> interpretation implicates "never". Reflected power do not return to
> the source in that context.
> If you prefer I would be equally satisfied knowing who agree with
> "never", who with "sometimes" and who with "always". But I would not
> be too annoying :>)

I know that in this age of instant gratification, people reading posts in these fora tend to accept simple dogmatic statements as sure sign of author credibility, and qualifications such as 'often', 'usually' etc as a sign of uncertainty, of a lack of understanding, of weakness in the author. The opposite is often, if not usually true.

In English, we have a saying "never say never".

What 'never'? 'Hardly ever'... to borrow some dialogue.

A man who is hardly ever wrong doesn't use words like 'always' and 'never' much, or imply as much in general statements.

Owen

2410. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 03:22:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iij816hjgcc39rmlatpbbrc5sid01tc290@4ax.com>
Source record: 9010

On Sat, 12 Jun 2010 14:21:29 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>> 1. ï¿½How could you tell if a lossless line lost energy by radiation?
>
>there would be missing energy?

A lossless line infinite in extent is the typical definition that
corresponds to its characteristic "non-dissipative" resistance. That,
or it is terminated in a lossy resistor (and the loss is suddenly in
everone's face, full and foursquare).

How long are you going to wait to finish the energy budget to measure
IF there is missing energy from an infinite line?

73's
Richard Clark, KB7QHC

2411. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 04:05:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <upj8165udsjndvosq38llkvb5rhriftjvh@4ax.com>
Source record: 9011

On Sat, 12 Jun 2010 21:52:41 GMT, Owen Duffy <none@no.where> wrote:

>Richard,
>
>The article does propose a practical tolerance. I quote the relevant
>paragraph below.
>
>"Of course, nothing is perfect so an acceptable tolerance for depending on
>the assumed Zs=50+j0? for Mismatch Loss calculations might be that ï¿½forward
>powerï¿½ doesnï¿½t vary by more than 10% of the ï¿½reflected powerï¿½ at any point.
>The worst case ï¿½reflected powerï¿½ for the experiment as described is 4%, so
>a variation of ï¿½forward powerï¿½ by more than 0.4% (ie 0.4W in 100W) at any
>point would indicate significant error in any Mismatch calculations based
>on an assumed Zs=50+j0?."

Hi Owen,

Excuse me for incorrectly referencing your material as lacking in that
regard.

>I explained in the articles how I am able to reliably detect such small
>relative power variation. In one of the tests, the measured variation was
>21%.

What is the residual VSWR of your directional wattmeter?

>My intention in publishing the two articles wasn't to prove the propostion
>one way or the other, but to show practical amateurs a test that they could
>make with relatively simple equipment, one that is relevant to the
>application of Zs if it was known, and an explanation of why it works so
>that they can understand the test and make their own interpretations about
>significance.

On Fri, 11 Jun 2010 20:31:42 GMT, Owen Duffy <none@no.where> wrote:

>However, that
>proposition is easily proven wrong by valid experiments

But what lead us here was that you had proof, at least through some
third party (the experience of your having seen something that
diminished the "proposition"). I asked for that specifically. I have
not seen any reputable counter to Walt's data supporting the
"proposition."

The point remains that out of tolerance loads do not invalidate the
"proposition:"
>On Fri, 11 Jun 2010 20:31:42 GMT, Owen Duffy <none@no.where> wrote:

>
>>there is a proposition that a transmitter "designed/adjusted
>>for, and expecting a 50 + j 0 ohm load" can be well represented by a
>>Thevenin equivalent circuit and naturally has Zeq=50+j0.
In fact they announce themselves as violating the "proposition."

I hope this does not return us to the vacant adjectives, which as an English major, I can full well argue to greater advantage. I don't think that is productive, but choices remain to pursue them, or to introduce new facts.

****

Now, let's return to your paragraph, how do you know where the 50 Ohm point was? You are relying on relative accuracy to make an absolute measurement. This only works if you have a standard to make a transfer from. Walt did this but it is arguable that his 1400 Ohm resistor was, in fact, that value - however, he had the correct tools to measure it.

Your two test results could be inverted (fail/pass for pass/fail), or they could both be pass, or both fail.

I have calibrated many loads from DC to 12 GHz - and most of them failed for many and sundry reasons and had to be "qualified." In the vernacular of the standards laboratories that means a table of correction values that are valid as long as certain characteristics are met. I prepared many such lengthy reports as no one was going to buy a new load each calibration cycle (typically 3 or 6 months).

I own one that met 1% accuracy out to 1GHz (@150W), but that was luck of the draw and I wouldn't be so naive as to claim it retains that accuracy - however, experience has revealed that with care it should. Aging loads is like aging wine - there is no stasis. Here we get back into subjectives, but I know the limits of care, and I know how to practice it. If pressed to prove my inference of 1%, I also have the skill to do so to that accuracy according to methods practiced by Metrologists. It would be exceedingly tedious. Exceedingly tedious. Or I could pay for it to be done.

73's
Richard Clark, KB7QHC

2412. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 05:03:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iun816tcjolqabe42dd4lbmv5esf4onlpo@4ax.com>
Source record: 9012

On Sat, 12 Jun 2010 06:13:15 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>It has been theorized that a circuit consisting of a Class C vacuum-
>tube r-f amplifier using a tuned tank circuit in its output network
>provides an operational ï¿½non-dissipative source resistanceï¿½ of 50 ohms
>for energy present at the output connector of the transmitter.

From Mendenhall:

"VHF amplifiers often exhibit a somewhat unusual characteristic when
tuning for maximum efficiency. ... If the amplifier is tuned exactly
to resonance, the plate load impedance will be purely resistive and
teh load line will be linear."

73's
Richard Clark, KB7QHC

2413. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 05:21:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fkp816daba9juca3gsbdjfavmo4qdn9h10@4ax.com>
Source record: 9013

On Sat, 12 Jun 2010 06:13:15 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>It has been theorized that a circuit consisting of a Class C vacuum-
>tube r-f amplifier using a tuned tank circuit in its output network
>provides an operational ï¿½non-dissipative source resistanceï¿½ of 50 ohms
>for energy present at the output connector of the transmitter.

From "Care and Feeding of Power Grid Tubes:"

"The first step in designing the output circuit is to specify the
resonant load impedance of the tube, the loaded Q of the circuit and
the desired output impedance of the network. The resonant plate load
impedance for the 4065A is determined by dividing the plate peak RF
voltage swing by the plate peak fundamental RF current.
[work shows Resonant load impedance = 7600 Ohms]
"if it is assumed that the output impedance of the network is to be 50
Ohms, and the loaded Q is to be 15, the output tuned circuit may now
be designed. The output impedance of 50 Ohms will match into a
properly terminated 50 Ohm transmission line."

This document provides plenty of math and charts for the design of
efficient output networks (finals' plate load).

73's
Richard Clark, KB7QHC

2414. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 06:07:02 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5856cdb7-211c-47d6-9b19-c02fc438ea06@x21g2000yqa.googlegroups.com>
Source record: 9014

On 12 jun, 22:52, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:a2112d85-4886-415c-af14-d2e451bd0e2a@u26g2000yqu.googlegroups.com:
>
>
>
>
>
> > On 12 jun, 17:28, Owen Duffy <n...@no.where> wrote:
> >> lu6etj <lu6...@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
> >> f30dd7006...@w12g2000yqj.googlegroups.com:
>
> >> ...
>
> >> > OK. Thank you very much. This clarify so much the issue to me.
> >> > Please, another question: On the same system-example, who does not
> >> > agree with the notion that the reflected power is never dissipated
> >> > in Thevenin Rs? (I am referring to habitual posters in these
> >> > threads, of course)
>
> >> Thevenin's theorem says nothing of what happens inside the source (eg
> >> dissipation), or how the source may be implemented.
>
> >> It is the implementation of the source that provides the answer to
> >> your question, and the word "never" is too strong for the general
> >> case.
>
> >> In respect of typical HF ham transmitters, you may find my article
> >> entitled "Does SWR damage HF ham transmitters?"
> >> athttp://vk1od.net/blog/?p=1081ofinterest.
>
> >> Owen
>
> > Hello Owen thank you for your answer: Sorry I do not quite understand
> > your answer. I choose a Thevenin model of circuit theory because it is
> > an idealization consisting of an idealized constant voltaje source in
> > series with an idealized resistance without any relation with
> > practical implementation of such imaginary electrical (and
> > mathematical) entity.
>
> > I first interested get from you such idealized model answer as a
> > reductionistic aproximation method to try arrive later at subsequent
> > interpretations of practical situations. I think we all used to
> > working with idealized models and we accept its limitations, but we

> > also know frequently they are very useful to clear the "field" (as in
> > football "field")
>
> Miguel,
>
> From Wikipedia: "Thévenin's theorem for linear electrical networks states
> that any combination of voltage sources, current sources and resistors
> with two terminals is electrically equivalent to a single voltage source
> V and a single series resistor R. For single frequency AC systems the
> theorem can also be applied to general impedances, not just resistors."
>
> The theorem does not state or imply that the Thevenin equivalent circuit
> dissipates the same internal power as the real source, just that any
> *linear* two terminal circuit containing sources and impedances can be
> reduced to this two component equivalent (at a single frequency), and V
> and I at the network terminals will be the same as the original network,
> irrespective of the external load attached to the network terminals.
>
> It is a simple exercise to develop two source networks with the same
> Thevenin equivalent circuit, but that have quite different internal
> efficiencies. It is easy to demonstrate that both networks deliver the
> same power to any given load, but that the internal dissipation of those
> source networks is different in both cases, and not explainable simply as
> absorbing 'reflected power'.
>
> This is basic linear circuit theory.
>
> If there was a valid Thevenin equivalent circuit for a transmitter (and
> that is questionable), then you can not use that equivalent circuit to
> make any inference about the internal dissipation of the source (the
> transmitter in this case), or its efficiency. Nevertheless, I see people
> trying to do this one way or another in the various threads here.
>
> > (I said "never" because Cecil seem say "sometimes").
> > For example: ideal conjugate mirror in Maxwell article in my
> > interpretation implicates "never". Reflected power do not return to
> > the source in that context.
> > If you prefer I would be equally satisfied knowing who agree with
> > "never", who with "sometimes" and who with "always". But I would not
> > be too annoying :>)
>
> I know that in this age of instant gratification, people reading posts in
> these fora tend to accept simple dogmatic statements as sure sign of
> author credibility, and qualifications such as 'often', 'usually' etc as
> a sign of uncertainty, of a lack of understanding, of weakness in the
> author. The opposite is often, if not usually true.
>
> In English, we have a saying "never say never".
>
> What 'never'? 'Hardly ever'... to borrow some dialogue.

>
> A man who is hardly ever wrong doesn't use words like 'always' and
> 'never' much, or imply as much in general statements.
>
> Owen- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hello Owen, good day in Australia I hope!

Sorry, with due respect, your answer throws back the ball out of the
soccer field :>)
I like poetry also but would you mind search the web for another
scientific uses of "never" word?, such as in
http://www.upscale.utoronto.ca/PVB/Harrison/Entropy/Entropy.html.

Of course many thanks for your time and your kind reply.

Miguel LU6ETJ

2415. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 06:52:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D96AB8944F76nonenowhere@61.9.191.5>
Source record: 9015

lu6etj <lu6etj@gmail.com> wrote in news:5856cdb7-211c-47d6-9b19-c02fc438ea06@x21g2000yqa.googlegroups.com:

> Hello Owen, good day in Australia I hope!
>
> Sorry, with due respect, your answer throws back the ball out of the
> soccer field :>)
> I like poetry also but would you mind search the web for another
> scientific uses of "never" word?, such as in
> http://www.upscale.utoronto.ca/PVB/Harrison/Entropy/Entropy.html.
>
> Of course many thanks for your time and your kind reply.
>

Hi Miguel,

Lastly first, your reference uses "never" in the statement of a law of physics. That might be a safer place to use it than your typical ham assertions like "a non-resonant antenna is never going to work as good as a resonant one".

I am not sure what "throws the ball out of field". Is it the misuse of Thevenin equivalent circuits?

I tempted you to an exercise. In case you didn't try it, try this one.

I have three ideal components, a 1000V voltage generator, a 999.5 ohm resistor, and a 1 ohm resistor, all in series. They are in a black box, and both ends of the 1 ohm resistor are bought out to two terminals on the black box. It is a trivial exercise to show that load that will develop the most power is approximately 1 ohms. At that point, the load voltage is 0.5V, and load power is 0.25W. Efficiency of the system (ie Pout/Pin) is 0.25/1000=0.025%. The o/c voltage is approximately 1V and internal dissipation is approximately 1000W, the s/c current is approximately 1A and internal dissipation is approximately 1000W.

I have another black box with a 1.0005V generator and a series resistance of 0.999000 ohms bought out to its two terminals. It produces exactly the same o/c current, but with internal dissipation of 0W, exactly the same s/c current with internal dissipation of approximately 1W, maximum power of approximately 0.25W in an approximately 1 ohm load for system efficiency of 50%.

Both of these networks have the same Thevenin equivalent circuit (in fact one is the equivalent circuit), they produce the same load current, load power, load voltage on the same load impedance, but their internal dissipation and efficiency is quite different.

The Thevenin equivalent circuit cannot be used to explain the internal dissipation or efficiency of a source network, but it can be used the explain the behaviour of the load network.

Owen

2416. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 07:13:32 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <d3d7d7a9-d03a-4282-9737-c4bd6f6cc5d8@d8g2000yqf.googlegroups.com>
Source record: 9016

```
On 13 jun, 03:07, lu6etj <lu6...@gmail.com> wrote:
> On 12 jun, 22:52, Owen Duffy <n...@no.where> wrote:
>
>
>
>
>
> > lu6etj <lu6...@gmail.com> wrote
innews:a2112d85-4886-415c-af14-d2e451bd0e2a@u26g2000yqu.googlegroups.com:
>
> > > On 12 jun, 17:28, Owen Duffy <n...@no.where> wrote:
> > >> lu6etj <lu6...@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
> > >> f30dd7006...@w12g2000yqj.googlegroups.com:
>
> > >> ...
>
> > >> > OK. Thank you very much. This clarify so much the issue to me.
> > >> > Please, another question: On the same system-example, who does not
> > >> > agree with the notion that the reflected power is never dissipated
> > >> > in Thevenin Rs? (I am referring to habitual posters in these
> > >> > threads, of course)
>
> > >> Thevenin's theorem says nothing of what happens inside the source (eg
> > >> dissipation), or how the source may be implemented.
>
> > >> It is the implementation of the source that provides the answer to
> > >> your question, and the word "never" is too strong for the general
> > >> case.
>
> > >> In respect of typical HF ham transmitters, you may find my article
> > >> entitled "Does SWR damage HF ham transmitters?"
> > >> athttp://vk1od.net/blog/?p=1081ofinterest.
>
> > >> Owen
>
> > > Hello Owen thank you for your answer: Sorry I do not quite understand
> > > your answer. I choose a Thevenin model of circuit theory because it is
> > > an idealization consisting of an idealized constant voltaje source in
> > > series with an idealized resistance without any relation with
> > > practical implementation of such imaginary electrical (and
> > > mathematical) entity.
>
> > > I first interested get from you such idealized model answer as a
> > > reductionistic aproximation method to try arrive later at subsequent
```

> > > interpretations of practical situations. I think we all used to
> > > working with idealized models and we accept its limitations, but we
> > > also know frequently they are very useful to clear the "field" (as in
> > > football "field")
>
> > Miguel,
>
> > From Wikipedia: "Thévenin's theorem for linear electrical networks states
> > that any combination of voltage sources, current sources and resistors
> > with two terminals is electrically equivalent to a single voltage source
> > V and a single series resistor R. For single frequency AC systems the
> > theorem can also be applied to general impedances, not just resistors."
>
> > The theorem does not state or imply that the Thevenin equivalent circuit
> > dissipates the same internal power as the real source, just that any
> > *linear* two terminal circuit containing sources and impedances can be
> > reduced to this two component equivalent (at a single frequency), and V
> > and I at the network terminals will be the same as the original network,
> > irrespective of the external load attached to the network terminals.
>
> > It is a simple exercise to develop two source networks with the same
> > Thevenin equivalent circuit, but that have quite different internal
> > efficiencies. It is easy to demonstrate that both networks deliver the
> > same power to any given load, but that the internal dissipation of those
> > source networks is different in both cases, and not explainable simply as
> > absorbing 'reflected power'.
>
> > This is basic linear circuit theory.
>
> > If there was a valid Thevenin equivalent circuit for a transmitter (and
> > that is questionable), then you can not use that equivalent circuit to
> > make any inference about the internal dissipation of the source (the
> > transmitter in this case), or its efficiency. Nevertheless, I see people
> > trying to do this one way or another in the various threads here.
>
> > > (I said "never" because Cecil seem say "sometimes").
> > > For example: ideal conjugate mirror in Maxwell article in my
> > > interpretation implicates "never". Reflected power do not return to
> > > the source in that context.
> > > If you prefer I would be equally satisfied knowing who agree with
> > > "never", who with "sometimes" and who with "always". But I would not
> > > be too annoying :>)
>
> > I know that in this age of instant gratification, people reading posts in
> > these fora tend to accept simple dogmatic statements as sure sign of
> > author credibility, and qualifications such as 'often', 'usually' etc as
> > a sign of uncertainty, of a lack of understanding, of weakness in the
> > author. The opposite is often, if not usually true.
>
> > In English, we have a saying "never say never".

>
> > What 'never'? 'Hardly ever'... to borrow some dialogue.
>
> > A man who is hardly ever wrong doesn't use words like 'always' and
> > 'never' much, or imply as much in general statements.
>
> > Owen- Ocultar texto de la cita -
>
> > - Mostrar texto de la cita -
>
> Hello Owen, good day in Australia I hope!
>
> Sorry, with due respect, your answer throws back the ball out of the
> soccer field :>)
> I like poetry also but would you mind search the web for another
> scientific uses of "never" word?, such as
inhttp://www.upscale.utoronto.ca/PVB/Harrison/Entropy/Entropy.html.
>
> Of course many thanks for your time and your kind reply.
>
> Miguel LU6ETJ- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Sorry I ommited one comment:
The final Thevenin circuit is an idealization built with an ideal
voltage source in series with an ideal resistor. This new idealized
circuit It is a new born entity whose properties are now fully
described for these only two idealized circuit elements. These are the
virtues and the defects of reductionist models :>(

2417. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 07:21:07 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <dd3f5e96-ee1d-4276-89b6-8d2fd26f7b22@u26g2000yqu.googlegroups.com>
Source record: 9017

On 13 jun, 04:13, lu6etj <lu6...@gmail.com> wrote:
> On 13 jun, 03:07, lu6etj <lu6...@gmail.com> wrote:
>
>
>
>
>
> > On 12 jun, 22:52, Owen Duffy <n...@no.where> wrote:
>
> > > lu6etj <lu6...@gmail.com> wrote
innews:a2112d85-4886-415c-af14-d2e451bd0e2a@u26g2000yqu.googlegroups.com:
>
> > > > On 12 jun, 17:28, Owen Duffy <n...@no.where> wrote:
> > > >> lu6etj <lu6...@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
> > > >> f30dd7006...@w12g2000yqj.googlegroups.com:
>
> > > >> ...
>
> > > >> > OK. Thank you very much. This clarify so much the issue to me.
> > > >> > Please, another question: On the same system-example, who does not
> > > >> > agree with the notion that the reflected power is never dissipated
> > > >> > in Thevenin Rs? (I am referring to habitual posters in these
> > > >> > threads, of course)
>
> > > >> Thevenin's theorem says nothing of what happens inside the source (eg
> > > >> dissipation), or how the source may be implemented.
>
> > > >> It is the implementation of the source that provides the answer to
> > > >> your question, and the word "never" is too strong for the general
> > > >> case.
>
> > > >> In respect of typical HF ham transmitters, you may find my article
> > > >> entitled "Does SWR damage HF ham transmitters?"
> > > >> athttp://vk1od.net/blog/?p=1081ofinterest.
>
> > > >> Owen
>
> > > > Hello Owen thank you for your answer: Sorry I do not quite understand
> > > > your answer. I choose a Thevenin model of circuit theory because it is
> > > > an idealization consisting of an idealized constant voltaje source in
> > > > series with an idealized resistance without any relation with
> > > > practical implementation of such imaginary electrical (and
> > > > mathematical) entity.
>

> > > > I first interested get from you such idealized model answer as a
> > > > reductionistic aproximation method to try arrive later at subsequent
> > > > interpretations of practical situations. I think we all used to
> > > > working with idealized models and we accept its limitations, but we
> > > > also know frequently they are very useful to clear the "field" (as in
> > > > football "field")
>
> > > Miguel,
>
> > > From Wikipedia: "Thévenin's theorem for linear electrical networks states
> > > that any combination of voltage sources, current sources and resistors
> > > with two terminals is electrically equivalent to a single voltage source
> > > V and a single series resistor R. For single frequency AC systems the
> > > theorem can also be applied to general impedances, not just resistors."
>
> > > The theorem does not state or imply that the Thevenin equivalent circuit
> > > dissipates the same internal power as the real source, just that any
> > > *linear* two terminal circuit containing sources and impedances can be
> > > reduced to this two component equivalent (at a single frequency), and V
> > > and I at the network terminals will be the same as the original network,
> > > irrespective of the external load attached to the network terminals.
>
> > > It is a simple exercise to develop two source networks with the same
> > > Thevenin equivalent circuit, but that have quite different internal
> > > efficiencies. It is easy to demonstrate that both networks deliver the
> > > same power to any given load, but that the internal dissipation of those
> > > source networks is different in both cases, and not explainable simply as
> > > absorbing 'reflected power'.
>
> > > This is basic linear circuit theory.
>
> > > If there was a valid Thevenin equivalent circuit for a transmitter (and
> > > that is questionable), then you can not use that equivalent circuit to
> > > make any inference about the internal dissipation of the source (the
> > > transmitter in this case), or its efficiency. Nevertheless, I see people
> > > trying to do this one way or another in the various threads here.
>
> > > > (I said "never" because Cecil seem say "sometimes").
> > > > For example: ideal conjugate mirror in Maxwell article in my
> > > > interpretation implicates "never". Reflected power do not return to
> > > > the source in that context.
> > > > If you prefer I would be equally satisfied knowing who agree with
> > > > "never", who with "sometimes" and who with "always". But I would not
> > > > be too annoying :>)
>
> > > I know that in this age of instant gratification, people reading posts in
> > > these fora tend to accept simple dogmatic statements as sure sign of
> > > author credibility, and qualifications such as 'often', 'usually' etc as
> > > a sign of uncertainty, of a lack of understanding, of weakness in the
> > > author. The opposite is often, if not usually true.

>
> > > In English, we have a saying "never say never".
>
> > > What 'never'? 'Hardly ever'... to borrow some dialogue.
>
> > > A man who is hardly ever wrong doesn't use words like 'always' and
> > > 'never' much, or imply as much in general statements.
>
> > > Owen- Ocultar texto de la cita -
>
> > > - Mostrar texto de la cita -
>
> > Hello Owen, good day in Australia I hope!
>
> > Sorry, with due respect, your answer throws back the ball out of the
> > soccer field :>)
> > I like poetry also but would you mind search the web for another
> > scientific uses of "never" word?, such as
inhttp://www.upscale.utoronto.ca/PVB/Harrison/Entropy/Entropy.html.
>
> > Of course many thanks for your time and your kind reply.
>
> > Miguel LU6ETJ- Ocultar texto de la cita -
>
> > - Mostrar texto de la cita -
>
> Sorry I ommited one comment:
> The final Thevenin circuit is an idealization built with an ideal
> voltage source in series with an ideal resistor. This new idealized
> circuit It is a new born entity whose properties are now fully
> described for these only two idealized circuit elements. These are the
> virtues and the defects of reductionist models :>(- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

R. R. Well... I forget to say the more important => For the sake of
the advance of the topic please do replace "Thevenin circuit" in my
original question for "an ideal constant voltage source in series with
an ideal resistance" equivalent only to itself :>)

2418. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 10:35:06 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7c48f367-1007-4423-b6a3-b6747d44ce0d@x21g2000yqa.googlegroups.com>
Source record: 9018

On Jun 13, 12:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 4:34 pm, K1TTT <k1...@arrl.net> wrote:
>
> > ok, so you defined a case where the superposition of the reflected and
> > refracted waves at a discontinuity results in a zero sum. is that
> > supposed to prove something? did i ever say that you could not define
> > such a case??
>
> I would call two waves superposing to zero indefinitely, "wave
> cancellation". If that is not wave cancellation, where did the
> reflected and refracted wavefronts go along with their energy
> components? The answer to that question will reveal exactly what
> happens to the reflected energy.

i don't care, i know that the superimposed voltage or current is
zero. from that i can calculate the power or energy anywhere i
want.

why does anyone care about 'energy' anyway, that is even worse to
think about in transmission lines than power. at least you can
measure, or at least calibrate your meters, in power units. have you
ever seen an amateur station that had an energy meter on their
transmitter? and isn't the term 'reflected energy' kind of an
oxymoron anyway? for energy to be reflected it has to be moving, so
isn't that just another word for power?

>
> Here's a brain teaser for you and others. Given a Z01 to Z02 impedance
> discontinuity with a power reflection coefficient of 0.25 at the '+'
> discontinuity:
>
> ------Z01------+------Z02-------load
>
> Pfor1 in the Z01 section is 100 watts. Pref1 in the Z01 section is
> zero watts.
>
> What is Pfor2, Pref2, and the SWR in the Z02 section?
> --
> 73, Cecil, w5dxp.com

so? what does this special case prove that hundreds of others
doesn't?

2419. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 10:38:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <07f1b80d-d236-44f5-af83-b076336df0d6@x21g2000yqa.googlegroups.com>
Source record: 9019

On Jun 13, 3:22 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 12 Jun 2010 14:21:29 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >> 1. How could you tell if a lossless line lost energy by radiation?
>
> >there would be missing energy?
>
> A lossless line infinite in extent is the typical definition that
> corresponds to its characteristic "non-dissipative" resistance. That,
> or it is terminated in a lossy resistor (and the loss is suddenly in
> everone's face, full and foursquare).
>
> How long are you going to wait to finish the energy budget to measure
> IF there is missing energy from an infinite line?
>
> 73's
> Richard Clark, KB7QHC

infinitely long of course. i think it was you who added the infinite
part. i don't care as long as it is not losing cecil's precious
energy.

2420. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 11:14:58 UTC
From: amdx <amdx@knology.net>
Message-ID: <4afa4$4c14bd8a$18ec6dd7$26619@KNOLOGY.NET>
Source record: 9020

I seem to recall this subject was written about in Communications
Quarterly. Now QEX.
Then debated in the next few issues in the Technical Conversations section,
and then
there may have even been a second article written as debate to the first.
I thought the key term was conjugative match, but with a quick look all I
found was
a winter 1999 article more about tuners and cable "VSWR, Reflections, and
the Conjugate
Impeadance Match.
Your subject "tube r-f amplifier using a tuned tank circuit (output
impedance)" was very
hotly debated over several issues. It was all above my ability, but I
gleaned a little from it.
Someone with an ARRL membership can search the index and get the issues
with the articles
and all the technical correspondence.
Mike

"Richard Fry" <rfry@adams.net> wrote in message
news:3b9c7466-5bb5-46a7-a924-8897432a5365@j4g2000yqh.googlegroups.com...
It has been theorized that a circuit consisting of a Class C vacuum-
tube r-f amplifier using a tuned tank circuit in its output network
provides an operational "non-dissipative source resistance" of 50 ohms
for energy present at the output connector of the transmitter.

However the information and measured data provided in the text
excerpts below is not very supportive of that theory.

These excerpts discuss and show the effects of the energy entering a
transmitter at its output connector by frequencies offset from the
transmitter frequency.

There is direct applicability of the conclusions of the paper showing
that the operational source impedance of the transmitter near/at the
carrier frequency is much different than 50 ohms.

If it WAS a functional 50 ohms, then the termination provided to the
transmission line for signals entering the transmitter by its output
connector (whether on or off frequency) would not be present at the
plate of the PA tube to react with the power being generated by the PA
tube.

Rather the data leads to a logical conclusion that the operational
source impedance of this configuration at the carrier frequency will
be very low (approaching zero), when it is optimally tuned/adjusted to

produce its rated output power.

Further discussion or comment is invited.

RF

From:

A STUDY OF RF INTERMODULATION BETWEEN FM BROADCAST TRANSMITTERS SHARING FILTERPLEXED OR CO-LOCATED ANTENNA SYSTEMS, by Geoffrey N. Mendenhall, P.E.*

II. INTERMODULATION AS A FUNCTION OF "TURN-AROUND-LOSS".
"Turn-Around-Loss" or "Mixing Loss" describes the phenomenon whereby the interfering signal mixes with the fundamental and its harmonics within the non-linear output device. This mixing occurs with a net conversion loss, hence the term "Turn-Around-Loss" has become widely used to quantify the ratio of the interfering level to the resulting IM level. A "Turn-Around-Loss" of 10dB means that the IM product fed back to the antenna system will be 10dB below the interfering signal fed into the transmitter's output stage.

"Turn-Around-Loss" will increase if the interfering signal falls outside the passband of the transmitter's output circuit, varying with the frequency separation of the desired signal and the interfering signal. This is because the interfering signal is first attenuated by the selectivity going into the non-linear device and then the IM product is further attenuated as it comes back out through the frequency selective circuit.

"Turn-Around-Loss" can actually be broken down into the sum of three individual parts:
(1) The basic in-band conversion loss of the non-linear device.
(2) The attenuation of the out-of-band interfering signal due to the selectivity of the output stage.
(3) The attenuation of the resulting out-of-band IM products due to the selectivity of the output stage.

Of course, as the "Turn-Around-Loss" increases, the level of undesirable intermodulation products is reduced and the amount of isolation required between transmitters is also reduced.

The small portion of the interfering signal that is not reflected is what causes intermodulation products to be generated. Obviously the lower the output source impedance, the more complete the reflection (lower return loss), with the result being less production of intermodulation products.

III. EQUIPMENT PARAMETERS THAT AFFECT INTERMODULATION LEVELS.
The interfering signal must be coupled into the transmitter's output stage before the IM products are produced and the output level of the intermodulation products will be related to the interfering signal level.

The two parameters (outside of the filterplexing equipment) that most affect the interfering signal level into the transmitter's output circuit are the output loading and the circuit's frequency selectivity (loaded "Q"). These two parameters are interrelated because the degree of output loading will change the loaded "Q" of the output circuit while also affecting the return loss of the interfering signal looking into the output circuit.

"Output Return Loss" is a measure of the amount of interfering signal that is coupled into the output circuit versus the amount that is reflected back from the output circuit without interacting with the non linear device.

To understand this concept more clearly, we must remember that although the output circuit of the transmitter is designed to work into a fifty ohm load, the output source impedance of the transmitter is not fifty ohms. If the source impedance were equal to the fifty ohm transmission line impedance, half of the transmitter's output power would be dissipated in its internal output source impedance. The transmitter's output source impedance must be low compared to the load impedance in order to achieve good efficiency.

The transmitter therefore looks like a voltage source driving a fifty ohm resistive load. While the transmission line is correctly terminated looking toward the antenna (high return loss), THE TRANSMISSION LINE IS GREATLY MISMATCHED LOOKING TOWARD THE OUTPUT CIRCUIT OF THE TRANSMITTER (LOW RETURN LOSS). THIS MEANS THAT POWER COMING OUT OF THE TRANSMITTER IS COMPLETELY ABSORBED BY THE LOAD WHILE INTERFERING SIGNALS FED INTO THE TRANSMITTER ARE ALMOST COMPLETELY REFLECTED BY THE OUTPUT CIRCUIT.

VI. CONCLUSIONS
1. "Turn-Around-Loss" is a function of the particular non-linear device and the amount of loading on its output circuit.
2. "Turn-Around-Loss" increases as the interfering signal and the resulting IM products are moved away from the carrier and out of the output circuit passband.
3. "Turn-Around-Loss" will be least when the interfering signal is within the transmitter's passband.

The figure posted at the link below shows the measured data supplied with this paper.

http://i62.photobucket.com/albums/h85/rfry-100/TAL_Chart.gif

* Geoffrey Mendenhall presently is Vice President, RF Engineering at Harris Corporation Broadcast Division, and a recognized authority on transmitter system design. Harris Broadcast is one of the largest manufacturers in the world of AM/FM/TV broadcast transmitters, rated for power outputs up to 2,000 kW.

2421. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 11:16:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c7e60b22-4a6c-4ad8-a6bb-3f2a78693edb@5g2000yqz.googlegroups.com>
Source record: 9021

On Jun 13, 12:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 4:34 pm, K1TTT <k1...@arrl.net> wrote:
>
> > ok, so you defined a case where the superposition of the reflected and
> > refracted waves at a discontinuity results in a zero sum. is that
> > supposed to prove something? did i ever say that you could not define
> > such a case??
>
> I would call two waves superposing to zero indefinitely, "wave
> cancellation". If that is not wave cancellation, where did the
> reflected and refracted wavefronts go along with their energy
> components? The answer to that question will reveal exactly what
> happens to the reflected energy.
>
> Here's a brain teaser for you and others. Given a Z01 to Z02 impedance
> discontinuity with a power reflection coefficient of 0.25 at the '+'
> discontinuity:
>
> ------Z01------+------Z02-------load
>
> Pfor1 in the Z01 section is 100 watts. Pref1 in the Z01 section is
> zero watts.
>
> What is Pfor2, Pref2, and the SWR in the Z02 section?
> --
> 73, Cecil, w5dxp.com

just for fun... explain why i can see that discontinuity between z01
and z02 when i hook up my tdr.

2422. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 12:17:54 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <02cf006c-7480-441a-a727-1c2d09999a7d@j4g2000yqh.googlegroups.com>
Source record: 9022

On Jun 12, 7:30 pm, Richard Clark <kb7...@comcast.net> wrote:

> Deja Vu all over again. I suppose you posted this to inspire me to,
> once again, remind you from Mendenhall's own notes about Class C
> amplifier construction - and so I will: ...

If you believe by your understanding of the clips you quoted from Mendenhall that a conventional, single vacuum tube Class C r-f amplifier provides a functional termination of 50+j0 ohms for energy applied to the output connector of the transmitter, then please explain why that termination allows such signals to reach the plate of the PA tube -- whose non-linear characteristics created the _measured_ r-f intermodulation products and other performance data given in the Mendenhall paper I quoted.

RF

2423. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 13:35:04 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <cf134a9b-2eab-4318-adce-ce1139bed405@q12g2000yqj.googlegroups.com>
Source record: 9023

On Jun 12, 8:52 pm, Owen Duffy <n...@no.where> wrote:
> If there was a valid Thevenin equivalent circuit for a transmitter (and
> that is questionable), then you can not use that equivalent circuit to
> make any inference about the internal dissipation of the source (the
> transmitter in this case), or its efficiency. Nevertheless, I see people
> trying to do this one way or another in the various threads here.

In his food-for-thought article on forward and reflected power, Roy
(w7el) says: "So we can model a 100 watt forward, 50 ohm nominal
transmitter as a 141.4 volt (100 * sqrt(2)) RMS voltage source in
series with a 50 ohm resistance." He goes on to calculate power
dissipation in the source resistor.
--
73, Cecil, w5dxp.com

2424. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 14:04:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5b86227c-4a5a-4675-8a9e-13fdd9fe6417@d8g2000yqf.googlegroups.com>
Source record: 9024

On Jun 13, 5:35 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 13, 12:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> > The answer to that question will reveal exactly what
> > happens to the reflected energy.
>
> i don't care, i know that the superimposed voltage or current is
> zero. from that i can calculate the power or energy anywhere i
> want. why does anyone care about 'energy' anyway, ...

You get exactly the same answers doing it my way but my way yields the additional information of exactly what happens to the energy components. When two wavefronts superpose to zero indefinitely, I would take that as proof of interaction and wave cancellation.

This is what invariably happens to the discussion. After being told that I am absolutely wrong about energy flow, I introduce the known laws of EM physics from the field of optics and prove that they provide exactly the same answers as a conventional RF analysis. After some discussion, it is asserted that the person (not only you) doesn't care and it doesn't matter anyway. W7EL says in his food-for-thought article, "I personally don’t have a compulsion to understand where this power 'goes'."

A 1/4WL series matching stub is essentially the same function in concept as a 1/4WL thin-film coating on non-reflective glass. How the non-reflective glass works is perfectly understood and a 1/4WL series matching section works the same way. Why not glean some knowledge from the field of optics if it helps hams to understand "where the power goes"? Optical physicists were forced to track power density from the very start of their science because they didn't have the luxury of tracking the voltage and current.

> > Here's a brain teaser for you and others. Given a Z01 to Z02 impedance
> > discontinuity with a power reflection coefficient of 0.25 at the '+'
> > discontinuity:
>
> > ------Z01------+------Z02-------load
>
> > Pfor1 in the Z01 section is 100 watts. Pref1 in the Z01 section is
> > zero watts.
>
> > What is Pfor2, Pref2, and the SWR in the Z02 section?
>
> so? what does this special case prove that hundreds of others
> doesn't?

The magnitudes of the voltages and currents in the above example are indeterminate. Can you (or anyone else) solve the problem without resorting to voltage and current calculations? I am just trying to get people to think outside of their rigid concrete voltage/current boxes.
--
73, Cecil, w5dxp.com

2425. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 14:24:30 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <k8q916pur0e90bcipr5cd2qscc6r8sf3tu@4ax.com>
Source record: 9025

On Sat, 12 Jun 2010 12:15:06 -0700 (PDT), walt <walt@w2du.com> wrote:

>On Jun 12, 10:12ï¿½am, K1TTT <k1...@arrl.net> wrote:
>> On Jun 12, 12:57ï¿½pm, "David" <nospam@nospam> wrote:
>>
>> > Antenna is a quarterwave vertical with quarterwave radials.
>>
>> > There is a difference in operation between transmit and receive modes.
>>
>> no there isn't. ï¿½the antenna works the same in transmit and receive.
>> The same pattern can be measured in both modes.
>
>K1TTT is correct--the transmit and receive modes are reciprocally
>related, and thus are identical in operation. The vertical radiator is
>non-directional, and is the receptor in the receiving mode. The
>radials are not receptors and are not involved the directivity on
>reception.
>
>Walt, W2DU

Thanks for the concise and complete answer Walt. I have tucked it away
in my antenna notes for further use.
John Ferrell W8CCW

2426. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 14:34:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <903f596e-4b2e-4f53-8279-ee435f5a5832@h13g2000yqm.googlegroups.com>
Source record: 9026

On Jun 13, 2:04 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 13, 5:35 am, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 13, 12:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> > > The answer to that question will reveal exactly what
> > > happens to the reflected energy.
>
> > i don't care, i know that the superimposed voltage or current is
> > zero. from that i can calculate the power or energy anywhere i
> > want. why does anyone care about 'energy' anyway, ...
>
> You get exactly the same answers doing it my way but my way yields the
> additional information of exactly what happens to the energy
> components. When two wavefronts superpose to zero indefinitely, I
> would take that as proof of interaction and wave cancellation.
>
> This is what invariably happens to the discussion. After being told
> that I am absolutely wrong about energy flow, I introduce the known
> laws of EM physics from the field of optics and prove that they
> provide exactly the same answers as a conventional RF analysis. After
> some discussion, it is asserted that the person (not only you) doesn't
> care and it doesn't matter anyway. W7EL says in his food-for-thought
> article, "I personally don’t have a compulsion to understand where
> this power 'goes'."
>
> A 1/4WL series matching stub is essentially the same function in
> concept as a 1/4WL thin-film coating on non-reflective glass. How the
> non-reflective glass works is perfectly understood and a 1/4WL series
> matching section works the same way. Why not glean some knowledge from
> the field of optics if it helps hams to understand "where the power
> goes"? Optical physicists were forced to track power density from the
> very start of their science because they didn't have the luxury of
> tracking the voltage and current.
>
> > > Here's a brain teaser for you and others. Given a Z01 to Z02 impedance
> > > discontinuity with a power reflection coefficient of 0.25 at the '+'
> > > discontinuity:
>
> > > ------Z01------+------Z02-------load
>
> > > Pfor1 in the Z01 section is 100 watts. Pref1 in the Z01 section is
> > > zero watts.
>
> > > What is Pfor2, Pref2, and the SWR in the Z02 section?

>
> > so? what does this special case prove that hundreds of others
> > doesn't?
>
> The magnitudes of the voltages and currents in the above example are
> indeterminate. Can you (or anyone else) solve the problem without
> resorting to voltage and current calculations? I am just trying to get
> people to think outside of their rigid concrete voltage/current boxes.
> --
> 73, Cecil, w5dxp.com

why are they indeterminate? i can calculate them, why can't you?

2427. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 14:36:57 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a3885bfe-c512-4302-bd20-1893f1f6ced1@e5g2000yqn.googlegroups.com>
Source record: 9027

On Jun 13, 2:04 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 13, 5:35 am, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 13, 12:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> > > The answer to that question will reveal exactly what
> > > happens to the reflected energy.
>
> > i don't care, i know that the superimposed voltage or current is
> > zero. from that i can calculate the power or energy anywhere i
> > want. why does anyone care about 'energy' anyway, ...
>
> You get exactly the same answers doing it my way but my way yields the
> additional information of exactly what happens to the energy
> components. When two wavefronts superpose to zero indefinitely, I
> would take that as proof of interaction and wave cancellation.
>
> This is what invariably happens to the discussion. After being told
> that I am absolutely wrong about energy flow, I introduce the known
> laws of EM physics from the field of optics and prove that they
> provide exactly the same answers as a conventional RF analysis. After
> some discussion, it is asserted that the person (not only you) doesn't
> care and it doesn't matter anyway. W7EL says in his food-for-thought
> article, "I personally don’t have a compulsion to understand where
> this power 'goes'."

hams 'know' where the power goes, their swr meter tells them it goes
back to the transmitter!

why don't physicists working in optics calculate fields? the electric
and magnetic field models work just as well at those frequencies as
they do on hf. indeed, why don't optical physicists learn something
from rf designers and model their thin films with transmission lines!

2428. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 14:42:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9f2c0b77-a645-4a5e-be91-38a5d3d7e716@y11g2000yqm.googlegroups.com>
Source record: 9028

On Jun 13, 6:16 am, K1TTT <k1...@arrl.net> wrote:
> just for fun... explain why i can see that discontinuity between z01
> and z02 when i hook up my tdr.

That's easy, because it *physically exists in reality* with a voltage reflection coefficient of (Z02-Z01)/(Z02+Z01) = 0.5. It is related to the indexes of refraction in the field of optics from which the same reflection coefficient can be calculated.

The difficult question is: Exactly why doesn't that same physical reflection coefficient reflect half of the forward voltage when it is Z0-matched during steady-state?

The answer is that it indeed does reflect 1/2 of the forward voltage during steady-state but that wavefront interacts with 1/2 of the reflected voltage returning from the mismatched load which is equal in magnitude and 180 degrees out of phase. In this case, superposition of the two waves results in wave cancellation (total destructive interference). The energy components in those two waves are combined and redistributed back toward the load as constructive interference in phase with the forward wave from the source. That's where the reflected energy goes.

That's why the s-parameter analysis theory could be important to hams. By merely measuring the four reflection/transmission coefficients (s11, s12, s21, s22) one learns the basics of superposition. S-parameter analysis was covered in my 1950's college textbook, "Fields and Waves in Modern Radio", by Ramo and Whinnery (c)1944. I don't know how or why the younger generation missed it.
--
73, Cecil, w5dxp.com

2429. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 15:02:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <713bf691-176b-4198-ae3f-3a130dc9a22b@y4g2000yqy.googlegroups.com>
Source record: 9029

On Jun 13, 9:34 am, K1TTT <k1...@arrl.net> wrote:
> why are they (voltages) indeterminate? i can calculate them, why can't you?

Purposefully, the numerical values of Z01 and Z02 are not given and
unknown. The answer to the problem would be the same if Z01=50 and
Z02=150, or if Z01=100 and Z02=300, or an infinite number of other
combinations. Please tell me how you can calculate an absolute voltage
when Z0 is an unknown variable?
--
73, Cecil, w5dxp.com

2430. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 16:10:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5l0a165mnt93t7rnd12v5ekviaot2006db@4ax.com>
Source record: 9030

On Sun, 13 Jun 2010 03:38:48 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>infinitely long of course. i think it was you who added the infinite
>part.

Hi David,

It's a staple of the catechism.

>i don't care as long as it is not losing cecil's precious
>energy.

Now talk about entropy.

73's
Richard Clark, KB7QHC

2431. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 16:12:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iq0a165flt3viibf97g1e8hanea85akhjj@4ax.com>
Source record: 9031

On Sun, 13 Jun 2010 05:17:54 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>the PA tube -- whose non-linear characteristics

From Mendenhall:

"VHF amplifiers often exhibit a somewhat unusual characteristic when
tuning for maximum efficiency. ... If the amplifier is tuned exactly
to resonance, the plate load impedance will be purely resistive and
teh load line will be linear."

73's
Richard Clark, KB7QHC

2432. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 16:19:56 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <498bd846-fa7f-4e0c-88cc-9984c57e48d5@g19g2000yqc.googlegroups.com>
Source record: 9032

On Jun 13, 9:35 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 12, 8:52 pm, Owen Duffy <n...@no.where> wrote:
>
> > If there was a valid Thevenin equivalent circuit for a transmitter (and
> > that is questionable), then you can not use that equivalent circuit to
> > make any inference about the internal dissipation of the source (the
> > transmitter in this case), or its efficiency. Nevertheless, I see people
> > trying to do this one way or another in the various threads here.
>
> In his food-for-thought article on forward and reflected power, Roy
> (w7el) says: "So we can model a 100 watt forward, 50 ohm nominal
> transmitter as a 141.4 volt (100 * sqrt(2)) RMS voltage source in
> series with a 50 ohm resistance." He goes on to calculate power
> dissipation in the source resistor.
> --
> 73, Cecil, w5dxp.com

And a mere two sentences back one find Roy writing:
"I make no claim that the model circuit represents what's going on
inside the transmitter. For one thing, a real transmitter will
typically be more efficient than the model. However, if measurements
and observations are limited to the outside of the transmitter,
the model is very good (within the non-shutdown range). Although
a real transmitter won't contain the model's resistance as a
resistor, we will take a look at the model resistor's dissipation
to see how it interacts with the "reverse" power."

Was your disingenuity deliberate?

...Keith

2433. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 16:26:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <76634a31-396f-4850-989e-50dc9ae0ece0@r27g2000yqb.googlegroups.com>
Source record: 9033

On Jun 13, 2:42 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 13, 6:16 am, K1TTT <k1...@arrl.net> wrote:
>
> > just for fun... explain why i can see that discontinuity between z01
> > and z02 when i hook up my tdr.
>
> That's easy, because it *physically exists in reality* with a voltage
> reflection coefficient of (Z02-Z01)/(Z02+Z01) = 0.5. It is related to
> the indexes of refraction in the field of optics from which the same
> reflection coefficient can be calculated.
>
> The difficult question is: Exactly why doesn't that same physical
> reflection coefficient reflect half of the forward voltage when it is
> Z0-matched during steady-state?
>
> The answer is that it indeed does reflect 1/2 of the forward voltage
> during steady-state but that wavefront interacts with 1/2 of the
> reflected voltage returning from the mismatched load which is equal in
> magnitude and 180 degrees out of phase. In this case, superposition of
> the two waves results in wave cancellation (total destructive
> interference). The energy components in those two waves are combined
> and redistributed back toward the load as constructive interference in
> phase with the forward wave from the source. That's where the
> reflected energy goes.
>
> That's why the s-parameter analysis theory could be important to hams.
> By merely measuring the four reflection/transmission coefficients
> (s11, s12, s21, s22) one learns the basics of superposition. S-
> parameter analysis was covered in my 1950's college textbook, "Fields
> and Waves in Modern Radio", by Ramo and Whinnery (c)1944. I don't know
> how or why the younger generation missed it.
> --
> 73, Cecil, w5dxp.com

because they use the newer 'fields and waves in communication
electronics' by ramo, whinnery, and van duzer that uses reflection
coefficients and calculates voltages, currents, electric and magnetic
fields.

2434. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 16:27:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <cac0640d-dd42-4368-bfa1-b641a23cbbbd@e5g2000yqn.googlegroups.com>
Source record: 9034

On Jun 13, 3:02 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 13, 9:34 am, K1TTT <k1...@arrl.net> wrote:
>
> > why are they (voltages) indeterminate? i can calculate them, why can't you?
>
> Purposefully, the numerical values of Z01 and Z02 are not given and
> unknown. The answer to the problem would be the same if Z01=50 and
> Z02=150, or if Z01=100 and Z02=300, or an infinite number of other
> combinations. Please tell me how you can calculate an absolute voltage
> when Z0 is an unknown variable?
> --
> 73, Cecil, w5dxp.com

the same way you calculate the power to be zero watts. no need to
know the z0 if the voltage is zero.

2435. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 16:31:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <60460493-f609-4bca-bd9a-6df01724dac8@x21g2000yqa.googlegroups.com>
Source record: 9035

On Jun 13, 4:10 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 13 Jun 2010 03:38:48 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
> >infinitely long of course. i think it was you who added the infinite
> >part.
>
> Hi David,
>
> It's a staple of the catechism.
>
> >i don't care as long as it is not losing cecil's precious
> >energy.
>
> Now talk about entropy.
>
> 73's
> Richard Clark, KB7QHC

oooooh, entropy... i hated thermodynamics.

2436. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 17:03:40 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <314d2a5a-ee8c-4587-9595-9a28c91e44c9@r27g2000yqb.googlegroups.com>
Source record: 9036

On Jun 13, 12:12 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 13 Jun 2010 05:17:54 -0700 (PDT), Richard Fry <r...@adams.net>
> wrote:
>
> >the PA tube -- whose non-linear characteristics
>
> From Mendenhall:
>
> "VHF amplifiers often exhibit a somewhat unusual characteristic when
> tuning for maximum efficiency. ... If the amplifier is tuned exactly
> to resonance, the plate load impedance will be purely resistive and
> teh load line will be linear."

'Unusual'? Certainly not unexpected once one thinks about it. For a
given controlled power, the minimum dissipation in the controlling
device will occur when the minimum voltage occurs at the time of
maximum current, and vice versa, i.e. the voltage and current in the
load are in phase, or equivalently, the load impedance is resistive.

I would expect this to be a fundamental characteristic, and not just
for VHF amplifiers.

The 60Hz folk are trying to achieve the same result as they strive
for a power factor of 1.

...Keith

2437. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 17:08:14 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <610d914b-b692-4e0d-9e05-29e40a0a06e7@y4g2000yqy.googlegroups.com>
Source record: 9037

On 12 jun, 23:42, Owen Duffy <n...@no.where> wrote:
> walt <w...@w2du.com> wrote
innews:40fd1f3d-72bc-4d1b-ae5b-52642c882d4f@c10g2000yqi.googlegroups.com:
>
> ...
>
> > What you have said above is the key to the concern over the output
> > resistance of a Clsss C amplifier being non-dissipative. What seems to
> > be universally misunderstood is that there are really two separate
> > resistances in the operation of these amps; one, the cathode-to-plate
> > resistance, which is the dissipative resistance Rpd that accounts for
> > all the heat, due to the electrons striking the plate; and two, the
>
> It is my understanding that the average power (heat) generated at the anode
> of a triode can be found by averaging the product of the instantaneous
> anode current and anode-cathode voltage over time. In a Class C amplifier,
> the voltage and current are not linearly related to each other, ie there is
> no constant of proportionality, no constant or fixed resistance.
>
> I don't understand why then, that people try to explain the anode
> dissipation in terms of some value of resistance.
>
> Owen

Hello Owen,

I fully agree with you. When I am doing power electronics, I show myself the instantaneous current*voltage plot, and the averaged integral. The last one shows the dissipated power, the first one tells me where I have my losses (and also what I have to change to reduce the overall loss or reduce component stress).

Regarding the class C output impedance issue, I updated my simulations with a 3.6 MHz output stage with a 6146 tube and real class C operation.

You can almost get every impedance you want, also the conjugated match condition, but you need to do many simulations to find that point. With hours of time, I couldn’t get closer to an output VSWR of 1.58 with 79% efficiency. I know you can get closer, but at his moment I cannot provide you a spice file as I don’t have it anymore and I also dropped orcad long time ago. .

The smallest change in output loading or drive level results in significant change of output impedance. So take an arbitrary class C amplifier, measure its output impedance and it will very likely be way

off the intended load (in my example 3500 Ohm).

If you want to use load change method with some different resistive loads, you should make phase measurements to get valid results, as you don't know whether you amplifier has real or complex output impedance.

For the class C amplifier I changed the drive by +0.36 dB, resulting in an increase of plate efficiency from 79% to 80%, but the output VSWR changed from 1.58 to 3.6. Also reduction of input drive gives significant change in VSWR (magnitude and phase).

I hope that people will reproduce some of the simulation themselves to develop a solid opinion on their own.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

2438. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 17:12:36 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <92af5f3f-0b9f-47c7-856a-db2c846e125e@j4g2000yqh.googlegroups.com>
Source record: 9038

Hello,

I forgot the link: www.tetech.nl/divers/PA_impedance.pdf

Best regards,

Wim
PA3DJS

2439. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 17:14:21 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <0f8d4ea1-2fa1-43ee-94d9-2321bae8c630@j4g2000yqh.googlegroups.com>
Source record: 9039

On Jun 13, 11:12 am, Richard Clark <kb7...@comcast.net> wrote:
>
> From Mendenhall:
> ...

Would you please respond in your own words directly to my
previous statement (repeated below)?

If you believe by your understanding of the clips you quoted from
Mendenhall that a conventional, single vacuum tube Class C r-f
amplifier provides a functional termination of 50+j0 ohms for energy
applied to the output connector of the transmitter, THEN PLEASE
EXPLAIN WHY THAT TERMINATION ALLOWS SUCH SIGNALS
TO REACH THE PLATE OF THE PA TUBE -- whose non-linear
characteristics created the _measured_ r-f intermodulation products
and other performance data given in the Mendenhall paper I quoted.

RF

2440. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 17:35:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f74a165gmgiprd4dblg7a6g0on4c06vg1e@4ax.com>
Source record: 9040

On Sun, 13 Jun 2010 10:03:40 -0700 (PDT), Keith Dysart
<keith.dysart@gmail.com> wrote:

>'Unusual'? Certainly not unexpected once one thinks about it.

Hi Keith,

The "unusual" was lost in the ellipsis that I will reveal:
"... The highest efficiency operating point does not exactly coincide
with the lowest plate current because the power output continues to
rise for a while on the inductive side of resonance coming out of the
dip in the plate current. ..."

Continuing, Mendenhall presents the problems of trade-offs between
what would seem to be maximum power for worsening characteristics in
performance - the goal is what he calls minimizing synchronous AM
versus Efficiency.

Synchronous AM is a problem that can be introduced by measurement
equipment, as Mendenhall relates: "The input impedance of the
envelope detector must provide a nearly perfect match ... 30dB return
loss ... to the sampling line."

This sidebar relates to what Owen characterized as "Usability" where I
have recited the objective technical specification to reduce the
subjectivity of the term.

There's more that could be said, but I am waiting to see if Richard is
willing to subscribe to his own reference's writings. If not, and
Mendenhall doesn't mince words on the topic, then as Perry Mason would
observe "The D.A. is impeaching his own witness!"

I've always loved Perry Mason.

73's
Richard Clark, KB7QHC

2441. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 18:04:50 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <5c5a23a8-a55c-490c-82b3-5da183eae168@c10g2000yqi.googlegroups.com>
Source record: 9041

On Jun 13, 12:35 pm, Richard Clark <kb7...@comcast.net> wrote:

> I am waiting to see if Richard is willing to subscribe to his own reference's writings

I responded to you some 20 minutes before you posted, and now await
your response.

Also please comment on whether or not a Class C amplifier operating on
a linear portion of its transfer curve will function as a linear
amplifier.

RF

2442. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 18:05:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gq5a16h5ugc2cpv4samlh3k0nejlou6qf4@4ax.com>
Source record: 9042

On Sun, 13 Jun 2010 10:14:21 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>Would you please respond in your own words

Hi Richard,

I conform to Mendenhall to the specific statement I responded to.

>If you believe

What I believe has been succinctly laid out in my subscribing to
Mendenhall's explicit statement.

>THEN PLEASE EXPLAIN WHY

I don't see that elaboration is going to improve what has been
presented.

Yes, it is a difficult concept that many struggle with and few have
had experience in making a sufficiently accurate determination of.
Consult Walt's 333 line posting and examine how experience comes to
bear and through my recitations reveal the dovetail fit to theory.

The Only Explanation Possible:

Here's a modest proposal, Mendenhall constructed a power amplifier
that is within the technical grasp of many here to achieve at a modest
workbench. The design is quite spartan. The design is quite
understressed (there is nothing "forcing" a conclusion). The design
conforms to all engineering standards.

Build your own. [It feels strange to have to offer that option to a
group of Hams.]

Having this amplifier before you, observe all the variables, play with
them. Measure their impact on NOhms. Account for the heat with
direct measurement and note what does not conform to convention.

When that is finished the real work begins. Calibrate your tools and
repeat this for accuracy.

73's
Richard Clark, KB7QHC

2443. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 18:20:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cg7a161ojj1dd93qttrqoofk7bbt4crq98@4ax.com>
Source record: 9043

On Sun, 13 Jun 2010 11:04:50 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>> I am waiting to see if Richard is willing to subscribe to his own reference's writings
>
>I responded to you some 20 minutes before you posted, and now await
>your response.

So your subscription to your own authority is contingent upon me?

I'm flattered.

>Also please comment on whether or not a Class C amplifier operating on
>a linear portion of its transfer curve will function as a linear
>amplifier.

"If the amplifier is tuned exactly to resonance, the plate load
impedance will be purely resistive and the load line will be linear."

I would note that the bulk of his paper concerns frequency products -
something the bears quite intimately upon linear operation.

Your question is rather opaque in that the appearance of subtext is
undoubtedly bound up in the term "linear" which Mendenhall has already
employed within the norms of amplifier design.

How linear is linear? Give me a technical criteria (subjectivity
abounds and is not very informative except for statements of fashion).
Express the least departure from a line response in percent that you
accept as being linear. If it exceeds Mendenhall's design or
commercial product, then I am afraid you won't be satisfied with any
answer.

73's
Richard Clark, KB7QHC

2444. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 19:16:40 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <5ddb4d92-ea3b-4699-8df1-9f6c3e9d8b1b@g19g2000yqc.googlegroups.com>
Source record: 9044

On Jun 13, 1:20 pm, Richard Clark <kb7...@comcast.net> wrote:

> How linear is linear? Give me a technical criteria...

A truly linear device does not produce r-f intermodulation products when signals of different frequencies are applied to it at the same time.

For many practical uses a linear device does need to be perfectly linear. Let's say that the IM products need to be only - 20 dB w.r.t the lowest amplitude value of the various input frequencies. The Mendenhall paper I quoted conclusively shows that even such nominally linear performance is not an attribute of Class C vacuum tube r-f amplifiers -- especially at, and near the center frequency of the PA output tuning/matching network.

That Mendenhall paper also shows that such r-f amplifiers do not present a functional, 50+j0 termination to r-f energy entering via the tx output connector. That is the reason why such energy is present in the PA plate circuit, giving rise to r-f intermodulation and/or changing the power dissipation there.

RF

2445. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 19:31:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fqba16pak2gdo5l954jnt3iutl2hi2i3v3@4ax.com>
Source record: 9045

On Sun, 13 Jun 2010 12:16:40 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>On Jun 13, 1:20ï¿½pm, Richard Clark <kb7...@comcast.net> wrote:
>
>> How linear is linear? ï¿½Give me a technical criteria...
>
>Let's say that the IM products need to be only - 20 dB w.r.t
>the lowest amplitude value of the various input frequencies.

Medenhall's paper shows "RF spectrum showing distortion products" that
are 30dB down.

His statement: "If the amplifier is tuned exactly to resonance, the
plate load impedance will be purely resistive and the load line will
be linear." is attached to that linearity which is greater than you
expect.

73's
Richard Clark, KB7QHC

2446. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 19:58:43 UTC
From: walt <walt@w2du.com>
Message-ID: <919b9e20-5e5e-4ce8-b633-68dd371077e2@d8g2000yqf.googlegroups.com>
Source record: 9046

On Jun 13, 3:31 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 13 Jun 2010 12:16:40 -0700 (PDT), Richard Fry <r...@adams.net>
> wrote:
>
> >On Jun 13, 1:20 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> >> How linear is linear? Give me a technical criteria...
>
> >Let's say that the IM products need to be only - 20 dB w.r.t
> >the lowest amplitude value of the various input frequencies.
>
> Medenhall's paper shows "RF spectrum showing distortion products" that
> are 30dB down.
>
> His statement: "If the amplifier is tuned exactly to resonance, the
> plate load impedance will be purely resistive and the load line will
> be linear." is attached to that linearity which is greater than you
> expect.
>
> 73's
> Richard Clark, KB7QHC

To Richard Fry,

Richard, it appears that you have ignored my post where I reported data that proves the output resistance of Class B and C RF amps is non-dissipative. Have you reviewed or ignored my reference to Chapter 19 in Reflections 3, or the combined sections of that chapter that appear in my web page at www.w2du.com that uses an example from Terman's Radio Engineers Handbook? If you haven't yet reviewed it I urge you to do it, and then if you disagree with my measured data I'd like for you to explain the reason for your disagreement.

Walt, W2DU

2447. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 20:36:53 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <1a5b98f1-8257-48bc-ad8f-2bbabf93f384@x27g2000yqb.googlegroups.com>
Source record: 9047

On Jun 13, 2:31 pm, Richard Clark <kb7...@comcast.net> wrote:

>
> Medenhall's paper shows "RF spectrum showing distortion products"
> that are 30dB down.

Not near the resonant frequency of the output tuning/matching network.

He shows as little as 5 dB at 0.8 MHz offset of the external signal
from the carrier of that tx. It would be less than 5 dB for lesser
separations.

The reason that the IM performance improves for greater frequency
separations is related to the r-f bandwidth of the output network --
not the "linear" operating characteristics of the PA, or that a 50+j0
ohm load is seen by the external energy reaching the tx output
connector.

RF

2448. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 20:50:25 UTC
From: "Sal M. O'Nella" <salmonella@foodpoisoning.org>
Message-ID: <ewbRn.1$kn1.0@newsfe16.iad>
Source record: 9048

[Sorry for being a little late to the party, but I was off newsgroups most of this week.]

This thread had some discussion of adapters and I want to share my bad experience with some low-cost items, proving, once again, that you get what you pay for.

I am testing all my adapters and discarding some because the assemblies are pulling apart with very little force. One manifestation: tightening the threaded ring on a PL-259 (either cable end connector or adapter) and having the ring just continue all the way on, separating from the connector body.

One test for a future failure has been any lack of smoothness when I rotate the ring while tugging it gently. If it binds, rather than turning smoothly in my hands, it's going to fail. Also, some of the cheap connectors are press-fit together very poorly; they pull apart with only a few pounds of pull.

Most of my early exposure to coax connectors was in and around the US Navy, where reliable connectors are the rule, so I was a spoiled child.

"Sal"
(KD6VKW)

2449. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:00:20 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <hv3gt4ddm1@news.eternal-september.org>
Source record: 9049

On 06/13/2010 01:50 PM, Sal M. O'Nella wrote:
>
> [Sorry for being a little late to the party, but I was off newsgroups
> most of this week.]
>
> This thread had some discussion of adapters and I want to share my bad
> experience with some low-cost items, proving, once again, that you get
> what you pay for.
>
> I am testing all my adapters and discarding some because the assemblies
> are pulling apart with very little force. One manifestation: tightening
> the threaded ring on a PL-259 (either cable end connector or adapter)
> and having the ring just continue all the way on, separating from the
> connector body.
>
> One test for a future failure has been any lack of smoothness when I
> rotate the ring while tugging it gently. If it binds, rather than
> turning smoothly in my hands, it's going to fail. Also, some of the
> cheap connectors are press-fit together very poorly; they pull apart
> with only a few pounds of pull.
>
> Most of my early exposure to coax connectors was in and around the US
> Navy, where reliable connectors are the rule, so I was a spoiled child.
>
> "Sal"
> (KD6VKW)

PL-259's I can handle.
BNC's drive me nuts trying to get a good connection.
I gave up and just buy my cables now.
Bill

2450. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:04:40 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <e2d800e5-cc9a-4de9-bf2a-468d72c3beaf@i31g2000yqm.googlegroups.com>
Source record: 9050

On Jun 13, 2:58 pm, walt <w...@w2du.com> wrote:
>
> To Richard Fry,
>
> Richard, it appears that you have ignored my post where I reported
> data that proves the output resistance of Class B and C RF amps
> is non-dissipative.

I know your conclusion, thanks Walt.

The impedance of a perfect transmission line also is non-dissipative,
but that does not change the power dissipated in a termination of that
transmission line equaling its Zo.

Do you agree that the Mendenhall paper I have quoted shows that the
source impedance of an operating Class C vacuum tube PA and its output
tuning/matching network designed for a 50 ohm load is not, by itself,
a functional 50+j0 ohms?

RF

2451. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:08:59 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <3a1c339c-cd25-4790-9f8f-65880cf81901@i31g2000yqm.googlegroups.com>
Source record: 8951

On 9 jun, 02:07, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 8 Jun 2010 12:17:37 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >When we go back to my first posting in this thread (the first reply)
> >where I stated that amplifiers do not show 50 Ohms in general, is not
> >that strange and doesn't violate Walt's conclusions.
>
> Hi Wimpie,
>
> Time to rewind:
>
> >On Thu, 27 May 2010 19:32:40 -0700 (PDT), walt <w...@w2du.com> wrote:
>
> >>The source resistance data reported in Secs 19.8 and 19.9 were
> >>obtained using the load variation method with resistive loads. Note
> >>that of the six measurements of output source resistance reported in
> >>Table 19.1, the average value of the resistance is 50.3 ohms obtained
> >>with the reference load resistance of 51.2 ohms, exhibiting an error
> >>of only 1.8 percent.
>
> Considering these two explicit initial conditions and findings:
>
>
>
> >1. Using a Kenwood TS-830S transceiver as the RF source, the tuning
> >and loading of the pi-network are adjusted to deliver all the
> >available power into a 50 + j0-ohm load with the grid drive adjusted
> >to deliver the maximum of 100 watts at 4 MHz, thus establishing the
> >area of the RF power window at the input of the pi-network, resistance
> >RLP at the plate, and the slope of the load line. The output source
> >resistance of the amplifier in this condition will later be shown to
> >be 50 ohms. In this condition the DC plate voltage is 800 v and plate
> >current is 260 ma. DC input power is therefore 800 v ? 0.26 a = 208 w.
> >Readings on the Bird 43 wattmeter indicate 100 watts forward and zero
> >watts reflected. (100 watts is the maximum RF output power available
> >at this drive level.) From here on the grid drive is left undisturbed,
> >and the pi-network controls are left undisturbed until Step 10.
>
> >2. The amplifier is now powered down and the load resistance RL is
> >measured across the input terminals of the resonant pi-network tank
> >circuit (from plate to ground) with an HP-4815 Vector Impedance Meter.
> >The resistance is found to be approximately 1400 ohms. Because the
> >amplifier was adjusted to deliver the maximum available power of 100

> >watts prior to the resistance measurement, the averaged resistance RLP
> >looking into the plate (upstream from the network terminals) is also
> >approximately 1400 ohms. Accordingly, a non-reactive 1400-ohm resistor
> >is now connected across the input terminals of the pi-network tank
> >circuit and source resistance ROS is measured looking rearward into
> >the output terminals of the network. Resistance ROS was found to be 50
> >ohms.
>
> Quite explicit. Rated power into the rated Z load revealed a
> conjugate basis Z match (afterall 50=50) or an image basis Z match
> (50=50). The pi-network simply transformed the source/load. Anyone
> skilled with the concept of the Smith Chart can immediately follow
> that logical construct.
>
> We even get the plate resistance which conforms to within published
> specifications for the pair of tubes.
>
> We even get the near classic result of a conjugate basis Z match
> efficiency (however, only in the first pass approximation).
>
> How asking the same question:
>
>   "Does Walt's data support the evidence of a Conjugate Match?"
>
> migrates into responses to other issues is a strange dance. I ask "up
> or down," and everyone wants to vote sideways.
>
> >When you don't touch the plate and load capacitor and change from 50
> >Ohms to a load with VSWR = 2, you violate Walt's conditions
>
> I have not the vaguest idea where you got the idea that I changed
> anything. The totality of my discussion never budged from steps 1 and
> 2 and I deliberately and clearly confined all matters there and
> repeated them more than occasionally.
>
> >In case of doubt use the forward power measurement technique,
>
> I have, and the data I've asked from you was not intended for some
> one-time design for a unique application. This is an Ham radio group,
> and the object under consideration is an Ham transmitter. Feel free
> to substitute freely among a similar class (frequency range, power
> output) such that others might compare their own.
>
> >when it
> >changes under varying load, your amplifier doesn’t behave as a 50 Ohms
> >source.
>
> This is the most curious statement that eventually comes down the
> pike. It is like I am talking to a novice to explain:
>   "That is what the tuner is for!"

>
> >Maybe I had to be more precise to
> >mention the exceptions: forward power control loop as mentioned by
> >Roy,
>
> What Roy is describing is nothing close to Walt's hypothesis that I
> have confined to a single point observation. No one has advanced
> claims made that demonstrate:
> 1. Constant Z across all loads;
> 2. Constant Z across all frequencies;
> 3. Constant Power across all loads;
> 4. Constant Power across all frequencies.
> No competent Ham expects that of any Ham transmitter.
>
> Walt reported a 50 Ohm source Z from a tube rig. I have measured a 50
> Ohm Z from two of my own transistor rigs. The difference in
> technology is not an issue. I have also been responsible for
> measuring RF power and source/load specifications within the chain of
> national standards laboratories. Stretching the term RF, this spanned
> from DC to 12GHz for power levels up to 100W. The sources across the
> board exhibited 50 Ohms Source Z.
>
> Your own national lab is represented at:http://www.vsl.nl/
> They undoubtedly use the same reference citations as our National
> Institutes for Science and Technology.
>
> **********
>
> Putting the entirety of this discussion aside, and returning to your
> very special project with an 9 Ohm source of RF at 8 Mhz. How
> efficient was its operation feeding a 50 Ohm line to a 50 Ohm load?
> Can you document this with schematics, parts description, and measured
> data at key points from drain through to the load? This was the level
> of available resources that came with Walt's discussion.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard,

We can continue mentioning measurement results, do other claims, but that may not converge. Your results show 50 Ohms output impedance, mine show other. Such results cannot be verified easily, so this remains food for endless discussions.

I decided to use another approach that can be verified by people having a (spice) simulator. I did simulations for some circuits that can be expected in the amateur world and aren't exotic. I put them over here: http://www.tetech.nl/divers/PA_impedance.pdf . Now people can figure out what it IS and get their own educated opinion. I used low frequencies to avoid discussion about the validity of the

simulations (parasitic inductances, etc).

From these simulations it is clear that small changes in load or drive level result in large change of output impedance. This knowledge resulted in my statement: "an RF PA isn't a 50 Ohms source", what was/ is heavily disputed by you.

Of course you can design to have better output VSWR under varying load or drive, but this is generally not done for systems that just have to deliver the power (transmitters).

If you want to reproduce some of the results yourself, we can compare our spice netlists. I recently added a real class C example as this was heavily discussed in another thread.

Best regards,

Wim
PA3DJS
www.tetech.nl
When you remove abc, PM will reach me.

2452. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:33:23 UTC
From: walt <walt@w2du.com>
Message-ID: <26752f06-8f06-44c5-9900-179e76678ea0@j4g2000yqh.googlegroups.com>
Source record: 8952

On Jun 13, 5:04 pm, Richard Fry <r...@adams.net> wrote:
> On Jun 13, 2:58 pm, walt <w...@w2du.com> wrote:
>
>
>
> > To Richard Fry,
>
> > Richard, it appears that you have ignored my post where I reported
> > data that proves the output resistance of Class B and C RF amps
> > is non-dissipative.
>
> I know your conclusion, thanks Walt.
>
> The impedance of a perfect transmission line also is non-dissipative,
> but that does not change the power dissipated in a termination of that
> transmission line equaling its Zo.
>
> Do you agree that the Mendenhall paper I have quoted shows that the
> source impedance of an operating Class C vacuum tube PA and its output
> tuning/matching network designed for a 50 ohm load is not, by itself,
> a functional 50+j0 ohms?
>
> RF

No Richard, I've not made that inference. The point I'm emphasizing is that because the output resistance of these amps is non-dissipative, no reflected power from a mismatched load enters the amp, but is totally re-reflected in the forward direction. I make no comment on whether the output resistance is 50 +j0, because when all the available power is being delivered at given grid drive the output resistance equals the load resistance, which doesn't have to be 50 + j0. Proof of that is that when the load resistance is either increased or decreased the output power decreases.

Walt, W2DU

2453. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:43:18 UTC
From: walt <walt@w2du.com>
Message-ID: <08bfd9a3-7367-4d76-a6c9-951574d199bd@b7g2000vbl.googlegroups.com>
Source record: 8953

On Jun 13, 5:08 pm, Wimpie <wimabc...@tetech.nl> wrote:
> On 9 jun, 02:07, Richard Clark <kb7...@comcast.net> wrote:
>
>
>
> > On Tue, 8 Jun 2010 12:17:37 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> > wrote:
>
> > >When we go back to my first posting in this thread (the first reply)
> > >where I stated that amplifiers do not show 50 Ohms in general, is not
> > >that strange and doesn't violate Walt's conclusions.
>
> > Hi Wimpie,
>
> > Time to rewind:
>
> > >On Thu, 27 May 2010 19:32:40 -0700 (PDT), walt <w...@w2du.com> wrote:
>
> > >>The source resistance data reported in Secs 19.8 and 19.9 were
> > >>obtained using the load variation method with resistive loads. Note
> > >>that of the six measurements of output source resistance reported in
> > >>Table 19.1, the average value of the resistance is 50.3 ohms obtained
> > >>with the reference load resistance of 51.2 ohms, exhibiting an error
> > >>of only 1.8 percent.
>
> > Considering these two explicit initial conditions and findings:
>
> > >1. Using a Kenwood TS-830S transceiver as the RF source, the tuning
> > >and loading of the pi-network are adjusted to deliver all the
> > >available power into a 50 + j0-ohm load with the grid drive adjusted
> > >to deliver the maximum of 100 watts at 4 MHz, thus establishing the
> > >area of the RF power window at the input of the pi-network, resistance
> > >RLP at the plate, and the slope of the load line. The output source
> > >resistance of the amplifier in this condition will later be shown to
> > >be 50 ohms. In this condition the DC plate voltage is 800 v and plate
> > >current is 260 ma. DC input power is therefore 800 v ? 0.26 a = 208 w.
> > >Readings on the Bird 43 wattmeter indicate 100 watts forward and zero
> > >watts reflected. (100 watts is the maximum RF output power available
> > >at this drive level.) From here on the grid drive is left undisturbed,
> > >and the pi-network controls are left undisturbed until Step 10.
>
> > >2. The amplifier is now powered down and the load resistance RL is
> > >measured across the input terminals of the resonant pi-network tank
> > >circuit (from plate to ground) with an HP-4815 Vector Impedance Meter.

> > >The resistance is found to be approximately 1400 ohms. Because the
> > >amplifier was adjusted to deliver the maximum available power of 100
> > >watts prior to the resistance measurement, the averaged resistance RLP
> > >looking into the plate (upstream from the network terminals) is also
> > >approximately 1400 ohms. Accordingly, a non-reactive 1400-ohm resistor
> > >is now connected across the input terminals of the pi-network tank
> > >circuit and source resistance ROS is measured looking rearward into
> > >the output terminals of the network. Resistance ROS was found to be 50
> > >ohms.
>
> > Quite explicit. Rated power into the rated Z load revealed a
> > conjugate basis Z match (afterall 50=50) or an image basis Z match
> > (50=50). The pi-network simply transformed the source/load. Anyone
> > skilled with the concept of the Smith Chart can immediately follow
> > that logical construct.
>
> > We even get the plate resistance which conforms to within published
> > specifications for the pair of tubes.
>
> > We even get the near classic result of a conjugate basis Z match
> > efficiency (however, only in the first pass approximation).
>
> > How asking the same question:
>
> >   "Does Walt's data support the evidence of a Conjugate Match?"
>
> > migrates into responses to other issues is a strange dance. I ask "up
> > or down," and everyone wants to vote sideways.
>
> > >When you don't touch the plate and load capacitor and change from 50
> > >Ohms to a load with VSWR = 2, you violate Walt's conditions
>
> > I have not the vaguest idea where you got the idea that I changed
> > anything. The totality of my discussion never budged from steps 1 and
> > 2 and I deliberately and clearly confined all matters there and
> > repeated them more than occasionally.
>
> > >In case of doubt use the forward power measurement technique,
>
> > I have, and the data I've asked from you was not intended for some
> > one-time design for a unique application. This is an Ham radio group,
> > and the object under consideration is an Ham transmitter. Feel free
> > to substitute freely among a similar class (frequency range, power
> > output) such that others might compare their own.
>
> > >when it
> > >changes under varying load, your amplifier doesn’t behave as a 50 Ohms
> > >source.
>
> > This is the most curious statement that eventually comes down the

> > pike. It is like I am talking to a novice to explain:
> >   "That is what the tuner is for!"
>
> > >Maybe I had to be more precise to
> > >mention the exceptions: forward power control loop as mentioned by
> > >Roy,
>
> > What Roy is describing is nothing close to Walt's hypothesis that I
> > have confined to a single point observation. No one has advanced
> > claims made that demonstrate:
> > 1. Constant Z across all loads;
> > 2. Constant Z across all frequencies;
> > 3. Constant Power across all loads;
> > 4. Constant Power across all frequencies.
> > No competent Ham expects that of any Ham transmitter.
>
> > Walt reported a 50 Ohm source Z from a tube rig. I have measured a 50
> > Ohm Z from two of my own transistor rigs. The difference in
> > technology is not an issue. I have also been responsible for
> > measuring RF power and source/load specifications within the chain of
> > national standards laboratories. Stretching the term RF, this spanned
> > from DC to 12GHz for power levels up to 100W. The sources across the
> > board exhibited 50 Ohms Source Z.
>
> > Your own national lab is represented at:http://www.vsl.nl/
> > They undoubtedly use the same reference citations as our National
> > Institutes for Science and Technology.
>
> > **********
>
> > Putting the entirety of this discussion aside, and returning to your
> > very special project with an 9 Ohm source of RF at 8 Mhz. How
> > efficient was its operation feeding a 50 Ohm line to a 50 Ohm load?
> > Can you document this with schematics, parts description, and measured
> > data at key points from drain through to the load? This was the level
> > of available resources that came with Walt's discussion.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Hello Richard,
>
> We can continue mentioning measurement results, do other claims, but
> that may not converge. Your results show 50 Ohms output impedance,
> mine show other. Such results cannot be verified easily, so this
> remains food for endless discussions.
>
> I decided to use another approach that can be verified by people
> having a (spice) simulator. I did simulations for some circuits that
> can be expected in the amateur world and aren't exotic. I put them

> over here: http://www.tetech.nl/divers/PA_impedance.pdf. Now people
> can figure out what it IS and get their own educated opinion. I used
> low frequencies to avoid discussion about the validity of the
> simulations (parasitic inductances, etc).
>
> From these simulations it is clear that small changes in load or drive
> level result in large change of output impedance. This knowledge
> resulted in my statement: "an RF PA isn't a 50 Ohms source", what was/
> is heavily disputed by you.
>
> Of course you can design to have better output VSWR under varying load
> or drive, but this is generally not done for systems that just have to
> deliver the power (transmitters).
>
> If you want to reproduce some of the results yourself, we can compare
> our spice netlists. I recently added a real class C example as this
> was heavily discussed in another thread.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl
> When you remove abc, PM will reach me.

Hi Wim,

I quote a statement you made in your above post:

"From these simulations it is clear that small changes in load or
drive
level result in large change of output impedance. "

Now I agree that changing the drive level will result in a change in output impedance. However, let's say you have just adjusted the amp to deliver all the available power into a given load at a given drive level, and now you change the load, but leave the drive level and all other adjustments of the amp untouched. Are you saying this change in load changes the output impedance? If so, please explain why.

In addition, which situation has the greatest priority, data obtained from precise measurements or data obtained solely from simulations?

Walt, W2DU

2454. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:48:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D974F82AED2Fnonenowhere@61.9.191.5>
Source record: 8954

Richard Clark <kb7qhc@comcast.net> wrote in
news:set71655eleuk88h2cedf1na24htckrlo7@4ax.com:

> On Sat, 12 Jun 2010 19:52:15 GMT, Owen Duffy <none@no.where> wrote:
...
>>My recollection of Walt's tests were that they tested at points other
>>than Zl=0 and Zl=infinity.
>
> Steps 1 and 2 are quite explicit.

I have reviewed Walt's additional material at
http://www.w2du.com/r3ch19a.pdf .

Walt's load at step 1 is stated as 50+j0 without tolerance, but I accept that Walt is thorough and would have confidence that it is low in error. He reports Pf=100W and Pr=0, again accepted as indicating that the load and calibration impedance of the '43 are similar, and probably quite close to the nominal impedance, close enough for the purpose at hand.

At Step 8, he substitutes a load with measured impedance and calculated rho^2 as 0.235, VSWR(50) is approximately 3. Reported Pf=95W, Pr=25W, and on that basis rho^2=0.263. The discrepency in rho is not discussed in the paper.

A key observation between Step 1 and Step 8 is that changing from a VSWR (50)=1 load to a VSWR(50)=3 load resulted in a 5% change in observed Pf. This observation depends on the difference between two direct readings from a single instrument (the Bird 43), and the accuracy of calibration of both the Bird 43 and the 50 ohm load to their nominal 50+j0 impedance.

I have given a mathematical development at http://vk1od.net/blog/?p=1028 of why Pf should be independent of load impedance.

The observed change in Pf at 5% is rather small considering the load change, and suggests that Zs in this case is probably quite close to 50 +j0 although the experiment was limited to just one load case.

I make the "just one load case" condition because in my experience, a transmitter might exhibit insignificant change in Pf for some load variations, but for others it is signficant. The case I documented earlier is one such example.

Owen

2455. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:53:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D97504AEA59Bnonenowhere@61.9.191.5>
Source record: 8955

Owen Duffy <none@no.where> wrote in
news:Xns9D974F82AED2Fnonenowhere@61.9.191.5:

...
> At Step 8, he substitutes a load with measured impedance and
> calculated rho^2 as 0.235, VSWR(50) is approximately 3. Reported
> Pf=95W, Pr=25W, and on that basis rho^2=0.263. The discrepency in rho
> is not discussed in the paper.

I have made an error here, Walt reports Pf=95W, Pr=20W, and on that basis
rho^2=0.211. The discrepency in rho is not discussed in the paper.

The error has no impact on the rest of my post.

My apologies.

Owen

2456. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 21:59:01 UTC
From: David <nospam@nospam>
Message-ID: <joydnV6CboA2yYjRnZ2dnUVZ8lednZ2d@bt.com>
Source record: 8956

I have heard that it is possible to make the antenna directional by changing the arrangement of the radials.

For example, radio hams make the radials lopsided so that it transmits and receives better in a particular direction e.g. 'aimed at Europe'.

If the vertical is the active part i.e. the radiator, what do the radials do?

Are the radials a form of counterpoise i.e. one half of a dipole?

"walt" <walt@w2du.com> wrote in message
news:091a31a1-f7bd-44ae-ae88-07f7c59e2513@k39g2000yqd.googlegroups.com...
On Jun 12, 10:12 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 12, 12:57 pm, "David" <nospam@nospam> wrote:
>
> > Antenna is a quarterwave vertical with quarterwave radials.
>
> > There is a difference in operation between transmit and receive modes.
>
> no there isn't. the antenna works the same in transmit and receive.
> The same pattern can be measured in both modes.

K1TTT is correct--the transmit and receive modes are reciprocally related, and thus are identical in operation. The vertical radiator is non-directional, and is the receptor in the receiving mode. The radials are not receptors and are not involved the directivity on reception.

Walt, W2DU

2457. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 22:09:13 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <c01b2b50-bd90-4688-b5a4-4e8524e77abc@g19g2000yqc.googlegroups.com>
Source record: 8957

On Jun 13, 4:33 pm, walt <w...@w2du.com> wrote:
> The point I'm emphasizing
> is that because the output resistance of these amps is non-
> dissipative, no reflected power from a mismatched load enters the amp,
> but is totally re-reflected in the forward direction.

Walt, wouldn't that non-dissipative output resistance also reflect reverse power on other close frequencies, such as those coupled from a co-located transmission system within the bandwidth of the tx output network?

If so, such external signals would never enter the transmitter, and could not cause r-f intermodulation by mixing with the main signal in the (non-linear) PA plate circuit of that transmitter to produce a 3rd order product at 2F1 - F2, and other combinations.

But such r-f intermods are a fact of life, as shown in the Mendenhall paper, and in the existence of elaborate and expensive r-f filtering hardware needed to enable several stations to operate from one location while meeting a radiated r-f intermod spec of -80 dBc -- even from one antenna!

RF

2458. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 22:25:07 UTC
From: walt <walt@w2du.com>
Message-ID: <1d670f9d-5d1f-486b-8686-7dde5703e070@c15g2000vbl.googlegroups.com>
Source record: 8958

On Jun 13, 6:09 pm, Richard Fry <r...@adams.net> wrote:
> On Jun 13, 4:33 pm, walt <w...@w2du.com> wrote:
>
> > The point I'm emphasizing
> > is that because the output resistance of these amps is non-
> > dissipative, no reflected power from a mismatched load enters the amp,
> > but is totally re-reflected in the forward direction.
>
> Walt, wouldn't that non-dissipative output resistance also reflect
> reverse power on other close frequencies, such as those coupled from a
> co-located transmission system within the bandwidth of the tx output
> network?
>
> If so, such external signals would never enter the transmitter, and
> could not cause r-f intermodulation by mixing with the main signal in
> the (non-linear) PA plate circuit of that transmitter to produce a 3rd
> order product at 2F1 - F2, and other combinations.
>
> But such r-f intermods are a fact of life, as shown in the Mendenhall
> paper, and in the existence of elaborate and expensive r-f filtering
> hardware needed to enable several stations to operate from one
> location while meeting a radiated r-f intermod spec of -80 dBc -- even
> from one antenna!
>
> RF

Richard, I'm not qualified to answer your question about intermods, so
I won't even try. However, interference to the amp from radiation from
an antenna driven by another amp will not be phase or frequency
coherent with the tx receiving the interference. Perhaps that's the
reason the interfering signal gets through while the waves reflected
from a mismatch don't? In other words, could the coherent relationship
between the forward and reflected waves result in the total re-
reflection at the non-dissipative output resistance of waves returning
from the mismatched load?

Walt

2459. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 22:42:55 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <4d9c3118-87cc-4b53-97b0-df4c89743431@b35g2000yqi.googlegroups.com>
Source record: 8959

On Jun 13, 5:25 pm, walt <w...@w2du.com> wrote:
> However, interference to the amp from radiation from
> an antenna driven by another amp will not be phase or frequency
> coherent with the tx receiving the interference. Perhaps that's the
> reason the interfering signal gets through while the waves reflected
> from a mismatch don't?

Measurements made of broadcast transmitters in the engineering test lab at Harris Broadcast Division show that power reflected from a mismatched load does indeed enter the PA plate output circuitry, and change the amount of power dissipation and cooling requirement for the transmitter.

That is the reason why virtually every modern manufacturer of broadcast transmitters specifies a maximum value of load VSWR for which their maximum rated powers are permissible.

For Harris FM transmitters that value is 1.7:1 (any phase angle). As the load VSWR exceeds that value the transmitter progressively "folds back" its output power to protect itself from component damage.

RF

2460. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-13 22:44:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fkja169tidnm2emaorp150q393r6e3iq47@4ax.com>
Source record: 8960

On Sun, 13 Jun 2010 13:36:53 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>>
>> Mendenhall's paper shows "RF spectrum showing distortion products"
>> that are 30dB down.
>
>Not near the resonant frequency of the output tuning/matching network.

Another subjective term. How near is near? All products that
Mendenhall shows in the illustration titled "RF spectrum showing
distortion products" are 30dB down and those distortion products fall
between modulation sidebands (unless you are speaking of doubling and
trippling of the carrier frequency).

Returning to the amplifier of his own design, in his classic WREK
engineering report [you seem shy of acknowledging your authority's
work here] submitted to the FCC. Now, when I say "of his own design,"
I mean by him personally, at the bench, using tools, assembling
components against his own schematic. He explicitly states:
"Distortion at 100% <= 1%." At "frequency removed from carrier" from
-35dB to -73dB out to "600 Khz and beyond."
"Harmonic and spurious radiation" at least -70dB.
"Harmonic distortion" at 100% worst case 2.3%
"Plate efficiency of 70% to 80%"
"Total efficiency of 68%" [plate power in / RF power out]
operating Class C.

And of course his statement that sends minds reeling:

"It was thus necessary to determine the plate load impedance
= (Eb - Emin) / I1
~= Eb/ Idc
~= 1000 Ohms
[Not very far from Walt's determination of 1400 Ohms from his own
bench.]
"Since this was to be coupled into a Z output of 50 Ohms, a impedance
transformation of 20:1 was needed. This was accomplished by using a
voltage divider of two series capacitors to series tune the plate
circuit."

His EIMAC reference found in other, later published papers conform to
every detail in his engineering report to the FCC and in those same
later papers. In fact, they offer a multitude of operational
parameters for a variety of tubes at many power levels, across many
bands and classes of operation.

73's
Richard Clark, KB7QHC

2461. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 00:02:07 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <631bd2a5-47d6-4143-9bb0-fc40c2760fd8@j8g2000yqd.googlegroups.com>
Source record: 8961

On 13 jun, 13:19, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 13, 9:35 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 12, 8:52 pm, Owen Duffy <n...@no.where> wrote:
>
> > > If there was a valid Thevenin equivalent circuit for a transmitter (and
> > > that is questionable), then you can not use that equivalent circuit to
> > > make any inference about the internal dissipation of the source (the
> > > transmitter in this case), or its efficiency. Nevertheless, I see people
> > > trying to do this one way or another in the various threads here.
>
> > In his food-for-thought article on forward and reflected power, Roy
> > (w7el) says: "So we can model a 100 watt forward, 50 ohm nominal
> > transmitter as a 141.4 volt (100 * sqrt(2)) RMS voltage source in
> > series with a 50 ohm resistance." He goes on to calculate power
> > dissipation in the source resistor.
> > --
> > 73, Cecil, w5dxp.com
>
> And a mere two sentences back one find Roy writing:
> "I make no claim that the model circuit represents what's going on
> inside the transmitter. For one thing, a real transmitter will
> typically be more efficient than the model. However, if measurements
> and observations are limited to the outside of the transmitter,
> the model is very good (within the non-shutdown range). Although
> a real transmitter won't contain the model's resistance as a
> resistor, we will take a look at the model resistor's dissipation
> to see how it interacts with the "reverse" power."
>
> Was your disingenuity deliberate?
>
> ...Keith

Hello

Last night I was a little tired when I send my answers to Owen
stinging my eyes. It was too late and time to go to sleep :>)
I should tell owen he was inadvertently moving towards a logical
bifurcation's fallacy because is not absolutely true that Thevenin
theorem can not be used to calculate -for example- circuit efficience.
There are an exception to this limitation => It can be used to
efficience calculations when disconnecting the load in the original
circuit the dissipated power is null.

Miguel LU6ETJ

2462. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 00:13:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <o6oa165bb6iac7jkc04bd2nbueeva50543@4ax.com>
Source record: 8962

On Sun, 13 Jun 2010 14:08:59 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

> This knowledge
>resulted in my statement: "an RF PA isn't a 50 Ohms source", what was/
>is heavily disputed by you.

Hi Wim,

Your conclusion:
"Under maximum power output matching given certain drive (not
necessarily being the maximum drive), the output impedance equals the
load resistor (the so-called "conjugated match condition")."

It was not the only conclusion, but it certainly disputes what you say
above.

Given the easy access to real amplifiers available to Hams at their
own bench, and further given that they do not present any more
complexity than your own simulation; then I have to wonder why we have
wandered into strange topologies.

I am not interested in trying to follow 23 pages of dense presentation
where you could have simulated Walt's finals, validated or rejected
his data, and THEN formed your own conclusions. If this is a problem
of simulation (you don't have that tube handy) what about topology?

It looks more like a link coupled tank circuit from pre-WWII days. The
Tank Q looks to be non-existent. When I rummage through the paper I
find 4.4! This is certainly beyond the standard for PA design - and
we have swapped out of the tube into a mosfet (would you care to stick
to one objective?). Elsewhere (wandering back in tubes) I find a
value of 10.3 (elsewhere it is 11) which inhabits the lowest margin of
good design. Then an itinerant report of a cathode tank (????) whose
Q is 0.44. Q appears to be of little concern.

Again, typical Ham equipment shows Q as low as 10 - maybe, and that
would be for a dog; but those that I have seen typically fall around
15, sometimes 20. As the Z transformation in plate/drain circuits
varies by the square of Q, this is not inconsequential and it once
again has me wondering why the strange topology?

No, your paper lacks focus by trying to be all things (tubes, mosfets,
Class AB, Class C). You examine the most inconsequential details as
if they were equally important as those details that bear on your
concern. The paper lacks structure. Headings are nothing more than
feature descriptions, not argument development. There is a lot of

discussion of the idiosyncrasies of simulation - I am not interested and that discussion creates the impression of hidden errors. Really, this stuff goes into an appendix not as the object of the narrative. The graphs are pretty diversions, but they don't add much. In the software industry, this is spaghetti design.

I would prefer a conventional topology. I suppose that has come through clear. Pick one significant point, re-edit this into 4 pages and then you might have something interesting. This advice comes from one of our American writers, Mark Twain:
"If I had more time, I would have written you a shorter letter."

73's
Richard Clark, KB7QHC

2463. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 00:27:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D976A5F65524nonenowhere@61.9.191.5>
Source record: 8963

lu6etj <lu6etj@gmail.com> wrote in
news:631bd2a5-47d6-4143-9bb0-fc40c2760fd8@j8g2000yqd.googlegroups.com:

...
> I should tell owen he was inadvertently moving towards a logical
> bifurcation's fallacy because is not absolutely true that Thevenin
> theorem can not be used to calculate -for example- circuit efficience.
> There are an exception to this limitation => It can be used to
> efficience calculations when disconnecting the load in the original
> circuit the dissipated power is null.

Miguel, when I said "cannot" I was of course meaning in the general case,
as most readers would understand.

Obviously there are cases where the efficiency calculations will be
correct, the obvious one being where the Thevnin equivalent is identical
to the original network.

If you want to make inferences about a source solely on the basis of its
Thevenin equivalent, you are on dangerous ground because you will not
always be correct.

People making the inference for example, that Zeq of a certain source
cannot be 50+j0 because the conversion efficiency of that source with a
50+j0 load is greater than 50% are wrong.

Owen

2464. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 01:32:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m7ta16hufjiap8ki24rk5864nv3gfapn7k@4ax.com>
Source record: 8964

On Sun, 13 Jun 2010 21:48:58 GMT, Owen Duffy <none@no.where> wrote:

>> Steps 1 and 2 are quite explicit.
>
>I have reviewed Walt's additional material at
>http://www.w2du.com/r3ch19a.pdf .
>
>Walt's load at step 1 is stated as 50+j0 without tolerance, but I accept
>that Walt is thorough and would have confidence that it is low in error.

Convention has it that any report is understood to vary by 50% of the
least significant digit. There are other standards that do not wander
far from this simple expectation.

Hence 50ï¿½0.5+j0ï¿½0.5

Walt has an excellent GR 1606-A Bridge - same model as mine.

To give everyone some idea of what "Qualified" means in my former
trade, my bridge came with a traceable certificate of measurement that
tells me that me my accuracy:

" Resistance:
ï¿½[3.0 + 0.0024 ï¿½ fï¿½ ï¿½ (1 + R/1000)]% ï¿½ [(X/f ï¿½ 10000) + 0.1] Ohms
" Reactance:
ï¿½4.0% ï¿½(1.0 + 0.0008 R ï¿½ f) Ohms
"This certificate is valid only when the bridge is balanced at the
connector reference plane and when all measurements made at this plane
are corrected as outlined in para 4.4 and 4.5 in the manufacturer's
operating manual wit the exception that the capacitive reactance to
ground (Fig. 6) is computed from a value of 2.2pF. Fig. 8 should be
used for the resistance dial multiplying factor."

The correction factors easily leave behind the nominal value of 1.0
for high resistance (such as Walt's 1400 Ohms) with 5% error in the
20M band, and 60% error in the 6M band. Unless, of course, you apply
all corrections (the whole point of having the bridge calibrated).

>He reports Pf=100W and Pr=0, again accepted as indicating that the load
>and calibration impedance of the '43 are similar, and probably quite
>close to the nominal impedance, close enough for the purpose at hand.

Understanding what is available at Walt's bench, Pf could be off by
5W or 5%. The 0 reading also suffers the same 5W indeterminacy if it
is measured on the same scale (assuming he is using a Bird wattmeter
with a 100W slug).

My bridge was not remarkably far off, roughly only 1% more error in indicating the true value for resistance following corrections.

If I were to try to measure 1400 Ohms in the 20M band, I could expect it might read 1333 Ohms by dial with an error of roughly ï¿½50 Ohms.

So, between a Bird wattmeter, and it measuring power into a load with corresponding percentages of error, the we have 5% for the Bird and 3% for determining the load.

A metrologist can report these two (and there are more) sources of error by one of two ways.
1. Absolute worst case = 8% error;
2. RSS = 3.9% error
Which one picked is a function of other factors.

It doesn't take long to accumulate error and driving out variables is found only in the skill of the practice.

>At Step 8

Is a step I have no current interest in.

73's
Richard Clark, KB7QHC

2465. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 01:36:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jn1b169iadj4i550f5nps0qjcnthk81mrp@4ax.com>
Source record: 8965

On Sun, 13 Jun 2010 21:53:35 GMT, Owen Duffy <none@no.where> wrote:

>I have made an error here, Walt reports Pf=95W, Pr=20W, and on that basis
>rho^2=0.211. The discrepency in rho is not discussed in the paper.

This needs to be put into the perspective of my last post too, as it
will impact your rho.
Pf = 90 to 100W,
Pr = 15 to 25W

73's
Richard Clark, KB7QHC

2466. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 02:04:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D977ADB3AD0Cnonenowhere@61.9.191.5>
Source record: 8966

Richard Clark <kb7qhc@comcast.net> wrote in
news:m7ta16hufjiap8ki24rk5864nv3gfapn7k@4ax.com:

> Understanding what is available at Walt's bench, Pf could be off by
> 5W or 5%. The 0 reading also suffers the same 5W indeterminacy if it
> is measured on the same scale (assuming he is using a Bird wattmeter
> with a 100W slug).
>

Richard,

You can wax on all you like, and try as hard as you like, but if the source was exactly Zs=50+j0, then the Bird 43 reading for Pf should be exactly the same.

RF measurement is as you note, fraught with problems, but here is a relatively simple case. Walt reported that he adjusted the radio on a 50 ohm load, measured Pf and Pr, then substituted another load, no other changes and reported a 5% reduction in Pf.

I will leave you to arguing wether Walt's observed 5% reduction is of any value.

Anyone who accepts that a competent measurement technician, competently using the Bird 43, can reasonably discern a 5% reduction in Pf when it should be 0% if Zs=50+j0, might question whether that observation supports the proposition that Zs=50+j0.

Owen

2467. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 03:27:26 UTC
From: walt <walt@w2du.com>
Message-ID: <5bf8cc29-a5cf-472f-8266-4e528cc04af4@r27g2000yqb.googlegroups.com>
Source record: 8967

On Jun 13, 10:04 pm, Owen Duffy <n...@no.where> wrote:
> Richard Clark <kb7...@comcast.net> wrote
innews:m7ta16hufjiap8ki24rk5864nv3gfapn7k@4ax.com:
>
> > Understanding what is available at Walt's bench, Pf could be off by
> > 5W or 5%. The 0 reading also suffers the same 5W indeterminacy if it
> > is measured on the same scale (assuming he is using a Bird wattmeter
> > with a 100W slug).
>
> Richard,
>
> You can wax on all you like, and try as hard as you like, but if the
> source was exactly Zs=50+j0, then the Bird 43 reading for Pf should be
> exactly the same.
>
> RF measurement is as you note, fraught with problems, but here is a
> relatively simple case. Walt reported that he adjusted the radio on a 50
> ohm load, measured Pf and Pr, then substituted another load, no other
> changes and reported a 5% reduction in Pf.
>
> I will leave you to arguing wether Walt's observed 5% reduction is of any
> value.
>
> Anyone who accepts that a competent measurement technician, competently
> using the Bird 43, can reasonably discern a 5% reduction in Pf when it
> should be 0% if Zs=50+j0, might question whether that observation
> supports the proposition that Zs=50+j0.
>
> Owen

Owen, I don't understand where you found a 5% drop in power when you
say it should have been 0%. A 5% drop from what value to what value?
Where did you find that data? If you're referring to 100w Pf with the
50 + j0 load and then the 95w Pf the mismatched load, you've got to
understand that the source was now delivering only 75w, and the 20w of
reflected power added to the 75w = 95w. These are two separate
measurements--the first a stand-alone value and the second the sum of
two values. Is this a point you overlooked?

Walt

2468. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 04:18:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D979170BB314nonenowhere@61.9.191.5>
Source record: 8968

walt <walt@w2du.com> wrote in
news:5bf8cc29-a5cf-472f-8266-4e528cc04af4@r27g2000yqb.googlegroups.com:

> Owen, I don't understand where you found a 5% drop in power when you
> say it should have been 0%. A 5% drop from what value to what value?

Hello Walt,

I wrote an article with the mathematical development for the fact that Pf (as indicated by a properly calibrated directional wattmeter such as the Bird 43) is independent of load impedance if and only if the Thevenin source impedance is 50+j0 ohms. The article is at http://vk1od.net/blog/?p=1028 .

This provides the basis for a simple go/nogo test for the hypothesis that a particular transmitter, under particular conditions, exibits Zs=50+j0.

> Where did you find that data? If you're referring to 100w Pf with the
> 50 + j0 load and then the 95w Pf the mismatched load, you've got to
> understand that the source was now delivering only 75w, and the 20w of
> reflected power added to the 75w = 95w. These are two separate
> measurements--the first a stand-alone value and the second the sum of
> two values. Is this a point you overlooked?

The source is Ch 19a where you report Pf=100, Pr=0 in Step 1; and Pf=95 and Pr=20 in Step 8. I am only interested in the relative values of Pf in Step 1 (VSWR(50)=1) and Step 8 (VSWR(50)=3).

I conceded in another post that within reasonable expectations of error, and considering the load case (VSWR(50)=3), that Zs under those conditions and subject to only one load test is probably very close to 50 +j0, but probably not exactly.

In one test that I conducted with a range of loads, the drop in Pf was up to 21% with VSWR(50)=1.5, but it varied with different VSWR(50)=1.5 load angles. Whilst some values supported the proposition that Zs=50+j0, others indicated that it was significantly different. Zs did not appear to be constant, it appeared to be load dependent to some extent.

Going back to your case, if the source was 50+j0, we should expect Pf=100, and if we trust your readings from the Bird 43 as characterising the load to have rho^2=21%, we would expect the power delivered to the load to be 78.9W rather than 75W, and error of 0.2dB. Not a large error, but hard to account for entirely as instrument error.

In the measurements of an IC7000 that I made, the measured output power on one VSWR(50)=1.5 load was 82.5W when it would have been 104.6W had the

source been 50+j0, an error of 0.8dB. I opined that this test did not support the proposition that Zs was not 50+j0

Owen

2469. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 06:42:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D97A9FFF4242nonenowhere@61.9.191.5>
Source record: 8969

Owen Duffy <none@no.where> wrote in
news:Xns9D979170BB314nonenowhere@61.9.191.5:

...
> In the measurements of an IC7000 that I made, the measured output
> power on one VSWR(50)=1.5 load was 82.5W when it would have been
> 104.6W had the source been 50+j0, an error of 0.8dB. I opined that
> this test did not support the proposition that Zs was not 50+j0

Too many "nots", isn't there?

It should read:

I opined that this test did not support the proposition that Zs was 50+j0.

Apologies, Owen.

2470. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 06:57:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1uib16pe8tdnk6nqar9jirh21d4nvh0847@4ax.com>
Source record: 8970

On Mon, 14 Jun 2010 02:04:46 GMT, Owen Duffy <none@no.where> wrote:

>Anyone who accepts that a competent measurement technician, competently
>using the Bird 43, can reasonably discern a 5% reduction in Pf when it
>should be 0% if Zs=50+j0, might question whether that observation
>supports the proposition that Zs=50+j0.

>On Mon, 14 Jun 2010 04:18:02 GMT, Owen Duffy <none@no.where> wrote:
>>if we trust your readings ...
>>Not a large error, but hard to account for entirely as instrument error.

Hi Owen,

Questions, emphatic competency, and reasonableness all in the space of
one sentence. I can see the well where you drew the literary "wax
on."

>I will leave you to arguing wether Walt's observed 5% reduction is of any
>value.

The follow-on discussion between you and Walt obviously reveals
sufficient value.

73's
Richard Clark, KB7QHC

2471. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 07:52:20 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <f787eb32-a094-457f-9a11-0733d84f8df9@a30g2000yqn.googlegroups.com>
Source record: 8971

On 13 jun, 21:27, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:631bd2a5-47d6-4143-9bb0-fc40c2760fd8@j8g2000yqd.googlegroups.com:
>
> ...
>
> > I should tell owen he was inadvertently moving towards a logical
> > bifurcation's fallacy because is not absolutely true that Thevenin
> > theorem can not be used to calculate -for example- circuit efficience.
> > There are an exception to this limitation => It can be used to
> > efficience calculations when disconnecting the load in the original
> > circuit the dissipated power is null.
>
> Miguel, when I said "cannot" I was of course meaning in the general case,
> as most readers would understand.
>
> Obviously there are cases where the efficiency calculations will be
> correct, the obvious one being where the Thevnin equivalent is identical
> to the original network.
>
> If you want to make inferences about a source solely on the basis of its
> Thevenin equivalent, you are on dangerous ground because you will not
> always be correct.
>
> People making the inference for example, that Zeq of a certain source
> cannot be 50+j0 because the conversion efficiency of that source with a
> 50+j0 load is greater than 50% are wrong.
>
> Owen

Hello Owen, OK at your comment I understand, here my apologies =>

In earlier post I write:
"The final Thevenin circuit is an idealization built with an ideal
voltage source in series with an ideal resistor. This new idealized
circuit It is a new born entity whose properties are now fully
described for these only two idealized circuit elements. These are
the
virtues and the defects of reductionist models :>("

And in the first post I was thinking about Thevenin resulting scheme
ceases to represent fully the original circuit and place the problem
in a more elementary and different situation that a real world
transmitter, enabling a clear answer to much simpler scheme for the
behavior of standing waves in such elementary context. And I thought

it was pretty clear beacuse was clear enough in my mind... :>)
When one write in his own language, normally think is communicating very well the idea in his mind, until notice his partner take it in another way! Difficult is multiplied when you are trying communicate to a mind that also thinks in a different language...!
Later I realized that having formulated in terms of a simple generator in series with a resistor would not have generated a false interpretation and not difficult the flow of ideas.

I sincerely believe (correct me if I am wrong) this newsgroup does not seems make (do?) efforts enough (sufficient?) to totally (completely?) solve the more simpler cases before skip to more advanced and sofisticated considerations on more complex systems.
For example: do you (*) recognize Roy Lewallen late example in "Food for tought" assuming (or conceding that) as not representing a real rig but a simple constant voltage source in series with a resistor, at least? to give some credit to his ideas Until now, I could not know...
(*) I do not know how clearly denote plural in "do you"

73 Miguel - LU6ETJ.
Here 04:46 LT - I am not responsible for anything written by me :>)

2472. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 08:56:22 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <a947d049-8179-4332-a76f-a926f7cc3701@r27g2000yqb.googlegroups.com>
Source record: 8972

On Jun 13, 5:44 pm, Richard Clark <kb7...@comcast.net> wrote:
> All products that
> Mendenhall shows in the illustration titled "RF spectrum showing
> distortion products" are 30dB down...

The relevant illustration applying to the generation of r-f intermodulation from external signals was linked in my original quote from Mendenhall's paper on this subject in this thread, which link I repeat below.

It shows that the "tunrnaround loss" for external signals 0.8 MHz offset from the carrier is as little as 5 dB, just as I posted.

By limiting limiting your understanding to the performance of an r-f amplifier having no external influences you are missing the point of the Mendenhall paper I referred to.

http://i62.photobucket.com/albums/h85/rfry-100/TAL_Chart.gif

RF

2473. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 09:01:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D97C17C2E0Anonenowhere@61.9.191.5>
Source record: 8973

lu6etj <lu6etj@gmail.com> wrote in
news:f787eb32-a094-457f-9a11-0733d84f8df9@a30g2000yqn.googlegroups.com:

...
> For example: do you (*) recognize Roy Lewallen late example in "Food
> for tought" assuming (or conceding that) as not representing a real
> rig but a simple constant voltage source in series with a resistor, at
> least? to give some credit to his ideas Until now, I could not
> know...

In that article, Roy says "My commercial amateur HF transceiver is probably typical of modern rigs in that it produces a constant forward average power into varying load impedances provided the impedance isn't extreme enough to cause the rig to severely cut back its power output."

Assuming that "constant forward average power" means 'as would be indicated on a directional wattmeter calibrated for Z=50+j0', if that is true for all load impedances that Pf is constant (within limits), then it is evidence that Zs=50+j0 (within those limits).

He goes on to say "It turns out that a linear model of my transmitter (without a transmatch) over its non-shutdown range is very simple it's just a voltage source in series with a resistance." Subject to the conditions I stated in the previous paragraph, that is correct, but that whilst that model can be used to determine behaviour of the external load, there are limits to the inferences that can be drawn about the internals of the transmitter, including as mentioned in earlier posts, internal dissipation and efficiency. Roy acknowledges that in the next paragraph. Only a mischief maker would represent Roy as meaning otherwise.

From my own experience, I don't agree that HF ham rigs typically produce constant Pf into varying loads. Walt's transmitter measurements that we are discussing do not show constant Pf, though the change is fairly small. But this is a practical measurement project for yourself, don't be put off by the attempts to discredit measurements with anything but traceable calibration.

> (*) I do not know how clearly denote plural in "do you"

I am not the expert that others are on English language, and we speak a version of English closer to the English here... but "you" is plural and singular (but if followed by a verb, it is treated as plural eg "you are correct"), and you could say to a group "do you agree", though some people may say "do you all agree" or "do y'all agree", though those might be seen as asking each member of the group rather than collectively.

Owen

2474. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 11:50:53 UTC
From: Gaius <bin@127.0.0.1>
Message-ID: <MPG.268027f83e40d2cb989699@news.zen.co.uk>
Source record: 8974

In article <hv3gt4ddm1@news.eternal-september.org>, bbaka@comcast.net says...
>
> On 06/13/2010 01:50 PM, Sal M. O'Nella wrote:
> >
> > [Sorry for being a little late to the party, but I was off newsgroups
> > most of this week.]
> >
> > This thread had some discussion of adapters and I want to share my bad
> > experience with some low-cost items, proving, once again, that you get
> > what you pay for.
> >
> > I am testing all my adapters and discarding some because the assemblies
> > are pulling apart with very little force. One manifestation: tightening
> > the threaded ring on a PL-259 (either cable end connector or adapter)
> > and having the ring just continue all the way on, separating from the
> > connector body.
> >
> > One test for a future failure has been any lack of smoothness when I
> > rotate the ring while tugging it gently. If it binds, rather than
> > turning smoothly in my hands, it's going to fail. Also, some of the
> > cheap connectors are press-fit together very poorly; they pull apart
> > with only a few pounds of pull.
> >
> > Most of my early exposure to coax connectors was in and around the US
> > Navy, where reliable connectors are the rule, so I was a spoiled child.
> >
> > "Sal"
> > (KD6VKW)
>
> PL-259's I can handle.
> BNC's drive me nuts trying to get a good connection.
> I gave up and just buy my cables now.
> Bill

Sal's right - it's down to the quality of the item. I've seen some poor BNCs, but many PL-259s which were REAL rubbish. I expect it's because many of them are used for CB - and price is the usual decider there.

I've standardised on 50R BNCs for everything. Usually Amphenol or Greenpar - the extra cost is insignificant, compared to rig prices these days. Why 50R - the only reason is that the sockets are more robust.

Ready made BNC cables have been a disappointment - they are usually crimped, and the crimps seem to relax with age. Cables can pull out,

given a bit of a tug. I use solder/clamped connectors and always solder
the braid to the clamping sleeve. Never had a failure.....

2475. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 12:04:27 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <bd937ed9-810e-447e-b3ee-bcb792097a78@h13g2000yqm.googlegroups.com>
Source record: 8975

On Jun 13, 4:59 pm, "David" <nospam@nospam> wrote:

> If the vertical is the active part i.e. the radiator,
> what do the radials do?

Buried radials collect the r-f earth current produced by radiation from a vertical monopole, and which are present in the earth out to about a 1/2-wavelength radius from the base of the monopole.

The net resistance to those earth currents returning to the ground connection of the antenna system at the base of the monopole is much less than when no buried wires are used, because the wires provide an alternate path with much better conductivity than provided by the earth itself.

The resistance to earth currents in that return path is in series with the radiation and other resistances in the antenna system. For best system radiation efficiency, it needs to be kept as low as possible (or practical). In the MF band, a set of 120 equally-spaced, ~1/4-wave, buried radials surrounding the radiator produces an r-f loss of less than about 2 ohms, regardless of the actual conductivity of the soil in which they are buried.

Installing buried radials over a limited azimuth sector (say, 180 degrees) won't change the directional characteristics of the monopole -- it will only reduce the value of field it produces, as a result of higher losses in the earth area around the radiator where displacement/conducted r-f ground currents are high.

But other things equal that radiation pattern still will be circular, just a smaller circle.

RF

2476. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 12:09:47 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <e72ac5c2-69f9-4ff8-9e70-1518ce030956@k39g2000yqd.googlegroups.com>
Source record: 8976

On Jun 10, 5:52 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 9, 2:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Exactly. And yet, were you to attach a DC-couple directional
> > wattmeter to the line, it would indicate 50W forward and 50W
> > reflected (using your corrected numbers).
>
> only as you monitored the initial transient. once the transient has
> passed there is no power flowing in the line.

I agree completely with the second sentence. But the first is in
error. A directional wattmeter will indeed show 50W forward and 50W
reflected on a line with constant DC voltage and 0 current. I'll
start by providing support for your second sentence and then get
back to reflected power.

Choose an arbitrary point on the line and observe the voltage. The
observed voltage will be a function of time. Let us call it V(t).
At the same point on the line, observe the current and call it I(t).

The energy flowing (i.e. power) at this point on the line will
be P(t)=V(t)I(t). If the voltage is measured in volts and the current
in amps, then the power will be in joules/s or watts.
We can also compute the average energy flow (power) over some
interval by integrating P(t) over the interval and dividing by
the length of the interval. Call this Pavg. For repetitive
signals it is convenient to use one period as the interval.

Note that V(t) and I(t) are arbitrary functions. The analysis
applies regardless of whether V(t) is DC, a sinusoid, a step,
a pulse, etc.; any arbitrary function.

To provide some examples, consider the following simple setup:
1) 50 ohm, Thevenin equivalent circuit provides 100 V in to an
open circuit.
2) The generator is connected to a length of 50 ohm ideal
transmission line. We will stick with ideal lines for the
moment, because, until ideal lines are understood, there
is no hope of understanding more complex models.
3) The ideal line is terminated in a 50 ohm resistor.

Set the generator to DC:
V(t)=50V, wherever it is measured on the line
I(t)=1A, wherever it is measured on the line
P(t)=50W, wherever it is measured on the line
Pavg=50W

No disagreement, I hope.

Set the generator to generate a sinusoid:
V(t)=50sin(wt)
I(t)=1sin(wt)
P(t)=25+25sin(2wt)
Pavg=25W
describes the observations at any point on the line.
Measurements at different points will have a different
phase relationship to each due to the delay in the line.
Note carefully the power function. The power at any point
on the line varies from 0 to 50W with a sinusoidal
pattern at twice the frequency of the voltage sinusoid.
The power is always positive; that is, energy is always
flowing towards the load.

Now let us remove the terminating resistor. The line is
now open circuit.

Again, set the generator to DC. After one round trip
time, the observations at any point on the line will
be:
V(t)=100V
I(t)=0A
P(t)=0W
Pavg=0W

The story for a sinusoid is more interesting...
The observations now depend on the location on the
line where the measurements are performed.
At a current 0:
V(t)=100sin(Wt)
I(t)=0A
P(t)=0W
Pavg=0W
At a voltage 0:
V(t)=0V
I(t)=2sin(wt)
P(t)=0W
Pavg=0W
Halfway between the current 0 at the load and the
preceding voltage 0 (that is, 45 degrees back
from the load:
V(t)=70.7sin(wt)
I(t)=1.414cos(wt)
P(t)=50sin(2wt)
Pavg=0W
This tells us that for the first quarter cycle of the
voltage (V(t)), energy is flowing towards the load,
with a peak of 50W, for the next quarter cycle, energy
flows towards the source (peak −50W), and so on, for

an average of 0, as expected.

For a sinusoid, when the load is other than an open
or a short, energy flows forward for a greater
period than it flows backwards which results in a
net transfer of energy towards the load.

At the location of current or voltage minima on
the line, energy flow is either 0 or flows towards the
load.

All of the above was described without reference to forward
or reflected voltages, currents or power. It is the basic
circuit theory description of what happens between two
networks. It works for DC, 60 HZ, RF, sinusoids, steps,
pulses, you name it. If there is any disagreement with the
above, please do not read further until it is resolved.

Now it is time to introduce forward and reflected waves to
the discussion. Forward an reflected waves are simply a
mathematical transformation of V(t) and I(t) to another
representation which can make solving problems simpler.

The transformation begins with assuming that there is
a forward wave defined by Vf(t)=If(t)*Z0, a reflected
wave defined by Vr(t)=Ir(t)*Z0 and that at any point
on the line V(t)=Vf(t)+Vr(t) and I(t)=If(t)-Ir(t).

Since we are considering an ideal line, Z0 simplifies
to R0.

Simple algebra yields:
Vf(t)=(V(t)+R0*I(t))/2
Vr(t)=(V(t)-R0*I(t))/2
If(t)=Vf(t)/R0
Ir(t)=Vr(t)/R0

Now these algebraically transformed expressions have all
the capabilities of the original so they work for DC,
60 HZ, RF, sinusoids, steps, pulses, you name it.

Some people look at the expression If(t)=Vf(t)/R0 and
think it looks a lot like a travelling wave so they decide
to compute the energy being moved by this wave:
Pf(t)=Vf(t)*Vf(t)/R0
Pr(t)=Vr(t)*Vr(t)/R0

So let us explore the results when applied to the DC examples from
above.

Terminated with 50 ohms:
Vf(t)=50V
If(t)=1A
Vr(t)=0V

Ir(t)=0A

Pf(t)=50W
Pr(t)=0W

This all looks good, no reflected wave and the appropriate amount of energy is being transported in the forward wave.

Let us try the open ended line:
Vf(t)=50V
If(t)=1A
Vr(t)=50V
Ir(t)=1A

which yield
V(t)=Vf(t)+Vr(t)=100V
I(t)=If(t)-Ir(t)=0A

which is in agreement with the observations. But there is definitely a forward voltage wave and a reflected voltage wave. Carrying on to compute powers:
Pf(t)=50W
Pr(t)=50W
and
P(t)=Pf(t)-Pr(t)=0W

So there you have it. The interpretation that the forward and reflected wave are real and transport energy leads to the conclusion that on a line charged to a constant DC voltage, energy is flowing in the forward direction and energy is flowing in the reflected direction.

Because it is obvious that there is no energy flowing on the line, this interpretation makes me quite uncomfortable.

Now there are several ways out of this dilemma.

Some say they are only interested in RF (and optics), and that nothing can be learned from DC, steps, pulses or other functions. They simply ignore the data and continue with their beliefs.

Some claim that DC is special, but looking at the equations, there is no reason to expect the analysis to collapse with DC.

The best choice is to give up on the interpretation that the forward and reflected voltage waves necessarily transport energy. Consider them to be a figment of the analysis technique; very convenient, but not necessarily representing anything real.

As an added bonus, giving up on this interpretation will remove the need to search for “where the reflected power goes” and free the mind for investment in activities that might yield

meaningful results.

...Keith

2477. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 12:23:33 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <266a13fe-343b-4ff2-a216-f612cd9b2f71@j4g2000yqh.googlegroups.com>
Source record: 8977

On 13 jun, 23:43, walt <w...@w2du.com> wrote:
> On Jun 13, 5:08 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 9 jun, 02:07, Richard Clark <kb7...@comcast.net> wrote:
>
> > > On Tue, 8 Jun 2010 12:17:37 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> > > wrote:
>
> > > >When we go back to my first posting in this thread (the first reply)
> > > >where I stated that amplifiers do not show 50 Ohms in general, is not
> > > >that strange and doesn't violate Walt's conclusions.
>
> > > Hi Wimpie,
>
> > > Time to rewind:
>
> > > >On Thu, 27 May 2010 19:32:40 -0700 (PDT), walt <w...@w2du.com> wrote:
>
> > > >>The source resistance data reported in Secs 19.8 and 19.9 were
> > > >>obtained using the load variation method with resistive loads. Note
> > > >>that of the six measurements of output source resistance reported in
> > > >>Table 19.1, the average value of the resistance is 50.3 ohms obtained
> > > >>with the reference load resistance of 51.2 ohms, exhibiting an error
> > > >>of only 1.8 percent.
>
> > > Considering these two explicit initial conditions and findings:
>
> > > >1. Using a Kenwood TS-830S transceiver as the RF source, the tuning
> > > >and loading of the pi-network are adjusted to deliver all the
> > > >available power into a 50 + j0-ohm load with the grid drive adjusted
> > > >to deliver the maximum of 100 watts at 4 MHz, thus establishing the
> > > >area of the RF power window at the input of the pi-network, resistance
> > > >RLP at the plate, and the slope of the load line. The output source
> > > >resistance of the amplifier in this condition will later be shown to
> > > >be 50 ohms. In this condition the DC plate voltage is 800 v and plate
> > > >current is 260 ma. DC input power is therefore 800 v ? 0.26 a = 208 w.
> > > >Readings on the Bird 43 wattmeter indicate 100 watts forward and zero
> > > >watts reflected. (100 watts is the maximum RF output power available
> > > >at this drive level.) From here on the grid drive is left undisturbed,
> > > >and the pi-network controls are left undisturbed until Step 10.
>
> > > >2. The amplifier is now powered down and the load resistance RL is

> > > >measured across the input terminals of the resonant pi-network tank
> > > >circuit (from plate to ground) with an HP-4815 Vector Impedance Meter.
> > > >The resistance is found to be approximately 1400 ohms. Because the
> > > >amplifier was adjusted to deliver the maximum available power of 100
> > > >watts prior to the resistance measurement, the averaged resistance RLP
> > > >looking into the plate (upstream from the network terminals) is also
> > > >approximately 1400 ohms. Accordingly, a non-reactive 1400-ohm resistor
> > > >is now connected across the input terminals of the pi-network tank
> > > >circuit and source resistance ROS is measured looking rearward into
> > > >the output terminals of the network. Resistance ROS was found to be 50
> > > >ohms.
>
> > > Quite explicit. Rated power into the rated Z load revealed a
> > > conjugate basis Z match (afterall 50=50) or an image basis Z match
> > > (50=50). The pi-network simply transformed the source/load. Anyone
> > > skilled with the concept of the Smith Chart can immediately follow
> > > that logical construct.
>
> > > We even get the plate resistance which conforms to within published
> > > specifications for the pair of tubes.
>
> > > We even get the near classic result of a conjugate basis Z match
> > > efficiency (however, only in the first pass approximation).
>
> > > How asking the same question:
>
> > >   "Does Walt's data support the evidence of a Conjugate Match?"
>
> > > migrates into responses to other issues is a strange dance. I ask "up
> > > or down," and everyone wants to vote sideways.
>
> > > >When you don't touch the plate and load capacitor and change from 50
> > > >Ohms to a load with VSWR = 2, you violate Walt's conditions
>
> > > I have not the vaguest idea where you got the idea that I changed
> > > anything. The totality of my discussion never budged from steps 1 and
> > > 2 and I deliberately and clearly confined all matters there and
> > > repeated them more than occasionally.
>
> > > >In case of doubt use the forward power measurement technique,
>
> > > I have, and the data I've asked from you was not intended for some
> > > one-time design for a unique application. This is an Ham radio group,
> > > and the object under consideration is an Ham transmitter. Feel free
> > > to substitute freely among a similar class (frequency range, power
> > > output) such that others might compare their own.
>
> > > >when it
> > > >changes under varying load, your amplifier doesn’t behave as a 50 Ohms
> > > >source.

>
> > > This is the most curious statement that eventually comes down the
> > > pike. It is like I am talking to a novice to explain:
> > >   "That is what the tuner is for!"
>
> > > >Maybe I had to be more precise to
> > > >mention the exceptions: forward power control loop as mentioned by
> > > >Roy,
>
> > > What Roy is describing is nothing close to Walt's hypothesis that I
> > > have confined to a single point observation. No one has advanced
> > > claims made that demonstrate:
> > > 1. Constant Z across all loads;
> > > 2. Constant Z across all frequencies;
> > > 3. Constant Power across all loads;
> > > 4. Constant Power across all frequencies.
> > > No competent Ham expects that of any Ham transmitter.
>
> > > Walt reported a 50 Ohm source Z from a tube rig. I have measured a 50
> > > Ohm Z from two of my own transistor rigs. The difference in
> > > technology is not an issue. I have also been responsible for
> > > measuring RF power and source/load specifications within the chain of
> > > national standards laboratories. Stretching the term RF, this spanned
> > > from DC to 12GHz for power levels up to 100W. The sources across the
> > > board exhibited 50 Ohms Source Z.
>
> > > Your own national lab is represented at:http://www.vsl.nl/
> > > They undoubtedly use the same reference citations as our National
> > > Institutes for Science and Technology.
>
> > > **********
>
> > > Putting the entirety of this discussion aside, and returning to your
> > > very special project with an 9 Ohm source of RF at 8 Mhz. How
> > > efficient was its operation feeding a 50 Ohm line to a 50 Ohm load?
> > > Can you document this with schematics, parts description, and measured
> > > data at key points from drain through to the load? This was the level
> > > of available resources that came with Walt's discussion.
>
> > > 73's
> > > Richard Clark, KB7QHC
>
> > Hello Richard,
>
> > We can continue mentioning measurement results, do other claims, but
> > that may not converge. Your results show 50 Ohms output impedance,
> > mine show other. Such results cannot be verified easily, so this
> > remains food for endless discussions.
>
> > I decided to use another approach that can be verified by people

> > having a (spice) simulator. I did simulations for some circuits that
> > can be expected in the amateur world and aren't exotic. I put them
> > over here: http://www.tetech.nl/divers/PA_impedance.pdf. Now people
> > can figure out what it IS and get their own educated opinion. I used
> > low frequencies to avoid discussion about the validity of the
> > simulations (parasitic inductances, etc).
>
> > From these simulations it is clear that small changes in load or drive
> > level result in large change of output impedance. This knowledge
> > resulted in my statement: "an RF PA isn't a 50 Ohms source", what was/
> > is heavily disputed by you.
>
> > Of course you can design to have better output VSWR under varying load
> > or drive, but this is generally not done for systems that just have to
> > deliver the power (transmitters).
>
> > If you want to reproduce some of the results yourself, we can compare
> > our spice netlists. I recently added a real class C example as this
> > was heavily discussed in another thread.
>
> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
> > When you remove abc, PM will reach me.
>
> Hi Wim,
>
> I quote a statement you made in your above post:
>
> "From these simulations it is clear that small changes in load or
> drive
> level result in large change of output impedance. "
>
> Now I agree that changing the drive level will result in a change in
> output impedance. However, let's say you have just adjusted the amp to
> deliver all the available power into a given load at a given drive
> level, and now you change the load, but leave the drive level and all
> other adjustments of the amp untouched. Are you saying this change in
> load changes the output impedance? If so, please explain why.
>
> In addition, which situation has the greatest priority, data obtained
> from precise measurements or data obtained solely from simulations?
>
> Walt, W2DU

Hello Walt,

I think it does, changing the load will change the output impedance.
The root cause is that under conjugated match conditions (given fixed
input drive, constant supply voltage, etc), the active device is

operating on the edge of voltage saturation.

When you reduce the load resistor (parallel representation, and seen from the plate), the RF plate voltage drops, causing the valve to operate more like a current source. Increasing the load resistance will result in voltage clipping, so plate voltage rise with increasing load resistance is limited.

One can also say that (under voltage saturation), during a small portion of T, the plate voltage is shorted to ground via about 120 Ohms (derived from DC characteristic of 6146 valve).

I added page numbers to the document (it is at the same location). When you look at page 3 you can see the simulation results. Output impedance (based on deltaV/deltaI with different load resistors) changes from above 9 kOhms to below 1000 Ohms. For load changes of less the VSWR = 1.2.

When the valve is operated below voltage saturation (for example due to decrease of load resistance or drive reduction), the output impedance is less dependent on load change and the amplifier will more or less behave like a linear circuit. You can see this on page 8. That table is for a situation where the plate voltage is below the amplitude that causes voltage saturation of the tube. Look also to the power supplied to the load, there is no conjugated match.

Regarding simulation.
I am fully aware of the limitations of simulation. I did compare the data sheet curves with simulated curves first. The simulated one has a somewhat steeper transition between current saturation region and voltage saturation region. This will result in some more output impedance change versus plate RF voltage, but doesn’t make the simulations useless. the low Q in the cathode was just for making the cathode voltage more sinusoidal to enable to guess the actual input power.

My observations resulting in my statement regarding output impedance of amplifiers were from the time that I never simulated a PA. They are from measurements and reasoning starting from the time that I was in school designing a solid-state (BLW76 bipolar transistor) amplifier with third harmonic peaking. Referencing to measurement will likely result in endless discussions, even when publishing the full details. To avoid this, I did some simulations (with the risk that people may waive this also).

In my opinion it is too easy to waive results that are from simulation as some other people are trying. Simulation is standard practice in the design flow.

I hope you concluded that the simulations do not dispute most of your findings, even the conjugated match with high efficiency is still standing (which is disputed by others). The only thing I tried to support is that many real world amplifiers under practical operating

conditions do no show output impedance equal to the specified load and that therefore answering "what happens with reflected energy?" is not just a simple transmission line problem. I therefore added also a simple non-exotic mosfet stage for FM/CW operation as many people use solid-state PAs.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

2478. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 13:06:06 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <ed3b3063-3c8f-4164-a4ec-60d2817dab53@e5g2000yqn.googlegroups.com>
Source record: 8978

On 14 jun, 02:13, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 13 Jun 2010 14:08:59 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> > This knowledge
> >resulted in my statement: "an RF PA isn't a 50 Ohms source", what was/
> >is heavily disputed by you.
>
> Hi Wim,
>
> Your conclusion:
> "Under maximum power output matching given certain drive (not
> necessarily being the maximum drive), the output impedance equals the
> load resistor (the so-called "conjugated match condition")."
>
> It was not the only conclusion, but it certainly disputes what you say
> above.
>
> Given the easy access to real amplifiers available to Hams at their
> own bench, and further given that they do not present any more
> complexity than your own simulation; then I have to wonder why we have
> wandered into strange topologies.

My findings are from practice before I had the opportunity to do PA
simulations.
>
> I am not interested in trying to follow 23 pages of dense presentation
> where you could have simulated Walt's finals, validated or rejected
> his data, and THEN formed your own conclusions. If this is a problem
> of simulation (you don't have that tube handy) what about topology?

23 pages is not that much as graphs and circuit diagrams dominate. If
you can provide me a circuit diagram I will figure out whether I can
simulate it or not.

>
> It looks more like a link coupled tank circuit from pre-WWII days. The
> Tank Q looks to be non-existent. When I rummage through the paper I
> find 4.4! This is certainly beyond the standard for PA design - and
> we have swapped out of the tube into a mosfet (would you care to stick
> to one objective?). Elsewhere (wandering back in tubes) I find a
> value of 10.3 (elsewhere it is 11) which inhabits the lowest margin of
> good design. Then an itinerant report of a cathode tank (????) whose
> Q is 0.44. Q appears to be of little concern.

Fully agree with the low cathode Q, therefore it doesn't affect the
simulations results significantly.

>
> Again, typical Ham equipment shows Q as low as 10 - maybe, and that
> would be for a dog; but those that I have seen typically fall around
> 15, sometimes 20. As the Z transformation in plate/drain circuits
> varies by the square of Q, this is not inconsequential and it once
> again has me wondering why the strange topology?

Tell me what Q I should use (evt, give me component values) in the
simulation, and I will change it for you.

>
> No, your paper lacks focus by trying to be all things (tubes, mosfets,
> Class AB, Class C).

This is to support my statement that under real world amateur
conditions many PAs do not obey ZL = Zout*. If I have some time I will
add a push-pull transfomer coupled amplifier also.

You examine the most inconsequential details as
> if they were equally important as those details that bear on your
> concern. The paper lacks structure. Headings are nothing more than
> feature descriptions, not argument development. There is a lot of
> discussion of the idiosyncrasies of simulation - I am not interested
> and that discussion creates the impression of hidden errors. Really,
> this stuff goes into an appendix not as the object of the narrative.
> The graphs are pretty diversions, but they don't add much. In the
> software industry, this is spaghetti design.
>
> I would prefer a conventional topology. I suppose that has come
> through clear. Pick one significant point, re-edit this into 4 pages
> and then you might have something interesting. This advice comes from
> one of our American writers, Mark Twain:
>   "If I had more time, I would have written you a shorter letter."
>
> 73's
> Richard Clark, KB7QHC

simulation is general practice in the design flow, I know it has
limitations. Of course I could use ADS, but most people don't have
that at home, so I decided to use spice as this is used by many.

If you believe I am so wrong, why don't you present some simulations
to show that my original statement is completely wrong?

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me.

2479. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 15:00:18 UTC
From: John KD5YI <mycalldotjocjodotjocjo@xoxy.net>
Message-ID: <hv5g62$50h$1@speranza.aioe.org>
Source record: 8979

On 6/12/2010 7:57 AM, David wrote:
> Antenna is a quarterwave vertical with quarterwave radials.
>
> There is a difference in operation between transmit and receive modes.
>
> In receive mode, an incident plane wave is exciting the radials. The
> induced currents are a function of angle around the antenna. A system of
> radials imperfectly reflects the incident wave, and the reflected wave is
> hard to calculate.
>
> In transmit mode, the antenna base is driven by the source. The currents
> in the radial system are symmetrical around the antenna, NOT a function of
> angle, so they produce no net radiation, but do affect the input impedance.
>
> In receive mode, the current induced in each radial is related to the
> direction of the incoming wave. For example, radials closest to the incoming
> wave experience the strongest field.
>
> Does the radiation pattern override the direction of the incoming wave? The
> radiation pattern is omnidirectional or circular.
>
> I suspect that the radiation pattern takes the incoming wave and spreads it
> evenly around the antenna, forming an electromagnetic field that is the same
> as the radiation pattern.
>
> Even if parts of the antenna experience the strongest field due to the
> direction of the incoming wave, the radiation pattern means that the field
> is symmetrical. Is this correct?
>
> A uniform radiation pattern means that the electromagnetic field is spread
> evenly around the antenna irrespective of which direction the wave is being
> received. Is this true?
>

You would do well to download EZNEC and give your ideas a try. You will
find that the best directivity comes with only one radial. There is
about 4dB difference between the side and front(or back) of the *total*
radiation pattern. However, you will see that this directivity comes at
the expense of increasing the horizontal polarization and decreasing the
vertical polarization. This might be okay, depending on your
circumstances. That's why I suggest you use EZNEC -- only you know what
is acceptable for your case.

Good luck.

John

2480. (only$38,free shipping) for hot sell new style nike air max,best quality --Paypal

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 15:08:11 UTC
From: "www.promptc.com" <promptc2@hotmail.com>
Message-ID: <73e4c43e-b2ec-48ff-9bae-b0b17729adad@s1g2000prf.googlegroups.com>
Source record: 8980

we are wholesaler professional in supplying nike air max,nike
shox,nike air

jordan etc.Best quality is guaranteed.Our company receive high
reputation

from worldwid.
Some links of nike air max:
1) http://www.promptc.com/index.php?

main_page=index&cPath=201_220&sort=20a&page=2
2) http://www.promptc.com/index.php?main_page=index&cPath=201_369

Basic information:
1)Payment:Paypal,WU,TT etc
2)Delivery time:3-7 days door to door safety delivery
3)Delivery methods:DHL,TNT,EMS etc

The features of our company are: 1:1 quality,lowest price,prompt

delivery,good sale-after service."Customer highest,Reputation first"
is our

principle.
It would be our company biggest honor to do long term business
with each

other,please kindly visit our website or contact us for more
details.Thank you !

More order more discount ! ! !
nike air max www.promptc.com
nike air max 2009 www.promptc.com
nike air max 90 www.promptc.com
nike air max 95 www.promptc.com
nike air max 2010 www.promptc.com
women air max www.promptc.com
men air max www.promptc.com
shoes www.promptc.com
coach handbag www.promptc.com

2481. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 15:49:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <00331304-fd9f-4b00-a4fc-6484f9267915@y4g2000yqy.googlegroups.com>
Source record: 8981

On Jun 13, 11:19 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Was your disingenuity deliberate?

No, it was non-existent. The source I referred to was Roy's *specified
source* in his food-for-thought article on forward and reflected
power. Roy used his *specified source* to do his power calculations.
Contrary to what you asserted, Roy certainly did "make an inference
about the internal dissipation of the source". The fact that Roy's
specified source doesn't resemble a ham transmitter is irrelevant.
--
73, Cecil, w5dxp.com

2482. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 15:50:07 UTC
From: walt <walt@w2du.com>
Message-ID: <68ea4a70-052e-418a-827d-b06f85ed9c5b@32g2000vbi.googlegroups.com>
Source record: 8982

On Jun 14, 11:00 am, John KD5YI <mycalldotjocjodotjo...@xoxy.net>
wrote:
> On 6/12/2010 7:57 AM, David wrote:
>
>
>
> > Antenna is a quarterwave vertical with quarterwave radials.
>
> > There is a difference in operation between transmit and receive modes.
>
> > In receive mode, an incident plane wave is exciting the radials. The
> > induced currents are a function of angle around the antenna. A system of
> > radials imperfectly reflects the incident wave, and the reflected wave is
> > hard to calculate.
>
> > In transmit mode, the antenna base is driven by the source. The currents
> > in the radial system are symmetrical around the antenna, NOT a function of
> > angle, so they produce no net radiation, but do affect the input impedance.
>
> > In receive mode, the current induced in each radial is related to the
> > direction of the incoming wave. For example, radials closest to the incoming
> > wave experience the strongest field.
>
> > Does the radiation pattern override the direction of the incoming wave? The
> > radiation pattern is omnidirectional or circular.
>
> > I suspect that the radiation pattern takes the incoming wave and spreads it
> > evenly around the antenna, forming an electromagnetic field that is the same
> > as the radiation pattern.
>
> > Even if parts of the antenna experience the strongest field due to the
> > direction of the incoming wave, the radiation pattern means that the field
> > is symmetrical. Is this correct?
>
> > A uniform radiation pattern means that the electromagnetic field is spread
> > evenly around the antenna irrespective of which direction the wave is being
> > received. Is this true?
>
> You would do well to download EZNEC and give your ideas a try. You will
> find that the best directivity comes with only one radial. There is
> about 4dB difference between the side and front(or back) of the *total*
> radiation pattern. However, you will see that this directivity comes at
> the expense of increasing the horizontal polarization and decreasing the
> vertical polarization. This might be okay, depending on your

> circumstances. That's why I suggest you use EZNEC -- only you know what
> is acceptable for your case.
>
> Good luck.
>
> John

John, are you using EZNEC to model radials in the ground or above-ground? If you're modeling in-ground radials then you must be using EZNEC incorrectly t o obtain directivity other than omni-directonal, because the directivity of any vertical radiator is equal in every direction, regardless of the number of radials, zero or an infinite number. In other words the radiator is omni-directional. On the other hand, if you're modeling an above-ground radiator with only one radial, then of course the radiation will include both vertical and horizontal components, which result in a polarization angle other than either vertical or horizontal and will likely have radiation that is not omni-directional.

Walt, W2DU

2483. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 15:55:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e0d016d8-76af-4e6a-87a1-ca4170268e2e@w31g2000yqb.googlegroups.com>
Source record: 8983

On Jun 13, 11:26 am, K1TTT <k1...@arrl.net> wrote:
> because they use the newer 'fields and waves in communication
> electronics' by ramo, whinnery, and van duzer that uses reflection
> coefficients and calculates voltages, currents, electric and magnetic
> fields.

I've got a copy of the 3rd edition of that very book. S-parameters are
covered on page 540 so my question remains. Why don't RF engineers
read the book?
--
73, Cecil, w5dxp.com

2484. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 15:59:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <39c888e5-aca3-4ffb-87b1-728349b056d4@j8g2000yqd.googlegroups.com>
Source record: 8984

On Jun 13, 11:27 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 13, 3:02 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 13, 9:34 am, K1TTT <k1...@arrl.net> wrote:
>
> > > why are they (voltages) indeterminate? i can calculate them, why can't you?
>
> > Please tell me how you can calculate an absolute voltage when Z0
> > is an unknown variable?
>
> the same way you calculate the power to be zero watts. no need to
> know the z0 if the voltage is zero.

Ah, but you said you could calculate "them", meaning at least two
voltages. You have calculated one voltage to be zero. So what is the
value of one of the other voltages when the Z0 is unknown?
--
73, Cecil, w5dxp.com

2485. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 17:09:47 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hv5notuem1@news.jpl.nasa.gov>
Source record: 8986

K1TTT wrote:
> On Jun 9, 10:38 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> In fact, the ration between that stored energy and the amount flowing
>> "through" (i.e. radiated away) is related to the directivity of the
>> antenna: high directivity antennas have high stored energy (large
>> magnetic and electric fields): the ratio of stored to radiated energy
>> is "antenna Q" (analogous to the stored energy in a LC circuit leading
>> to resonant rise).
>>
>> So, high directivity = high stored energy = high circulating energy =
>> high I2R losses.
>
> this is a relationship i haven't heard of before... and would be very
> wary of stating so simply.

I should have used arrows rather than equals signs.
But it's basically a manifestation of Chu's idea combined with practical materials.

Chu proposed the concept relating directivity and stored energy and physical size. A passively excited multi element array (like a Yagi) has to transfer energy from element to element to work, and it follows the characteristics outlined by Chu. And anything with circulating energy that gets carried by a conductor is going to have high(er) I2R losses than something that doesn't.

it may be true for a specific type of
> antenna, MAYBE Yagi's, MAYBE rhombics or or close coupled wire arrays,
> but some of the most directive antennas are parabolic dishes which i
> would expect to have very low Q and extremely low losses.

Interesting case there. Loss isn't all that low (typical parabolic antennas with their feed have an efficiency of 50-70%), although it IS low compared to the directivity. And, in fact, there's not much stored energy (so the Q is low). On the other hand a parabolic antenna is physically very large compared to a wavelength, so the Chu relationship holds. I'd have to think about whether one can count the energy in the wave propagating from feed to reflector surface as "stored", but I think not. Probably only the E and H fields at the reflector surface.

you could
> also have an antenna with very high Q, very high i^2r losses, but very
> low directivity, so i would be careful about drawing a direct link
> between the two.

Yes.. you're right.. the relations set an upper bound on what's possible.. That is, for a given directivity, you can get either small size and large stored energy (the Yagi-Uda or W8JK), or large size and small stored energy (the parabolic reflector and feed). As you note, a dummy load has very low directivity.

2486. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 18:00:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jqnc16due6h4n5986jgkn6ckm0nvvr763d@4ax.com>
Source record: 8985

On Mon, 14 Jun 2010 06:06:06 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>23 pages is not that much as graphs and circuit diagrams dominate. If
>you can provide me a circuit diagram I will figure out whether I can
>simulate it or not.

Hi Wim,

I'm glad you wish to examine this more. I will send you Mendenhall's
400W FM design done 42 years ago to this month and nearly day. I will
also send a partial schematic for Walt's TS-830s.

Mendenhall's is not very different from your own model except with a
far more powerful VHF Tube, however, it is a tetrode design too.
Walt's is a pair of pentodes. See what you can do.

>Fully agree with the low cathode Q, therefore it doesn't affect the
>simulations results significantly.

Why a Common Grid design for a tetrode tube?

>Tell me what Q I should use (evt, give me component values) in the
>simulation, and I will change it for you.

15 is one that Terman cites, and Mendenhall cites Terman, and Walt's
(if I recall correctly) also find a similar value. Given your
especially low frequency simulation, component values are way out from
those commonly encountered in HF/VHF work.

>> No, your paper lacks focus by trying to be all things (tubes, mosfets,
>> Class AB, Class C). ï¿½
>
>This is to support my statement that under real world amateur
>conditions many PAs do not obey ZL = Zout*. If I have some time I will
>add a push-pull transfomer coupled amplifier also.

Then you should do the finals deck for a transistor rig for that
topology. It would bring you into the 21st century (even if the
details still date from the 1970s). You will also find more
simulation options.

>simulation is general practice in the design flow, I know it has
>limitations. Of course I could use ADS, but most people don't have
>that at home, so I decided to use spice as this is used by many.

One of the titans of linear design, Bob Pease of National
Semiconductor had little sympathy for those who discovered the

problems of simulation. However, those who read his work were sure to avoid pain and trauma. Consult:
http://www.national.com/rap/

Having said that, it is somewhat ironic that we all use simulation for antennas - so we are all aware of limitation and possibility. I have used many simulators from a spectrum of disciplines.

>If you believe I am so wrong, why don't you present some simulations
>to show that my original statement is completely wrong?

You have more time and passion for it. I have already had a career in testing these issues specifically and proof is at the bench. I was trained to demanding methods for this and I worked with the most accurate instruments in the world. However, I don't expect equal results. If you wish to work further with the two schematics I send you, then that would interest me far more than the banalities of photonic explanations and spreadsheet solutions.

I am not saying anything you have done is wrong, I am saying that your style is getting in the way of communication. It reads like a detective novel, not a like presentation. You discover conclusions, you don't seem to test for expectations. Surprise and mystery arrive haphazardly through the narrative. Inconsequential details are mulled over like Holmes describing the characteristics of cigar ash to Watson.

You are trying to do too many things in one place and the topic begins to blurs and the goal is distracted. For instance, this thread's subject line of "what happens to reflected energy?" is never summarized in your final conclusion - that is not good reportage. I went to that last section and saw that discussion missing. Closer examination revealed it by parts as seemingly trivial observations.

For style, start with a good grounding. Establish a base line. Do a Monte Carlo analysis of a known design with known characteristics. Then introduce a hypothesis tied to one variable. Push the variable and note how it either conforms or strays from your hypothesis. Present your work. Have a discussion to shake out problems of understanding (from anyone). Then move on to either shift the topology, or further stress the existing design. Build on a solid foundation.

Schematics will follow as soon as I can make their file sizes suitable for email servers (about 1-2 MB).

73's
Richard Clark, KB7QHC

2487. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 18:56:43 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <ab8b1106-d93a-4aab-b195-8fbf2733268e@b35g2000yqi.googlegroups.com>
Source record: 8987

On Jun 13, 11:42 pm, Owen Duffy <n...@no.where> wrote:
> Owen Duffy <n...@no.where> wrote innews:Xns9D979170BB314nonenowhere@61.9.191.5:
>
> ...
>
> > In the measurements of an IC7000 that I made, the measured output
> > power on one VSWR(50)=1.5 load was 82.5W when it would have been
> > 104.6W had the source been 50+j0, an error of 0.8dB. I opined that
> > this test did not support the proposition that Zs was not 50+j0
>
> Too many "nots", isn't there?
>
> It should read:
>
> I opined that this test did not support the proposition that Zs was 50+j0.
>
> Apologies, Owen.

I suppose this will be buried where nobody will read it...

I realized that with the nice instrument-grade directional couplers
that came with a new 100W RF power amplifier, and with the other
equipment on my bench, I can measure RF amplifier/transmitter source
impedance relatively easily and with good accuracy. I strongly
suspect the accuracy will be limited first by how well the setup of
the transmitter/amplifier can be duplicated, and not by the
measurement instruments.

I won't go through the whole test setup, but just say that
substituting an open or short for the connection to the transmitter
yields the expected amplitude return signal, and terminating the line
in a precision 50 ohm calibration standard yields a 47dB return loss,
for the frequency I was measuring (nominally 7MHz, for this first
measurement). The measurement involves sending a signal offset from
the nominal transmitter frequency by a few Hertz at about -20dBm
toward the transmitter, and looking at what comes back.

Measuring a Kenwood TS520S, set up for about 70 watts output, ALC
disabled, operating as a linear amplifier somewhat (about 30 watts)
below its maximum output: result is 56+j16 ohms at the output UHF
connector on the TS520S. That's about 1.4:1 SWR, and at some point
along a lossless line, that's equivalent to about 70+j0 ohms: not
terribly close to 50 ohms. I'm not going to bother with a detailed
error analysis presentation, but I'm confident that the amplitude of
the return loss is accurate within 0.1dB, and the phase angle within

10 degrees, to better than 99% probability.

I may make some more measurements with different amplifier setups and at different frequencies, but for now, that's it...

Cheers,
Tom

2488. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 19:01:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <43uc16973ovd5s6641lpasgkelgg3i1eou@4ax.com>
Source record: 8988

On Mon, 14 Jun 2010 01:56:22 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>By limiting limiting your understanding to the performance of an r-f
>amplifier having no external influences you are missing the point of
>the Mendenhall paper I referred to.

This is repetitive without being informative. I am satisfied with
Mendenhall's clear statements about plate resistance in how to fine
tune finals - a paper that is obviously on-topic. I am satisfied with
his WREK design (as was the FCC). I see he observed standard methods
of design and cites accessible authorities that guide industry. I
don't need to elaborate what he offers by mincing around the issue
with interpretation, inference, and suggestion.

To offer what you think is contrary evidence goes well toward
impeaching your own authority. There is no amount of discussion or
even agreement that can balance that contradiction. From the content
of your other discussion, you are arguing both sides, or you are
turning this on the pivot of an opaque detail known only to you.

I am satisfied that the general readership has all the details. Or
could ask for them if this was interesting.

73's
Richard Clark, KB7QHC

2489. Re: "Non-dissipative Source Resistance"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 19:23:20 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <39ed1dc0-eb1f-47ce-9a8e-bbc203eaa129@d37g2000yqm.googlegroups.com>
Source record: 8989

On Jun 14, 2:01 pm, Richard Clark <kb7...@comcast.net> wrote:

> I am satisfied that the general readership has all the details.

So am I.

What they mean to each reader depends on his/her ability and
willingness to comprehend what was given in the Mendenhall paper I
quoted, and not to refer to data taken on an r-f amplifier operating
under conditions having no specific relevance to the Mendenhall paper
about turnaround loss.

RF

2490. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 19:32:02 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <76568dbe-ebef-446b-9d04-dadb35f51828@d37g2000yqm.googlegroups.com>
Source record: 8990

On 14 jun, 20:00, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 14 Jun 2010 06:06:06 -0700 (PDT), Wimpie <wimabc...@tetech.nl>
> wrote:
>
> >23 pages is not that much as graphs and circuit diagrams dominate. If
> >you can provide me a circuit diagram I will figure out whether I can
> >simulate it or not.
>
> Hi Wim,
>
> I'm glad you wish to examine this more. I will send you Mendenhall's
> 400W FM design done 42 years ago to this month and nearly day. I will
> also send a partial schematic for Walt's TS-830s.
>
> Mendenhall's is not very different from your own model except with a
> far more powerful VHF Tube, however, it is a tetrode design too.
> Walt's is a pair of pentodes. See what you can do.
>
> >Fully agree with the low cathode Q, therefore it doesn't affect the
> >simulations results significantly.
>
> Why a Common Grid design for a tetrode tube?

Because I built such circuit myself based on two PL519 television
tubes and to reduce the number of runs to tune the amplifier in
simulation (I still need some time to work also).

>
> >Tell me what Q I should use (evt, give me component values) in the
> >simulation, and I will change it for you.
>
> 15 is one that Terman cites, and Mendenhall cites Terman, and Walt's
> (if I recall correctly) also find a similar value. Given your
> especially low frequency simulation, component values are way out from
> those commonly encountered in HF/VHF work.

Over here 3.6 MHz is an amateur band, we may even go lower than that.
I will change the real class C ciruit to Q = 15. Q = Rload/XL?

>
> >> No, your paper lacks focus by trying to be all things (tubes, mosfets,
> >> Class AB, Class C).
>
> >This is to support my statement that under real world amateur
> >conditions many PAs do not obey ZL = Zout*. If I have some time I will

> >add a push-pull transfomer coupled amplifier also.
>
> Then you should do the finals deck for a transistor rig for that
> topology. It would bring you into the 21st century (even if the
> details still date from the 1970s). You will also find more
> simulation options.
>
> >simulation is general practice in the design flow, I know it has
> >limitations. Of course I could use ADS, but most people don't have
> >that at home, so I decided to use spice as this is used by many.
>
> One of the titans of linear design, Bob Pease of National
> Semiconductor had little sympathy for those who discovered the
> problems of simulation. However, those who read his work were sure to
> avoid pain and trauma. Consult:http://www.national.com/rap/
>
> Having said that, it is somewhat ironic that we all use simulation for
> antennas - so we are all aware of limitation and possibility. I have
> used many simulators from a spectrum of disciplines.
>
> >If you believe I am so wrong, why don't you present some simulations
> >to show that my original statement is completely wrong?
>
> You have more time and passion for it.

I have very limited time for this, so we have to keep it very
efficient.

>I have already had a career in
> testing these issues specifically and proof is at the bench.   I was
> trained to demanding methods for this and I worked with the most
> accurate instruments in the world. However, I don't expect equal
> results. If you wish to work further with the two schematics I send
> you, then that would interest me far more than the banalities of
> photonic explanations and spreadsheet solutions.
>
> I am not saying anything you have done is wrong, I am saying that your
> style is getting in the way of communication. It reads like a
> detective novel, not a like presentation. You discover conclusions,
> you don't seem to test for expectations. Surprise and mystery arrive
> haphazardly through the narrative. Inconsequential details are mulled
> over like Holmes describing the characteristics of cigar ash to
> Watson.

Except the high Z value for the Common Cathode amplifier, all results
are as expected. Otherwise I did not make my statement on the output
impedance of PAs.

>
> You are trying to do too many things in one place and the topic begins
> to blurs and the goal is distracted. For instance, this thread's

> subject line of "what happens to reflected energy?" is never
> summarized in your final conclusion - that is not good reportage. I
> went to that last section and saw that discussion missing. Closer
> examination revealed it by parts as seemingly trivial observations.

You disputed my statement on Zout and came up with the "what IS it"
attitude, I only provided information so that other people can get
their own opinion. I prefer to keep the focus on that.

>
> For style, start with a good grounding. Establish a base line. Do a
> Monte Carlo analysis of a known design with known characteristics.
> Then introduce a hypothesis tied to one variable. Push the variable
> and note how it either conforms or strays from your hypothesis.
> Present your work. Have a discussion to shake out problems of
> understanding (from anyone). Then move on to either shift the
> topology, or further stress the existing design. Build on a solid
> foundation.
>
This is not a thesis, I just did some simulation to show that things
can be different.

> Schematics will follow as soon as I can make their file sizes suitable
> for email servers (about 1-2 MB).
>
> 73's
> Richard Clark, KB7QHC

Before I am going to spend lots into time this, some points:

1. Do you accept the "measuring" method with injecting a signal with
slight frequency difference as mentioned in the document?

2. Do you accept the way of presentation (envelope change versus time
and converted to output VSWR as used in the document)?

3. Do you accept B^2 spice A/D professional, version for as suitable
platform?

If we cannot agree on this, it is of no use to continue.

I limit the simulation to low HF frequencies as based on a circuit
diagram alone we cannot guess the parasitics for high HF/VHF use and
this may be food for more discussion. Please also mention what
components you want into the simulation as simulating a full TS830
will take to long.

All relevant info will be made available to the group, inclusive
original circuit diagrams and the diagrams I used for simulation. I
hope that I can get a suitable simulation model for the tubes.

Regarding circuit diagrams, can you reduce the color depth (gray scale
or B/W) and convert them to PNG as this is non-lossy coding.

I am looking forward to the results.

Best regards,

Wim
PA3DJS
www.tetech.nl

2491. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 20:42:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9844425F5B3nonenowhere@61.9.191.5>
Source record: 8991

Making some assumptions about a sensible implementation for the test, an interesting test Tom, thanks for the writeup.

One of the interesting propostions emerging in the discussion is that Zs may be dependent on drive level. Your test setup would be an interesting one to explore that effect (changing drive level alone, no other adjustment or change).

In my own tests looking for Pf constant (independent of load changes), I have noted that I get different results from the IC7000 at different drive levels. Not surprising, as the gain of the active devices are likely to change significantly in the upper half of the rated power range, and the effects of either current or voltage saturation are likely to be manifest at near rated output, and power control loops at maximum output.

If Zs is dependent on drive level in a significant way, then one must ask what is the application of Zs in the case of an SSB telephony transmitter.

Owen

2492. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-14 23:04:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <799fca25-0978-4f2a-873c-29c9a2baa9bc@a30g2000yqn.googlegroups.com>
Source record: 8992

On Jun 14, 12:09 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 10, 5:52 pm, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 9, 2:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > Exactly. And yet, were you to attach a DC-couple directional
> > > wattmeter to the line, it would indicate 50W forward and 50W
> > > reflected (using your corrected numbers).

now remember, this is AFTER you disconnected the load resistor.

>
> > only as you monitored the initial transient. once the transient has
> > passed there is no power flowing in the line.
>
> I agree completely with the second sentence. But the first is in
> error. A directional wattmeter will indeed show 50W forward and 50W
> reflected on a line with constant DC voltage and 0 current. I'll
> start by providing support for your second sentence and then get
> back to reflected power.
>

no, it won't... as i will explain below.

> Choose an arbitrary point on the line and observe the voltage. The
> observed voltage will be a function of time. Let us call it V(t).
> At the same point on the line, observe the current and call it I(t).
>

if you can choose an arbitrary point, i can choose an arbitrary
time... call it a VERY long time after the load is disconnected.

> The energy flowing (i.e. power) at this point on the line will
> be P(t)=V(t)I(t). If the voltage is measured in volts and the current
> in amps, then the power will be in joules/s or watts.
> We can also compute the average energy flow (power) over some
> interval by integrating P(t) over the interval and dividing by
> the length of the interval. Call this Pavg. For repetitive
> signals it is convenient to use one period as the interval.
>
> Note that V(t) and I(t) are arbitrary functions. The analysis
> applies regardless of whether V(t) is DC, a sinusoid, a step,
> a pulse, etc.; any arbitrary function.
>
> To provide some examples, consider the following simple setup:
> 1) 50 ohm, Thevenin equivalent circuit provides 100 V in to an

>   open circuit.

this is the case we were discussing... the others are irrelevant at
this point

> 2) The generator is connected to a length of 50 ohm ideal
>   transmission line. We will stick with ideal lines for the
>   moment, because, until ideal lines are understood, there
>   is no hope of understanding more complex models.
> 3) The ideal line is terminated in a 50 ohm resistor.
>
> Set the generator to DC:
>   V(t)=50V, wherever it is measured on the line
>   I(t)=1A, wherever it is measured on the line
>   P(t)=50W, wherever it is measured on the line
>   Pavg=50W
> No disagreement, I hope.

only if this is a case WITH a load... this is not what we were
discussing above.

>
> Set the generator to generate a sinusoid:
>   V(t)=50sin(wt)
>   I(t)=1sin(wt)
>   P(t)=25+25sin(2wt)
>   Pavg=25W
> describes the observations at any point on the line.
> Measurements at different points will have a different
> phase relationship to each due to the delay in the line.
> Note carefully the power function. The power at any point
> on the line varies from 0 to 50W with a sinusoidal
> pattern at twice the frequency of the voltage sinusoid.
> The power is always positive; that is, energy is always
> flowing towards the load.
>
> Now let us remove the terminating resistor. The line is
> now open circuit.

OK, now we are back to where i had objections above.

>
> Again, set the generator to DC. After one round trip
> time, the observations at any point on the line will
> be:
>   V(t)=100V
>   I(t)=0A
>   P(t)=0W
>   Pavg=0W
>

ok, p(t)=0w, i=0a, i connect my directional wattmeter at some very
long time after the load is disconnected so the transients can be
ignored and i measure 0w forever. there is no power flowing in the
line.

> The story for a sinusoid is more interesting...
> The observations now depend on the location on the
> line where the measurements are performed.
> At a current 0:
>   V(t)=100sin(Wt)
>   I(t)=0A
>   P(t)=0W
>   Pavg=0W
> At a voltage 0:
>   V(t)=0V
>   I(t)=2sin(wt)
>   P(t)=0W
>   Pavg=0W
> Halfway between the current 0 at the load and the
> preceding voltage 0 (that is, 45 degrees back
> from the load:
>   V(t)=70.7sin(wt)
>   I(t)=1.414cos(wt)
>   P(t)=50sin(2wt)
>   Pavg=0W
> This tells us that for the first quarter cycle of the
> voltage (V(t)), energy is flowing towards the load,
> with a peak of 50W, for the next quarter cycle, energy
> flows towards the source (peak −50W), and so on, for
> an average of 0, as expected.
>
> For a sinusoid, when the load is other than an open
> or a short, energy flows forward for a greater
> period than it flows backwards which results in a
> net transfer of energy towards the load.
>
> At the location of current or voltage minima on
> the line, energy flow is either 0 or flows towards the
> load.
>
> All of the above was described without reference to forward
> or reflected voltages, currents or power. It is the basic
> circuit theory description of what happens between two
> networks. It works for DC, 60 HZ, RF, sinusoids, steps,
> pulses, you name it. If there is any disagreement with the
> above, please do not read further until it is resolved.

so you have derived voltages and currents at a couple of special
locations where superposition causes maximum or minimum voltages or
currents... this of course ONLY works after sinusoidal steady state
has been achieved, so your cases of connecting and disconnecting the
load must be thrown out. and how do you find a maximum or minimum

when the load is matched to the line impedance? standing waves are
always a trap... step back from the light and come back to the truth
and learn how to properly account for forward and reflected waves with
voltages or currents and all will be revealed.

>
> Now it is time to introduce forward and reflected waves to
> the discussion. Forward an reflected waves are simply a
> mathematical transformation of V(t) and I(t) to another
> representation which can make solving problems simpler.
>
> The transformation begins with assuming that there is
> a forward wave defined by Vf(t)=If(t)*Z0, a reflected
> wave defined by Vr(t)=Ir(t)*Z0 and that at any point
> on the line V(t)=Vf(t)+Vr(t) and I(t)=If(t)-Ir(t).
>
> Since we are considering an ideal line, Z0 simplifies
> to R0.
>
> Simple algebra yields:
>   Vf(t)=(V(t)+R0*I(t))/2
>   Vr(t)=(V(t)-R0*I(t))/2
>   If(t)=Vf(t)/R0
>   Ir(t)=Vr(t)/R0
>
> Now these algebraically transformed expressions have all
> the capabilities of the original so they work for DC,
> 60 HZ, RF, sinusoids, steps, pulses, you name it.

hmmm, they work for all waveforms you say... even dc?? ok, open
circuit load, z0=50, dc source of 100v with 50ohm thevenin
resistance...

If(t) = 100/50 = 2a
Ir(t) = 100/50 = 2a

so there is a reflected 2a current you say? where does that go when
it gets back to the source? we know that when the 100v source is open
circuited as it must be in this case that it develops 100v across its
terminals... sure doesn't seem like any way that 2a can go back into
the source. it can't be reflected since the source impedance matches
the line impedance. so where does it go? maybe those simple
algebraic expressions have to be reconsidered a bit.

well, maybe i missed something... lets look at the voltages:

Vf(t)=(100+50*2)/2 = 100
Vr(t)=(100-50*2)/2 = 0

hmm, you do seem to get the right constant voltage... but it kind of
messes up your power flow since Vr=0 there can be no power in that
reflected wave, so it really doesn't make it much of a wave.

but wait, the equations must be consistent so

Ir(t)=0/50

So there really is no reflected current... but there is forward
current? so where does that forward current go if there is no load?
it doesn't reflect back if Ir=0... does it just build up at the open
end? going to be lots of trons sitting there after a while.

>
> Some people look at the expression If(t)=Vf(t)/R0 and
> think it looks a lot like a travelling wave so they decide
> to compute the energy being moved by this wave:
>   Pf(t)=Vf(t)*Vf(t)/R0
>   Pr(t)=Vr(t)*Vr(t)/R0
>
> So let us explore the results when applied to the DC examples from
> above.
>
> Terminated with 50 ohms:
>   Vf(t)=50V
>   If(t)=1A
>   Vr(t)=0V
>   Ir(t)=0A
>
>   Pf(t)=50W
>   Pr(t)=0W
>
> This all looks good, no reflected wave and the appropriate
> amount of energy is being transported in the forward wave.
>
> Let us try the open ended line:
>   Vf(t)=50V
>   If(t)=1A
>   Vr(t)=50V
>   Ir(t)=1A
>
> which yield
>   V(t)=Vf(t)+Vr(t)=100V
>   I(t)=If(t)-Ir(t)=0A
>
> which is in agreement with the observations. But there is
> definitely a forward voltage wave and a reflected voltage
> wave. Carrying on to compute powers:

sorry, you can't have a 'voltage wave' without a 'current wave'...
just doesn't work i'm afraid. to have one you must have the other.

>   Pf(t)=50W
>   Pr(t)=50W
> and
>   P(t)=Pf(t)-Pr(t)=0W
>

> So there you have it. The interpretation that the forward
> and reflected wave are real and transport energy leads to
> the conclusion that on a line charged to a constant DC
> voltage, energy is flowing in the forward direction and
> energy is flowing in the reflected direction.

obviously incorrect, by reductio ad absurdum if i remember the latin
correctly.

>
> Because it is obvious that there is no energy flowing on
> the line, this interpretation makes me quite uncomfortable.
>
> Now there are several ways out of this dilemma.
>
> Some say they are only interested in RF (and optics), and
> that nothing can be learned from DC, steps, pulses or other
> functions. They simply ignore the data and continue with
> their beliefs.
>
> Some claim that DC is special, but looking at the equations,
> there is no reason to expect the analysis to collapse with
> DC.
>
> The best choice is to give up on the interpretation that the
> forward and reflected voltage waves necessarily transport
> energy. Consider them to be a figment of the analysis technique;
> very convenient, but not necessarily representing anything real.
>
> As an added bonus, giving up on this interpretation will remove
> the need to search for “where the reflected power goes” and
> free the mind for investment in activities that might yield
> meaningful results.
>
> ...Keith

2493. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 00:12:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q2hd16p1jtu9rvt0ct4satuj9dtqfspf2j@4ax.com>
Source record: 8993

On Mon, 14 Jun 2010 11:56:43 -0700 (PDT), K7ITM <k7itm@msn.com> wrote:

>Measuring a Kenwood TS520S, set up for about 70 watts output, ALC
>disabled, operating as a linear amplifier somewhat (about 30 watts)
>below its maximum output: result is 56+j16 ohms at the output UHF
>connector on the TS520S.

Comparing to my table of results for my own TS430S, with similar
initical conditions, that is well within the range of measurements I
have taken.

73's
Richard Clark, KB7QHC

2494. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 00:27:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4ehd16l35reug6uf5k1k65nmd2hk2defiv@4ax.com>
Source record: 8994

On Mon, 14 Jun 2010 12:32:02 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>Before I am going to spend lots into time this, some points:
>
>1. Do you accept the "measuring" method with injecting a signal with
>slight frequency difference as mentioned in the document?

Hi Wim,

I got only a hint of what you were trying to do because it was buried
in so much conflicting agendas.

However, my first impression was that it looked worth discussing. My
second impression was that it was not needed. Still, that is worth
discussing too.

>2. Do you accept the way of presentation (envelope change versus time
>and converted to output VSWR as used in the document)?

I hadn't the slightest idea what that was all about. Like I said, too
many things going on. From your email, it sounds like too much
complexity to accomplish what was done with meter indications.

For others, this might be found in the section called "Output Tuning"
in:
"Fine Tuning FM Final Stages," by Mendenhall (google for a link or
email me for a copy).

>3. Do you accept B^2 spice A/D professional, version for as suitable
>platform?

I have no problem with what you are comfortable with. I am sure a
suitable simulation will evolve.

>If we cannot agree on this, it is of no use to continue.
>
>I limit the simulation to low HF frequencies as based on a circuit
>diagram alone we cannot guess the parasitics for high HF/VHF use and
>this may be food for more discussion. Please also mention what
>components you want into the simulation as simulating a full TS830
>will take to long.
>
>All relevant info will be made available to the group, inclusive
>original circuit diagrams and the diagrams I used for simulation. I
>hope that I can get a suitable simulation model for the tubes.
>

>Regarding circuit diagrams, can you reduce the color depth (gray scale
>or B/W) and convert them to PNG as this is non-lossy coding.
>
>I am looking forward to the results.

We will resolve the details offline. I would encourage you to save effort (we both have things to do) by doing a "quick and dirty" first pass just to see how little we may have left to do (it could be that simple). There is more to read than there is to simulate.

For others, the material I have linked Wim to probably tips the download scale at 50MB. 44 MB is one document alone that others here might find useful:
"EIMAC Care and Feeding of Power Grid Tubes" 44MB at:
http://www.g8wrb.org/data/Eimac/care_and_feeding_of_power_grid_tubes.pdf

It will brush away the cobwebs.

73's
Richard Clark, KB7QHC

2495. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 01:40:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9876B59EA9nonenowhere@61.9.191.5>
Source record: 8995

Richard Clark <kb7qhc@comcast.net> wrote in
news:q2hd16p1jtu9rvt0ct4satuj9dtqfspf2j@4ax.com:

> Comparing to my table of results for my own TS430S, with similar
> initical conditions, that is well within the range of measurements I
> have taken.

After all the goading about toleranced figures and "vacant adjectives",
this is what you contibute. I dismiss all of your previous comment as a
windup.

Owen

2496. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 02:00:47 UTC
From: walt <walt@w2du.com>
Message-ID: <e7652ddb-eaf3-4fbb-b93c-1681fc10b67d@u7g2000yqm.googlegroups.com>
Source record: 8996

On Jun 14, 2:56 pm, K7ITM <k7...@msn.com> wrote:
> On Jun 13, 11:42 pm, Owen Duffy <n...@no.where> wrote:
>
>
>
> > Owen Duffy <n...@no.where> wrote innews:Xns9D979170BB314nonenowhere@61.9.191.5:
>
> > ...
>
> > > In the measurements of an IC7000 that I made, the measured output
> > > power on one VSWR(50)=1.5 load was 82.5W when it would have been
> > > 104.6W had the source been 50+j0, an error of 0.8dB. I opined that
> > > this test did not support the proposition that Zs was not 50+j0
>
> > Too many "nots", isn't there?
>
> > It should read:
>
> > I opined that this test did not support the proposition that Zs was 50+j0.
>
> > Apologies, Owen.
>
> I suppose this will be buried where nobody will read it...
>
> I realized that with the nice instrument-grade directional couplers
> that came with a new 100W RF power amplifier, and with the other
> equipment on my bench, I can measure RF amplifier/transmitter source
> impedance relatively easily and with good accuracy. I strongly
> suspect the accuracy will be limited first by how well the setup of
> the transmitter/amplifier can be duplicated, and not by the
> measurement instruments.
>
> I won't go through the whole test setup, but just say that
> substituting an open or short for the connection to the transmitter
> yields the expected amplitude return signal, and terminating the line
> in a precision 50 ohm calibration standard yields a 47dB return loss,
> for the frequency I was measuring (nominally 7MHz, for this first
> measurement). The measurement involves sending a signal offset from
> the nominal transmitter frequency by a few Hertz at about -20dBm
> toward the transmitter, and looking at what comes back.
>
> Measuring a Kenwood TS520S, set up for about 70 watts output, ALC
> disabled, operating as a linear amplifier somewhat (about 30 watts)
> below its maximum output: result is 56+j16 ohms at the output UHF

> connector on the TS520S. That's about 1.4:1 SWR, and at some point
> along a lossless line, that's equivalent to about 70+j0 ohms: not
> terribly close to 50 ohms. I'm not going to bother with a detailed
> error analysis presentation, but I'm confident that the amplitude of
> the return loss is accurate within 0.1dB, and the phase angle within
> 10 degrees, to better than 99% probability.
>
> I may make some more measurements with different amplifier setups and
> at different frequencies, but for now, that's it...
>
> Cheers,
> Tom

Tom, you stated earlier that you measured the source impedance of a TS520S transceiver by inserting a somewhat off-resonance signal into the output terminals when the rig was delivering 70 watts, and the source impedance was measured as 56+j16 ohms. However, you chose not to describe the setup or the procedure for obtaining this data.

I'm hungering to learn of the setup and procedure you used, because I'd like to know what reflection mechanism gave a return signal that could be discriminated from the 70w output signal from the transceiver.

In his Nov 1991 QST article Warren Bruene, W5OLY, used what I believe is a similar procedure, in which he claims he measured the Rs that he called the 'source impedance' of the RF amp. He used his measurements in asserting that because his Rs didn't equal RL there could be no conjugate match when the source is an RF power amp. I have never believed his procedure and measurements were valid, and I still don't. So if your setup in any way resembles what Bruene presented in his QST article I would like to know how you can justify a procedure that involves inserting an off-set frequency signal rearward into an operating RF power amp to determine the source impedance.

Walt, W2DU

2497. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 03:26:33 UTC
From: John KD5YI <mycalldotjocjodotjocjo@xoxy.net>
Message-ID: <hv6rta$1u1$1@speranza.aioe.org>
Source record: 8997

On 6/14/2010 10:50 AM, walt wrote:
> On Jun 14, 11:00 am, John KD5YI<mycalldotjocjodotjo...@xoxy.net>
> wrote:
>> On 6/12/2010 7:57 AM, David wrote:
>>
>>
>>
>>> Antenna is a quarterwave vertical with quarterwave radials.
>>
>>> There is a difference in operation between transmit and receive modes.
>>
>>> In receive mode, an incident plane wave is exciting the radials. The
>>> induced currents are a function of angle around the antenna. A system of
>>> radials imperfectly reflects the incident wave, and the reflected wave is
>>> hard to calculate.
>>
>>> In transmit mode, the antenna base is driven by the source. The currents
>>> in the radial system are symmetrical around the antenna, NOT a function of
>>> angle, so they produce no net radiation, but do affect the input impedance.
>>
>>> In receive mode, the current induced in each radial is related to the
>>> direction of the incoming wave. For example, radials closest to the incoming
>>> wave experience the strongest field.
>>
>>> Does the radiation pattern override the direction of the incoming wave? The
>>> radiation pattern is omnidirectional or circular.
>>
>>> I suspect that the radiation pattern takes the incoming wave and spreads it
>>> evenly around the antenna, forming an electromagnetic field that is the same
>>> as the radiation pattern.
>>
>>> Even if parts of the antenna experience the strongest field due to the
>>> direction of the incoming wave, the radiation pattern means that the field
>>> is symmetrical. Is this correct?
>>
>>> A uniform radiation pattern means that the electromagnetic field is spread
>>> evenly around the antenna irrespective of which direction the wave is being
>>> received. Is this true?
>>
>> You would do well to download EZNEC and give your ideas a try. You will
>> find that the best directivity comes with only one radial. There is
>> about 4dB difference between the side and front(or back) of the *total*
>> radiation pattern. However, you will see that this directivity comes at
>> the expense of increasing the horizontal polarization and decreasing the

>> vertical polarization. This might be okay, depending on your
>> circumstances. That's why I suggest you use EZNEC -- only you know what
>> is acceptable for your case.
>>
>> Good luck.
>>
>> John
>
> John, are you using EZNEC to model radials in the ground or above-
> ground? If you're modeling in-ground radials then you must be using
> EZNEC incorrectly t o obtain directivity other than omni-directonal,
> because the directivity of any vertical radiator is equal in every
> direction, regardless of the number of radials, zero or an infinite
> number. In other words the radiator is omni-directional. On the other
> hand, if you're modeling an above-ground radiator with only one
> radial, then of course the radiation will include both vertical and
> horizontal components, which result in a polarization angle other than
> either vertical or horizontal and will likely have radiation that is
> not omni-directional.
>
> Walt, W2DU

Hi, Walt -

Above ground about 2 wavelengths and, yes, the vertical component is omnidirectional. It is the horizontal component that gives some directivity as you said. I think I used the wrong phrase above. I said, "increasing the horizontal polarization" when I probably should have said "increasing the horizontally-polarized field". Ditto for the vertically-polarized field.

If I still have it phrased wrong, please help. This is the sort of thing that happens when you turn an old fart loose with a simulator.

John, KD5YI

2498. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 03:49:43 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <bfe38f42-305f-4ee2-a344-932cc613d902@42g2000prb.googlegroups.com>
Source record: 8998

On Jun 14, 7:00 pm, walt <w...@w2du.com> wrote:
> On Jun 14, 2:56 pm, K7ITM <k7...@msn.com> wrote:
>
>
>
> > On Jun 13, 11:42 pm, Owen Duffy <n...@no.where> wrote:
>
> > > Owen Duffy <n...@no.where> wrote innews:Xns9D979170BB314nonenowhere@61.9.191.5:
>
> > > ...
>
> > > > In the measurements of an IC7000 that I made, the measured output
> > > > power on one VSWR(50)=1.5 load was 82.5W when it would have been
> > > > 104.6W had the source been 50+j0, an error of 0.8dB. I opined that
> > > > this test did not support the proposition that Zs was not 50+j0
>
> > > Too many "nots", isn't there?
>
> > > It should read:
>
> > > I opined that this test did not support the proposition that Zs was 50+j0.
>
> > > Apologies, Owen.
>
> > I suppose this will be buried where nobody will read it...
>
> > I realized that with the nice instrument-grade directional couplers
> > that came with a new 100W RF power amplifier, and with the other
> > equipment on my bench, I can measure RF amplifier/transmitter source
> > impedance relatively easily and with good accuracy. I strongly
> > suspect the accuracy will be limited first by how well the setup of
> > the transmitter/amplifier can be duplicated, and not by the
> > measurement instruments.
>
> > I won't go through the whole test setup, but just say that
> > substituting an open or short for the connection to the transmitter
> > yields the expected amplitude return signal, and terminating the line
> > in a precision 50 ohm calibration standard yields a 47dB return loss,
> > for the frequency I was measuring (nominally 7MHz, for this first
> > measurement). The measurement involves sending a signal offset from
> > the nominal transmitter frequency by a few Hertz at about -20dBm
> > toward the transmitter, and looking at what comes back.
>
> > Measuring a Kenwood TS520S, set up for about 70 watts output, ALC

> > disabled, operating as a linear amplifier somewhat (about 30 watts)
> > below its maximum output: result is 56+j16 ohms at the output UHF
> > connector on the TS520S. That's about 1.4:1 SWR, and at some point
> > along a lossless line, that's equivalent to about 70+j0 ohms: not
> > terribly close to 50 ohms. I'm not going to bother with a detailed
> > error analysis presentation, but I'm confident that the amplitude of
> > the return loss is accurate within 0.1dB, and the phase angle within
> > 10 degrees, to better than 99% probability.
>
> > I may make some more measurements with different amplifier setups and
> > at different frequencies, but for now, that's it...
>
> > Cheers,
> > Tom
>
> Tom, you stated earlier that you measured the source impedance of a
> TS520S transceiver by inserting a somewhat off-resonance signal into
> the output terminals when the rig was delivering 70 watts, and the
> source impedance was measured as 56+j16 ohms. However, you chose not
> to describe the setup or the procedure for obtaining this data.
>
> I'm hungering to learn of the setup and procedure you used, because
> I'd like to know what reflection mechanism gave a return signal that
> could be discriminated from the 70w output signal from the
> transceiver.
>
> In his Nov 1991 QST article Warren Bruene, W5OLY, used what I believe
> is a similar procedure, in which he claims he measured the Rs that he
> called the 'source impedance' of the RF amp. He used his measurements
> in asserting that because his Rs didn't equal RL there could be no
> conjugate match when the source is an RF power amp. I have never
> believed his procedure and measurements were valid, and I still don't.
> So if your setup in any way resembles what Bruene presented in his QST
> article I would like to know how you can justify a procedure that
> involves inserting an off-set frequency signal rearward into an
> operating RF power amp to determine the source impedance.
>
> Walt, W2DU

OK...

So let's consider making a load-pull measurement of source impedance.
Since we're trying to resolve both resistance and reactance, we need
to change the load in at least two directions that have a degree of
orthogonality. But we could also change the load over a range of
values. For example, we could connect a 51+j0 load directly to the
output port we're trying to measure, and then connect it through
varying lengths of 50.0 ohm lossless coax. 45 electrical degrees of
line would shift the phase of the 51 ohm load so it looks instead like
49.99-j0.99 ohms. 90 electrical degrees shifts the 51 ohm load to
49.02+j0 ohms, and so forth. Measurements of the varying amplitude

output with those loads will give us enough information to resolve the source resistance and reactance and open-circuit voltage.

For a 51 ohm load on a 50 ohm line, the reflection coefficient magnitude is 1/100, so if the transmitter is putting out 100Vrms forward, the reverse is 1Vrms.

Now consider a method to change the line length that doesn't use individual sections that have to be patched in and out, but rather uses a "trombone" section that, in theory anyway, could range from zero length to essentially infinite length. Picture that trombone section getting longer at a fixed rate, so now the load is rotating around a circle on the linear reflection coefficient plane (which is, by the way, exactly the same plane the Smith chart is plotted on); the circle is centered at zero and is a constant 1/100 amplitude, with linearly varying phase. So the 1Vrms reverse wave on the line of the 100Vrms forward example arrives back at the amplifier at continuously varying phase. Imagine that the phase shift is 360 degrees in 1/100 of a second. Now note that the reverse wave corresponds _exactly_ to a wave offset in frequency from the forward wave by 100Hz. If the line is continuously lengthening, the offset is negative; if the line is shortening instead, the offset is positive.

Now, from the point of view of the amplifier, can that scenario be distinguished from one in which I have a perfect 50 ohm load that absorbs all the transmitter's output, and a method to introduce a "reverse" 1.00Vrms wave into the line at a frequency that's offset from the transmitter's output by 100Hz?

If you believe that the amplifier can distinguish between those two scenarios, I fear we have nothing more to discuss.

Cheers,
Tom

2499. DSQ shoes made in china (http://www.cntrade09.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 06:06:46 UTC
From: cntrade08 <chenlily85@hotmail.com>
Message-ID: <cf02aa46-ce39-4cb0-ab40-975ef0bad30d@t26g2000prt.googlegroups.com>
Source record: 8999
Cross-posted to: rec.radio.amateur.antenna,rec.travel.usa-canada

puma shoes made in china (http://www.cntrade09.com)
bape shoes made in china (http://www.cntrade09.com)
Gucci shoes made in china (http://www.cntrade09.com)
Lacoste shoes made in china (http://www.cntrade09.com)
LV shoes made in china (http://www.cntrade09.com)
Timberland shoes made in china (http://www.cntrade09.com)
Evisu shoes made in china (http://www.cntrade09.com)
D&G shoes made in china (http://www.cntrade09.com)
nike running made in china (http://www.cntrade09.com)
prada shoes made in china (http://www.cntrade09.com)
DSQ shoes made in china (http://www.cntrade09.com)
nike football shoes made in china (http://www.cntrade09.com)
nike DUNK shoes made in china (http://www.cntrade09.com)
Rift shoes made in china (http://www.cntrade09.com)
NBA basketball shoes made in china (http://www.cntrade09.com)
adidas running made in china (http://www.cntrade09.com)
adidas NBA shoes made in china (http://www.cntrade09.com)
adidas 35th anniversary shoes made in china (http://
www.cntrade09.com)
adicolor shoes made in china (http://www.cntrade09.com)
adidas football shoes made in china (http://www.cntrade09.com)
GGG hoody made in china (http://www.cntrade09.com)
GGG T-shirt made in china (http://www.cntrade09.com)

2500. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 06:08:14 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <29543fe1-2070-435f-82b6-b2cb18e0d3fd@c33g2000yqm.googlegroups.com>
Source record: 9000

On 14 jun, 06:01, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:f787eb32-a094-457f-9a11-0733d84f8df9@a30g2000yqn.googlegroups.com:
>
> ...
>
> > For example: do you (*) recognize Roy Lewallen late example in "Food
> > for tought" assuming (or conceding that) as not representing a real
> > rig but a simple constant voltage source in series with a resistor, at
> > least? to give some credit to his ideas Until now, I could not
> > know...
>
> In that article, Roy says "My commercial amateur HF transceiver is
> probably typical of modern rigs in that it produces a constant forward
> average power into varying load impedances provided the impedance isn t
> extreme enough to cause the rig to severely cut back its power output."
>
> Assuming that "constant forward average power" means 'as would be
> indicated on a directional wattmeter calibrated for Z=50+j0', if that is
> true for all load impedances that Pf is constant (within limits), then it
> is evidence that Zs=50+j0 (within those limits).
>
> He goes on to say "It turns out that a linear model of my transmitter
> (without a transmatch) over its non-shutdown range is very simple it s
> just a voltage source in series with a resistance." Subject to the
> conditions I stated in the previous paragraph, that is correct, but that
> whilst that model can be used to determine behaviour of the external
> load, there are limits to the inferences that can be drawn about the
> internals of the transmitter, including as mentioned in earlier posts,
> internal dissipation and efficiency. Roy acknowledges that in the next
> paragraph. Only a mischief maker would represent Roy as meaning
> otherwise.
>
> From my own experience, I don't agree that HF ham rigs typically produce
> constant Pf into varying loads. Walt's transmitter measurements that we
> are discussing do not show constant Pf, though the change is fairly
> small. But this is a practical measurement project for yourself, don't be
> put off by the attempts to discredit measurements with anything but
> traceable calibration.
>
> > (*) I do not know how clearly denote plural in "do you"
>
> I am not the expert that others are on English language, and we speak a
> version of English closer to the English here... but "you" is plural and

> singular (but if followed by a verb, it is treated as plural eg "you are
> correct"), and you could say to a group "do you agree", though some
> people may say "do you all agree" or "do y'all agree", though those might
> be seen as asking each member of the group rather than collectively.
>
> Owen

Thanks Owen. I believe I quite understand your kind explanation and
reasons, but I am not sure if I can ask my question well enough
indeed!. I beg your patient.
I am not interested yet to make questions about real rigs, but reduce
at first only one specific problem at the most simple theorical model
I can think: an ideal constant voltage source in series with an ideal
resistence loaded at first with simple resistive loads connected
directly and late via ideal lossless TL of differents simple
wavelenghts 1/2, 1/4, 1/8 (I have formed idea about this, but I am not
interested in my concept but your concept about it).
For example, I want to know if you (all) would predict identical Rs
and Rl dissipation in that reduced and theorical context with direct
and remotely connected loads (vinculated via TL).

To this point K1TTT -seem to me- tell me you all would agree to settle
the problem with Telegrapher's equations to obtain TL input Z and then
apply simple circuit theory solution to calculate Rs-Rl dissipation
(before begin Thevenin misleading issue).
I do not want to advance more from here for fear to complicate the
question with my translation.

Thanks again.
Miguel - LU6ETJ

2501. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 06:30:21 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <442a74d5-35c7-4123-b5e3-34a4eecb8132@5g2000yqz.googlegroups.com>
Source record: 8901

On 12 jun, 10:10, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 11, 11:24 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > As a courtesy to me, a foreigner tourist ham, would you mind stop for
> > a brief moment your more general differences and tell me if you agree
> > on the behavior of a Thevenin generator with a series resistance of 50
> > ohms in relation to changes in impedance of a lossless TL predicted by
> > the Telegrapher's equations solutions in terms of the power dissipated
> > on the load resistance and series resistence of Thevenin source?
> > I am pretty serious about this: until today I could not know if you
> > agree in that!! :>)
>
> Miguel, I don't think there is much disagreement about things that are
> easily measured, like voltage and current. One solution to the
> telegrapher's equations involves forward and reflected waves of
> voltage and current. The conventional way of handling power (energy/
> unit-time) is to use the voltages and currents to calculate the power
> at certain points of interest. The telegrapher's equations do not tell
> us *why* the power is what it is and the energy is where it is. To
> obtain the why, one must study the behavior of electromagnetic waves.
> How does the energy in electromagnetic waves behave? The telegrapher's
> equations and Thevenin source do not answer that question.
>
> For instance: Most readers here seem to think that the only phenomenon
> that can cause a reversal of direction of energy flow in a
> transmission line is a simple EM wave reflection based on the
> reflection model. When they cannot explain what is happening using
> that model, they throw up their hands and utter crap like, "Reflected
> wave energy doesn't slosh back and forth between the load and the
> source". But not only does it "slosh back and forth", it sloshes back
> and forth at the speed of light in the medium because nothing else is
> possible.
>
> These are the people who have allowed their math models to become
> their religion. They will not change their minds even when accepted
> technical facts are presented. One response was, "Gobblydegook". (sic)
>
> There is another phenomenon, besides a simple reflection, that causes
> reflected energy to be redistributed back toward the load and that is
> wave cancellation involving two wavefronts. If the two wavefronts are
> equal in magnitude and opposite in phase, total wave cancellation is
> the result which, in a transmission line, redistributes the wave
> energy in the only other direction possible which is, surprise, the
> opposite direction. This is a well known, well understood,

> mathematically predictable phenomenon that happens all the time in the
> field of optics, e.g. at the surface of non-reflective glass. It also
> happens all the time in RF transmission lines when a Z0-match is
> achieved.
>
> Using the s-parameter equations (phasor math) at a Z0-match point in a
> transmission line:
>
> b1 = s11*a1 + s12*a2 = 0 = reflected voltage toward the source
> Square this equation to get the reflected power toward the source.
>
> These are the two wavefronts that undergo total wave cancellation,
> i.e. total destructive interference.
>
> b2 = s21*a1 + s22*a2 = forward voltage toward the load
> s22*a2 is the re-reflection. Square this equation to get the forward
> power toward the load.
>
> If one squares both of those equations, one can observe the
> interference terms which indicate why and where the energy goes. All
> of the energy in s11*a1 and s12*a2 reverses direction at the Z0-match
> and flows back toward the load. All the things that Roy is confused
> about in his food-for-thought article on forward and reflected power
> are easily explained by the power density equation (or by squaring the
> s-parameter equations).
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)
> --
> 73, Cecil, w5dxp.com

Sorry and thanks Cecil I do not see this kind answer (I still using
normal Google groups reader and loss tracking of your message).
Tomorrow I will analize it with care, now is late here but I do not
want delay my aknowledge.

Miguel

2502. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 06:32:13 UTC
From: "Sal M. O'Nella" <salmonella@foodpoisoning.org>
Message-ID: <G7FRn.37209$7d5.37075@newsfe17.iad>
Source record: 8902

"Gaius" <bin@127.0.0.1> wrote in message
news:MPG.268027f83e40d2cb989699@news.zen.co.uk...
> In article <hv3gt4ddm1@news.eternal-september.org>, bbaka@comcast.net
Cables can pull out,
> given a bit of a tug. I use solder/clamped connectors and always solder
> the braid to the clamping sleeve. Never had a failure.....
>

After I got out of the Navy, I worked as a Marine Electrician, installing
equipment on Navy ships. My foreman told me that it is rarely done, but the
Navy can perform a Quality Assurance "pull test" of 25 lbs on a connector.
I think that's a lot of pull for a connector to withstand.

2503. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 06:39:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dm6e16pgdhjoeg8slavgtbgnoagu707imi@4ax.com>
Source record: 8903

On Tue, 15 Jun 2010 01:40:16 GMT, Owen Duffy <none@no.where> wrote:

>Richard Clark <kb7qhc@comcast.net> wrote in
>news:q2hd16p1jtu9rvt0ct4satuj9dtqfspf2j@4ax.com:
>
>
>> Comparing to my table of results for my own TS430S, with similar
>> initical conditions, that is well within the range of measurements I
>> have taken.
>
>After all the goading about toleranced figures and "vacant adjectives",
>this is what you contibute.

C'mon Owen,

I have posted my results several times before. I don't think either
of us expected they made a ripple of notice then, but now this one
does when it is confirmed at another bench? I'm flattered.

>I dismiss all of your previous comment as a windup.

Golly.

73's
Richard Clark, KB7QHC

2504. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 06:42:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D98A9FD499A4nonenowhere@61.9.191.5>
Source record: 8904

lu6etj <lu6etj@gmail.com> wrote in
news:29543fe1-2070-435f-82b6-b2cb18e0d3fd@c33g2000yqm.googlegroups.com:

...
> I am not interested yet to make questions about real rigs, but reduce
> at first only one specific problem at the most simple theorical model
> I can think: an ideal constant voltage source in series with an ideal
> resistence loaded at first with simple resistive loads connected
> directly and late via ideal lossless TL of differents simple
> wavelenghts 1/2, 1/4, 1/8 (I have formed idea about this, but I am not
> interested in my concept but your concept about it).
> For example, I want to know if you (all) would predict identical Rs
> and Rl dissipation in that reduced and theorical context with direct
> and remotely connected loads (vinculated via TL).
>
> To this point K1TTT -seem to me- tell me you all would agree to settle
> the problem with Telegrapher's equations to obtain TL input Z and then
> apply simple circuit theory solution to calculate Rs-Rl dissipation
> (before begin Thevenin misleading issue).
> I do not want to advance more from here for fear to complicate the
> question with my translation.

Yes, if you are looking for a steady state solution, that is a valid
solution, and almost the easiest solution.

If you are using lossless lines, then the solution can be simpler than the
Telegrapher's Equation which uses hyperbolic trig functions. Simple trig
functions suffice if the line is lossless... but of course, the hyperbolic
functions will also work.

The reason I said "almost the easiest solution" above is that a trig based
simplification of the Telegrapher's Equation is simpler than the hyperbolic
Telegrapher's equation.

Implicit in this is that for the steady state, it doesn't matter how an
external network dictates V/I (Z) at the source/load terminals, whether or
not transmission lines are involved, or their length, the power delivered
by the source to its immediate load is determined by Veq, Zeq of the
source, and Zl of the load.

If an experiment indicates othewise, the experiment is flawed (eg something
is wrong with the assumed values for circuit components, measurement error
etc).

Taking Walt's example, he connected three 50 ohms loads in parallel, then
attached a nominal 50 ohm line of 13.5° electrical length. If you use TLLC

(http://www.vk1od.net/calc/tl/tllc.php) to solve this problem at 4MHz using RG213 (though I don't know what he used), Zin is 17.78+j10.58. A lossless solution will have very slightly lower R. Walt measured 17.98 + j8.77 which suggests that the load at the end of the 50 ohm line was not exactly 16.6667+j0, or the line a little shorter, Zo off spec etc.

Whilst the above focuses on steady state analysis, understand that steady state analysis is not appropriate for some types of transmitters, but for systems where the transmission line propagation delay is small compared the the highest modulating frequency, steady state analysis should be adequate.

Owen

2505. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 07:16:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4i8e16ph2jma1hqed3dju8rudc26kntlg4@4ax.com>
Source record: 8905

On Mon, 14 Jun 2010 19:00:47 -0700 (PDT), walt <walt@w2du.com> wrote:

>I'm hungering to learn of the setup and procedure you used, because
>I'd like to know what reflection mechanism gave a return signal that
>could be discriminated from the 70w output signal from the
>transceiver.

Hi Walt,

For every hundred pundits there is at least one bench worker that is more productive than them all. Of course I am being facetious, it is probably closer to a thousand.

In the SARL Forums at:
http://www.sarl.org.za
search for the 19/04/2009 posting by ZS6BIM with the thread name:
Measuring the Output Impedance of a 100W Class AB HF Linear Amplifier
Plenty of data and charted and screen shots of O'scopes.

A very intriguing use of directional couplers (much as I would expect Tom to have done). It seems to me I've directed you to similar work (the rat-race-like method seems familiar to our email discussion some dozen years ago).

The writer had the cojones to use his vector voltmeter at the transmitter's antenna terminal. Back in 1997 I used my GR bridge to look down the throat of the fire breathing dragon (TS430S) while it was asleep and got similar results:
10 MHz 74 Ohms
14 MHz 74 Ohms
18 MHz 60 Ohms
21 MHz 37 Ohms
25 MHz 35 Ohms
28 MHz 48 Ohms
29 MHz 70 Ohms

73's
Richard Clark, KB7QHC

2506. 33e RADIO FLEA MARKET in BEETSTERZWAAG on 28 May 2011

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 07:27:35 UTC
From: PA3ESF <pa3esf@gmail.com>
Message-ID: <61e5bd65-480b-4d6c-bf33-5517b76bebe8@c10g2000yqi.googlegroups.com>
Source record: 8906

33e RADIO FLEA MARKET in BEETSTERZWAAG on 28 May 2011

The radio flea market takes place to - 28 May 2011. Do you look for an exotic transistor kit or a super recipient, fixed and do manufacture kit...
or do meet of radio friends? Dan comes Saturday 30 May to the Friese radio market into Beetsterzwaag!

Many thousand visitors come each year from the entire Netherlands and Europe to this radio flea market spectacle, approx. 100 dealers, with most diverse articles, like transmitters, recievers, power supplies, antennas, software, hardware and literature.

Additionally of businessmen in the place also a flea market with many attraction organized for large and small. There are some sales desks free at the moment on the radio flea market, you can reserve by telephone & email, contact on to take with the executive committee. Down are these addresses.

How does one find after Beetsterzwaag? From direction Apeldoorn = > Zwolle = > Meppel = > Heerenveen = > Drachten, departure after Gorredijk Tijnje comes departure (28) Beetsterzwaag.

From direction Bremen = > Groningen = > Drachten = > Heerenveen, departure after Drachten Haven comes departure (28) Beetsterzwaag.

On 2mtr, 145,700 Digi Heerenveen can one to instruct leave themselves. Inlet is from 09:00 to 16:00 MESZ, into which Cafeteria one also boarded into this time.

This whole is organized of VERON FRIESE WOUDEN. Cordially Welcome in Friesland on the 33e FRM!

Look for more information at the site: www.frm.a63.org

2507. HOT FOR TENAGE GUYS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 11:43:32 UTC
From: SRI DEVI <sridevi.ramaka@gmail.com>
Message-ID: <9af018b3-21c3-4849-996d-51276ef098af@k17g2000pro.googlegroups.com>
Source record: 8907

HOT HEROINES PHOTOS

http://hotheroinesphoto.blogspot.com/
SEXY SNEHA

http://hotheroinesphoto.blogspot.com/2010/06/sneha-hot.html
KOUSHA HOT EXPOSING

http://hotheroinesphoto.blogspot.com/2010/06/sexy-kousha.html
PRIYAMANI IN HOT BIKINI

http://hotheroinesphoto.blogspot.com/2010/06/priyamani-hot.html
MADHUSHALINI IN HOT DRESS

http://hotheroinesphoto.blogspot.com/2010/06/blog-post_2972.html
HOTTEST LIPKISS

http://hotheroinesphoto.blogspot.com/2010/06/lipkiss-2.html
NAMITHA IN BATH

http://hotheroinesphoto.blogspot.com/2010/06/nayagarala-namitha.html

2508. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 12:15:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <03df0a36-ef7a-4415-8e80-30193effaddc@a30g2000yqn.googlegroups.com>
Source record: 8908

On Jun 14, 9:00 pm, walt <w...@w2du.com> wrote:
> In his Nov 1991 QST article Warren Bruene, W5OLY, used what I believe
> is a similar procedure, in which he claims he measured the Rs that he
> called the 'source impedance' of the RF amp. He used his measurements
> in asserting that because his Rs didn't equal RL there could be no
> conjugate match when the source is an RF power amp. I have never
> believed his procedure and measurements were valid, and I still don't.

IMO, the error that Bruene made is similar in concept to the some of the errors being made here in this thread. Many people assume that a simple reflection is the only way to change the direction and momentum of an EM wave in a transmission line. In "Reflections", Sec 4.3, Reflection Mechanics of Stub Matching, you describe the role of wave cancellation associated with interference as a mechanism for redistributing reflected energy back toward the load. You said, "Wave interference between these two complimentary waves at the stub point causes a cancellation of energy flow in the direction toward the generator." It seems obvious to me that your "virtual short" reflection at a Z0-match point is a combination of ordinary wave reflection and interference patterns adding up to zero energy flowing toward the source. Obviously, interference can also happen inside a source.

Redistribution of energy can occur associated with destructive/constructive interference inside the source and has an effect on the V/I ratios, i.e. on the impedances. Bruene's pinging method completely ignores the role of interference at the source. The Z = (Vfor+Vref)/(Ifor+Iref) impedance for coherent waves may be a completely different value than for the non-coherent pinging waves.
--
73, Cecil, w5dxp.com

2509. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 12:21:34 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e2766865-15ba-4b63-b821-0dc3e3f528c9@u26g2000yqu.googlegroups.com>
Source record: 8909

On Jun 15, 1:30 am, lu6etj <lu6...@gmail.com> wrote:
> Sorry and thanks Cecil I do not see this kind answer (I still using
> normal Google groups reader and loss tracking of your message).
> Tomorrow I will analize it with care, now is late here but I do not
> want delay my aknowledge.

Miguel, some posters here don't seem to realize that your questions involve a source like the one specified by w7el in his foot-for-thought article. That source may bear little resemblance to an actual ham transmitter but it is the one w7el specified and it can be easily analyzed for source resistor dissipation and tracking of the reflected energy.
--
73, Cecil, w5dxp.com

2510. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 18:12:00 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <7ef665d7-8ab0-4aec-9694-be5ea8400ef1@y11g2000yqm.googlegroups.com>
Source record: 8910

```
On 15 jun, 05:49, K7ITM <k7...@msn.com> wrote:
> On Jun 14, 7:00 pm, walt <w...@w2du.com> wrote:
>
>
>
> > On Jun 14, 2:56 pm, K7ITM <k7...@msn.com> wrote:
>
> > > On Jun 13, 11:42 pm, Owen Duffy <n...@no.where> wrote:
>
> > > > Owen Duffy <n...@no.where> wrote innews:Xns9D979170BB314nonenowhere@61.9.191.5:
>
> > > > ...
>
> > > > > In the measurements of an IC7000 that I made, the measured output
> > > > > power on one VSWR(50)=1.5 load was 82.5W when it would have been
> > > > > 104.6W had the source been 50+j0, an error of 0.8dB. I opined that
> > > > > this test did not support the proposition that Zs was not 50+j0
>
> > > > Too many "nots", isn't there?
>
> > > > It should read:
>
> > > > I opined that this test did not support the proposition that Zs was 50+j0.
>
> > > > Apologies, Owen.
>
> > > I suppose this will be buried where nobody will read it...
>
> > > I realized that with the nice instrument-grade directional couplers
> > > that came with a new 100W RF power amplifier, and with the other
> > > equipment on my bench, I can measure RF amplifier/transmitter source
> > > impedance relatively easily and with good accuracy.  I strongly
> > > suspect the accuracy will be limited first by how well the setup of
> > > the transmitter/amplifier can be duplicated, and not by the
> > > measurement instruments.
>
> > > I won't go through the whole test setup, but just say that
> > > substituting an open or short for the connection to the transmitter
> > > yields the expected amplitude return signal, and terminating the line
> > > in a precision 50 ohm calibration standard yields a 47dB return loss,
> > > for the frequency I was measuring (nominally 7MHz, for this first
> > > measurement).  The measurement involves sending a signal offset from
> > > the nominal transmitter frequency by a few Hertz at about -20dBm
> > > toward the transmitter, and looking at what comes back.
```

>
> > > Measuring a Kenwood TS520S, set up for about 70 watts output, ALC
> > > disabled, operating as a linear amplifier somewhat (about 30 watts)
> > > below its maximum output: result is 56+j16 ohms at the output UHF
> > > connector on the TS520S. That's about 1.4:1 SWR, and at some point
> > > along a lossless line, that's equivalent to about 70+j0 ohms: not
> > > terribly close to 50 ohms. I'm not going to bother with a detailed
> > > error analysis presentation, but I'm confident that the amplitude of
> > > the return loss is accurate within 0.1dB, and the phase angle within
> > > 10 degrees, to better than 99% probability.
>
> > > I may make some more measurements with different amplifier setups and
> > > at different frequencies, but for now, that's it...
>
> > > Cheers,
> > > Tom
>
> > Tom, you stated earlier that you measured the source impedance of a
> > TS520S transceiver by inserting a somewhat off-resonance signal into
> > the output terminals when the rig was delivering 70 watts, and the
> > source impedance was measured as 56+j16 ohms. However, you chose not
> > to describe the setup or the procedure for obtaining this data.
>
> > I'm hungering to learn of the setup and procedure you used, because
> > I'd like to know what reflection mechanism gave a return signal that
> > could be discriminated from the 70w output signal from the
> > transceiver.
>
> > In his Nov 1991 QST article Warren Bruene, W5OLY, used what I believe
> > is a similar procedure, in which he claims he measured the Rs that he
> > called the 'source impedance' of the RF amp. He used his measurements
> > in asserting that because his Rs didn't equal RL there could be no
> > conjugate match when the source is an RF power amp. I have never
> > believed his procedure and measurements were valid, and I still don't.
> > So if your setup in any way resembles what Bruene presented in his QST
> > article I would like to know how you can justify a procedure that
> > involves inserting an off-set frequency signal rearward into an
> > operating RF power amp to determine the source impedance.
>
> > Walt, W2DU
>
> OK...
>
> So let's consider making a load-pull measurement of source impedance.
> Since we're trying to resolve both resistance and reactance, we need
> to change the load in at least two directions that have a degree of
> orthogonality. But we could also change the load over a range of
> values. For example, we could connect a 51+j0 load directly to the
> output port we're trying to measure, and then connect it through
> varying lengths of 50.0 ohm lossless coax. 45 electrical degrees of

> line would shift the phase of the 51 ohm load so it looks instead like
> 49.99-j0.99 ohms. 90 electrical degrees shifts the 51 ohm load to
> 49.02+j0 ohms, and so forth. Measurements of the varying amplitude
> output with those loads will give us enough information to resolve the
> source resistance and reactance and open-circuit voltage.
>
> For a 51 ohm load on a 50 ohm line, the reflection coefficient
> magnitude is 1/100, so if the transmitter is putting out 100Vrms
> forward, the reverse is 1Vrms.
>
> Now consider a method to change the line length that doesn't use
> individual sections that have to be patched in and out, but rather
> uses a "trombone" section that, in theory anyway, could range from
> zero length to essentially infinite length. Picture that trombone
> section getting longer at a fixed rate, so now the load is rotating
> around a circle on the linear reflection coefficient plane (which is,
> by the way, exactly the same plane the Smith chart is plotted on); the
> circle is centered at zero and is a constant 1/100 amplitude, with
> linearly varying phase. So the 1Vrms reverse wave on the line of the
> 100Vrms forward example arrives back at the amplifier at continuously
> varying phase. Imagine that the phase shift is 360 degrees in 1/100
> of a second. Now note that the reverse wave corresponds _exactly_ to
> a wave offset in frequency from the forward wave by 100Hz. If the
> line is continuously lengthening, the offset is negative; if the line
> is shortening instead, the offset is positive.
>
> Now, from the point of view of the amplifier, can that scenario be
> distinguished from one in which I have a perfect 50 ohm load that
> absorbs all the transmitter's output, and a method to introduce a
> "reverse" 1.00Vrms wave into the line at a frequency that's offset
> from the transmitter's output by 100Hz?
>
> If you believe that the amplifier can distinguish between those two
> scenarios, I fear we have nothing more to discuss.
>
> Cheers,
> Tom

Hello Tom,

The method of constant varying phase of a mismatch to determine output impedance I use in my simulation also (because it saves me time). I use a second source with some frequency offset instead of the trombone as you described (the trombone I cannot implement easily in my pspice package).

When you change the phase very slowly, a soft power supply may change voltage during the slow variation (as a load change may result in a DC supply current change). When the difference frequency is sufficiently high (for example 200 Hz or more), the electrolytics will keep the supply voltage constant during all phase "steps". Therefore there may

be slight difference between measurement with a set of loads with increasing phase and the RF injection method (for example with vector analyzer).

I checked the injection method in simulation for linear circuits (with both real and complex output impedance), linear active circuits, and power circuits. I couldn’t find any flaw in the method. So I think your reasoning is valid.

Some results applicable to PAs, inclusive the implementation in simulation are in: http://www.tetech.nl/divers/PA_impedance.pdf. Note that I determine the reflected voltage by means of interference with the amplifier's output signal (envelope detection) as this saves me from making a narrow band filter that results in very long run times.

I am now simulating a circuit with 6146 valve and pi-filter output (50 Ohms) and I will add it to the document.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

2511. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 18:23:47 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <u-ydnZrE4cSrWIrRnZ2dnUVZ_qednZ2d@giganews.com>
Source record: 8911

Richard Fry wrote:
>
> If reflected power is fictitious, and the number wavelengths of
> transmission line of any random impedance compared to the load
> connected to it makes no difference in the load seen by the
> transmitter, the output power produced by the transmitter, and the
> power dissipated in the far-end termination, then what is the reason
> you chose a 1/2 wavelength of transmission line in your quoted post?
>
> RF

I chose that length so that the transmission line would have no effect on the impedance seen by the transmitter. As I've said many times, and you've continually disagreed with, increased dissipation and/or damage at the transmitter is due to the impedance it sees, and not by "reflected power". The example I gave keeps the transmitter load impedance constant while changing the "reflected power". And it shows that neither the transmitter nor the load see any changes in dissipation.

If I had chosen a different length line, then changing its Z0 would have changed the impedance seen by the transmitter, which would have changed its efficiency by an amount which could have been determined only with additional knowledge about its characteristics. But replacing the transmission line with a lumped impedance transforming network would have exactly the same effect on the transmitter, again illustrating that the only important factor is the impedance the transmitter sees and not the "reflected power" in the line it's connected to.

This posting is being made, though, for the benefit of other readers. I've explained this many times to you before with no noticeable effect on your understanding.

Roy Lewallen, W7EL

2512. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 18:25:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <u-ydnZXE4cQEWIrRnZ2dnUVZ_qednZ2d@giganews.com>
Source record: 8912

Richard Fry wrote:
> On Jun 11, 12:29 pm, Richard Fry <r...@adams.net> wrote:
>
>> If reflected power is fictitious, etc
>
> Followup: Those denying the existence of reflected signals within an
> antenna system may wish to view the measurement of such signals, at
> the link below.
>
> http://i62.photobucket.com/albums/h85/rfry-100/RFPulseMeasurement.gif
>
> RF

Thanks, but I've designed TDR systems and prepared and given classes on the topic.

Roy Lewallen, W7EL

2513. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 18:36:49 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ZdqdnWCGn4PYVYrRnZ2dnUVZ_vydnZ2d@giganews.com>
Source record: 8913

Owen Duffy wrote:
> lu6etj <lu6etj@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
> f30dd7006888@w12g2000yqj.googlegroups.com:
>
> ...
>> OK. Thank you very much. This clarify so much the issue to me. Please,
>> another question: On the same system-example, who does not agree with
>> the notion that the reflected power is never dissipated in Thevenin
>> Rs? (I am referring to habitual posters in these threads, of course)
>>
>
> Thevenin's theorem says nothing of what happens inside the source (eg
> dissipation), or how the source may be implemented.
> . . .

Cecil has used this fact as a convenient way of avoiding confrontation with the illustrations given in my "food for thought" essays. However, those models aren't claimed to be Thevenin equivalents of anything. They are just simple models consisting of an ideal source and a perfect resistance, as used in may circuit analysis textbooks to illustrate basic electrical circuit operation. The dissipation in the resistance is clearly not related to "reflected power", and the reflected power "theories" being promoted here fail to explain the relationship between the dissipation in the resistor and "reflected power". I contend that if an analytical method fails to correctly predict the dissipation in such a simple case, it can't be trusted to predict the dissipation in other cases, and has underlying logical flaws. For all the fluff about photons, optics, non-dissipative sources, and the like, I have yet to see an equation that relates the dissipation in the resistance in one of those painfully simple circuits to the "reflected power" in the transmission line it's connected to.

Roy Lewallen, W7EL

2514. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 18:39:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ZdqdnWOGn4N9VYrRnZ2dnUVZ_vydnZ2d@giganews.com>
Source record: 8914

lu6etj wrote:
>
> R. R. Well... I forget to say the more important => For the sake of
> the advance of the topic please do replace "Thevenin circuit" in my
> original question for "an ideal constant voltage source in series with
> an ideal resistance" equivalent only to itself :>)

Thank you, that's exactly what I've tried to do. But calling all such simple circuits "Thevenin equivalents" is a convenient way to avoid having to explain the phenomena they illustrate. So that has been the tactic of some of the "reflected power" proponents.

Roy Lewallen, W7EL

2515. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 20:44:12 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <KtidnbqXqfm9e4rRnZ2dnUVZ_omdnZ2d@giganews.com>
Source record: 8915

Sal M. O'Nella wrote:
>
> After I got out of the Navy, I worked as a Marine Electrician,
> installing equipment on Navy ships. My foreman told me that it is
> rarely done, but the Navy can perform a Quality Assurance "pull test" of
> 25 lbs on a connector. I think that's a lot of pull for a connector to
> withstand.

In a previous life I was tasked with tailoring a large number of RG-58 cables connecting radar scopes at a new installation in Korea. This involved cutting the cables to length and installing clamp and solder type BNC connectors. The rumor was that the Korean troops were supposed to be helping us, but we never saw them -- until one day, when they showed up. The one assigned to help me sat down and, neither of us being fluent in the other's language, I proceeded to show him how to assemble the connector.

Now the job of one of the several pieces, a metal ring, is to push against and expand a rubber washer, which is mainly what holds the connector together. This piece looks like it should go upside down from the correct orientation, but if put on that way, the rubber washer won't expand and the connector will come off very easily, with only a gentle tug. If assembled correctly, it'll take a lot of pulling, as Sal says, to get it off. I've never seen a correctly assembled connector come off.

Getting back to the story, I carefully demonstrated the correct assembly method to the Korean troop, emphasizing the orientation of the ring. After putting the connector on, I showed him our standard test. We would grab the connector in one hand and about two feet down the cable with the other. Then we put our hands together, making a loop of cable, and briskly yanked them apart, resulting in a really good sharp tug on the connector. A properly assembled connector had no trouble with this test.

So I gave him the parts and went to work on a connector. After a while he handed me the cable with attached connector. I gave it the tug test and the connector snapped right off. So I repeated the mimed instructions, with extra emphasis on the ring orientation, then put him to work again and got back to what I was doing. When he was finished he handed me the connector, I did the yank test, and again the connector popped right off. He shrugged, muttered something under his breath, got up, and left. Guess he figured he'd had enough of that game, where he assembled connectors and I pulled them off. We never saw the Korean troops again.

Roy Lewallen, W7EL

2516. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 21:09:56 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9948E3052AFnonenowhere@61.9.191.5>
Source record: 8916

Roy Lewallen <w7el@eznec.com> wrote in
news:KtidnbqXqfm9e4rRnZ2dnUVZ_omdnZ2d@giganews.com:

> I've never seen a correctly assembled connector come off.
>
>

Another story, but with a different outcome.

I worked in a training school at one stage, and we thought we would get trainees to make up BNC RG58 patch cables as a practical exercise, and we would feed the output into our satellite labs where cables didn't seem to last long (trainees pulled equipment trolleys around by the coax if it didn't reach the desired socket).

Total failure, the BNC field serviceable connectors were just too complicated for dissinterested trainees more interested in discussing fast cars than concentrating on the job... and they had no stake in it, if the cables didn't work, it didn't matter too much.

Solving the problem of the connectors pulling off led me to the Amphenol specs, and I found that the pull out spec for the field serviceable connectors was *much* lower than the spec for the crimp connectors.

So, I bought a quality crimp tool (in those days, it was a few hundred dollars), and some Kings crimp connectors, and we switched the classes to use the crimp components and a trim jig. The outcome was much better, fewer faulty cables, and the crimped cable retention was much better and consistently so.

No I know that one of the large suppliers to hams advertises "crimped, not soldered", but that is just a blatant case of playing to the market. A bit like the single core 4:1 Guanella balun that manufacturers attribute to Sevik's assurance that it will work fine on a fully floating load... whan antenna system is a fully floating load. The theme is the customer is always right, if he wants something that doesn't make sense, see Rule 1.

An interesting new connector type is the "compression connectors", "Snap-n-Seal" is a proprietary name. I tried some of these on RG6, and a bit suspicious of the cable retention mechanism, every one I tested using different types of RG6 (including QS), hung on until the cable tore apart some distance from the connector.

Owen

2517. Re: BNC connectors 75 Ohm versus 50 Ohm?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 21:20:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D994AAEAA29Bnonenowhere@61.9.191.5>
Source record: 8917

Owen Duffy <none@no.where> wrote in news:Xns9D9948E3052AFnonenowhere@
61.9.191.5:

> No I know that one of the large suppliers to hams advertises "crimped,
> not soldered", but that is just a blatant case of playing to the market.
>

Got that back the front, didn't I.

DXE advertises "soldered, not crimped", but that is just a blatant case of
playing to the market.

Owen

2518. Re: Radials: Induced currents due to direction versus radiation pattern

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 21:32:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <6qadnbU3-OLzblrRnZ2dnUVZ_r-dnZ2d@giganews.com>
Source record: 8918

Some of the statements I've seen are based on assumptions that there is a large number of radials, or that the radials are evenly distributed. When either of those aren't true, some of the "conventional wisdom" doesn't apply.

I also need to point out that EZNEC isn't a very good tool for studying some of the effects of abbreviated radial systems.

It is possible to create a small amount of directivity by putting more radials in some directions than others. I'll use as an example an NEC-4 (which allows modeling buried conductors) model I had previously made of a 3.7 MHz quarter wavelength vertical with 60 radials buried in average ground. The radial length is 0.5 wavelength in free space, or about 2.25 wavelengths when buried, since the propagation velocity is much slower in the ground.

With all 60 radials, the maximum sky wave gain is 1.08 dBi at an elevation angle of 26 degrees. If you delete half the radials, the gain is 0.19 dBi at 27 degrees in the direction of the radials, and -1.39 dBi in the opposite direction. So about 1-1/2 dB of directivity has been accomplished, at the expense of about a dB of gain in the best direction.

As far as radiation from radials is concerned, a pair of opposed radials (that is, ones facing opposite directions) radiate very little because their fields nearly or completely cancel in all directions. The example antenna with only two opposing radials shows -3.57 dBi gain at 25 degrees elevation, and 0.3 dB or less deviation from having the same gain in all directions, at any elevation angle.

The same model with only one radial shows a front/back ratio of about 0.8 dB at the elevation angle of maximum gain, and about 1 dB at some higher angles, so even that doesn't give much directivity.

Analyzing antennas having radial systems with EZNEC requires elevating the radials above ground. When many radials are used, the approximation to a buried system isn't too bad, and the main limitation of the model (homogeneous ground) prevents highly accurate results anyway. But a single radial behaves much differently when buried than when elevated even just a little. Elevating the single buried (0.1 meter deep) radial of the previous example to 5 mm above ground results in about 5.6 dB front/back ratio and -7.74 dBi maximum gain vs -4.42 dBi with the radial buried. So if you want to get significant front/back with a single radial, keep it above the surface. Gain varies quite a bit with radial height and length.

EZNEC can be used to see what happens to the pattern and gain as one or more radials are elevated at various heights and made various lengths. The results can be quite surprising. While the homogeneous ground approximation makes it unlikely you'd see results matching a model at a particular height, the general effect of height can prove illuminating.

Roy Lewallen, W7EL

2519. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 22:59:00 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D995B6088AFDnonenowhere@61.9.191.5>
Source record: 8919

Roy Lewallen <w7el@eznec.com> wrote in
news:ZdqdnWCGn4PYVYrRnZ2dnUVZ_vydnZ2d@giganews.com:

> For all the fluff about
> photons, optics, non-dissipative sources, and the like, I have yet to
> see an equation that relates the dissipation in the resistance in one
> of those painfully simple circuits to the "reflected power" in the
> transmission line it's connected to.
>

I saw the challenge and note the lack of response.

Let me offer a steady state solution.

In the case of a simple source being an ideal AC voltage generator of Vs and an ideal series resistance Rs of Ro, and that Zo=Ro, for any arbitrary load, at the source terminals, Vf=Vs/2, Vl=Vf+Vr=Vs/2+Vr, and the voltage difference across Rs is Vs/2-Vr (noting that Vr is a complex quantity and can have a magnitude from 0 to Vs/2 at any phase angle), therfore dissipation in Rs is given by:

Prs=(Vs/2-Vr)^2/Rs where Vs is the o/c source voltage, Vr is the complex reflected wave voltage equivalent, Rs is the source resistance.

Clearly, dissipation in Rs is related to Vr, but it is not simply proportional to the square of Vr as believed by many who lack the basics of linear circuit theory to come to a correct understanding.

Roy, is that a solution?

Owen

2520. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 23:06:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c2afd7b8-6a37-4cb6-8432-a1f6048c437d@x27g2000yqb.googlegroups.com>
Source record: 8920

On Jun 15, 6:36 pm, Roy Lewallen <w...@eznec.com> wrote:
> Owen Duffy wrote:
> > lu6etj <lu6...@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
> > f30dd7006...@w12g2000yqj.googlegroups.com:
>
> > ...
> >> OK. Thank you very much. This clarify so much the issue to me. Please,
> >> another question: On the same system-example, who does not agree with
> >> the notion that the reflected power is never dissipated in Thevenin
> >> Rs? (I am referring to habitual posters in these threads, of course)
>
> > Thevenin's theorem says nothing of what happens inside the source (eg
> > dissipation), or how the source may be implemented.
> > . . .
>
> Cecil has used this fact as a convenient way of avoiding confrontation
> with the illustrations given in my "food for thought" essays. However,
> those models aren't claimed to be Thevenin equivalents of anything. They
> are just simple models consisting of an ideal source and a perfect
> resistance, as used in may circuit analysis textbooks to illustrate
> basic electrical circuit operation. The dissipation in the resistance is
> clearly not related to "reflected power", and the reflected power
> "theories" being promoted here fail to explain the relationship between
> the dissipation in the resistor and "reflected power". I contend that if
> an analytical method fails to correctly predict the dissipation in such
> a simple case, it can't be trusted to predict the dissipation in other
> cases, and has underlying logical flaws. For all the fluff about
> photons, optics, non-dissipative sources, and the like, I have yet to
> see an equation that relates the dissipation in the resistance in one of
> those painfully simple circuits to the "reflected power" in the
> transmission line it's connected to.
>
> Roy Lewallen, W7EL

obviously its not the 'reflected power'... that can be easily
disproved by showing that the length of the line changes the impedance
seen at the source terminals without changing the power that was
reflected from the load. since it is the impedance at the source
terminals that determines the performance of the amp the power that is
reflected is irrelevant.

however, it should be relatively easy to derive such a relation for a
simple thevenin source with a lossless line and a given load
impedance... just transform the impedance along the length of the line
back to the source then calculate the resulting current or voltage

from the source. that would give you the power dissipated in the source. then you could also calculate the reflection coefficient and separate the forward and reflected waves... and if you did it all correctly and kept everything in terms of RL, Z0, and the length of the line you could come up with a family of parametric curves relating the power dissipated in the source resistance to the reflected power over a range of load impedances for a given line length, or for varying line length for a given load. obviously a purely academic exercise that should be left for a rainy day.

2521. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 23:13:28 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <23142760-a6ee-4dd6-a76a-0c627e2327d4@y11g2000yqm.googlegroups.com>
Source record: 8921

On Jun 14, 11:04 pm, K1TTT <k1...@arrl.net> wrote:
> read more »

no, i've read enough thank you.

I think there are 2 basic things you are missing... V and I are functions not only of time, but of distance along the line, both for the forward and reflected waves. looking at them at specific points can lead to incorrect assumptions and over simplified conclusions. Also, there are very good reasons why the sinusoidal steady state condition is used to simplify the equations they way they are normally shown, and why your over simplifications won't hack it in the long run. to do the full analysis of a distributed system (except in very special cases) for an arbitrary waveform requires summations of reflections both ways on the line over many reflection periods.. the results of this for step functions can be seen with simple tdr's on lines with multiple discontinuities where you can see the reflections ringing down.

2522. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-15 23:22:34 UTC
From: walt <walt@w2du.com>
Message-ID: <3b9a3888-fda1-41d9-ab14-cc9de964949c@r20g2000vba.googlegroups.com>
Source record: 8922

On Jun 15, 7:06 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 15, 6:36 pm, Roy Lewallen <w...@eznec.com> wrote:
>
>
>
> > Owen Duffy wrote:
> > > lu6etj <lu6...@gmail.com> wrote in news:da3e5147-cad8-47f9-9784-
> > > f30dd7006...@w12g2000yqj.googlegroups.com:
>
> > > ...
> > >> OK. Thank you very much. This clarify so much the issue to me. Please,
> > >> another question: On the same system-example, who does not agree with
> > >> the notion that the reflected power is never dissipated in Thevenin
> > >> Rs? (I am referring to habitual posters in these threads, of course)
>
> > > Thevenin's theorem says nothing of what happens inside the source (eg
> > > dissipation), or how the source may be implemented.
> > > . . .
>
> > Cecil has used this fact as a convenient way of avoiding confrontation
> > with the illustrations given in my "food for thought" essays. However,
> > those models aren't claimed to be Thevenin equivalents of anything. They
> > are just simple models consisting of an ideal source and a perfect
> > resistance, as used in may circuit analysis textbooks to illustrate
> > basic electrical circuit operation. The dissipation in the resistance is
> > clearly not related to "reflected power", and the reflected power
> > "theories" being promoted here fail to explain the relationship between
> > the dissipation in the resistor and "reflected power". I contend that if
> > an analytical method fails to correctly predict the dissipation in such
> > a simple case, it can't be trusted to predict the dissipation in other
> > cases, and has underlying logical flaws. For all the fluff about
> > photons, optics, non-dissipative sources, and the like, I have yet to
> > see an equation that relates the dissipation in the resistance in one of
> > those painfully simple circuits to the "reflected power" in the
> > transmission line it's connected to.
>
> > Roy Lewallen, W7EL
>
> obviously its not the 'reflected power'... that can be easily
> disproved by showing that the length of the line changes the impedance
> seen at the source terminals without changing the power that was
> reflected from the load. since it is the impedance at the source
> terminals that determines the performance of the amp the power that is
> reflected is irrelevant.

>
> however, it should be relatively easy to derive such a relation for a
> simple thevenin source with a lossless line and a given load
> impedance... just transform the impedance along the length of the line
> back to the source then calculate the resulting current or voltage
> from the source. that would give you the power dissipated in the
> source. then you could also calculate the reflection coefficient and
> separate the forward and reflected waves... and if you did it all
> correctly and kept everything in terms of RL, Z0, and the length of
> the line you could come up with a family of parametric curves relating
> the power dissipated in the source resistance to the reflected power
> over a range of load impedances for a given line length, or for
> varying line length for a given load. obviously a purely academic
> exercise that should be left for a rainy day.

Tom, I understand the variation of the line-input impedance resulting from the change in length of the trombone line with the reflection coefficient of 0.01. However, I'm totally unaware of how the change in line-input impedance relates to a change of frequency of the forward wave of 100 Hz. Please explain.

Further, will you please also explain how the effect of the trombone exercise determines the value of the source impedance, which, for example, you stated is 56+j16 ohms? In other words, what mechanism produced that value ? Sorry, Tom, I'm a little dense on this issue.

Walt

2523. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 02:59:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2e8c2932-c57e-4657-b8d8-062c094c2f9d@c10g2000yqi.googlegroups.com>
Source record: 8923

On Jun 15, 1:23 pm, Roy Lewallen <w...@eznec.com> wrote:
> As I've said many times, and
> you've continually disagreed with, increased dissipation and/or damage
> at the transmitter is due to the impedance it sees, and not by
> "reflected power".

Roy, unfortunately for your argument, the impedance seen by the
transmitter is:

Z = (Vfor + Vref) / (Ifor + Iref)

where the math is phasor math. ANY DEVIATION AWAY FROM THE Z0-MATCHED
LINE VALUE OF IMPEDANCE = Vfor/Ifor IS *CAUSED* BY THE REFLECTED WAVE!
Given that fact of physics, how can you possibly argue that the
reflected wave doesn't affect dissipation/damage at the transmitter???
--
73, Cecil, w5dxp.com

2524. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 03:05:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bda40bf1-1a65-4ce1-954d-1160fe61637c@h13g2000yqm.googlegroups.com>
Source record: 8924

On Jun 15, 1:25 pm, Roy Lewallen <w...@eznec.com> wrote:
> Thanks, but I've designed TDR systems and prepared and given classes on
> the topic.

Given your strange concepts that violate the laws of EM wave physics
and your ignorance of how a redistribution of energy is often
associated with the presence of interference, I feel sorry for your
students.
--
73, Cecil, w5dxp.com

2525. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 03:21:26 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fbe69d00-9fb2-4e68-b220-290fad57f286@x27g2000yqb.googlegroups.com>
Source record: 8925

On Jun 15, 1:36 pm, Roy Lewallen <w...@eznec.com> wrote:
> For all the fluff about
> photons, optics, non-dissipative sources, and the like, I have yet to
> see an equation that relates the dissipation in the resistance in one of
> those painfully simple circuits to the "reflected power" in the
> transmission line it's connected to.

The power density equation containing an interference term is what you need to use and I seriously doubt that, after 5+ years, you are ignorant of that equation. In your food-for-thought, forward/reflected power example, all you have to do is figure out the power in the forward wave and the power in the reflected wave at the source resistor and plug them into the following equation:

Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)

where 'A' is the angle between the forward voltage and reflected voltage. For instance, if the reflected voltage arrives back at the source resistor in phase with the forward voltage, cos(A) = cos(0) = 1 and there is constructive interference which increases the dissipation in the source resistor. If the reflected voltage arrives back at the source resistor 180 degrees out of phase with the forward voltage, cos(A) = cos(180) = -1 and there is destructive interference which decreases the dissipation in the source resistor. If the reflected voltage arrives back at the source resistor 90 degrees out of phase, cos(A) = cos(90) = 0, and there is no interference and all of the reflected power is dissipated in the source resistor. If you had ever read my energy article, published many years ago, you would know what effect superposition accompanied by interference can have on the redistribution of energy. But you instead said, "Gobbleygook" (sic) and plonked me. Time to pull your head out of the sand.

The above power density equation not only agrees with all of your power calculations, it tells anyone who desires to acquire the knowledge, exactly where the reflected energy goes and why it is not always dissipated in the source resistor.
--
73, Cecil, w5dxp.com

2526. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 03:39:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5e453254-4d07-4c8d-b51b-9afc53c9c940@i28g2000yqa.googlegroups.com>
Source record: 8926

On Jun 15, 5:59 pm, Owen Duffy <n...@no.where> wrote:
> I saw the challenge and note the lack of response.

You seem to always note the lack of response while normal people are
trying to sleep. If Roy would simply use the power density equation
published by Dr. Best in his QEX article, he wouldn't still be
ignorant of where the reflected energy goes.
--
73, Cecil, w5dxp.com

2527. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 06:29:50 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <0d6a500d-f6c6-4290-9806-2ae5dcd3c033@c33g2000yqm.googlegroups.com>
Source record: 8927

On 16 jun, 00:21, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 15, 1:36 pm, Roy Lewallen <w...@eznec.com> wrote:
>
> > For all the fluff about
> > photons, optics, non-dissipative sources, and the like, I have yet to
> > see an equation that relates the dissipation in the resistance in one of
> > those painfully simple circuits to the "reflected power" in the
> > transmission line it's connected to.
>
> The power density equation containing an interference term is what you
> need to use and I seriously doubt that, after 5+ years, you are
> ignorant of that equation. In your food-for-thought, forward/reflected
> power example, all you have to do is figure out the power in the
> forward wave and the power in the reflected wave at the source
> resistor and plug them into the following equation:
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)
>
> where 'A' is the angle between the forward voltage and reflected
> voltage. For instance, if the reflected voltage arrives back at the
> source resistor in phase with the forward voltage, cos(A) = cos(0) = 1
> and there is constructive interference which increases the dissipation
> in the source resistor. If the reflected voltage arrives back at the
> source resistor 180 degrees out of phase with the forward voltage,
> cos(A) = cos(180) = -1 and there is destructive interference which
> decreases the dissipation in the source resistor. If the reflected
> voltage arrives back at the source resistor 90 degrees out of phase,
> cos(A) = cos(90) = 0, and there is no interference and all of the
> reflected power is dissipated in the source resistor. If you had ever
> read my energy article, published many years ago, you would know what
> effect superposition accompanied by interference can have on the
> redistribution of energy. But you instead said, "Gobbleygook" (sic)
> and plonked me. Time to pull your head out of the sand.
>
> The above power density equation not only agrees with all of your
> power calculations, it tells anyone who desires to acquire the
> knowledge, exactly where the reflected energy goes and why it is not
> always dissipated in the source resistor.
> --
> 73, Cecil, w5dxp.com

Hello boys... good day to you. You are make me study so hard forgotten
stories, dusting off old books... First, I sorry for I lost some posts
(I miss free news servers, ISPs here, nones!). Thanks to Roy, Owen,

K1TTT, etc. I read them today.

(>: Please do not quarrel! :>). Someone said (I think it was Nikita Kruschev to the Pope, I am not sure) => "If we can not agree on heaven's things, let us at least agree on the earth's things...." :>)

Why not make a "truce" for a few hours with the "why's" to verify if the proposed methods arrives at the same numerical results in terms of PRs and Pl first with our minimalistic Vg and Rs? (for the sake of novice readers)

For not to work too much, calculations could be reduced to three resistive Zls, and three lengths of TL. Let me suggest 25, 50 and 100 ohms RLs and 0.5, 0.25 and 0.125 of lambda (to honor Cecil and Roy papers), Vg voltage = 100 V RMS, Rs 50 ohms, Zo obviously 50 ohms too (lossless line). Zl=50 ohms and 1/2 lambda TL are for beginners, as me ;>D

73 - Miguel - LU6ETJ

2528. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 06:48:40 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D99AAF9744CEnonenowhere@61.9.191.5>
Source record: 8928

lu6etj <lu6etj@gmail.com> wrote in
news:0d6a500d-f6c6-4290-9806-2ae5dcd3c033@c33g2000yqm.googlegroups.com:

...
> For not to work too much, calculations could be reduced to three
> resistive Zls, and three lengths of TL. Let me suggest 25, 50 and 100
> ohms RLs and 0.5, 0.25 and 0.125 of lambda (to honor Cecil and Roy
> papers), Vg voltage = 100 V RMS, Rs 50 ohms, Zo obviously 50 ohms too
> (lossless line). Zl=50 ohms and 1/2 lambda TL are for beginners, as
> me ;>D

Miguel, I gave an expression for power in your simple source circuit in a recent post, did you see it. Well here it is again:

Prs=(Vs/2-Vr)^2/Rs where Vs is the o/c source voltage, Vr is the complex reflected wave voltage equivalent, Rs is the source resistance.

If the reflected wave was always, and entirely dissipated in Rs in that type of source, then Prs=Vr^2/Zo=Vr^2/Rs... but it isn't, see the above expression.

You can work one case, three cases, three x three cases, but they are not as complete as the expression above that shows that in the steady state, Prs is not simply equal to the 'reflected power'.

But if you want, work the cases and report the results here, it is a trivial exercise. You will accept the results more readily if you work it our yourself.

Owen

2529. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 07:28:21 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <8574c47b-f4c5-471c-a917-418007984ecf@5g2000yqz.googlegroups.com>
Source record: 8929

On 16 jun, 03:48, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:0d6a500d-f6c6-4290-9806-2ae5dcd3c033@c33g2000yqm.googlegroups.com:
>
> ...
>
> > For not to work too much, calculations could be reduced to three
> > resistive Zls, and three lengths of TL. Let me suggest 25, 50 and 100
> > ohms RLs and 0.5, 0.25 and 0.125 of lambda (to honor Cecil and Roy
> > papers), Vg voltage = 100 V RMS, Rs 50 ohms, Zo obviously 50 ohms too
> > (lossless line). Zl=50 ohms and 1/2 lambda TL are for beginners, as
> > me ;>D
>
> Miguel, I gave an expression for power in your simple source circuit in a
> recent post, did you see it. Well here it is again:
>
> Prs=(Vs/2-Vr)^2/Rs where Vs is the o/c source voltage, Vr is the complex
> reflected wave voltage equivalent, Rs is the source resistance.
>
> If the reflected wave was always, and entirely dissipated in Rs in that
> type of source, then Prs=Vr^2/Zo=Vr^2/Rs... but it isn't, see the above
> expression.
>
> You can work one case, three cases, three x three cases, but they are not
> as complete as the expression above that shows that in the steady state,
> Prs is not simply equal to the 'reflected power'.
>
> But if you want, work the cases and report the results here, it is a
> trivial exercise. You will accept the results more readily if you work it
> our yourself.
>
> Owen

Do not argue with me Owen... If you do not want put your numbers you
are free, Roy played theirs, Cecil too, it is a simple and loving
exercise of numeric agreement. No arguments, no algebra, no calculus,
no photons, no Quantum, no Maxwell, no clever and slippery words...
simple and crude numbers... Not more than five minutes. :>)

73. Here 04:26 I am go to dream with the little angels... Thanks,
Miguel LU6ETJ

2530. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 12:42:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d9015134-d356-4707-839d-52df8b247df7@y11g2000yqm.googlegroups.com>
Source record: 8930

On Jun 16, 1:48 am, Owen Duffy <n...@no.where> wrote:
> Prs is not simply equal to the 'reflected power'.

I don't remember anyone saying that Prs is equal to the reflected power and of course it is not. What you guys are missing are the effects accompanying interference from superposition. There is another mechanism besides the reflection mechanism that can redistribute the reflected power. The power density equation includes an interference term that indicates what happens to the energy.

Prs = Pfor + Pref + 2*SQRT(Pfor*Pref)*cos(A)

This equation gives the same answer as your equation but it also indicates what happens to the energy components. A is the phase angle between Vfor and Vref. The last term is the *interference* term.

If the interference term is zero, there is no interference and all of the reflected power is dissipated in Rs.

If the interference term is negative, there exists destructive interference at Rs and power is redistributed toward the load as constructive interference. This is technically not a reflection although the results are the same as a reflection.

If the interference term is positive, there exists constructive interference at Rs and excess power is dissipated in Rs.

Let's look at your equation, Prs=(Vs/2-Vr)^2/Rs

Vfor = Vs/2, so Prs = (Vfor+Vref)^2/Rs (phasor addition)

Prs = Vfor^2/Rs + Vref^2/Rs + 2*Vfor*Vref*cos(A)/Rs

Prs = Pfor + Pref + 2*SQRT(Pfor*Pref)*cos(A)

I just derived the power density equation (with its interference term) from your equation. The power density equation reveals the interference term which tells us exactly where the reflected power goes.

I learned about destructive and constructive interference at Texas A&M in the 1950s.
--
73, Cecil, w5dxp.com

2531. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 14:49:37 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e445ebae-30e2-4ee0-81b9-9535436d28ce@h13g2000yqm.googlegroups.com>
Source record: 8931

On Jun 16, 1:29 am, lu6etj <lu6...@gmail.com> wrote:
> For not to work too much, calculations could be reduced to three
> resistive Zls, and three lengths of TL. Let me suggest 25, 50 and 100
> ohms RLs and 0.5, 0.25 and 0.125 of lambda (to honor Cecil and Roy
> papers), Vg voltage = 100 V RMS, Rs 50 ohms, Zo obviously 50 ohms too
> (lossless line). Zl=50 ohms and 1/2 lambda TL are for beginners, as
> me ;>D

Miguel, Owen's equation, Prs=(Vs/2-Vr)^2/Rs, and the following power density equation are equivalent and yield the same answers for Prs. However, the power density equation indicates the magnitude of interference present at Rs and the sign of the interference indicates whether the interference is destructive or constructive. This general equation is how optical physicists track the power density in their light and laser beams.

Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)

where A is the phase angle between the electric fields of wave1 and wave2. In our case, it will be the phase angle between the forward wave and the reflected wave at the source resistor.

For our purposes, based on your specifications, we can rewrite the equation:

Prs = Pfor + Pref + 2*SQRT(Pfor*Pref)*cos(A)

Pfor is fixed at 50 watts. For a 50 ohm load, Pref=0.
For a 25 ohm or 100 ohm load, Pref=5.556 watts.
Angle A is either 0, 90, or 180 degrees depending upon which example is being examined.

For all three of the RL=50 ohm examples, Pref=0, the line is matched and Prs = Prl = 50 watts. There is no question of where the reflected power goes because Pref=0.

For all three of the 0.125WL examples, since A=90 deg, the interference term in the power density equation is zero so for the 25 ohm and 100 ohm loads:

Prs = Pfor + Pref = 55.556 watts

When there is no interference, all the reflected power is obviously dissipated in the source resistor. This matches my "zero interference" article.

For all four of the other examples, the SWR is 2:1.
Pfor = 50w, Pref = 5.556w, Pload = 44.444w

If the reflected wave arrives with the electric field in phase with
the forward wave,
angle A = 0 degrees so cos(A) = +1.0
The positive sign tells us that the interference is constructive.

Prs = Pfor + Pref + 2*SQRT(Pfor*Pref)*cos(A)

Prs = 50 + 5.556 + 2*SQRT(50*5.556)

Prs = 55.556 + 33.333 = 88.89 watts

In addition to the sum of the forward power and reflected power being
dissipated in Rs, the source is forced to supply the additional power
contained in the 33.333 watt constructive interference term.

So Psource = 100w + 33.333w = 133.33w

Because of the constructive interference, the source not only must
supply the 100 watts that it supplies during matched line conditions,
but it must also supply the constructive interference power of 33.333
watts.

When the reflected wave arrives at Rs 180 degrees out of phase with
the forward wave,
cos(A) = cos(180) = -1.0. The negative sign indicates that the
interference is destructive.

Prs = 50 + 5.556 - 2*SQRT(50*5.556)

Prs = 55.556 - 33.333 = 22.223 watts

The source is forced to throttle back on its power output by an amount
equal to the destructive interference power of 33.33 watts. It is
supplying the 22.223w dissipated in Rs plus the difference in the
forward power and the reflected power.

Psource = Prs + Pfor - Pref = 66.667w

Note that the source is no longer supplying the reflected power. The
destructive interference has apparently redistributed the incident
reflected energy back toward the load as part of the forward wave.

In attempted chart form, here are the Prs values:

line length, 0.5WL, 0.25WL, 0.125WL

25 ohm load, 88.889w, 22.223w, 55.556w

50 ohm load, 50w, 50w, 50w

100 ohm load, 22.223w, 88.889w, 55.556w
--
73, Cecil, w5dxp.com

2532. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 17:09:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9A201DCB77Dnonenowhere@61.9.191.5>
Source record: 8932

Owen Duffy <none@no.where> wrote in news:Xns9D995B6088AFDnonenowhere@
61.9.191.5:

...
> Clearly, dissipation in Rs is related to Vr, but it is not simply
> proportional to the square of Vr as believed by many who lack the basics
> of linear circuit theory to come to a correct understanding.

Thinking about this some more, it should say:

Clearly, dissipation in Rs is related to Vr, but the contribution due to Vr
is not simply Vr^2/Rs as believed by many who lack the basics of linear
circuit theory to come to a correct understanding.

Owen

2533. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 17:09:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9A202A37637nonenowhere@61.9.191.5>
Source record: 8933

Owen Duffy <none@no.where> wrote in
news:Xns9D99AAF9744CEnonenowhere@61.9.191.5:

...
> Miguel, I gave an expression for power in your simple source circuit
> in a recent post, did you see it. Well here it is again:
>
> Prs=(Vs/2-Vr)^2/Rs where Vs is the o/c source voltage, Vr is the
> complex reflected wave voltage equivalent, Rs is the source
> resistance.
>
> If the reflected wave was always, and entirely dissipated in Rs in
> that type of source, then Prs=Vr^2/Zo=Vr^2/Rs... but it isn't, see the
> above expression.

Thinking about this some more, the last paragraph should say:

If the reflected wave was always, and entirely dissipated in Rs in that
type of source, then Prs=a+Vr^2/Zo=a+Vr^2/Rs (where a is some constant
value)... but it isn't, see the above expression.

Owen

2534. Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 17:24:26 UTC
From: "R.Scott" <w7psk@yahoo.com>
Message-ID: <ce7fa899-9c95-48bd-8e37-c44494a83534@i31g2000yqm.googlegroups.com>
Source record: 8934

I see all kinds of crazy matching sections in posts about 6 meter beams. How about direct connect. I have an A4S that has major issues in the traps and I cant find the problem (IE I opened them and cant find anything) SOOO I have a new A4S coming.

Has anyone taken an old 3 elem tribander and converted it to 6 meter monobander using the direct connect.

Any Issues.

Would a 4 elem be better since its a long boom ?

I'm pretty sure I know the answers. Just want to confirm and see if there is any reason not to direct connect rather than through a hairpin or a gamma match.

Scotty W7PSK

2535. Amazing sexy celebrities

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 17:24:45 UTC
From: loosi <rvlnsvprasad@gmail.com>
Message-ID: <6aed0568-c43e-4af0-bd81-573389a7e927@a16g2000prg.googlegroups.com>
Source record: 8935

http://www.photovediodating.com

2536. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 17:25:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9A22D4097BFnonenowhere@61.9.191.5>
Source record: 8936

Owen Duffy <none@no.where> wrote in news:Xns9D9A202A37637nonenowhere@
61.9.191.5:

> Owen Duffy <none@no.where> wrote in
> news:Xns9D99AAF9744CEnonenowhere@61.9.191.5:
>
> ...
>> Miguel, I gave an expression for power in your simple source circuit
>> in a recent post, did you see it. Well here it is again:
>>
>> Prs=(Vs/2-Vr)^2/Rs where Vs is the o/c source voltage, Vr is the
>> complex reflected wave voltage equivalent, Rs is the source
>> resistance.
>>
>> If the reflected wave was always, and entirely dissipated in Rs in
>> that type of source, then Prs=Vr^2/Zo=Vr^2/Rs... but it isn't, see the
>> above expression.
>
> Thinking about this some more, the last paragraph should say:
>
> If the reflected wave was always, and entirely dissipated in Rs in that
> type of source, then Prs=a+Vr^2/Zo=a+Vr^2/Rs (where a is some constant
> value)... but it isn't, see the above expression.

To deal properly with the fact that Vr has magnitude and phase, the above
should we written as:

Prs=|(Vs/2-Vr)|^2/Rs where Vs is the o/c source voltage, Vr is the
complex reflected wave voltage equivalent, Rs is the source resistance.

If the reflected wave was always, and entirely dissipated in Rs in that
type of source, then Prs=a+|Vr|^2/Zo=a+|Vr|^2/Rs (where a is some
constant value)... but it isn't, see the above expression.

Owen

2537. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 18:06:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <cf3f4769-9d02-4ee5-8ae9-a709d9e47c62@q12g2000yqj.googlegroups.com>
Source record: 8937

On Jun 16, 12:09 pm, Owen Duffy <n...@no.where> wrote:
> Clearly, dissipation in Rs is related to Vr, but the contribution due to Vr
> is not simply Vr^2/Rs as believed by many who lack the basics of linear
> circuit theory to come to a correct understanding.

Come on, Owen, that's just a straw man. Exactly who said that Vref^2/
Rs is dissipated in Rs?
--
73, Cecil, w5dxp.com

2538. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 18:10:02 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <099ab3b6-a0e0-43e9-a8f6-87384f25e120@y11g2000yqm.googlegroups.com>
Source record: 8938

On Jun 16, 12:09 pm, Owen Duffy <n...@no.where> wrote:
> If the reflected wave was always, and entirely dissipated in Rs in that
> type of source, then Prs=a+Vr^2/Zo=a+Vr^2/Rs (where a is some constant
> value)... but it isn't, see the above expression.

Again, a straw man. To the best of my knowledge, nobody has said that
reflected power is "entirely dissipated in Rs" (except for the special
case when interference doesn't exist.)
--
73, Cecil, w5dxp.com

2539. Disconne Or Scantenna Brand Antenna For Scanner Frequencies ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 18:15:47 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <hvb4covpp2@news.eternal-september.org>
Source record: 8939

Hello,

For an antenna to be mounted in my attic, and for the typical scanner
frequencies, am I better off with a Disconne, or with a
Scantenna brand antenna ?
Why ?

Also, am I right that the Scantenna is Omni-directional ?

Thanks,
Bob

2540. Re: Disconne Or Scantenna Brand Antenna For Scanner Frequencies ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 19:58:38 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hvbabpsfj1@news.eternal-september.org>
Source record: 8940

Bob Inscribed thus:

> Hello,
>
> For an antenna to be mounted in my attic, and for the typical scanner
> frequencies, am I better off with a Disconne, or with a
> Scantenna brand antenna ?
> Why ?
>
> Also, am I right that the Scantenna is Omni-directional ?
>
> Thanks,
> Bob

If you have a typical attic (inverted V) why not build your own. For a scanner you probably wouldn't notice any difference between it and a commercial one.

A guy I know used a bicycle wheel for the top hat and wires for the cone. He also reckons that its a reasonable match on two as well.

--
Best Regards:
Baron.

2541. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 21:11:36 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <T7OdndkPaJKRo4TRnZ2dnUVZ_j6dnZ2d@giganews.com>
Source record: 8941

Keith Dysart wrote:

> . . .

> So there you have it. The interpretation that the forward
> and reflected wave are real and transport energy leads to
> the conclusion that on a line charged to a constant DC
> voltage, energy is flowing in the forward direction and
> energy is flowing in the reflected direction.
>
> Because it is obvious that there is no energy flowing on
> the line, this interpretation makes me quite uncomfortable.
>
> Now there are several ways out of this dilemma.
>
> Some say they are only interested in RF (and optics), and
> that nothing can be learned from DC, steps, pulses or other
> functions. They simply ignore the data and continue with
> their beliefs.
>
> Some claim that DC is special, but looking at the equations,
> there is no reason to expect the analysis to collapse with
> DC.
>
> The best choice is to give up on the interpretation that the
> forward and reflected voltage waves necessarily transport
> energy. Consider them to be a figment of the analysis technique;
> very convenient, but not necessarily representing anything real.
>
> As an added bonus, giving up on this interpretation will remove
> the need to search for ï¿½where the reflected power goesï¿½ and
> free the mind for investment in activities that might yield
> meaningful results.
>
> ...Keith

Well done, Keith. Thanks.

Roy Lewallen, W7EL

2542. Re: Disconne Or Scantenna Brand Antenna For Scanner Frequencies ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 21:23:03 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <6e1a2cda-2a68-4271-8682-e148fc67f1b0@h13g2000yqm.googlegroups.com>
Source record: 8942

On Jun 16, 3:58 pm, Baron <baron.nos...@linuxmaniac.nospam.net> wrote:
> Bob Inscribed thus:
>
> > Hello,
>
> > For an antenna to be mounted in my attic, and for the typical scanner
> > frequencies, am I better off with a Disconne, or with a
> > Scantenna brand antenna ?
> > Why ?
>
> > Also, am I right that the Scantenna is Omni-directional ?
>
> > Thanks,
> > Bob
>
> If you have a typical attic (inverted V) why not build your own. For a
> scanner you probably wouldn't notice any difference between it and a
> commercial one.
>
> A guy I know used a bicycle wheel for the top hat and wires for the
> cone. He also reckons that its a reasonable match on two as well.
>
> --
> Best Regards:
>   Baron.

Ive done this in a pinch for a TV antenna, never tried it on a ham
band but if you pick the right size wheel I cant see why it wouldnt
work.

Jimmie

2543. Re: Disconne Or Scantenna Brand Antenna For Scanner Frequencies ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 21:23:10 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <4409451b-3f9f-475e-9045-903b197648e2@5g2000yqz.googlegroups.com>
Source record: 8943

On Jun 16, 3:58 pm, Baron <baron.nos...@linuxmaniac.nospam.net> wrote:
> Bob Inscribed thus:
>
> > Hello,
>
> > For an antenna to be mounted in my attic, and for the typical scanner
> > frequencies, am I better off with a Disconne, or with a
> > Scantenna brand antenna ?
> > Why ?
>
> > Also, am I right that the Scantenna is Omni-directional ?
>
> > Thanks,
> > Bob
>
> If you have a typical attic (inverted V) why not build your own. For a
> scanner you probably wouldn't notice any difference between it and a
> commercial one.
>
> A guy I know used a bicycle wheel for the top hat and wires for the
> cone. He also reckons that its a reasonable match on two as well.
>
> --
> Best Regards:
>   Baron.

Ive done this in a pinch for a TV antenna, never tried it on a ham
band but if you pick the right size wheel I cant see why it wouldnt
work.

Jimmie

2544. Re: Disconne Or Scantenna Brand Antenna For Scanner Frequencies ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 21:23:18 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <29e6b319-95f9-406d-bd76-5e88c1427f9b@z8g2000yqz.googlegroups.com>
Source record: 8944

On Jun 16, 3:58 pm, Baron <baron.nos...@linuxmaniac.nospam.net> wrote:
> Bob Inscribed thus:
>
> > Hello,
>
> > For an antenna to be mounted in my attic, and for the typical scanner
> > frequencies, am I better off with a Disconne, or with a
> > Scantenna brand antenna ?
> > Why ?
>
> > Also, am I right that the Scantenna is Omni-directional ?
>
> > Thanks,
> > Bob
>
> If you have a typical attic (inverted V) why not build your own. For a
> scanner you probably wouldn't notice any difference between it and a
> commercial one.
>
> A guy I know used a bicycle wheel for the top hat and wires for the
> cone. He also reckons that its a reasonable match on two as well.
>
> --
> Best Regards:
>   Baron.

Ive done this in a pinch for a TV antenna, never tried it on a ham
band but if you pick the right size wheel I cant see why it wouldnt
work.

Jimmie

2545. Re: Disconne Or Scantenna Brand Antenna For Scanner Frequencies ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 21:23:27 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <c0c003b5-b33d-4735-b174-2f4d6c69ba21@y11g2000yqm.googlegroups.com>
Source record: 8945

On Jun 16, 3:58 pm, Baron <baron.nos...@linuxmaniac.nospam.net> wrote:
> Bob Inscribed thus:
>
> > Hello,
>
> > For an antenna to be mounted in my attic, and for the typical scanner
> > frequencies, am I better off with a Disconne, or with a
> > Scantenna brand antenna ?
> > Why ?
>
> > Also, am I right that the Scantenna is Omni-directional ?
>
> > Thanks,
> > Bob
>
> If you have a typical attic (inverted V) why not build your own. For a
> scanner you probably wouldn't notice any difference between it and a
> commercial one.
>
> A guy I know used a bicycle wheel for the top hat and wires for the
> cone. He also reckons that its a reasonable match on two as well.
>
> --
> Best Regards:
>   Baron.

Ive done this in a pinch for a TV antenna, never tried it on a ham
band but if you pick the right size wheel I cant see why it wouldnt
work.

Jimmie

2546. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 21:26:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c1e00536-8efb-48af-98bc-ff73fe7d4c64@r27g2000yqb.googlegroups.com>
Source record: 8946

On Jun 16, 4:11 pm, Roy Lewallen <w...@eznec.com> wrote:
> Well done, Keith. Thanks.

Two ignorant people patting each other on the back. If DC methods
worked on distributed networks, there would never have been any need
to invent distributed network analysis - yet it was invented because
DC methods failed miserably for distributed network analysis. How does
a 1/4WL impedance transformer perform at DC? How does a DC analysis
work for light waves? Good grief!
--
73, Cecil, w5dxp.com

2547. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 21:44:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <J6ydnfr4KcUj2lTRnZ2dnUVZ_qqdnZ2d@giganews.com>
Source record: 8947

Owen Duffy wrote:
> . . .

> I saw the challenge and note the lack of response.
>
> Let me offer a steady state solution.
>
> In the case of a simple source being an ideal AC voltage generator of Vs
> and an ideal series resistance Rs of Ro, and that Zo=Ro, for any
> arbitrary load, at the source terminals, Vf=Vs/2, Vl=Vf+Vr=Vs/2+Vr, and
> the voltage difference across Rs is Vs/2-Vr (noting that Vr is a complex
> quantity and can have a magnitude from 0 to Vs/2 at any phase angle),
> therfore dissipation in Rs is given by:
>
> Prs=(Vs/2-Vr)^2/Rs where Vs is the o/c source voltage, Vr is the complex
> reflected wave voltage equivalent, Rs is the source resistance.
>
> Clearly, dissipation in Rs is related to Vr, but it is not simply
> proportional to the square of Vr as believed by many who lack the basics
> of linear circuit theory to come to a correct understanding.
>
> Roy, is that a solution?
>
> Owen

Sorry, I don't think so. The very first equation, Vf=Vs/2, would be true only if the load = Ro or for the time between system start and when the first reflection returns. For the specified steady state and arbitrary load, Vf would be a function of the impedance seen by the source which is in turn a function of the line length and load impedance.

I'm not saying an equation relating "reflected power" and source dissipation can't be written, but it does involve load impedance and line length and Z0. (Equations written with Vf and Vr as variables tend to conceal the inevitable dependence of these on line length and Z0 and load impedance, but the dependence is still there.) And the equation will show that there isn't any one-to-one correspondence between the two quantities. For a given source voltage and resistance, the source resistance dissipation depends only on the impedance seen by the source. This in turn depends on the length and Z0 of the line and the load impedance, and can be created by an infinite combination of loads and lines having different "reflected powers". As I illustrated in an earlier posting, a constant load with various lines having very different "reflected powers" can present the same impedance to the source and therefore result in the same source resistor dissipation.

Likewise, different lines having the same "reflected powers" can result in different impedances seen by the source and therefore different dissipations. So the two aren't really related, even though you could write an equation which contains both terms.

Roy Lewallen, W7EL

2548. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 22:06:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9A527FFBE87nonenowhere@61.9.191.5>
Source record: 8948

Roy Lewallen <w7el@eznec.com> wrote in
news:J6ydnfr4KcUj2ITRnZ2dnUVZ_qqdnZ2d@giganews.com:

...
>
> Sorry, I don't think so. The very first equation, Vf=Vs/2, would be true
> only if the load = Ro or for the time between system start and when the
> first reflection returns. For the specified steady state and arbitrary
> load, Vf would be a function of the impedance seen by the source which
> is in turn a function of the line length and load impedance.

Vf means the 'forward wave' voltage equivalent voltage at the source
terminals.

I provide the mathematical development of the case that Vf=Vs/2 where
Rs=Ro=Zo at http://vk1od.net/blog/?p=1028 .

Can you fault that development?

Owen

2549. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 22:58:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <29ab0a6c-8b97-4030-b91b-ef928bab9b99@k39g2000yqb.googlegroups.com>
Source record: 8949

On Jun 16, 2:49 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 16, 1:29 am, lu6etj <lu6...@gmail.com> wrote:
>
> > For not to work too much, calculations could be reduced to three
> > resistive Zls, and three lengths of TL. Let me suggest 25, 50 and 100
> > ohms RLs and 0.5, 0.25 and 0.125 of lambda (to honor Cecil and Roy
> > papers), Vg voltage = 100 V RMS, Rs 50 ohms, Zo obviously 50 ohms too
> > (lossless line). Zl=50 ohms and 1/2 lambda TL are for beginners, as
> > me ;>D
>
> Miguel, Owen's equation, Prs=(Vs/2-Vr)^2/Rs, and the following power
> density equation are equivalent and yield the same answers for Prs.
> However, the power density equation indicates the magnitude of
> interference present at Rs and the sign of the interference indicates
> whether the interference is destructive or constructive. This general
> equation is how optical physicists track the power density in their
> light and laser beams.
>
> Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)
>
> where A is the phase angle between the electric fields of wave1 and
> wave2. In our case, it will be the phase angle between the forward
> wave and the reflected wave at the source resistor.
>
> For our purposes, based on your specifications, we can rewrite the
> equation:
>
> Prs = Pfor + Pref + 2*SQRT(Pfor*Pref)*cos(A)
>
> Pfor is fixed at 50 watts. For a 50 ohm load, Pref=0.
> For a 25 ohm or 100 ohm load, Pref=5.556 watts.
> Angle A is either 0, 90, or 180 degrees depending upon which example
> is being examined.
>
> For all three of the RL=50 ohm examples, Pref=0, the line is matched
> and Prs = Prl = 50 watts. There is no question of where the reflected
> power goes because Pref=0.
>
> For all three of the 0.125WL examples, since A=90 deg, the
> interference term in the power density equation is zero so for the 25
> ohm and 100 ohm loads:
>
> Prs = Pfor + Pref = 55.556 watts
>

> When there is no interference, all the reflected power is obviously
> dissipated in the source resistor. This matches my "zero interference"
> article.
>
> For all four of the other examples, the SWR is 2:1.
> Pfor = 50w, Pref = 5.556w, Pload = 44.444w
>
> If the reflected wave arrives with the electric field in phase with
> the forward wave,
> angle A = 0 degrees so cos(A) = +1.0
> The positive sign tells us that the interference is constructive.
>
> Prs = Pfor + Pref + 2*SQRT(Pfor*Pref)*cos(A)
>
> Prs = 50 + 5.556 + 2*SQRT(50*5.556)
>
> Prs = 55.556 + 33.333 = 88.89 watts
>
> In addition to the sum of the forward power and reflected power being
> dissipated in Rs, the source is forced to supply the additional power
> contained in the 33.333 watt constructive interference term.
>
> So Psource = 100w + 33.333w = 133.33w
>
> Because of the constructive interference, the source not only must
> supply the 100 watts that it supplies during matched line conditions,
> but it must also supply the constructive interference power of 33.333
> watts.
>
> When the reflected wave arrives at Rs 180 degrees out of phase with
> the forward wave,
> cos(A) = cos(180) = -1.0. The negative sign indicates that the
> interference is destructive.
>
> Prs = 50 + 5.556 - 2*SQRT(50*5.556)
>
> Prs = 55.556 - 33.333 = 22.223 watts
>
> The source is forced to throttle back on its power output by an amount
> equal to the destructive interference power of 33.33 watts. It is
> supplying the 22.223w dissipated in Rs plus the difference in the
> forward power and the reflected power.
>
> Psource = Prs + Pfor - Pref = 66.667w
>
> Note that the source is no longer supplying the reflected power. The
> destructive interference has apparently redistributed the incident
> reflected energy back toward the load as part of the forward wave.
>
> In attempted chart form, here are the Prs values:

>
> line length, 0.5WL, 0.25WL, 0.125WL
>
> 25 ohm load, 88.889w, 22.223w, 55.556w
>
> 50 ohm load, 50w, 50w, 50w
>
> 100 ohm load, 22.223w, 88.889w, 55.556w
> --
> 73, Cecil, w5dxp.com

lets see one case off the top of my head... 100 ohms resistive at 1/4 wave, transformed back to the source results in 25 ohms, pure resistive. 50 ohm source in series with 25 ohm transformed load gives 100v/75ohms = 1.333A from at the source terminals and 100v*25ohm/(25ohm +50ohm) = 33.33V. power from the source has to equal power into the load since the line is lossless so PL = 33.33v*1.333a = 44.44w. power dissipated in the source resistor =1.333a*(100v-33.33v)=88.88w

no sines, no cosines, no square roots, no Pfor/Pref... so much simpler using voltage or current and simple transformations.

2550. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 23:04:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c17e63fe-8518-4475-be9b-653e61c3fe81@w31g2000yqb.googlegroups.com>
Source record: 8950

On Jun 16, 4:44 pm, Roy Lewallen <w...@eznec.com> wrote:
> Sorry, I don't think so. The very first equation, Vf=Vs/2, would be true
> only if the load = Ro or for the time between system start and when the
> first reflection returns.

I would really like to see you prove that assertion.
If Rs = 50 ohms and Z0 = 50 ohms, why would the reflected wave change
the forward power since the reflected wave sees a matched 50 ohm
"load"? Hint: The forward power won't change unless there is a re-
reflection at the source. You have deliberately designed your food-for-
thought example to avoid re-reflections at the source. Lumped-circuit
models seem to have atrophied a lot of brains.

Those are the kind of strange concepts that result from over-
simplification of the math models. When one denies the ExH energy
content of an EM wave (even a reflection) one chooses to follow
oneself down a primrose path. Optical physicists can track their light
wave energy down to the last photon. Why are some RF engineers so
ignorant in the tracking of energy that they assert there is no energy
in a reflected wave?
--
73, Cecil, w5dxp.com

2551. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 23:04:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <38ef9b19-6587-43bb-a3f4-d147afa9ac2d@g19g2000yqc.googlegroups.com>
Source record: 8851

On Jun 16, 2:49 pm, Cecil Moore <w5...@hotmail.com> wrote:
> Ptot = P1 + P2 + 2*SQRT(P1*P2)*cos(A)
>
> where A is the phase angle between the electric fields of wave1 and
> wave2. In our case, it will be the phase angle between the forward
> wave and the reflected wave at the source resistor.
>
> For our purposes, based on your specifications, we can rewrite the
> equation:
>
> Prs = Pfor + Pref + 2*SQRT(Pfor*Pref)*cos(A)
>
> Pfor is fixed at 50 watts. For a 50 ohm load, Pref=0.
> For a 25 ohm or 100 ohm load, Pref=5.556 watts.
> Angle A is either 0, 90, or 180 degrees depending upon which example
> is being examined.

would you care to provide us with the general equation for A given a complex load impedance and a line length other than a multiple of 90 degrees?

2552. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 23:10:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a1d5d5d8-6f44-4d60-bde3-28c1a37dd1d8@s9g2000yqd.googlegroups.com>
Source record: 8852

On Jun 16, 5:58 pm, K1TTT <k1...@arrl.net> wrote:
> no sines, no cosines, no square roots, no Pfor/Pref... so much simpler
> using voltage or current and simple transformations.

Yes, but determining where the reflected energy goes is the title of
this thread. My method shows where the reflected energy goes and yours
does not! That's the entire point.
--
73, Cecil, w5dxp.com

2553. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 23:16:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1e43cc1a-6520-4248-8bbb-8b8014d9fc83@k39g2000yqb.googlegroups.com>
Source record: 8853

On Jun 16, 6:04 pm, K1TTT <k1...@arrl.net> wrote:
> would you care to provide us with the general equation for A given a
> complex load impedance and a line length other than a multiple of 90
> degrees?

It's simply the relative phase angle between the forward voltage and
reflected voltage at the source resistor. I trust that you can manage
that without my help.
--
73, Cecil, w5dxp.com

2554. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 23:47:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fad54462-bbeb-462a-8751-5ad342d6bda2@w12g2000yqj.googlegroups.com>
Source record: 8854

On Jun 16, 11:10 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 16, 5:58 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > no sines, no cosines, no square roots, no Pfor/Pref... so much simpler
> > > using voltage or current and simple transformations.
>
> Yes, but determining where the reflected energy goes is the title of
> this thread. My method shows where the reflected energy goes and yours
> does not! That's the entire point.
> --
> 73, Cecil, w5dxp.com

ah, but it does... it gives the exact same results but without all the
power manipulations. the point is, in sinusoidal steady state you can
calculate the impedance seen by the source and get all those same
results much simpler than trying to track forward and reflected
powers. and if you really want to know the source and load powers
they are easy enough to get as i showed.

2555. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-16 23:50:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <eb3f2a25-9a11-4932-b1e0-8b484233c42a@u7g2000yqm.googlegroups.com>
Source record: 8855

On Jun 16, 11:16 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 16, 6:04 pm, K1TTT <k1...@arrl.net> wrote:
>
> > would you care to provide us with the general equation for A given a
> > complex load impedance and a line length other than a multiple of 90
> > degrees?
>
> It's simply the relative phase angle between the forward voltage and
> reflected voltage at the source resistor. I trust that you can manage
> that without my help.
> --
> 73, Cecil, w5dxp.com

ah, so you do have to calculate the voltages, which would requires two
transformations of the length of the coax plus calculating the
magnitude and angle of the complex reflection coefficient then adding
them all up. still sounds like more work than necessary.

2556. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 03:00:22 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a5009f89-1f3c-4355-8f17-ee69f6c2ac00@u7g2000yqm.googlegroups.com>
Source record: 8856

On Jun 16, 6:47 pm, K1TTT <k1...@arrl.net> wrote:
> ah, but it does... it gives the exact same results but without all the
> power manipulations.

Give us a break. If what you say is true, why didn't you tell us where
the reflected power goes a long time ago? :-)
--
73, Cecil, w5dxp.com

2557. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 04:47:26 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <80a22bb7-75e2-446f-b89e-b0f65fafcd87@k39g2000yqb.googlegroups.com>
Source record: 8857

On 16 jun, 20:50, K1TTT <k1...@arrl.net> wrote:
> On Jun 16, 11:16 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 16, 6:04 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > would you care to provide us with the general equation for A given a
> > > complex load impedance and a line length other than a multiple of 90
> > > degrees?
>
> > It's simply the relative phase angle between the forward voltage and
> > reflected voltage at the source resistor. I trust that you can manage
> > that without my help.
> > --
> > 73, Cecil, w5dxp.com
>
> ah, so you do have to calculate the voltages, which would requires two
> transformations of the length of the coax plus calculating the
> magnitude and angle of the complex reflection coefficient then adding
> them all up. still sounds like more work than necessary.

Hello all

If I do not make any mistake, my numbers agree with yours Cecil, it is
a pleasure (my procedure was the old plain and simple standard) :>)
I know, 1000 examples probe nothing, only one popperianists man can
bring a black swan at any time and falsify the induction :>). but now
seems more clear to me you have a predictive model that render
identical numbers of my classical one, at least in basic tests, it is
a step forward to better considerate your efforts and with goodwill
begin to establish basic points of agreement.
I recognize it is a more simple approach the classic method (as said
K1TTT) to me too, but also I think not always one good method or model
it is more convenient to understand another useful view of phenomena.
Phasorial solutions are good, practical and likely complete electric
solutions but in my opinion they do not married very well with other
more general electromagnetic and physics models (wave guides perhaps?
I have not experience); unification has its advantages too (However my
favourite answer was definitely the Roy's one in the fourth post of
the thread, hi hi...)

73 - Miguel - LU6ETJ

PS: Owen do not be upset with me :>) most of my available newsgroup
time it is spent in translate to english without flaws that may induce
to misinterpretations (all of you are very demanding with precise

wording and exact definitions), one mistake and I will need three or four painly translations more to clarify :>D

Today I tested your interesting formula with a Half wave 50 ohms TL, loaded with 100 and 25 ohms respectively. Vs=100 Vrms, Rs=50 ohm give 2:1 VSWR. In both cases then Pf 50 W, Pr=5.5 W, Pnet=44.4 W. Giving Vf=50 V and Vr=16,6 V aprox. for both loads.
I am using (Pf=Pnet / (1-Rho^2) and Pr=Pnet / ((1/1/Rho^2) -1) formula which not gives different sign to Vr, in such case applying to PRs=(((Vs/2)-Vr)^2)/Rs => ((50/2)-16.66)^2/50. I get PRs=22,2 with both loads because the sign of Vf (always +) from simple Pr and Pf formulas, changing the sign of Pr render Rs=88,8 W for Prs (OK).

I have in my disk a very descriptive, advisable and friendly article downloaded from:
http://www.ittc.ku.edu/~jstiles/622/handouts/Transmission_Lines_package.pdf

In page number 88 there is a agreement with your formula in "Is zo of aa HF ham tx typycally 50+j0?".

2558. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 05:12:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <MaWdneU_MKMmM4TRnZ2dnUVZ_uadnZ2d@giganews.com>
Source record: 8858

Owen Duffy wrote:
> Roy Lewallen <w7el@eznec.com> wrote in
> news:J6ydnfr4KcUj2ITRnZ2dnUVZ_qqdnZ2d@giganews.com:
>
> ...
>> Sorry, I don't think so. The very first equation, Vf=Vs/2, would be true
>> only if the load = Ro or for the time between system start and when the
>> first reflection returns. For the specified steady state and arbitrary
>> load, Vf would be a function of the impedance seen by the source which
>> is in turn a function of the line length and load impedance.
>
> Vf means the 'forward wave' voltage equivalent voltage at the source
> terminals.
>
> I provide the mathematical development of the case that Vf=Vs/2 where
> Rs=Ro=Zo at http://vk1od.net/blog/?p=1028 .
>
> Can you fault that development?
>
> Owen

I stand corrected. In the special case of Rs = Z0, the steady state forward voltage and therefore "forward power" become independent of the transmission line length and load impedance, just as you said and show in your analysis.

But this isn't true in the general case where Rs isn't equal to Z0. In the general case, the forward voltage is

Vf = Vfi * exp(-j*theta) / (1 - Gs*Gl*exp(-j*2*thetal))

where Gs = reflection coefficient at the source looking back from the line = (Zs - Z0)/(Zs + Z0)
Gl = reflection coefficient at the load = (Zl - Z0)/(Zl + Z0)
theta = distance along the line from the source end
thetal = length of the line in radians
Vfi = initial forward voltage = Vs * Z0 / (Zs + Z0)

At the input end of the line, theta = 0 so

Vf1 = Vfi / (1 - Gs*Gl*exp(-j*2*thetal))

and the reverse voltage at the input is

Vr1 = Gl * Vf1 * exp(-j*2*thetal)

Note that although Vf is a function of Gs, reflected voltage Vr is also a function of Gs and their ratio is not. So VSWR and Pf/Pr don't depend on Gs. But the general equation for Vf does include line length and Z0 as well as both source and load Z.

In the example I posted earlier (Transmitter power 100 watts, load Z = 50 + j0, line length 1/2 wavelength), no mention was made of the source impedance, only the power being delivered by the transmitter, which was the same for both cases since the impedance seen by the transmitter didn't change. In the first case, where Z0 = Zl = 50 + j0, the forward power on the line was 100 watts and reverse power was zero. In the second case, the line Z0 was changed to 200 ohms. This caused an increase in forward power to 156.25 watts (calculated from VSWR). From these we can infer that the forward voltage increased by a factor of 2.5 from sqrt(100 * 50) = 70.71 Vrms to sqrt(156.25 * 200) = 176.8 Vrms. Let's see if this agrees with the equations.

When the line is a half wavelength long, thetal = pi, so the equation for Vf1 simplifies to:

Vf1 (half wavelength line) = Vfi / (1 - Gs*Gl)

Expanding Vfi, Gs, and Gl results in

Vf1 (half wavelength line) = Vs * (Z0 + Zl)/(2 * (Zs + Zl))

Various combinations of Vs and Zs can give us the 100 assumed watts, but we don't need to specify any specific values. Leaving Vs and Zs as unknown constants and Zl as fixed, we can find the ratio for two different values of Z0:

Vf1 = Vs * (Z01 + Zl)/(2 * (Zs + Zl))
Vf2 = Vs * (Z02 + Zl)/(2 * (Zs + Zl))

Vf2/Vf1 = (Z02 + Zl)/(Z01 + Zl)

In the example, case 1 had Z0 = Z01 = 50; case 2 had Z0 = Z02 = 200, and Zl was 50 for both. So Vf2/Vf1 = (200 + 50)/(50 + 50) = 2.5, which agrees with the calculation based on VSWR.

Once again, the general equations for Vf and Vr and therefore Pf and Pr include Zs, Zl, line length, and line Z0. While one or more of these terms might disappear in special cases or ratios, they all have to appear in any equation of general applicability.

Roy Lewallen, W7EL

2559. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 05:38:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9A9F11491DCnonenowhere@61.9.191.5>
Source record: 8859

lu6etj <lu6etj@gmail.com> wrote in
news:80a22bb7-75e2-446f-b89e-b0f65fafcd87@k39g2000yqb.googlegroups.com:

...
> PS: Owen do not be upset with me :>) most of my available newsgroup
> time it is spent in translate to english without flaws that may induce
> to misinterpretations (all of you are very demanding with precise
> wording and exact definitions), one mistake and I will need three or
> four painly translations more to clarify :>D
>
> Today I tested your interesting formula with a Half wave 50 ohms TL,
> loaded with 100 and 25 ohms respectively. Vs=100 Vrms, Rs=50 ohm give
> 2:1 VSWR. In both cases then Pf 50 W, Pr=5.5 W, Pnet=44.4 W. Giving
> Vf=50 V and Vr=16,6 V aprox. for both loads.

I posted a correction to the formula to properly account for the fact
that Vr is a complex quantity.

The corrected expression is Prs=|(Vs/2-Vr)|^2/Rs . Apologies if you
missed it. Of course, the V quantities are RMS, it is a bit of a botch of
RMS with phase as we often do in thinking... but I see you using the same
shorthand in your calcs. Although we are using RMS values, don't overlook
that where they add (eg Vf+Vr) you must properly account for the phase.

For your cases:

For the 25+j0 load, Vr=-16.67+j0, so Prs=|50--16.67|^2/50=88.9W.

For the 100+j0 load, Vr=16.67+j0, so Prs=|50-16.67|^2/50=22.2W.

Of course, for a 50+j0 load, Vr=0, so Prs=|50-0|^2/50=50.0W.

As you can see, the first two cases have the same |Vr| (though different
phase), the same 'reflected power', and yet Prs is very different.

Consider an extreme case, Zl=1e6, VSWR is extreme, almost infinity, Vref=
50+j0, so Prs=|50-50|^2/50=0.0W. Here, your 'reflected power' is as large
as it gets, but the power dissipated in the source is zero.

The notion that reflected power is simply and always absorbed in the real
source resistance is quite wrong. Sure you can build special cases where
that might happen, but there is more to it. Thinking of the reflected
wave as 'reflected power' leads to some of the misconception.

Owen

2560. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 05:49:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9AA0FF236AAnonenowhere@61.9.191.5>
Source record: 8860

Roy Lewallen <w7el@eznec.com> wrote in
news:MaWdneU_MKMmM4TRnZ2dnUVZ_uadnZ2d@giganews.com:

> Owen Duffy wrote:
>> Roy Lewallen <w7el@eznec.com> wrote in
>> news:J6ydnfr4KcUj2ITRnZ2dnUVZ_qqdnZ2d@giganews.com:
>>
>> ...
>>> Sorry, I don't think so. The very first equation, Vf=Vs/2, would be
>>> true only if the load = Ro or for the time between system start and
>>> when the first reflection returns. For the specified steady state
>>> and arbitrary load, Vf would be a function of the impedance seen by
>>> the source which is in turn a function of the line length and load
>>> impedance.
>>
>> Vf means the 'forward wave' voltage equivalent voltage at the source
>> terminals.
>>
>> I provide the mathematical development of the case that Vf=Vs/2 where
>> Rs=Ro=Zo at http://vk1od.net/blog/?p=1028 .
>>
>> Can you fault that development?
>>
>> Owen
>
> I stand corrected. In the special case of Rs = Z0, the steady state
> forward voltage and therefore "forward power" become independent of
> the transmission line length and load impedance, just as you said and
> show in your analysis.

Thanks Roy.

There may have been some misunderstanding. I thought your challenge was
issued in the context of the ideal 50 ohm source that Miguel was using as
a test case.

The maths for the ideal 50 ohm source test case is so simple, that it is
evident the |Vr|^2/Ro is not simply summed into Rs's dissipation.

Of course, in the general case, the maths is uglier, but since the
special case of Rs=Ro=Zo proves the 'reflected power' is not simply
dissipated in Rs, it (the general case) must give the same outcome.

Owen

2561. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 10:31:55 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <d88cbc3a-13df-416f-aca6-22118b6cbf88@u26g2000yqu.googlegroups.com>
Source record: 8861

On Jun 14, 7:04 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 14, 12:09 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > Choose an arbitrary point on the line and observe the voltage. The
> > observed voltage will be a function of time. Let us call it V(t).
> > At the same point on the line, observe the current and call it I(t).
>
> if you can choose an arbitrary point, i can choose an arbitrary
> time... call it a VERY long time after the load is disconnected.

That works for me, as long as the time is at least twice the
propagation
time down the line.

> > The energy flowing (i.e. power) at this point on the line will
> > be P(t)=V(t)I(t). If the voltage is measured in volts and the current
> > in amps, then the power will be in joules/s or watts.
> > We can also compute the average energy flow (power) over some
> > interval by integrating P(t) over the interval and dividing by
> > the length of the interval. Call this Pavg. For repetitive
> > signals it is convenient to use one period as the interval.
>
> > Note that V(t) and I(t) are arbitrary functions. The analysis
> > applies regardless of whether V(t) is DC, a sinusoid, a step,
> > a pulse, etc.; any arbitrary function.
>
> > To provide some examples, consider the following simple setup:
> > 1) 50 ohm, Thevenin equivalent circuit provides 100 V in to an
> > open circuit.
>
> this is the case we were discussing... the others are irrelevant at
> this point
>
> > 2) The generator is connected to a length of 50 ohm ideal
> > transmission line. We will stick with ideal lines for the
> > moment, because, until ideal lines are understood, there
> > is no hope of understanding more complex models.
> > 3) The ideal line is terminated in a 50 ohm resistor.

<snip the experiments you do not consider relevent>

> > Now let us remove the terminating resistor. The line is
> > now open circuit.
>
> OK, now we are back to where i had objections above.
>

> > Again, set the generator to DC. After one round trip
> > time, the observations at any point on the line will
> > be:
> > V(t)=100V
> > I(t)=0A
> > P(t)=0W
> > Pavg=0W
>
> ok, p(t)=0w, i=0a, i connect my directional wattmeter at some very
> long time after the load is disconnected so the transients can be
> ignored and i measure 0w forever.

Not correct. See the equations for a directional wattmeter below.

> there is no power flowing in the line.

I agree with this, though a directional wattmeter indicates
otherwise. See below.

> > Now it is time to introduce forward and reflected waves to
> > the discussion. Forward an reflected waves are simply a
> > mathematical transformation of V(t) and I(t) to another
> > representation which can make solving problems simpler.
>
> > The transformation begins with assuming that there is
> > a forward wave defined by Vf(t)=If(t)*Z0, a reflected
> > wave defined by Vr(t)=Ir(t)*Z0 and that at any point
> > on the line V(t)=Vf(t)+Vr(t) and I(t)=If(t)-Ir(t).
>
> > Since we are considering an ideal line, Z0 simplifies
> > to R0.
>
> > Simple algebra yields:
> > Vf(t)=(V(t)+R0*I(t))/2
> > Vr(t)=(V(t)-R0*I(t))/2
> > If(t)=Vf(t)/R0
> > Ir(t)=Vr(t)/R0

The above equations are used in a directional wattmeter.

> > Now these algebraically transformed expressions have all
> > the capabilities of the original so they work for DC,
> > 60 HZ, RF, sinusoids, steps, pulses, you name it.
>
> hmmm, they work for all waveforms you say... even dc?? ok, open
> circuit load, z0=50, dc source of 100v with 50ohm thevenin
> resistance...

You have made some arithmetic errors below. I have re-arranged
your prose a bit to allow correction, then comment.

> well, maybe i missed something... lets look at the voltages:
>

> Vf(t)=(100+50*2)/2 = 100
> Vr(t)=(100-50*2)/2 = 0

You made a substitution error here. On the transmission line
with a constant DC voltage:
V(t)=100V
I(t)=0A

substituting in to
Vf(t)=(V(t)+R0*I(t))/2
Vr(t)=(V(t)-R0*I(t))/2

yields
Vf(t)=50V
Vr(t)=50V

and
If(t) = 50/50 = 1a
Ir(t) = 50/50 = 1a

Recalling that the definition of forward and reflected is
V(t)=Vf(t)+Vr(t)
I(t)=If(t)-Ir(t)
we can check our arithmetic
V(t)= 50+50 = 100V
I(t)= 1-1 = 0A
Exactly as measured.

If you are disagree with the results, please point out
my error in the definitions, derivations or arithmetic.

If you agree with the results, continue reading.

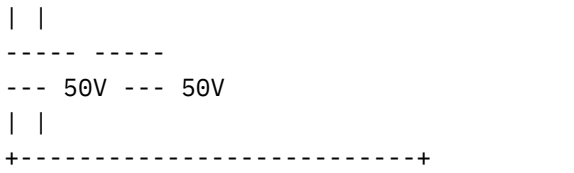
> so there is a reflected 2a current you say?

Well, with no arithmetic errors it is 1A of forward and
reflected current.

> where does that go when it gets back to the source?
> we know that when the 100v source is open
> circuited as it must be in this case that it develops 100v across its
> terminals... sure doesn't seem like any way that 2a can go back into
> the source. it can't be reflected since the source impedance matches
> the line impedance. so where does it go? maybe those simple
> algebraic expressions have to be reconsidered a bit.

Now you see the problem of assigning to much reality to the
these waves.

In principal, the derivation and use of forward and reflected
waves is no different than using superposition to compute the
currents and voltages in simple circuits. Consider
50ohms
+----------\/\/\/\/---------+



Obviously the current in the resistor is 0, but let us
use superposition to solve this problem.

To solve using superposition, one sets all but one of the
voltage sources to zero and then computes the currents. Repeat
for all voltage sources and sum the results in each element.

So set the right voltage source to zero.
The current through R is 1A.
Set the left voltage source to zero.
The current through R is −1A.
Total current through R is 0A, as expected.

Asking “where did the reflected current go?” on the transmission
line case is like asking “where did the −1A go?”. The question
is nonsensical. The −1A is simply an intermediate result in a
method that lets the problem be solved.

The fallacy of assigning powers to the reflected waves also
has an analog in the simple circuit above.
Using the currents derived above, compute the power from the
left source.
50*1*1 = 50W
and the right source
50*(-1)*(-1) = 50W
So what do your think...
Should we add them to get 100W?
Subtract them to get 0W?
Or is the operation invalid because superposing power just
does not work?

Answer 3 is correct.

Taking this knowledge back to transmission lines, the surprise
is that subtracting reflected power from forward power actually
yields the net energy flowing. How can that be?

By substitution, it is easy to show that the rules used to
derive Vf and Vr results in
P(t)=Pf(t)-Pr(t)

So, while superposing powers, does not work in general, it does
for this case. Directional wattmeters take advantage of this
ideosyncracy to let the user compute the power being delivered
to the load.

None-the-less, thinking of these waves as transporting energy
will lead to much confusion.

...Keith

2562. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 10:38:01 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <57b8de85-af19-4e91-ad6e-37348f6c4485@a30g2000yqn.googlegroups.com>
Source record: 8862

On Jun 16, 5:26 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 16, 4:11 pm, Roy Lewallen <w...@eznec.com> wrote:
>
> > Well done, Keith. Thanks.
>
> Two ignorant people patting each other on the back. If DC methods
> worked on distributed networks, there would never have been any need
> to invent distributed network analysis - yet it was invented because
> DC methods failed miserably for distributed network analysis. How does
> a 1/4WL impedance transformer perform at DC? How does a DC analysis
> work for light waves? Good grief!

Ahhh. Your standard answer. You are an RF dude and there is nothing
that can possibly be learned from simple DC circuits.
Especially when the results challenge your beliefs.

Still, I observe that you have discovered no errors in the exposition.
Which is good.

...Keith

2563. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 13:12:31 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9e795a29-f611-466f-97f2-b157f89efcda@b35g2000yqi.googlegroups.com>
Source record: 8863

On Jun 17, 5:38 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> You are an RF dude and there is nothing
> that can possibly be learned from simple DC circuits.

We studied DC circuits in EE101. Later we were forced to expand our
knowledge into distributed networks because the DC circuit model
failed at RF frequencies.

> Still, I observe that you have discovered no errors in the exposition.

I have not wasted my time time trying to discover any errors. In a
nutshell, what new knowledge have you presented?
--
73, Cecil, w5dxp.com

2564. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 13:36:34 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7cbd67de-854f-415f-bc42-dac3bd0fa233@u7g2000yqm.googlegroups.com>
Source record: 8864

On Jun 17, 12:38 am, Owen Duffy <n...@no.where> wrote:
> The notion that reflected power is simply and always absorbed in the real
> source resistance is quite wrong. Sure you can build special cases where
> that might happen, but there is more to it. Thinking of the reflected
> wave as 'reflected power' leads to some of the misconception.

Again, exactly who proposed that notion? The "power" in a reflected wave is actually reflected energy measured at some point on the transmission line. Reflected EM waves cannot exist without ExH energy per unit time per unit area.

The special case where 100% of the reflected power incident from a Z0=50 ohm transmission line is dissipated in the 50 ohm source resistor happens when there is zero interference between the forward wave and reflected wave. Since it is not true when interference exists, it is logical to conclude that interference has something to do with the reflected power results deviating from the zero interference case - and so it does. The interference term in the power density equation indicates what kind of interference exists and what happens to the interference energy.

Roy's experiment was designed to eliminate re-reflections from the source and it does exactly that. What that means is that all of the variations in power distribution are associated with interference, the other mechanism by which RF wave energy can be redistributed. Contrary to w7el's assumption, EM wave reflection is NOT the only mechanism for redistributing RF energy in a transmission line. That glaring fact of physics is what most of the RF experts are missing.
--
73, Cecil, w5dxp.com

2565. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 14:30:22 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ef5bf06a-9525-4a3c-8fc7-ca9efcde5e57@d37g2000yqm.googlegroups.com>
Source record: 8865

On Jun 16, 11:47 pm, lu6etj <lu6...@gmail.com> wrote:
> If I do not make any mistake, my numbers agree with yours Cecil, it is
> a pleasure (my procedure was the old plain and simple standard) :>)

If, instead of a voltage analysis, one does an energy analysis, what happens to the reflected energy becomes obvious. I posted an earlier example that nobody solved. So let me repeat it here.

------Z01------+------Z02------

The power reflection coefficient at point '+' is
rho^2 = 0.5. The power transmission coefficient
is (1-rho^2) = 0.5
Pfor1 on the Z01 line is 100w
Pref1 on the Z01 line is 0w
What are Pfor2 and Pref2 on the Z02 line?
What is the SWR on the Z02 line?

The power reflected back toward the source at point '+' is

Pfor1(rho^2) = 100(0.5) = 50w

We know that Pref1 is zero, so

Pref2(1-rho^2) = 50w

Since 1-rho^2 is 0.5, Pref2 must be 100w and

Pref2(rho^2) = 50w

We also know that Pfor1(1-rho^2) = 50w

So we have two 50w waves trying to flow toward the source and two 50w waves trying to flow toward the load. Do we have 100 watts flowing in both directions? No, that would be superposition of power which is a no-no. Using the power density equation indicates what is happening.

Pref1 = 0 = Pfor1(rho^2) + Pref2(1-rho^2) minus total destructive interference at the Z0-match

Pref1 = 50 + 50 - 2*SQRT(50*50) = 0

Pfor2 = Pfor1(1-rho^2) + Pref2(rho^2) plus total constructive interference

Pfor2 = 50 + 50 + 2*SQRT(50*50) = 200w

Since Pref2/Pfor2 = 0.5, the SWR on the Z02 line is 5.83:1

Note that we have solved the problem without knowing the value of Vfor1, Vfor2, and Vref2. But let's assume Z01 is 50 ohms which makes Z02 equal to 291.5 ohms. Now we can calculate the voltages assuming Vfor1 at '+' is our phase reference:

Vfor1 = 70.7 volts at zero degrees at '+'
Vref1 = 0
Vfor2 = 241.4 volts at zero degrees at '+'
Vref2 = 170.7 volts at 180 deg at '+'

Vfor1(rho1) = 50v at zero deg
Vref2(tau2) = 50v at 180 deg

Vfor1(tau1) = 120.7v at zero deg
Vref2(rho2) = 120.7v at zero deg

There's the interference, voltage style. Two voltages superpose to zero toward the source while engaged in total destructive interference. What happens to the energy components that are supporting those two voltages? There's only one thing that can happen. They are obviously not flowing in their original directions so they must necessarily flow in the only other direction possible. Total destructive interference toward the source results in total constructive interference toward the load.

Someone earlier remarked about the fact that when two 50w waves combine, the result is one 200w wave. That is total constructive interference in action and that extra energy had to come from somewhere.
--
73, Cecil, w5dxp.com

2566. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 15:19:43 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <2idk16hhmr94dbug2cv75js7pudm0jrina@4ax.com>
Source record: 8866

On Wed, 16 Jun 2010 10:24:26 -0700 (PDT), "R.Scott" <w7psk@yahoo.com>
wrote:

>I see all kinds of crazy matching sections in posts about 6 meter
>beams. How about direct connect. I have an A4S that has major issues
>in the traps and I cant find the problem (IE I opened them and cant
>find anything) SOOO I have a new A4S coming.
>
>Has anyone taken an old 3 elem tribander and converted it to 6 meter
>monobander using the direct connect.
>
>Any Issues.
>
>Would a 4 elem be better since its a long boom ?
>
>I'm pretty sure I know the answers. Just want to confirm and see if
>there is any reason not to direct connect rather than through a
>hairpin or a gamma match.
>
>
>Scotty W7PSK

I have an old Radio Shack 11 meter 3 element beam that I plan to put on 6 meters. I once did the EZNEC modeling with the boom length being the only constraint. It was possible to come up with a model that would work with a direct match for 50 ohms to the driven element. I hope to try to construct it soon.

The problem with holding a few parameters constant is that you have to accept whatever gain, patterns and such that come with the deal.

I also have a very old Mosley 15 meter 3 element beam that I want to modify to 17 meters. I am having a lot of fun with PSK31 there with poor antenna setup now.

Tower space is a limiting factor in my case and I am not interested in anything that compromises my A3S!

I wish you were close to me rather than 2306.9 miles, I am looking for an old bargain tri band to tinker with. There is a lot there I don't understand!

John Ferrell W8CCW

2567. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 16:05:11 UTC
From: "R.Scott" <w7psk@yahoo.com>
Message-ID: <5139e55d-d093-483c-887d-84d691cbbc9c@q39g2000prh.googlegroups.com>
Source record: 8867

> The problem with holding a few parameters constant is that you have to
> accept whatever gain, patterns and such that come with the deal.

Well I did find plans for a 6 elem on a 17.5ft boom. The boom on the
old A4S is 18Ft. If I use the parts off my old A3
and my A4 I should be able to come up with all the parts for the 6
element. And its direct connect.

I wonder how far above the A4 the 6 meter needs to be. I only have a
5ft mast.

my DX800 rotor should handle it.

2568. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 19:12:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <Dv6dnaOLE_8H7ofRnZ2dnUVZ_u6dnZ2d@giganews.com>
Source record: 8868

Keith Dysart wrote:
> . . .
> By substitution, it is easy to show that the rules used to
> derive Vf and Vr results in
> P(t)=Pf(t)-Pr(t)
>
> So, while superposing powers, does not work in general, it does
> for this case. Directional wattmeters take advantage of this
> ideosyncracy to let the user compute the power being delivered
> to the load.
> . . .

And it works only if Z0 is purely real. When it's not, P(t) also includes Vf*Ir and Vr*If terms which are neither "forward" nor "reverse" power. It's unfortunate in a way that Z0 is close enough to being real for decent lines at Amateur frequencies that these terms are small. Otherwise they'd have to be confronted and some mistaken assumptions abandoned.

Roy Lewallen, W7EL

2569. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 20:00:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9B3D24B731Cnonenowhere@61.9.191.5>
Source record: 8869

Roy Lewallen <w7el@eznec.com> wrote in
news:Dv6dnaOLE_8H7ofRnZ2dnUVZ_u6dnZ2d@giganews.com:

> Keith Dysart wrote:
>> . . .
>> By substitution, it is easy to show that the rules used to
>> derive Vf and Vr results in
>> P(t)=Pf(t)-Pr(t)
>>
>> So, while superposing powers, does not work in general, it does
>> for this case. Directional wattmeters take advantage of this
>> ideosyncracy to let the user compute the power being delivered
>> to the load.
>> . . .
>
> And it works only if Z0 is purely real. When it's not, P(t) also
> includes Vf*Ir and Vr*If terms which are neither "forward" nor
> "reverse" power. It's unfortunate in a way that Z0 is close enough to
> being real for decent lines at Amateur frequencies that these terms
> are small. Otherwise they'd have to be confronted and some mistaken
> assumptions abandoned.

While Zo of transmission lines might not be purely real, if the sampler element is calibrated for V/I being real, then the power is given by 'forward power' - 'reflected power'. This is true even if the calibration impedance is different to the transmission line in which the measurements are made, though significant departure will impact measurement uncertainty.

For example, if I insert a 50 ohm Bird 43 in a 75 ohm line at 1.8MHz, and measure Pf=150W and Pr=50W, then the power is 150-50=100W. The insertion VSWR due to the Bird 43 is trivial in this case, so it hardly disturbs the thing being measured. Each of the power measurements is of little value alone, no inference can be made (in this case) of the actual line VSWR, but the difference of the Pf and Pr readings does give the power at that point.

I discuss this in my article entitled "http://vk1od.net/blog/?p=1004" at http://vk1od.net/blog/?p=1004 .

Owen

2570. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 20:02:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9B3D632A882nonenowhere@61.9.191.5>
Source record: 8870

Correction:

I discuss this in my article entitled "Power in a mismatched transmission line" at http://vk1od.net/blog/?p=1004 .

Owen

2571. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 21:28:02 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <3c5eddce-c660-4b7f-b59a-f84f36e56593@y11g2000yqm.googlegroups.com>
Source record: 8871

On 17 jun, 11:30, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 16, 11:47 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > If I do not make any mistake, my numbers agree with yours Cecil, it is
> > a pleasure (my procedure was the old plain and simple standard) :>)
>
> If, instead of a voltage analysis, one does an energy analysis, what
> happens to the reflected energy becomes obvious. I posted an earlier
> example that nobody solved. So let me repeat it here.
>
> ------Z01------+------Z02------
>
> The power reflection coefficient at point '+' is
> rho^2 = 0.5. The power transmission coefficient
> is (1-rho^2) = 0.5
> Pfor1 on the Z01 line is 100w
> Pref1 on the Z01 line is 0w
> What are Pfor2 and Pref2 on the Z02 line?
> What is the SWR on the Z02 line?
>
> The power reflected back toward the source at point '+' is
>
> Pfor1(rho^2) = 100(0.5) = 50w
>
> We know that Pref1 is zero, so
>
> Pref2(1-rho^2) = 50w
>
> Since 1-rho^2 is 0.5, Pref2 must be 100w and
>
> Pref2(rho^2) = 50w
>
> We also know that Pfor1(1-rho^2) = 50w
>
> So we have two 50w waves trying to flow toward the source and two 50w
> waves trying to flow toward the load. Do we have 100 watts flowing in
> both directions? No, that would be superposition of power which is a
> no-no. Using the power density equation indicates what is happening.
>
> Pref1 = 0 = Pfor1(rho^2) + Pref2(1-rho^2) minus total destructive
> interference at the Z0-match
>
> Pref1 = 50 + 50 - 2*SQRT(50*50) = 0
>

> Pfor2 = Pfor1(1-rho^2) + Pref2(rho^2) plus total constructive
> interference
>
> Pfor2 = 50 + 50 + 2*SQRT(50*50) = 200w
>
> Since Pref2/Pfor2 = 0.5, the SWR on the Z02 line is 5.83:1
>
> Note that we have solved the problem without knowing the value of
> Vfor1, Vfor2, and Vref2. But let's assume Z01 is 50 ohms which makes
> Z02 equal to 291.5 ohms. Now we can calculate the voltages assuming
> Vfor1 at '+' is our phase reference:
>
> Vfor1 = 70.7 volts at zero degrees at '+'
> Vref1 = 0
> Vfor2 = 241.4 volts at zero degrees at '+'
> Vref2 = 170.7 volts at 180 deg at '+'
>
> Vfor1(rho1) = 50v at zero deg
> Vref2(tau2) = 50v at 180 deg
>
> Vfor1(tau1) = 120.7v at zero deg
> Vref2(rho2) = 120.7v at zero deg
>
> There's the interference, voltage style. Two voltages superpose to
> zero toward the source while engaged in total destructive
> interference. What happens to the energy components that are
> supporting those two voltages? There's only one thing that can happen.
> They are obviously not flowing in their original directions so they
> must necessarily flow in the only other direction possible. Total
> destructive interference toward the source results in total
> constructive interference toward the load.
>
> Someone earlier remarked about the fact that when two 50w waves
> combine, the result is one 200w wave. That is total constructive
> interference in action and that extra energy had to come from
> somewhere.
> --
> 73, Cecil, w5dxp.com

Good day:

> wave as 'reflected power' leads to some of the misconception.

Ugh! The slippery word again...! Please Owen, remember me what power
definition are you using here and expand the sentence idea.

> EM waves cannot exist without ExH energy per unit time per
> unit area.

This is what teachers taught me, but when the EM TL waves reachs a
"target" seems the issue arise in the newsgroup.
Puzzle to me why we can (want? :>)) not reconcile those physics

concepts with usual electricity concepts if today they arise from the same place ultimately?
Certainly in electromagnetism we deal with vectors E,D,B,H,S and in electricity with scalars V(t), I(t) or phasors, this is for convenience and simplicity, but I accept we should be able to understand them in both forms without contradiction.

73 - Miguel Ghezzi - LU6ETJ

2572. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 21:45:39 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <IomdnUO5naQZCofRnZ2dnUVZ_jSdnZ2d@giganews.com>
Source record: 8872

Owen Duffy wrote:
>
> While Zo of transmission lines might not be purely real, if the sampler
> element is calibrated for V/I being real, then the power is given by
> 'forward power' - 'reflected power'. This is true even if the
> calibration impedance is different to the transmission line in which the
> measurements are made, though significant departure will impact
> measurement uncertainty.
>
> For example, if I insert a 50 ohm Bird 43 in a 75 ohm line at 1.8MHz,
> and measure Pf=150W and Pr=50W, then the power is 150-50=100W. The
> insertion VSWR due to the Bird 43 is trivial in this case, so it hardly
> disturbs the thing being measured. Each of the power measurements is of
> little value alone, no inference can be made (in this case) of the
> actual line VSWR, but the difference of the Pf and Pr readings does give
> the power at that point.
>
> I discuss this in my article entitled "http://vk1od.net/blog/?p=1004" at
> http://vk1od.net/blog/?p=1004 .
>
> Owen

Adding a directional wattmeter to the mix raises an interesting issue.

Recalling my earlier example of a 100 watt transmitter connected to a half wavelength 200 ohm transmission line and then to a 50 ohm resistive load, the "forward power" on the line was 156.25 watts and the "reverse power" or "reflected power" 56.25 watts. The subject of this topic asks where the "reflected energy" goes. Does it go back into the transmitter? Well, let's put a 50 ohm directional wattmeter between the transmitter and the line. It measures 100 watts forward and 0 watts reverse. So what happened to the "reverse power" on the transmission line? If it was going back into the transmitter, we've now fixed the problem just by adding the wattmeter. In fact, we could replace the wattmeter with a piece of 50 ohm transmission line of any length, as short or long as we want, and the "forward power" on that line will be 100 watts and "reverse power" zero. So we've protected the transmitter from this horrible, damaging "reverse power" just by adding a couple of inches of 50 ohm line -- or a directional wattmeter. Is this cool or what?

Or we can put the wattmeter at the far end of the line and read 100 watts forward and zero watts reverse, eliminating "reverse power" at the load -- although we've lost 56.25 watts of "forward power". Or put it at the center of the line, where we'd read a whopping 451.6 watts forward and 351.6 reverse(*).

These are the "forward power" and "reverse power" on the short 50 ohm transmission line (or lumped equivalent) inside the wattmeter. So we can create "forward power" and "reverse power" just by moving the wattmeter around. And most importantly, we can use it to isolate the transmitter from that bad "reverse power". What a powerful tool!

I should point out that the example doesn't even mention, or need to mention, the transmitter output impedance. The entire analysis holds for any transmitter impedance, whether "dissipative", "non-dissipative", linear, or nonlinear. Wherever the "forward power" and "reverse power" come from and do to, it doesn't depend on any particular value or kind of transmitter impedance.

(*) This brings up a great idea. Drop down to Radio Shack or HRO and pick up one of those circulator things that separates forward and reverse power. Put it into the middle of the line where you have 451.6 watts of "forward power" and 351.6 watts of "reverse power". Take the 351.6 watts of "reverse power", rectify it, send it to an inverter, and use it to run the transmitter -- you'll have plenty, even with poor efficiency, and you can unplug the transmitter from the mains. There should even be enough power left over to run your cooler and keep a six-pack cold. Then work DX with your 451.6 watts of forward power while you enjoy a cool one. Goodbye to electric bills! Hello to DX, free power, and a tall cool one!

Roy Lewallen, W7EL

2573. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 21:53:55 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <eb48396c-93a0-4604-9f51-33d23ef5c407@r27g2000yqb.googlegroups.com>
Source record: 8873

```
On Jun 17, 10:31 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 14, 7:04 pm, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 14, 12:09 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > Choose an arbitrary point on the line and observe the voltage. The
> > > observed voltage will be a function of time. Let us call it V(t).
> > > At the same point on the line, observe the current and call it I(t).
>
> > if you can choose an arbitrary point, i can choose an arbitrary
> > time... call it a VERY long time after the load is disconnected.
>
> That works for me, as long as the time is at least twice the
> propagation
> time down the line.
>
>
>
> > > The energy flowing (i.e. power) at this point on the line will
> > > be P(t)=V(t)I(t). If the voltage is measured in volts and the current
> > > in amps, then the power will be in joules/s or watts.
> > > We can also compute the average energy flow (power) over some
> > > interval by integrating P(t) over the interval and dividing by
> > > the length of the interval. Call this Pavg. For repetitive
> > > signals it is convenient to use one period as the interval.
>
> > > Note that V(t) and I(t) are arbitrary functions. The analysis
> > > applies regardless of whether V(t) is DC, a sinusoid, a step,
> > > a pulse, etc.; any arbitrary function.
>
> > > To provide some examples, consider the following simple setup:
> > > 1) 50 ohm, Thevenin equivalent circuit provides 100 V in to an
> > >    open circuit.
>
> > this is the case we were discussing... the others are irrelevant at
> > this point
>
> > > 2) The generator is connected to a length of 50 ohm ideal
> > >    transmission line. We will stick with ideal lines for the
> > >    moment, because, until ideal lines are understood, there
> > >    is no hope of understanding more complex models.
> > > 3) The ideal line is terminated in a 50 ohm resistor.
>
> <snip the experiments you do not consider relevent>
>
```

>
>
> > > Now let us remove the terminating resistor. The line is
> > > now open circuit.
>
> > OK, now we are back to where i had objections above.
>
> > > Again, set the generator to DC. After one round trip
> > > time, the observations at any point on the line will
> > > be:
> > > V(t)=100V
> > > I(t)=0A
> > > P(t)=0W
> > > Pavg=0W
>
> > ok, p(t)=0w, i=0a, i connect my directional wattmeter at some very
> > long time after the load is disconnected so the transients can be
> > ignored and i measure 0w forever.
>
> Not correct. See the equations for a directional wattmeter below.
>
> > there is no power flowing in the line.
>
> I agree with this, though a directional wattmeter indicates
> otherwise. See below.
>
>
>
> > > Now it is time to introduce forward and reflected waves to
> > > the discussion. Forward an reflected waves are simply a
> > > mathematical transformation of V(t) and I(t) to another
> > > representation which can make solving problems simpler.
>
> > > The transformation begins with assuming that there is
> > > a forward wave defined by Vf(t)=If(t)*Z0, a reflected
> > > wave defined by Vr(t)=Ir(t)*Z0 and that at any point
> > > on the line V(t)=Vf(t)+Vr(t) and I(t)=If(t)-Ir(t).
>
> > > Since we are considering an ideal line, Z0 simplifies
> > > to R0.
>
> > > Simple algebra yields:
> > > Vf(t)=(V(t)+R0*I(t))/2
> > > Vr(t)=(V(t)-R0*I(t))/2
> > > If(t)=Vf(t)/R0
> > > Ir(t)=Vr(t)/R0
>
> The above equations are used in a directional wattmeter.
>
> > > Now these algebraically transformed expressions have all

> > > the capabilities of the original so they work for DC,
> > > 60 HZ, RF, sinusoids, steps, pulses, you name it.
>
> > hmmm, they work for all waveforms you say... even dc?? ok, open
> > circuit load, z0=50, dc source of 100v with 50ohm thevenin
> > resistance...
>
> You have made some arithmetic errors below. I have re-arranged
> your prose a bit to allow correction, then comment.
>
> > well, maybe i missed something... lets look at the voltages:
>
> > Vf(t)=(100+50*2)/2 = 100
> > Vr(t)=(100-50*2)/2 = 0
>
> You made a substitution error here. On the transmission line
> with a constant DC voltage:
>   V(t)=100V
>   I(t)=0A
>
> substituting in to
>   Vf(t)=(V(t)+R0*I(t))/2
>   Vr(t)=(V(t)-R0*I(t))/2
>
> yields
>   Vf(t)=50V
>   Vr(t)=50V
>
> and
>   If(t) = 50/50 = 1a
>   Ir(t) = 50/50 = 1a
>
> Recalling that the definition of forward and reflected is
>   V(t)=Vf(t)+Vr(t)
>   I(t)=If(t)-Ir(t)
> we can check our arithmetic
>   V(t)= 50+50 = 100V
>   I(t)= 1-1   = 0A
> Exactly as measured.

> If you are disagree with the results, please point out
> my error in the definitions, derivations or arithmetic.

except i can measure If and Ir separately and can see they are both
zero. this is where your argument about putting a resistor between
two batteries falls apart... there is a length of cable with a finite
time delay in the picture here. so it is possible to actually watch
the waves reflect back and forth and see what really happens. in the
case where the line is open at the far end we can measure the voltage
at both ends of the line and see the constant 100v, so where is the
voltage difference needed to support the forward and reverse current

waves? you can't have current without a voltage difference. plus i can substitute in a lossy line and measure the line heating and measure no i^2r loss that would exist if there were currents flowing in the line, so there are none.

try this case, which is something we do at work... take a 14ga piece of copper wire maybe 50' above ground, its characteristic impedance is probably a few hundred ohms, and put 100kv on it... how much power is it dissipating from your If and Ir heating losses?? lets say 200 ohms and 100kv gives 100,000/200a=500a, shouldn't take long to burn up that wire should it? and yet it never does... so why doesn't it have your circulating currents?

2574. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 22:08:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <631555a5-3008-4668-ae99-bfc1cf4fe658@i28g2000yqa.googlegroups.com>
Source record: 8874

On Jun 17, 1:36 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 17, 12:38 am, Owen Duffy <n...@no.where> wrote:
>
> > The notion that reflected power is simply and always absorbed in the real
> > source resistance is quite wrong. Sure you can build special cases where
> > that might happen, but there is more to it. Thinking of the reflected
> > wave as 'reflected power' leads to some of the misconception.
>
> Again, exactly who proposed that notion? The "power" in a reflected
> wave is actually reflected energy measured at some point on the
> transmission line. Reflected EM waves cannot exist without ExH energy
> per unit time per unit area.
>
> The special case where 100% of the reflected power incident from a
> Z0=50 ohm transmission line is dissipated in the 50 ohm source
> resistor happens when there is zero interference between the forward
> wave and reflected wave. Since it is not true when interference
> exists, it is logical to conclude that interference has something to
> do with the reflected power results deviating from the zero
> interference case - and so it does. The interference term in the power
> density equation indicates what kind of interference exists and what
> happens to the interference energy.
>
> Roy's experiment was designed to eliminate re-reflections from the
> source and it does exactly that. What that means is that all of the
> variations in power distribution are associated with interference, the
> other mechanism by which RF wave energy can be redistributed. Contrary
> to w7el's assumption, EM wave reflection is NOT the only mechanism for
> redistributing RF energy in a transmission line. That glaring fact of
> physics is what most of the RF experts are missing.
> --
> 73, Cecil, w5dxp.com

but you have already admitted that it is the only mechanism... though
you will now undoubtedly argue against yourself. em wave reflection
IS the only mechanism for redistributing rf energy, you admitted that
when you agreed that superposition of the waves is the mechanism that
causes the interference in the first place. since interference is
caused by superposition then wave cancelation and this so called
redistribution of energy is also caused by the superposition of the
reflected wave with the incident wave. RF experts are not missing
anything, they just don't talk in your fancy energy and power terms
all the time or figure how to calculate power superpositions... read
the 500 pages BEFORE the s-parameter discussion in your version of the

fields and waves book and learn the simple way to handle the single wave components that makes all that stuff you preach look over complicated.

2575. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 22:12:30 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fd9b3f55-e2c9-4467-a305-911c7b8d673b@k39g2000yqd.googlegroups.com>
Source record: 8875

On Jun 17, 9:28 pm, lu6etj <lu6...@gmail.com> wrote:
> On 17 jun, 11:30, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On Jun 16, 11:47 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > > If I do not make any mistake, my numbers agree with yours Cecil, it is
> > > a pleasure (my procedure was the old plain and simple standard) :>)
>
> > If, instead of a voltage analysis, one does an energy analysis, what
> > happens to the reflected energy becomes obvious. I posted an earlier
> > example that nobody solved. So let me repeat it here.
>
> > ------Z01------+------Z02------
>
> > The power reflection coefficient at point '+' is
> > rho^2 = 0.5. The power transmission coefficient
> > is (1-rho^2) = 0.5
> > Pfor1 on the Z01 line is 100w
> > Pref1 on the Z01 line is 0w
> > What are Pfor2 and Pref2 on the Z02 line?
> > What is the SWR on the Z02 line?
>
> > The power reflected back toward the source at point '+' is
>
> > Pfor1(rho^2) = 100(0.5) = 50w
>
> > We know that Pref1 is zero, so
>
> > Pref2(1-rho^2) = 50w
>
> > Since 1-rho^2 is 0.5, Pref2 must be 100w and
>
> > Pref2(rho^2) = 50w
>
> > We also know that Pfor1(1-rho^2) = 50w
>
> > So we have two 50w waves trying to flow toward the source and two 50w
> > waves trying to flow toward the load. Do we have 100 watts flowing in
> > both directions? No, that would be superposition of power which is a
> > no-no. Using the power density equation indicates what is happening.
>
> > Pref1 = 0 = Pfor1(rho^2) + Pref2(1-rho^2) minus total destructive

> > interference at the Z0-match
>
> > Pref1 = 50 + 50 - 2*SQRT(50*50) = 0
>
> > Pfor2 = Pfor1(1-rho^2) + Pref2(rho^2) plus total constructive
> > interference
>
> > Pfor2 = 50 + 50 + 2*SQRT(50*50) = 200w
>
> > Since Pref2/Pfor2 = 0.5, the SWR on the Z02 line is 5.83:1
>
> > Note that we have solved the problem without knowing the value of
> > Vfor1, Vfor2, and Vref2. But let's assume Z01 is 50 ohms which makes
> > Z02 equal to 291.5 ohms. Now we can calculate the voltages assuming
> > Vfor1 at '+' is our phase reference:
>
> > Vfor1 = 70.7 volts at zero degrees at '+'
> > Vref1 = 0
> > Vfor2 = 241.4 volts at zero degrees at '+'
> > Vref2 = 170.7 volts at 180 deg at '+'
>
> > Vfor1(rho1) = 50v at zero deg
> > Vref2(tau2) = 50v at 180 deg
>
> > Vfor1(tau1) = 120.7v at zero deg
> > Vref2(rho2) = 120.7v at zero deg
>
> > There's the interference, voltage style. Two voltages superpose to
> > zero toward the source while engaged in total destructive
> > interference. What happens to the energy components that are
> > supporting those two voltages? There's only one thing that can happen.
> > They are obviously not flowing in their original directions so they
> > must necessarily flow in the only other direction possible. Total
> > destructive interference toward the source results in total
> > constructive interference toward the load.
>
> > Someone earlier remarked about the fact that when two 50w waves
> > combine, the result is one 200w wave. That is total constructive
> > interference in action and that extra energy had to come from
> > somewhere.
> > --
> > 73, Cecil, w5dxp.com
>
> Good day:
>
> > wave as 'reflected power' leads to some of the misconception.
>
> Ugh! The slippery word again...! Please Owen, remember me what power
> definition are you using here and expand the sentence idea.
>

> > EM waves cannot exist without ExH energy per unit time per
> > unit area.
>
> This is what teachers taught me, but when the EM TL waves reachs a
> "target" seems the issue arise in the newsgroup.
> Puzzle to me why we can (want? :>)) not reconcile those physics
> concepts with usual electricity concepts if today they arise from the
> same place ultimately?
> Certainly in electromagnetism we deal with vectors E,D,B,H,S and in
> electricity with scalars V(t), I(t) or phasors, this is for
> convenience and simplicity, but I accept we should be able to
> understand them in both forms without contradiction.
>
> 73 - Miguel Ghezzi - LU6ETJ

except for the one guy in the other thread that likes his dc 'waves' i think most everyone else gets the same answers but won't acknowledge that the other peoples methods also work. even my simple transformed impedance method shows the same results, you just have to look at what it really means. the whole key is that it doesn't really matter, we know how to use voltage/current, E/H, powers, s-parameters, etc to design circuits, and as long as we know their limitations and stay within them everything should work the same way no matter how its designed on paper.

2576. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 22:15:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9B540383FDEnonenowhere@61.9.191.5>
Source record: 8876

Roy Lewallen <w7el@eznec.com> wrote in
news:IomdnUO5naQZCofRnZ2dnUVZ_jSdnZ2d@giganews.com:

> Adding a directional wattmeter to the mix raises an interesting issue.

Roy,

I suspect that the directional wattmeter is in a large part responsible to the strong committment to the view the Pf and Pr are separate tangible quantities, and that they can be dealt with independently.

You will recall a raging argument some years ago about the possible range of rho, and insistence by some practical practitioners that rho could never be greater than unity because it would mean that reflected power was greater than forward power, obviously impossible, then citing experience with a directional wattmeter (calibrated for V/I being purely real) as evidence. Of course, telephony line designers know about this effect and do not have directional wattmeters to confuse their thinking.

You example goes on to point out the absurdity of application of that kind of thinking.

Miguel has asked why I keep quoting the term 'reflected power' etc, it is because it is a deceptive label that misrepresents the quantity.

Roy has explained, and I have explained in the articles I referenced, the assumptions that underly the concept that Pf=Vf*If, and its limitations.

There are many ham texts and articles that try to explain some concepts and deliver to the user a language and model that encourages extension to invalid application.

Miguel, in a steady state scenario with a source at one end of a TEM line and a load at the other, the power (rate of flow of energy) at any point is given by the product of instantaneous voltage and current. This is a time varying quantity which can be integrated over time to obtain the average power. At some points on the line, the instantaneous power may be negative for some parts of the cycle, which indicates that over a cycle, some energy is exchanged to and fro across that point, but the average power will always be from source to load, and that quantity will decrease from source to load as accounted for by line loss elements, though in the general case, not purely exponentially as sometimes believed.

Owen

2577. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 22:55:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f427c662-6fd1-4fda-8706-35b32a576908@c33g2000yqm.googlegroups.com>
Source record: 8877

On Jun 17, 5:08 pm, K1TTT <k1...@arrl.net> wrote:
> but you have already admitted that it is the only mechanism... though
> you will now undoubtedly argue against yourself. em wave reflection
> IS the only mechanism for redistributing rf energy, you admitted that
> when you agreed that superposition of the waves is the mechanism that
> causes the interference in the first place.

Superposition and reflection are NOT the same mechanism. You are totally confused about what I have said. Wave REFLECTION (of one wave) is not caused by SUPERPOSITION (of two waves) and vice versa. Wave reflection happens to a single wave when it encounters an impedance discontinuity. Superposition requires two or more waves. They are clearly two completely different mechanisms. So I will repeat what I said before:

There are two mechanisms for redistributing the reflected energy back toward the load.

1. The re-reflection of the SINGLE reflected wave from the load at an impedance discontinuity associated with the power reflection coefficient, e.g. 0.5 in my earlier example. Thus in that earlier example, 1/2 of the reflected energy from the load is re-reflected back toward the load and joins the forward wave toward the load. That leaves 1/2 of the reflected energy that is transmitted through the impedance discontinuity toward the source without being reflected.

The second energy redistribution mechanism occurs associated with superposition of MULTIPLE WAVES.

2. The percentage of the reflected energy from the load that is transmitted through the impedance discontinuity toward the source superposes with the reflection of the source forward wave from the impedance discontinuity. In my earlier example, the following two wavefronts superpose in the direction of the source.

Pfor1(rho^2) = 50w and Pref2(1-rho^2) = 50w

Pref1 = 50w + 50w - 2*SQRT(50w*50w) = 0

This is the second mechanism (wave cancellation) that redistributes the energy in the canceled wavefronts back toward the load. This step 2 is technically NOT a reflection since it involves two waves. This is the step that the RF gurus are missing.

I really wish you understood the s-parameter equations which are easier to discuss than the above RF equations.

In the s-parameter equation:

b2 = s21*a1 + s22*a2

the term, s22*a2, is the SINGLE WAVE re-reflection term, i.e. a2 is
the reflected voltage from the load.

In the other s-parameter equation:

b1 = s11*a1 + s12*a2 = 0

s11*a1 and s12*a2 are the TWO WAVEFRONTS that superpose to zero, i.e.
engage in wave cancellation.
--
73, Cecil, w5dxp.com

2578. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 23:06:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0c730f6a-8635-49a6-93de-9854886bbc84@h13g2000yqm.googlegroups.com>
Source record: 8878

On Jun 17, 5:12 pm, K1TTT <k1...@arrl.net> wrote:
> except for the one guy in the other thread that likes his dc 'waves' i
> think most everyone else gets the same answers but won't acknowledge
> that the other peoples methods also work. even my simple transformed
> impedance method shows the same results, you just have to look at what
> it really means. the whole key is that it doesn't really matter, ...

The subject of this thread is: "Where does it go? (mismatched power)".
So it did matter to the original poster. I have answered the question
by presenting the facts of EM wave physics known from the field of
optics. So now you say, "it doesn't really matter". That seems to be a
final fallback position.
--
73, Cecil, w5dxp.com

2579. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-17 23:43:30 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bb8d35e5-cd02-4d7d-a216-212b141e075e@e5g2000yqn.googlegroups.com>
Source record: 8879

On Jun 17, 4:45 pm, Roy Lewallen <w...@eznec.com> wrote:
> Recalling my earlier example of a 100 watt transmitter connected to a
> half wavelength 200 ohm transmission line and then to a 50 ohm resistive
> load, the "forward power" on the line was 156.25 watts and the "reverse
> power" or "reflected power" 56.25 watts. The subject of this topic asks
> where the "reflected energy" goes. Does it go back into the transmitter?

------Z01=50------+------Z02=200------load

Pfor1 = 100w, Pref1 = 0w
Pfor2 = 156.25w, Pref2 = 56.25w
rho^2 = 0.36, rho = 0.6

That's obviously a Z0-match to 50 ohms. There are, as usual, four
wavefront components:

Pfor1(rho^2) = 36w, the amount of forward power on the 50 ohm line
that is reflected back toward the source.

Pfor1(1-rho^2) = 64w, the amount of forward power on the 50 ohm line
that is transmitted through the impedance discontinuity toward the
load.

Pref2(rho^2) = 20.25w, the amount of reflected power on the 200 ohm
line that is re-reflected back toward the load by the impedance
discontinuity.

Pref2(1-rho^2) = 36w, the amount of reflected power on the 200 ohm
line that is transmitted through the impedance discontinuity toward
the source.

Pref1 = Pfor1(rho^2) + Pref2(1-rho^2) - total destructive interference

Pref1 = 36w + 36w - 2*SQRT(36w*36w) = 0

Pfor2 = Pfor1(1-rho^2) + Pref2(rho^2) + constructive interference

Pfor2 = 64w + 20.25w + 2*SQRT(64w*20.25w)

Pfor2 = 64w + 20.25w + 72w = 156.25w

Note that the 72 watts of total destructive interference energy toward
the source has changed directions and joined the forward wave toward
the load as constructive interference.

No need to haul out a wattmeter or SWR meter. A pencil, paper, and
calculator is all one needs PLUS an understanding of the rules of
physics governing energy flow at a Z0-match.

Actually, you didn't even need to tell me what the Pfor2 and Pref2 values are. As you can see from the calculations, they are easy to calculate even when they are unknown.
--
73, Cecil, w5dxp.com

2580. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 00:00:29 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <30246a9a-02c1-4c23-b66f-975714daa008@w31g2000yqb.googlegroups.com>
Source record: 8880

On Jun 17, 5:53 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 17, 10:31 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 14, 7:04 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 14, 12:09 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > > Choose an arbitrary point on the line and observe the voltage. The
> > > > observed voltage will be a function of time. Let us call it V(t).
> > > > At the same point on the line, observe the current and call it I(t).
>
> > > if you can choose an arbitrary point, i can choose an arbitrary
> > > time... call it a VERY long time after the load is disconnected.
>
> > That works for me, as long as the time is at least twice the
> > propagation
> > time down the line.
>
> > > > The energy flowing (i.e. power) at this point on the line will
> > > > be P(t)=V(t)I(t). If the voltage is measured in volts and the current
> > > > in amps, then the power will be in joules/s or watts.
> > > > We can also compute the average energy flow (power) over some
> > > > interval by integrating P(t) over the interval and dividing by
> > > > the length of the interval. Call this Pavg. For repetitive
> > > > signals it is convenient to use one period as the interval.
>
> > > > Note that V(t) and I(t) are arbitrary functions. The analysis
> > > > applies regardless of whether V(t) is DC, a sinusoid, a step,
> > > > a pulse, etc.; any arbitrary function.
>
> > > > To provide some examples, consider the following simple setup:
> > > > 1) 50 ohm, Thevenin equivalent circuit provides 100 V in to an
> > > >   open circuit.
>
> > > this is the case we were discussing... the others are irrelevant at
> > > this point
>
> > > > 2) The generator is connected to a length of 50 ohm ideal
> > > >   transmission line. We will stick with ideal lines for the
> > > >   moment, because, until ideal lines are understood, there
> > > >   is no hope of understanding more complex models.

> > > > 3) The ideal line is terminated in a 50 ohm resistor.
>
> > <snip the experiments you do not consider relevent>
>
> > > > Now let us remove the terminating resistor. The line is
> > > > now open circuit.
>
> > > OK, now we are back to where i had objections above.
>
> > > > Again, set the generator to DC. After one round trip
> > > > time, the observations at any point on the line will
> > > > be:
> > > > V(t)=100V
> > > > I(t)=0A
> > > > P(t)=0W
> > > > Pavg=0W
>
> > > ok, p(t)=0w, i=0a, i connect my directional wattmeter at some very
> > > long time after the load is disconnected so the transients can be
> > > ignored and i measure 0w forever.
>
> > Not correct. See the equations for a directional wattmeter below.
>
> > > there is no power flowing in the line.
>
> > I agree with this, though a directional wattmeter indicates
> > otherwise. See below.
>
> > > > Now it is time to introduce forward and reflected waves to
> > > > the discussion. Forward an reflected waves are simply a
> > > > mathematical transformation of V(t) and I(t) to another
> > > > representation which can make solving problems simpler.
>
> > > > The transformation begins with assuming that there is
> > > > a forward wave defined by Vf(t)=If(t)*Z0, a reflected
> > > > wave defined by Vr(t)=Ir(t)*Z0 and that at any point
> > > > on the line V(t)=Vf(t)+Vr(t) and I(t)=If(t)-Ir(t).
>
> > > > Since we are considering an ideal line, Z0 simplifies
> > > > to R0.
>
> > > > Simple algebra yields:
> > > > Vf(t)=(V(t)+R0*I(t))/2
> > > > Vr(t)=(V(t)-R0*I(t))/2
> > > > If(t)=Vf(t)/R0
> > > > Ir(t)=Vr(t)/R0
>
> > The above equations are used in a directional wattmeter.
>
> > > > Now these algebraically transformed expressions have all

> > > > the capabilities of the original so they work for DC,
> > > > 60 HZ, RF, sinusoids, steps, pulses, you name it.
>
> > > hmmm, they work for all waveforms you say... even dc?? ok, open
> > > circuit load, z0=50, dc source of 100v with 50ohm thevenin
> > > resistance...
>
> > You have made some arithmetic errors below. I have re-arranged
> > your prose a bit to allow correction, then comment.
>
> > > well, maybe i missed something... lets look at the voltages:
>
> > > Vf(t)=(100+50*2)/2 = 100
> > > Vr(t)=(100-50*2)/2 = 0
>
> > You made a substitution error here. On the transmission line
> > with a constant DC voltage:
> >   V(t)=100V
> >   I(t)=0A
>
> > substituting in to
> >   Vf(t)=(V(t)+R0*I(t))/2
> >   Vr(t)=(V(t)-R0*I(t))/2
>
> > yields
> >   Vf(t)=50V
> >   Vr(t)=50V
>
> > and
> >   If(t) = 50/50 = 1a
> >   Ir(t) = 50/50 = 1a
>
> > Recalling that the definition of forward and reflected is
> >   V(t)=Vf(t)+Vr(t)
> >   I(t)=If(t)-Ir(t)
> > we can check our arithmetic
> >   V(t)= 50+50 = 100V
> >   I(t)= 1-1   = 0A
> > Exactly as measured.
> > If you are disagree with the results, please point out
> > my error in the definitions, derivations or arithmetic.
>
> except i can measure If and Ir separately and can see they are both
> zero.

How would you measure them? The standard definition of forward
and reflected waves are as I provided above. I suppose you could
construct your own definitions, but such a new definition would
be confusing and unlikely to have the nice properties of the
standard definitions.

> this is where your argument about putting a resistor between
> two batteries falls apart... there is a length of cable with a finite
> time delay in the picture here. so it is possible to actually watch
> the waves reflect back and forth and see what really happens. in the
> case where the line is open at the far end we can measure the voltage
> at both ends of the line and see the constant 100v, so where is the
> voltage difference needed to support the forward and reverse current
> waves?

Well, as I suggested, the forward and reflected wave are somewhat
fictitious. They are very useful as intermediate results in solving
problems but, as you note above, quite problematic if one starts
to assign too much reality to them.

That is why they are quite analogous to the two currents in the two
battery example.

> you can't have current without a voltage difference.

You can, though, have an arbitrary current as an intermediate
result in solving a problem. With the two battery example, reduce
the resistor to 0 and an infinitely large current is computed in
both directions, though we know in reality that no current is
actually flowing.

> plus i
> can substitute in a lossy line and measure the line heating and
> measure no i^2r loss that would exist if there were currents flowing
> in the line, so there are none.

I certainly agree that there is no real current flowing, but the
fictititious If and Ir are indeed present (or pick a better word
if you like).

> try this case, which is something we do at work... take a 14ga piece
> of copper wire maybe 50' above ground, its characteristic impedance is
> probably a few hundred ohms, and put 100kv on it... how much power is
> it dissipating from your If and Ir heating losses?? lets say 200 ohms
> and 100kv gives 100,000/200a=500a, shouldn't take long to burn up that
> wire should it? and yet it never does... so why doesn't it have your
> circulating currents

I really like this example. I thought of using something similar once
to convince Cecil, but never did. He is unreedemable. But your
example aptly demonstrates why If and Ir are not real, though still
useful because If-Ir is the actual current flowing.

Just as an aside, your comment above about requiring a voltage to
cause a current to flow is not quite correct. An ideal conductor has
zero resistance, so current can flow without voltage in an ideal
conductor. Strangely, this can even be achieved in the real world
with superconductors.

So I offer another example for your consideration. The experiment
is the same as above (100V, 50 ohm, ideal source and conductors)
but this time short the end of the transmission line. After waiting
for the line to settle, we find 0 volts everywhere and 2A flowing.
Recalling the coversion equations:
Vf(t)=(V(t)+R0*I(t))/2
Vr(t)=(V(t)-R0*I(t))/2
If(t)=Vf(t)/R0
Ir(t)=Vr(t)/R0

we obtain:
Vf(t)=(0+100)/2 = 50V
Vr(t)=(0-100)/2 = -50V
If(t)=1A
Ir(t)=-1A

Substituting to verify
V(t)=50+(-50)=0V
I(t)=1-(-1)=2A

Exactly as measured.

I will caution again, do not assign too much reality to these
forward and reflected waves; very useful for solving problems,
but trouble if carried too far.

...Keith

2581. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 00:30:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c0def654-dd6b-4256-93ed-40089d41e798@c33g2000yqm.googlegroups.com>
Source record: 8881

On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> An ideal conductor has
> zero resistance, so current can flow without voltage in an ideal
> conductor.

Quoting "Fields and Waves ...", by Ramo and Whinnery: "A perfect
conductor is usually understood to be a material in which there is no
electric field at any frequency. Maxwell's equations ensure that there
is then also no time-varying magnetic field in the perfect conductor."
How does one go from zero current to a non-zero current if the
magnetic field is prohibited from varying (changing) with time?
--
73, Cecil, w5dxp.com

2582. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 00:38:15 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9b89384c-1925-4086-a26a-149ff28a6364@d37g2000yqm.googlegroups.com>
Source record: 8882

On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> I will caution again, do not assign too much reality to these
> forward and reflected waves; very useful for solving problems,
> but trouble if carried too far.

I'm afraid you are too late with that advice. Optical physicists have assigned reality to forward and reflected waves inside an interferometer and have tracked all of the energy including the energy in canceled wavefronts.

http://www.teachspin.com/instruments/moderni/experiments.shtml

Scroll down to, "Using Dielectric Beamsplitters to find the "missing energy" in destructive interference" It says: "... when interference is destructive at the standard output, it is constructive at the non-standard output."

In RF terms, when interference is destructive at a Z0-match, it is constructive in the direction of the load.
--
73, Cecil, w5dxp.com

2583. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 02:57:28 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <6b402deb-33b1-404f-8fea-e01212eb867a@u7g2000yqm.googlegroups.com>
Source record: 8883

On 17 jun, 21:30, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > An ideal conductor has
> > zero resistance, so current can flow without voltage in an ideal
> > conductor.
>
> Quoting "Fields and Waves ...", by Ramo and Whinnery: "A perfect
> conductor is usually understood to be a material in which there is no
> electric field at any frequency. Maxwell's equations ensure that there
> is then also no time-varying magnetic field in the perfect conductor."
> How does one go from zero current to a non-zero current if the
> magnetic field is prohibited from varying (changing) with time?
> --
> 73, Cecil, w5dxp.com

> > An ideal conductor has
> > zero resistance, so current can flow without voltage in an ideal
> > conductor.

Inertia first Newton law applied to the free electron lttle balls
perhaps?
Now, if at first of experiment little balls was at rest, how do they
set in movement without a force? Tell us.
.....
Keith, OM, if you do not make the rope experiment, make this another
simple one => get from Radio Shack a long, long lossles TL, (with
vf=1, why not?), 6*10^8 meters long it is good, open or short ended
(it does not matter). Connect it to your 100 W rig, key for a one
second the TX full CW power, inmediately disconnect the TL and touch
the connector with your fingers. Just count: tree, two, one, ¡zero!.
If after "zero" you still with the connector in your fingers without
blink, then reflected waves really have not too much reality... have
some ointment for burns, may be the boys are right.>) (sorry, do not
be angry with me I am practicing translate some creole humor to
english :>D)

73 Miguel LU6ETJ

2584. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 02:59:49 UTC
From: tom <news4792@taring.org>
Message-ID: <4c1ae121$0$50149$8046368a@newsreader.iphouse.net>
Source record: 8884

On 6/6/2010 9:22 AM, JC wrote:
> Basic question (at least for me) for a very poor antenna matching :
> -100 w reach the antenna and 50 w are radiated.
> - 50 w are "reflected", what is their fate ?
> Are they definitely lost for radiation and just heat the line, the final....
> JC
>
>
>

It would be really really REALLY effing great if you dorks would take
this to a suitable forum. This has nothing to do with antennas.

And it is an unproductive infinite length, in case you bunch have missed
that point. But I'm guessing that given how intelligent you all are,
you already figured that out, and are ignoring it. No one is changing
their position, and they never will.

And yes, I have the thread set to "ignore". Which everyone should.

I will NOT see your responses.

tom
K0TAR

2585. Simple hack to get $1500 to your home.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 05:19:33 UTC
From: jolie <maaindia16@gmail.com>
Message-ID: <c27e66a5-273f-4204-9636-685121be8552@g1g2000pro.googlegroups.com>
Source record: 8885

Simple hack to get $1500 to your home at http://mastidunia.co.cc

Due to high security risks,i have hidden the cheque link in an
image. in that website on left side below search box, click on image
and enter your name and address where you want to receive your
cheque.please dont tell to anyone.

2586. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 05:49:05 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <43514fcc-b0ef-4fe6-affb-a078a04581ed@r27g2000yqb.googlegroups.com>
Source record: 8886

On 17 jun, 18:45, Roy Lewallen <w...@eznec.com> wrote:
> Owen Duffy wrote:
>
> > While Zo of transmission lines might not be purely real, if the sampler
> > element is calibrated for V/I being real, then the power is given by
> > 'forward power' - 'reflected power'. This is true even if the
> > calibration impedance is different to the transmission line in which the
> > measurements are made, though significant departure will impact
> > measurement uncertainty.
>
> > For example, if I insert a 50 ohm Bird 43 in a 75 ohm line at 1.8MHz,
> > and measure Pf=150W and Pr=50W, then the power is 150-50=100W. The
> > insertion VSWR due to the Bird 43 is trivial in this case, so it hardly
> > disturbs the thing being measured. Each of the power measurements is of
> > little value alone, no inference can be made (in this case) of the
> > actual line VSWR, but the difference of the Pf and Pr readings does give
> > the power at that point.
>
> > I discuss this in my article entitled "http://vk1od.net/blog/?p=1004" at
> >http://vk1od.net/blog/?p=1004.
>
> > Owen
>
> Adding a directional wattmeter to the mix raises an interesting issue.
>
> Recalling my earlier example of a 100 watt transmitter connected to a
> half wavelength 200 ohm transmission line and then to a 50 ohm resistive
> load, the "forward power" on the line was 156.25 watts and the "reverse
> power" or "reflected power" 56.25 watts. The subject of this topic asks
> where the "reflected energy" goes. Does it go back into the transmitter?
> Well, let's put a 50 ohm directional wattmeter between the transmitter
> and the line. It measures 100 watts forward and 0 watts reverse. So what
> happened to the "reverse power" on the transmission line? If it was
> going back into the transmitter, we've now fixed the problem just by
> adding the wattmeter. In fact, we could replace the wattmeter with a
> piece of 50 ohm transmission line of any length, as short or long as we
> want, and the "forward power" on that line will be 100 watts and
> "reverse power" zero. So we've protected the transmitter from this
> horrible, damaging "reverse power" just by adding a couple of inches of
> 50 ohm line -- or a directional wattmeter. Is this cool or what?
>
> Or we can put the wattmeter at the far end of the line and read 100
> watts forward and zero watts reverse, eliminating "reverse power" at the
> load -- although we've lost 56.25 watts of "forward power". Or put it at

> the center of the line, where we'd read a whopping 451.6 watts forward
> and 351.6 reverse(*).
>
> These are the "forward power" and "reverse power" on the short 50 ohm
> transmission line (or lumped equivalent) inside the wattmeter. So we can
> create "forward power" and "reverse power" just by moving the wattmeter
> around. And most importantly, we can use it to isolate the transmitter
> from that bad "reverse power". What a powerful tool!
>
> I should point out that the example doesn't even mention, or need to
> mention, the transmitter output impedance. The entire analysis holds for
> any transmitter impedance, whether "dissipative", "non-dissipative",
> linear, or nonlinear. Wherever the "forward power" and "reverse power"
> come from and do to, it doesn't depend on any particular value or kind
> of transmitter impedance.
>
> (*) This brings up a great idea. Drop down to Radio Shack
> or HRO and pick up one of those circulator things that separates forward
> and reverse power. Put it into the middle of the line where you have
> 451.6 watts of "forward power" and 351.6 watts of "reverse power". Take
> the 351.6 watts of "reverse power", rectify it, send it to an inverter,
> and use it to run the transmitter -- you'll have plenty, even with poor
> efficiency, and you can unplug the transmitter from the mains. There
> should even be enough power left over to run your cooler and keep a
> six-pack cold. Then work DX with your 451.6 watts of forward power while
> you enjoy a cool one. Goodbye to electric bills! Hello to DX, free
> power, and a tall cool one!
>
> Roy Lewallen, W7EL- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Dear Roy:
This is a brilliant piece of work, it clarify so much misconceptions
(or extension of certain concepts beyond its scope). However the
question of "why" persist floating somehow.
Without leaving conventional approachs I think in the article cited in
the "Where does it go?" thread there are some helpful and valuable
hints: http://www.ittc.ku.edu/~jstiles/622/handouts/Transmission_Lines_package.pdf

Page 25 => "The precise values of Vo+, Io+ Vo+ and Io- are therefore
determined by satisfying the boundary conditions applied at each end
ofthe transmission line.
Page 28 => Although Vo+- and Io+- are determined by boundary
conditions
(i.e., what’s connected to either end of the transmission line),
the ratio V+- / V+- is determined by the parameters of the
transmission line only (R, L, G, C).

What it is your opinion about?

73 - Miguel Ghezzi - LU6ETJ

2587. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 08:06:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <npWdndBHjsmEtIbRnZ2dnUVZ_oKdnZ2d@giganews.com>
Source record: 8887

lu6etj wrote:
>
> Dear Roy:
> This is a brilliant piece of work, it clarify so much misconceptions
> (or extension of certain concepts beyond its scope). However the
> question of "why" persist floating somehow.
> Without leaving conventional approachs I think in the article cited in
> the "Where does it go?" thread there are some helpful and valuable
> hints: http://www.ittc.ku.edu/~jstiles/622/handouts/Transmission_Lines_package.pdf
>
> Page 25 => "The precise values of Vo+, Io+ Vo+ and Io- are therefore
> determined by satisfying the boundary conditions applied at each end
> ofthe transmission line.
> Page 28 => Although Vo+- and Io+- are determined by boundary
> conditions
> (i.e., whatï¿½s connected to either end of the transmission line),
> the ratio V+- / V+- is determined by the parameters of the
> transmission line only (R, L, G, C).
>
> What it is your opinion about?
>
> 73 - Miguel Ghezzi - LU6ETJ

Hello Miguel,

The part of the paper you quote is very standard transmission line analysis which can be found in any textbook on the subject -- although I find this treatment to be better written than most. Nothing I have ever posted contradicts, or intends to contradict, the very well known and established theory which has been found to be correct and useful for over a hundred years. What I find silly is the idea that there are waves of average power bouncing back and forth, needing to "go" somewhere, and the specious arguments put forth in desperate attempts to explain where these elusive waves "go" and how they supposedly behave. (But interestingly, people seem much less concerned about where that extra "forward power" comes from.) It's very much like a pseudo-scientific exposition on the nature of ghosts or arguments about the effects of various astrological signs.

As you've hopefully seen from my few recent postings, it's painfully simple to show that most of the conceptions about these power waves are ridiculous. But one can't change someone's religion by means of rational arguments, and it's a fool's errand to try. So my postings aren't directed to the power-wave zealots but rather to the few people who are still open to reason. I see you're one of them, and I'm glad you've

giving the topic some careful thought.

Roy Lewallen, W7EL

2588. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 10:55:18 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a0498483-019f-42a2-9ae4-39d62f6246df@w31g2000yqb.googlegroups.com>
Source record: 8888

On Jun 17, 10:55 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 17, 5:08 pm, K1TTT <k1...@arrl.net> wrote:
>
> > but you have already admitted that it is the only mechanism... though
> > you will now undoubtedly argue against yourself. em wave reflection
> > IS the only mechanism for redistributing rf energy, you admitted that
> > when you agreed that superposition of the waves is the mechanism that
> > causes the interference in the first place.
>
> Superposition and reflection are NOT the same mechanism. You are

i didn't say they were

> totally confused about what I have said. Wave REFLECTION (of one wave)
> is not caused by SUPERPOSITION (of two waves) and vice versa. Wave
> reflection happens to a single wave when it encounters an impedance
> discontinuity. Superposition requires two or more waves. They are
> clearly two completely different mechanisms. So I will repeat what I
> said before:
>
> There are two mechanisms for redistributing the reflected energy back
> toward the load.
>
> 1. The re-reflection of the SINGLE reflected wave from the load at an
> impedance discontinuity associated with the power reflection

its really the voltage and current reflection coefficient.

> coefficient, e.g. 0.5 in my earlier example. Thus in that earlier
> example, 1/2 of the reflected energy from the load is re-reflected
> back toward the load and joins the forward wave toward the load. That
> leaves 1/2 of the reflected energy that is transmitted through the
> impedance discontinuity toward the source without being reflected.
>
> The second energy redistribution mechanism occurs associated with
> superposition of MULTIPLE WAVES.

that is what i said, and what you agreed to earlier.

>
> 2. The percentage of the reflected energy from the load that is
> transmitted through the impedance discontinuity toward the source
> superposes with the reflection of the source forward wave from the
> impedance discontinuity. In my earlier example, the following two
> wavefronts superpose in the direction of the source.
>

> Pfor1(rho^2) = 50w and Pref2(1-rho^2) = 50w
>
> Pref1 = 50w + 50w - 2*SQRT(50w*50w) = 0
>
> This is the second mechanism (wave cancellation) that redistributes

but that is NOT a "second' mechanism. it IS superposition, which is
what you agreed to earlier, maybe in a different thread. the
mechanism is superposition, the observation is that the waves
interfere either constructively or destructively.

> the energy in the canceled wavefronts back toward the load. This step
> 2 is technically NOT a reflection since it involves two waves. This is
> the step that the RF gurus are missing.

no we are not, we understand superposition which is the underlying
basic mechanism of your optical interference terms.

>
> I really wish you understood the s-parameter equations which are
> easier to discuss than the above RF equations.
>
> In the s-parameter equation:
>
> b2 = s21*a1 + s22*a2
>
> the term, s22*a2, is the SINGLE WAVE re-reflection term, i.e. a2 is
> the reflected voltage from the load.
>
> In the other s-parameter equation:
>
> b1 = s11*a1 + s12*a2 = 0
>
> s11*a1 and s12*a2 are the TWO WAVEFRONTS that superpose to zero, i.e.

stop there and you are perfectly correct.

> engage in wave cancellation.
> --
> 73, Cecil, w5dxp.com

2589. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 10:57:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c31cb426-8f21-4f50-ab5e-0871e7f13b43@i31g2000yqm.googlegroups.com>
Source record: 8889

On Jun 17, 11:06 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 17, 5:12 pm, K1TTT <k1...@arrl.net> wrote:
>
> > except for the one guy in the other thread that likes his dc 'waves' i
> > think most everyone else gets the same answers but won't acknowledge
> > that the other peoples methods also work. even my simple transformed
> > impedance method shows the same results, you just have to look at what
> > it really means. the whole key is that it doesn't really matter, ...
>
> The subject of this thread is: "Where does it go? (mismatched power)".
> So it did matter to the original poster. I have answered the question
> by presenting the facts of EM wave physics known from the field of
> optics. So now you say, "it doesn't really matter". That seems to be a
> final fallback position.
> --
> 73, Cecil, w5dxp.com

you edited too much out of context... it doesn't matter which method
you use to calculate where it goes as long as you know the limitations
of your method.

2590. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 11:00:15 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <2a93d166-9113-47bb-9dc0-8ca7a49e481c@g19g2000yqc.googlegroups.com>
Source record: 8890

On Jun 17, 10:57 pm, lu6etj <lu6...@gmail.com> wrote:
> On 17 jun, 21:30, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > An ideal conductor has
> > > zero resistance, so current can flow without voltage in an ideal
> > > conductor.
>
> > Quoting "Fields and Waves ...", by Ramo and Whinnery: "A perfect
> > conductor is usually understood to be a material in which there is no
> > electric field at any frequency. Maxwell's equations ensure that there
> > is then also no time-varying magnetic field in the perfect conductor."
> > How does one go from zero current to a non-zero current if the
> > magnetic field is prohibited from varying (changing) with time?
> > --
> > 73, Cecil, w5dxp.com
> > > An ideal conductor has
> > > zero resistance, so current can flow without voltage in an ideal
> > > conductor.
>
> Inertia first Newton law applied to the free electron lttle balls
> perhaps?
> Now, if at first of experiment little balls was at rest, how do they
> set in movement without a force? Tell us.
> .....
> Keith, OM, if you do not make the rope experiment, make this another
> simple one => get from Radio Shack a long, long lossles TL, (with
> vf=1, why not?), 6*10^8 meters long it is good, open or short ended
> (it does not matter). Connect it to your 100 W rig, key for a one
> second the TX full CW power, inmediately disconnect the TL and touch
> the connector with your fingers. Just count: tree, two, one, ¡zero!.
> If after "zero" you still with the connector in your fingers without
> blink, then reflected waves really have not too much reality... have
> some ointment for burns, may be the boys are right.>) (sorry, do not
> be angry with me I am practicing translate some creole humor to
> english :>D)
>
> 73 Miguel LU6ETJ- Hide quoted text -
>

> - Show quoted text -

Good day Miguel,

In the example you provide, there would be real energy flowing and
it would be clearly shown by
P(t)=V(t)*I(t)
P(t) will be negative because the energy is flowing in the reverse
direction.

Computing Pf and Pr would reveal
Pf(t)=0
Pr(t)=-P(t)

So Pf(t)-Pr(t) => P(t) as it must.

I see no conflict with anything that I have written previously.

There are many examples where one can observe energy flow in a
reflected wave.

It just takes one counter-example to demonstrate that this is not
always
the case and that one should not assign *too* much reality to such
waves.

What this neans is that when someone asks "what happesn to reflected
energy?", the first question you have to answer is "Is this a
situation
where the computed reflected power represents something real?"
because
if it does not, the original question is moot.

...Keith

2591. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 11:04:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <99e9d32e-c68b-41c4-8006-b3867a8c68f2@b35g2000yqi.googlegroups.com>
Source record: 8891

```
On Jun 18, 12:00 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 17, 5:53 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 17, 10:31 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > On Jun 14, 7:04 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Jun 14, 12:09 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > > > Choose an arbitrary point on the line and observe the voltage. The
> > > > > observed voltage will be a function of time. Let us call it V(t).
> > > > > At the same point on the line, observe the current and call it I(t).
>
> > > > if you can choose an arbitrary point, i can choose an arbitrary
> > > > time... call it a VERY long time after the load is disconnected.
>
> > > That works for me, as long as the time is at least twice the
> > > propagation
> > > time down the line.
>
> > > > > The energy flowing (i.e. power) at this point on the line will
> > > > > be P(t)=V(t)I(t). If the voltage is measured in volts and the current
> > > > > in amps, then the power will be in joules/s or watts.
> > > > > We can also compute the average energy flow (power) over some
> > > > > interval by integrating P(t) over the interval and dividing by
> > > > > the length of the interval. Call this Pavg. For repetitive
> > > > > signals it is convenient to use one period as the interval.
>
> > > > > Note that V(t) and I(t) are arbitrary functions. The analysis
> > > > > applies regardless of whether V(t) is DC, a sinusoid, a step,
> > > > > a pulse, etc.; any arbitrary function.
>
> > > > > To provide some examples, consider the following simple setup:
> > > > > 1) 50 ohm, Thevenin equivalent circuit provides 100 V in to an
> > > > >    open circuit.
>
> > > > this is the case we were discussing... the others are irrelevant at
> > > > this point
>
> > > > > 2) The generator is connected to a length of 50 ohm ideal
> > > > >    transmission line. We will stick with ideal lines for the
> > > > >    moment, because, until ideal lines are understood, there
> > > > >    is no hope of understanding more complex models.
```

> > > > > 3) The ideal line is terminated in a 50 ohm resistor.
>
> > > <snip the experiments you do not consider relevent>
>
> > > > > Now let us remove the terminating resistor. The line is
> > > > > now open circuit.
>
> > > > OK, now we are back to where i had objections above.
>
> > > > > Again, set the generator to DC. After one round trip
> > > > > time, the observations at any point on the line will
> > > > > be:
> > > > > V(t)=100V
> > > > > I(t)=0A
> > > > > P(t)=0W
> > > > > Pavg=0W
>
> > > > ok, p(t)=0w, i=0a, i connect my directional wattmeter at some very
> > > > long time after the load is disconnected so the transients can be
> > > > ignored and i measure 0w forever.
>
> > > Not correct. See the equations for a directional wattmeter below.
>
> > > > there is no power flowing in the line.
>
> > > I agree with this, though a directional wattmeter indicates
> > > otherwise. See below.
>
> > > > > Now it is time to introduce forward and reflected waves to
> > > > > the discussion. Forward an reflected waves are simply a
> > > > > mathematical transformation of V(t) and I(t) to another
> > > > > representation which can make solving problems simpler.
>
> > > > > The transformation begins with assuming that there is
> > > > > a forward wave defined by Vf(t)=If(t)*Z0, a reflected
> > > > > wave defined by Vr(t)=Ir(t)*Z0 and that at any point
> > > > > on the line V(t)=Vf(t)+Vr(t) and I(t)=If(t)-Ir(t).
>
> > > > > Since we are considering an ideal line, Z0 simplifies
> > > > > to R0.
>
> > > > > Simple algebra yields:
> > > > > Vf(t)=(V(t)+R0*I(t))/2
> > > > > Vr(t)=(V(t)-R0*I(t))/2
> > > > > If(t)=Vf(t)/R0
> > > > > Ir(t)=Vr(t)/R0
>
> > > The above equations are used in a directional wattmeter.
>
> > > > > Now these algebraically transformed expressions have all

> > > > > the capabilities of the original so they work for DC,
> > > > > 60 HZ, RF, sinusoids, steps, pulses, you name it.
>
> > > > hmmm, they work for all waveforms you say... even dc?? ok, open
> > > > circuit load, z0=50, dc source of 100v with 50ohm thevenin
> > > > resistance...
>
> > > You have made some arithmetic errors below. I have re-arranged
> > > your prose a bit to allow correction, then comment.
>
> > > > well, maybe i missed something... lets look at the voltages:
>
> > > > Vf(t)=(100+50*2)/2 = 100
> > > > Vr(t)=(100-50*2)/2 = 0
>
> > > You made a substitution error here. On the transmission line
> > > with a constant DC voltage:
> > >   V(t)=100V
> > >   I(t)=0A
>
> > > substituting in to
> > >   Vf(t)=(V(t)+R0*I(t))/2
> > >   Vr(t)=(V(t)-R0*I(t))/2
>
> > > yields
> > >   Vf(t)=50V
> > >   Vr(t)=50V
>
> > > and
> > >   If(t) = 50/50 = 1a
> > >   Ir(t) = 50/50 = 1a
>
> > > Recalling that the definition of forward and reflected is
> > >   V(t)=Vf(t)+Vr(t)
> > >   I(t)=If(t)-Ir(t)
> > > we can check our arithmetic
> > >   V(t)= 50+50 = 100V
> > >   I(t)= 1-1   = 0A
> > > Exactly as measured.
> > > If you are disagree with the results, please point out
> > > my error in the definitions, derivations or arithmetic.
>
> > except i can measure If and Ir separately and can see they are both
> > zero.
>
> How would you measure them?

you said you had a directional wattmeter, so do i. mine reads zero,
what does yours read?

>The standard definition of forward
> and reflected waves are as I provided above. I suppose you could
> construct your own definitions, but such a new definition would
> be confusing and unlikely to have the nice properties of the
> standard definitions.
>
> > this is where your argument about putting a resistor between
> > two batteries falls apart... there is a length of cable with a finite
> > time delay in the picture here. so it is possible to actually watch
> > the waves reflect back and forth and see what really happens. in the
> > case where the line is open at the far end we can measure the voltage
> > at both ends of the line and see the constant 100v, so where is the
> > voltage difference needed to support the forward and reverse current
> > waves?
>
> Well, as I suggested, the forward and reflected wave are somewhat
> fictitious. They are very useful as intermediate results in solving
> problems but, as you note above, quite problematic if one starts
> to assign too much reality to them.

fictitious?? i can measure them, watch them flow from here to there,
and see physical effects of them, doesn't sound very fictitious to
me. weren't you the one who teaches tdr use? what are you seeing in
the steps of the tdr if not for reflected waves coming back to your
scope?

>
> That is why they are quite analogous to the two currents in the two
> battery example.

no, that is why they aren't analogous. lumped components can't
represent the traveling waves.

>
> > you can't have current without a voltage difference.
>
> You can, though, have an arbitrary current as an intermediate
> result in solving a problem. With the two battery example, reduce
> the resistor to 0 and an infinitely large current is computed in
> both directions, though we know in reality that no current is
> actually flowing.

no it isn't. in the limit at R->0 0V/R still looks like 0 to me.

>
> > plus i
> > can substitute in a lossy line and measure the line heating and
> > measure no i^2r loss that would exist if there were currents flowing
> > in the line, so there are none.
>
> I certainly agree that there is no real current flowing, but the
> fictititious If and Ir are indeed present (or pick a better word
> if you like).

now you say they are fictitious, yet you have formulas for them and can measure them... until you come to your senses and admit that reflections are real there isn't much we can do for you so the rest of your post is based on an incorrect premise.

<snip>

2592. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 13:43:48 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b3332899-a217-4798-8b79-9164bc56beac@i28g2000yqa.googlegroups.com>
Source record: 8892

On 18 jun, 07:55, K1TTT <k1...@arrl.net> wrote:
> On Jun 17, 10:55 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 17, 5:08 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > but you have already admitted that it is the only mechanism... though
> > > you will now undoubtedly argue against yourself. em wave reflection
> > > IS the only mechanism for redistributing rf energy, you admitted that
> > > when you agreed that superposition of the waves is the mechanism that
> > > causes the interference in the first place.
>
> > Superposition and reflection are NOT the same mechanism. You are
>
> i didn't say they were
>
> > totally confused about what I have said. Wave REFLECTION (of one wave)
> > is not caused by SUPERPOSITION (of two waves) and vice versa. Wave
> > reflection happens to a single wave when it encounters an impedance
> > discontinuity. Superposition requires two or more waves. They are
> > clearly two completely different mechanisms. So I will repeat what I
> > said before:
>
> > There are two mechanisms for redistributing the reflected energy back
> > toward the load.
>
> > 1. The re-reflection of the SINGLE reflected wave from the load at an
> > impedance discontinuity associated with the power reflection
>
> its really the voltage and current reflection coefficient.
>
> > coefficient, e.g. 0.5 in my earlier example. Thus in that earlier
> > example, 1/2 of the reflected energy from the load is re-reflected
> > back toward the load and joins the forward wave toward the load. That
> > leaves 1/2 of the reflected energy that is transmitted through the
> > impedance discontinuity toward the source without being reflected.
>
> > The second energy redistribution mechanism occurs associated with
> > superposition of MULTIPLE WAVES.
>
> that is what i said, and what you agreed to earlier.
>
>
>
> > 2. The percentage of the reflected energy from the load that is

> > transmitted through the impedance discontinuity toward the source
> > superposes with the reflection of the source forward wave from the
> > impedance discontinuity. In my earlier example, the following two
> > wavefronts superpose in the direction of the source.
>
> > Pfor1(rho^2) = 50w and Pref2(1-rho^2) = 50w
>
> > Pref1 = 50w + 50w - 2*SQRT(50w*50w) = 0
>
> > This is the second mechanism (wave cancellation) that redistributes
>
> but that is NOT a "second' mechanism. it IS superposition, which is
> what you agreed to earlier, maybe in a different thread. the
> mechanism is superposition, the observation is that the waves
> interfere either constructively or destructively.
>
> > the energy in the canceled wavefronts back toward the load. This step
> > 2 is technically NOT a reflection since it involves two waves. This is
> > the step that the RF gurus are missing.
>
> no we are not, we understand superposition which is the underlying
> basic mechanism of your optical interference terms.
>
>
>
>
>
>
>
> > I really wish you understood the s-parameter equations which are
> > easier to discuss than the above RF equations.
>
> > In the s-parameter equation:
>
> > b2 = s21*a1 + s22*a2
>
> > the term, s22*a2, is the SINGLE WAVE re-reflection term, i.e. a2 is
> > the reflected voltage from the load.
>
> > In the other s-parameter equation:
>
> > b1 = s11*a1 + s12*a2 = 0
>
> > s11*a1 and s12*a2 are the TWO WAVEFRONTS that superpose to zero, i.e.
>
> stop there and you are perfectly correct.
>
>
>
> > engage in wave cancellation.

> > --
> > 73, Cecil, w5dxp.com- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

> the mechanism is superposition, the observation is that
> the waves interfere either constructively or destructively.

In the end you will see you basically agree and 90% of this issue it
is the Babel curse :>)

2593. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 13:59:14 UTC
From: John KD5YI <mycalldotjocjodotjocjo@xoxy.net>
Message-ID: <hvfu3kppm1@speranza.aioe.org>
Source record: 8893

On 6/17/2010 9:59 PM, tom wrote:
> On 6/6/2010 9:22 AM, JC wrote:
>> Basic question (at least for me) for a very poor antenna matching :
>> -100 w reach the antenna and 50 w are radiated.
>> - 50 w are "reflected", what is their fate ?
>> Are they definitely lost for radiation and just heat the line, the
>> final....
>> JC
>>
>>
>>
>
> It would be really really REALLY effing great if you dorks would take
> this to a suitable forum. This has nothing to do with antennas.
>
> And it is an unproductive infinite length, in case you bunch have missed
> that point. But I'm guessing that given how intelligent you all are, you
> already figured that out, and are ignoring it. No one is changing their
> position, and they never will.
>
> And yes, I have the thread set to "ignore". Which everyone should.
>
> I will NOT see your responses.
>
> tom
> K0TAR

Actually, I'm following and enjoying the conversation. Since you set
your computer to ignore responses, then you should have no objection if
they continue. It makes more sense to ignore subjects which don't
interest you than to complain about them.

John
KD5YI

2594. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 14:28:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ed35c01d-7bba-4c2e-99b9-64c94b716041@j4g2000yqh.googlegroups.com>
Source record: 8894

On Jun 18, 5:55 am, K1TTT <k1...@arrl.net> wrote:
> > 1. The re-reflection of the SINGLE reflected wave from the load at an
> > impedance discontinuity associated with the power reflection
>
> its really the voltage and current reflection coefficient.

It's really an electromagnetic wave obeying all the laws of physics
for an electromagnetic wave INCLUDING ENERGY CONTENT. ExH is the power
density of the wave and the voltage coefficient squared is the power
reflection coefficient. All of the power/energy math used on a Z0-
match gives identical answers as using the voltages PLUS it answers
the original question asked by the first poster to this thread about
what happens to reflected energy. The answer is that reflected energy,
like any other energy, is conserved traveling at the speed of light in
the medium, until it is dissipated or radiated.

Try measuring the voltage and current content of a laser beam and you
will realize why optical physicists are decades ahead of RF engineers
in understanding where EM wave energy goes.

> > This [superposition] is the second mechanism (wave cancellation) that redistributes
>
> but that is NOT a "second' mechanism. it IS superposition, which is
> what you agreed to earlier, maybe in a different thread.

In my statement above "This" refers to "superposition" which is the
second mechanism after reflection, the first mechanism. ***I REPEAT!
(1) REFLECTION IS NOT THE SAME AS (2) SUPERPOSITION!!!*** You are now
just engaging in obfuscation of what I have said. I expect such shabby
behavior from others on this newsgroup, but not from you.

Wave cancellation is just a special case of superposition, i.e. wave
cancellation is superposition.

(2nd mechanism) Superposition ==> Interference ==> Wave Cancellation,
which is ***NOT*** the same as
(1st mechanism) Reflection. I cannot say it any plainer than that.
--
73, Cecil, w5dxp.com

2595. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 14:35:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3010bebc-6d55-426c-b2ce-78718e6bc1f1@x27g2000yqb.googlegroups.com>
Source record: 8895

On Jun 18, 5:57 am, K1TTT <k1...@arrl.net> wrote:
> you edited too much out of context... it doesn't matter which method
> you use to calculate where it goes as long as you know the limitations
> of your method.

Exactly! The method that most RF engineers use does not tell how the
energy flows. Witness the posters who are implying that a reflected
wave contains no energy because they cannot figure out where that
energy goes or how it gets there. In his food-for-thought example,
w7el completely ignores the role of superposition/interference in
redistributing the energy, a phenomenon known and understood in the
field of optical physics for at least a century.
--
73, Cecil, w5dxp.com

2596. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 14:38:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d5fcd752-1ea4-44fe-a967-faa791e53c96@u7g2000yqm.googlegroups.com>
Source record: 8896

On Jun 18, 8:43 am, lu6etj <lu6...@gmail.com> wrote:
> In the end you will see you basically agree and 90% of this issue it
> is the Babel curse :>)

Don't forget the 10% of misquotes.
--
73, Cecil, w5dxp.com

2597. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 14:46:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6d5bda5e-7ccd-4acf-af57-50c73ea07e41@j4g2000yqh.googlegroups.com>
Source record: 8897

On Jun 17, 9:59 pm, tom <news4...@taring.org> wrote:
> It would be really really REALLY effing great if you dorks would take
> this to a suitable forum. This has nothing to do with antennas.

Is there a rec.radio.amateur.feedlines group that I have missed?
--
73, Cecil, w5dxp.com

2598. See Hot Sexy Star ANUSHKA Nude Bathing Videos In All Angles.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 14:55:59 UTC
From: free money <maaindia14@gmail.com>
Message-ID: <00ae4bf6-27ec-43ce-9a2c-8a82d9f832cf@j36g2000prj.googlegroups.com>
Source record: 8898

See Hot Sexy Star ANUSHKA Nude Bathing Videos In All Angles.
at http://mastidunia.co.cc

Due to high sex content,i have hidden the videos in an image. in that
website on left side below search box click on image and watch
videos in all angles.please dont tell to anyone.

2599. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 15:00:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4b53ff74-7091-4112-8064-0adae80fa7b5@5g2000yqz.googlegroups.com>
Source record: 8899

On Jun 18, 3:06 am, Roy Lewallen <w...@eznec.com> wrote:
> Nothing I have ever
> posted contradicts, or intends to contradict, the very well known and
> established theory which has been found to be correct and useful for
> over a hundred years.

On the contrary, what you have said indeed does contradict 100 years
of optical physics. All you have to do to alleviate your ignorance is
to grok that superposition (wave-cancellation/interference) can and
does redistribute energy even when there are no reflections present.
The ONLY time that a forward wave and a reflected wave don't interfere
with each other is when they are 90 degrees different in phase.

> What I find silly is the idea that there are waves
> of average power bouncing back and forth, needing to "go" somewhere, and
> the specious arguments put forth in desperate attempts to explain where
> these elusive waves "go" and how they supposedly behave.

Have you never stood in a hall of mirrors where the reflections seem
to go on out to infinity on both sides? You would have us believe that
those reflections are not bouncing back and forth, mirror to mirror,
and that those reflections that you can see with your own eyes have
zero energy??? Roy, you are just spouting guru-type metaphysics, and
should be ashamed of yourself for trying to spread your religion to
the unwashed masses.
--
73, Cecil, w5dxp.com

2600. radio noise problem

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 15:00:40 UTC
From: internaughtfull <itchyneebanshee@hotmail.com>
Message-ID: <f093b776-bb0f-4823-a64e-00f6322f8520@g19g2000yqc.googlegroups.com>
Source record: 8900

Hi,

I'm not sure if this is the right group btw.
I have an archos mp3 recorder with a 20gb hardrive
in it. It has a stereo line in I use to record
talk shows from a grundig radio.

When I record one particular fm station, a static
pulse is heard thru the headphone monitor
output of the archos. This pulse gets recorded
and I want to get rid of it. It is not heard thru
the grundig's speaker however.
No matter where I position
the archos, using a long cable, and no matter
where I position the antenna, this loud
pulse comes through the headphone monitor.
Why does this not come
thru the actual radio, and not other stations,
but only on this one station?

Thanks,

itchy

2601. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 15:26:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <616b920e-8616-4d43-9083-809b06f72e44@i28g2000yqa.googlegroups.com>
Source record: 8801

On Jun 18, 6:00 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> "Is this a situation
> where the computed reflected power represents something real?"
> because if it does not, the original question is moot.

It certainly depends upon your definition of "power" and that definition is different between pure physics and RF engineering. One of the accepted definitions of "power" in "The IEEE Dictionary" contradicts the definition of "power" given in my college physics book. "The IEEE Dictionary" says that flowing energy passing a fixed measurement point is power, by definition.

If there is anything at all that can be measured, it must necessarily contain energy. If the EM energy is moving, it is power, by IEEE definition. If you disagree, take it up with The IEEE.

So the actual question that needs to be answered is: Does the electromagnetic reflected wave contain energy traveling at the speed of light in the medium? The answer is yes, being photonic in nature, an EM wave must necessarily contain an ExH power density and, consisting of photons, must necessarily be traveling at the speed of light in the medium. The EM wave will continue to travel in the direction of energy flow at the speed of light in the medium until it encounters an impedance discontinuity which causes a reflection and/or interference.

There is really no difference in a forward wave and a reflected wave except for the direction of travel. They both contain an associated ExH power density. One can set up identical signal generators at each end of a transmission line to emulate forward and reflected waves. Which generator yields forward waves and which generator yields reflected waves? It doesn't really matter because direction is only a convention.
--
73, Cecil, w5dxp.com

2602. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 16:48:54 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f9cc61fe-a39e-44f7-ab09-67fd1bce5ae7@32g2000prq.googlegroups.com>
Source record: 8802

On Jun 18, 10:28 am, Cecil Moore <w5...@hotmail.com> wrote:

> In my statement above "This" refers to "superposition" which is the
> second mechanism after reflection, the first mechanism. ***I REPEAT!
> (1) REFLECTION IS NOT THE SAME AS (2) SUPERPOSITION!!!*** You are now
> just engaging in obfuscation of what I have said. I expect such shabby
> behavior from others on this newsgroup, but not from you.

NOW ITS MY TURN TO YELL! I NEVER SAID THAT REFLECTION WAS THE SAME AS
SUPERPOSITION, I HAVE BEEN SAYING THAT YOUR 'WAVE CANCELLATION' AND
'INTERFERENCE' ARE SUPERPOSITION! JUST WHAT YOU ADMIT BELOW:

>
> Wave cancellation is just a special case of superposition, i.e. wave
> cancellation is superposition.
>

2603. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 16:51:18 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ca258945-43c0-4380-a6ca-da03c347dd1a@32g2000prq.googlegroups.com>
Source record: 8803

On Jun 18, 10:35 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 18, 5:57 am, K1TTT <k1...@arrl.net> wrote:
>
> > you edited too much out of context... it doesn't matter which method
> > you use to calculate where it goes as long as you know the limitations
> > of your method.
>
> Exactly! The method that most RF engineers use does not tell how the
> energy flows. Witness the posters who are implying that a reflected
> wave contains no energy because they cannot figure out where that
> energy goes or how it gets there. In his food-for-thought example,
> w7el completely ignores the role of superposition/interference in
> redistributing the energy, a phenomenon known and understood in the
> field of optical physics for at least a century.
> --
> 73, Cecil, w5dxp.com

because, at least when i do circuit design, i NEVER calculate energy,
and only at the end calculate power if i really need to. voltage and
current or E and H are the simpler things to handle and totally
sufficient for all circuit analysis, either lumped or distributed.

2604. Re: radio noise problem

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 17:00:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c7805b43-bf1c-4098-9739-ace7d7024acb@t34g2000prd.googlegroups.com>
Source record: 8804

On Jun 18, 11:00 am, internaughtfull <itchyneebans...@hotmail.com>
wrote:
> Hi,
>
> I'm not sure if this is the right group btw.
> I have an archos mp3 recorder with a 20gb hardrive
> in it. It has a stereo line in I use to record
> talk shows from a grundig radio.
>
> When I record one particular fm station, a static
> pulse is heard thru the headphone monitor
> output of the archos. This pulse gets recorded
> and I want to get rid of it. It is not heard thru
> the grundig's speaker however.
> No matter where I position
> the archos, using a long cable, and no matter
> where I position the antenna, this loud
> pulse comes through the headphone monitor.
> Why does this not come
> thru the actual radio, and not other stations,
> but only on this one station?
>
> Thanks,
>
> itchy

try listening to the line out from the grundig directly, you may be
able to hear it in a set of headphones, or you may need some amplified
speakers. see if there is noise there that isn't in the speaker...
then turn on the mp3 to record near to the grundig... there is an
outside posibility that the mp3 recorder is transmitting a noise that
the grundig picks up on that one station's frequency, you may only
hear it when the mp3 recorder is connected to the grundig because it
is conducted on the cable.

2605. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 17:39:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7ea59dcb-4fd0-4f2f-a708-ad35c1c58299@x21g2000yqa.googlegroups.com>
Source record: 8805

On Jun 18, 11:48 am, K1TTT <k1...@arrl.net> wrote:
> NOW ITS MY TURN TO YELL! I NEVER SAID THAT REFLECTION WAS THE SAME AS
> SUPERPOSITION, I HAVE BEEN SAYING THAT YOUR 'WAVE CANCELLATION' AND
> 'INTERFERENCE' ARE SUPERPOSITION! JUST WHAT YOU ADMIT BELOW:

When I said reflection is the first mechanism and superposition is the second mechanism, you said: "... but that [referring to superposition] is NOT a "second' mechanism." The implication seemed clear to me.

Good grief, everyone is free to review what I said and what you said in disagreement. I said reflection is the first mechanism and superposition is the second mechanism. You said superposition is NOT a second mechanism, clearly implying that superposition is the same as the first mechanism which was already defined by me as reflection. Your implication was clearly that reflection and superposition are the same mechanism.

Do you agree that wave reflection can cause a redistribution of wave energy?

Do you agree that superposition can cause a redistribution of wave energy?

Do you agree that wave reflection and wave superposition are two different mechanisms?

If so, you agree with everything I have previously said and are now just blowing smoke. If you misspoke, just admit it. If you misunderstood what I said, just admit it. If you have changed your mind, just admit it. If you still disagree with any of those three statements, please continue the argument that you started in response to my assertion that there exists two mechanisms that can redistribute energy in a transmission line, (1) reflection and (2) superposition.
--
73, Cecil, w5dxp.com

2606. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 17:41:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fa675c72-9db6-4d84-a23a-534818cd50c4@h13g2000yqm.googlegroups.com>
Source record: 8806

On Jun 18, 11:51 am, K1TTT <k1...@arrl.net> wrote:
> because, at least when i do circuit design, i NEVER calculate energy,
> and only at the end calculate power if i really need to. voltage and
> current or E and H are the simpler things to handle and totally
> sufficient for all circuit analysis, either lumped or distributed.

The subject of this thread is "Where does it go? (mismatched power)",
not "How do I do circuit design?"
--
73, Cecil, w5dxp.com

2607. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 18:01:22 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <af34307c-aafc-4514-b9dc-0f4f00aae7b7@u7g2000yqm.googlegroups.com>
Source record: 8807

On 18 jun, 12:26, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 18, 6:00 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > "Is this a situation
> > where the computed reflected power represents something real?"
> > because if it does not, the original question is moot.
>
> It certainly depends upon your definition of "power" and that
> definition is different between pure physics and RF engineering. One
> of the accepted definitions of "power" in "The IEEE Dictionary"
> contradicts the definition of "power" given in my college physics
> book. "The IEEE Dictionary" says that flowing energy passing a fixed
> measurement point is power, by definition.
>
> If there is anything at all that can be measured, it must necessarily
> contain energy. If the EM energy is moving, it is power, by IEEE
> definition. If you disagree, take it up with The IEEE.
>
> So the actual question that needs to be answered is: Does the
> electromagnetic reflected wave contain energy traveling at the speed
> of light in the medium? The answer is yes, being photonic in nature,
> an EM wave must necessarily contain an ExH power density and,
> consisting of photons, must necessarily be traveling at the speed of
> light in the medium. The EM wave will continue to travel in the
> direction of energy flow at the speed of light in the medium until it
> encounters an impedance discontinuity which causes a reflection and/or
> interference.
>
> There is really no difference in a forward wave and a reflected wave
> except for the direction of travel. They both contain an associated
> ExH power density. One can set up identical signal generators at each
> end of a transmission line to emulate forward and reflected waves.
> Which generator yields forward waves and which generator yields
> reflected waves? It doesn't really matter because direction is only a
> convention.
> --
> 73, Cecil, w5dxp.com

Hello friends. good day for you.

I am glad that I have not bothered with my joke, Keith! :>) I was to
do some comments to your and Roy posts, but I prefer to ask questions
rather than giving personal opinions :>)
....
Please Cecil, friend, do not mention photons and optics (do not bother

me, don't worry), I believe you better play your game without such things. I know is like fighting with one arm tied, but I think you can, make an effort :>)

Please Owen explain to me what is "negative power".

In the other thread you said => "The notion that reflected power is simply and always absorbed in the real source resistance is quite wrong. Sure you can build special cases where that might happen, but there is more to it. Thinking of the reflected wave as 'reflected power' leads to some of the misconception.
Then I asked; "remember me what reflected power definition are you using here and expand the sentence idea".
I did not ask for the quoting, I ask (again) for your concept of Reflected Power. I do not sure if you accept (or not) the very notion of reflected power as legitimate. The sentence it is not clear enough to me.

Please, tell us if you accept the idea of two very directive electromagnetic waves from different sources flowing in opposite directions as carring independent energy (with different frequencies at first) and information, and the posibbility that energy be dissipated and/or transmitted by de opposite system and the information being recovered in both ends.
If your answer is yes, then tell us if you conceive such similar system using a same wave guide to simultaneously vinculate both system.

73 - Miguel - LU6ETJ

PS: Roy, friend, take it ease (is OK, or polite say "take it easy?), references to the article were only to complement (bring close?) some useful notions related, mentioning a possible common reference (my english books are few, old and possibly useless as reference nowadays)

2608. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 18:28:11 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c517afe1-33ef-4990-babc-8110aa5d8393@t10g2000yqg.googlegroups.com>
Source record: 8808

On Jun 18, 5:39 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 18, 11:48 am, K1TTT <k1...@arrl.net> wrote:
>
> > NOW ITS MY TURN TO YELL! I NEVER SAID THAT REFLECTION WAS THE SAME AS
> > SUPERPOSITION, I HAVE BEEN SAYING THAT YOUR 'WAVE CANCELLATION' AND
> > 'INTERFERENCE' ARE SUPERPOSITION! JUST WHAT YOU ADMIT BELOW:
>
> When I said reflection is the first mechanism and superposition is the
> second mechanism, you said: "... but that [referring to superposition]
> is NOT a "second' mechanism." The implication seemed clear to me.
>
> Good grief, everyone is free to review what I said and what you said
> in disagreement. I said reflection is the first mechanism and
> superposition is the second mechanism. You said superposition is NOT a
> second mechanism, clearly implying that superposition is the same as
> the first mechanism which was already defined by me as reflection.
> Your implication was clearly that reflection and superposition are the
> same mechanism.
>
> Do you agree that wave reflection can cause a redistribution of wave
> energy?

no. wave reflection causes current and voltage waves to change
direction, magnitude, and phase.

>
> Do you agree that superposition can cause a redistribution of wave
> energy?

your observed 'redistribution of wave energy' is a results of
superposition of current and voltage waves and then another
calculation to convert the sum to power and another calculation to
integrate the energy.

>
> Do you agree that wave reflection and wave superposition are two
> different mechanisms?

of course, i've never said otherwise.

>
> If so, you agree with everything I have previously said and are now
> just blowing smoke. If you misspoke, just admit it. If you
> misunderstood what I said, just admit it. If you have changed your
> mind, just admit it. If you still disagree with any of those three
> statements, please continue the argument that you started in response

> to my assertion that there exists two mechanisms that can redistribute
> energy in a transmission line, (1) reflection and (2) superposition.
> --

2609. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 18:41:30 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8bf6fd13-8f57-4257-82da-ac5d6d8eb71f@x21g2000yqa.googlegroups.com>
Source record: 8809

On Jun 18, 5:41 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 18, 11:51 am, K1TTT <k1...@arrl.net> wrote:
>
> > because, at least when i do circuit design, i NEVER calculate energy,
> > and only at the end calculate power if i really need to. voltage and
> > current or E and H are the simpler things to handle and totally
> > sufficient for all circuit analysis, either lumped or distributed.
>
> The subject of this thread is "Where does it go? (mismatched power)",
> not "How do I do circuit design?"
> --
> 73, Cecil, w5dxp.com

since when did any thread like this stay on topic for more than a
couple messages?

2610. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 19:02:30 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <863cc667-be78-473f-9bd2-41371be54b2b@q12g2000yqj.googlegroups.com>
Source record: 8810

On Jun 18, 1:28 pm, K1TTT <k1...@arrl.net> wrote:
> > Do you agree that wave reflection can cause a redistribution of wave
> > energy?
>
> no. wave reflection causes current and voltage waves to change
> direction, magnitude, and phase.

The question asked by the original poster is, exactly what happens to the reflected energy? Optical physicists know that a reversal of energy flow direction accompanies the change in direction of the E-field and the B-field which changes the direction of the ExB Poynting vector, i.e. changes the "direction and momentum" of the EM wave according to Eugene Hecht. How can you not know that a voltage/current wave requires energy? How can the voltage and current change direction without the energy changing direction? Does supernatural intervention separate the voltage and current from the ExH energy?

Maybe you should reference, "Fields and Waves ...", by Ramo and Whinnery where they describe the forward and reflected power-density Poynting vectors.

> > Do you agree that superposition can cause a redistribution of wave
> > energy?
>
> your observed 'redistribution of wave energy' is a results of
> superposition of current and voltage waves and then another
> calculation to convert the sum to power and another calculation to
> integrate the energy.

Is that a yes or no answer? The same thing happens with light waves in free space where voltage and current are completely irrelevant.

> > Do you agree that wave reflection and wave superposition are two
> > different mechanisms?
>
> of course, i've never said otherwise.

You sure implied otherwise. Why did you argue with me when I said they are two different mechanisms in action to redistribute energy, (1) reflection and (2) superposition? You said superposition is not the second mechanism.
--
73, Cecil, w5dxp.com

2611. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 19:16:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <48929f3d-5520-42d9-b66e-85ae018943e9@b35g2000yqi.googlegroups.com>
Source record: 8811

On Jun 18, 1:01 pm, lu6etj <lu6...@gmail.com> wrote:
> Please Cecil, friend, do not mention photons and optics (do not bother
> me, don't worry), ...

What do I do about people who assert that RF waves possess the ability
to violate the known laws of EM wave physics? It doesn't matter what
the frequency of an EM wave is, it must obey the laws of physics, two
of which are:

1. It cannot exist without a Poynting vector ExH power density.

2. It must necessarily move at the speed of light in the medium.
--
73, Cecil, w5dxp.com

2612. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 20:23:22 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <708bd7b8-d00f-4106-887e-7e00c0f2809c@e5g2000yqn.googlegroups.com>
Source record: 8812

On 18 jun, 16:02, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 18, 1:28 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > Do you agree that wave reflection can cause a redistribution of wave
> > > energy?
>
> > no. wave reflection causes current and voltage waves to change
> > direction, magnitude, and phase.
>
> The question asked by the original poster is, exactly what happens to
> the reflected energy? Optical physicists know that a reversal of
> energy flow direction accompanies the change in direction of the E-
> field and the B-field which changes the direction of the ExB Poynting
> vector, i.e. changes the "direction and momentum" of the EM wave
> according to Eugene Hecht. How can you not know that a voltage/current
> wave requires energy? How can the voltage and current change direction
> without the energy changing direction? Does supernatural intervention
> separate the voltage and current from the ExH energy?
>
> Maybe you should reference, "Fields and Waves ...", by Ramo and
> Whinnery where they describe the forward and reflected power-density
> Poynting vectors.
>
> > > Do you agree that superposition can cause a redistribution of wave
> > > energy?
>
> > your observed 'redistribution of wave energy' is a results of
> > superposition of current and voltage waves and then another
> > calculation to convert the sum to power and another calculation to
> > integrate the energy.
>
> Is that a yes or no answer? The same thing happens with light waves in
> free space where voltage and current are completely irrelevant.
>
> > > Do you agree that wave reflection and wave superposition are two
> > > different mechanisms?
>
> > of course, i've never said otherwise.
>
> You sure implied otherwise. Why did you argue with me when I said they
> are two different mechanisms in action to redistribute energy, (1)
> reflection and (2) superposition? You said superposition is not the
> second mechanism.
> --

> 73, Cecil, w5dxp.com

"-Do you agree that wave reflection can cause a redistribution of wave
energy?-"
"-No. wave reflection causes current and voltage waves to change direction, magnitude, and phase.-"

You see? Babel curse...! One ask about energy other answer with current, voltage, etc. (same thing divided in pieces).

Do you agree cars have engines?, ¡Of course not! ¡cars have crankshaft, cylinder, piston, rods...!
Thus you are never going to reach an agreement :D :D

2613. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 23:26:34 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <0c3599e0-e6b7-4090-9583-c7385361fc1a@b35g2000yqi.googlegroups.com>
Source record: 8813

On Jun 18, 7:04 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 18, 12:00 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > except i can measure If and Ir separately and can see they are both
> > > zero.
>
> > How would you measure them?
>
> you said you had a directional wattmeter, so do i. mine reads zero,
> what does yours read?

That would most likely be because your wattmeter is AC coupled.
Working
with DC, you need a DC-coupled meter, in which case it would read as
I predicted.

A highly instructive exercise is to examine the schematic for your
directional wattmeter and work out how it implements the expressions
Vf(t)=(V(t)+R0*I(t))/2
Vr(t)=(V(t)-R0*I(t))/2

Pf=avg(Vf(t)*Vf(t)/R0)
Pr=avg(Vr(t)*Vr(t)/R0)
or some equivalent variant using If and Ir.

You will find a voltage sampler, a current sampler, some scaling,
and an addition (or subtraction). If your meter is analog, the
squaring function is usually implemented in the non-linear meter
scale. And the averaging function might be peak-reading or rely
on meter inertia.

> > You can, though, have an arbitrary current as an intermediate
> > result in solving a problem. With the two battery example, reduce
> > the resistor to 0 and an infinitely large current is computed in
> > both directions, though we know in reality that no current is
> > actually flowing.
>
> no it isn't. in the limit at R->0 0V/R still looks like 0 to me.

When computing the intermediate results using superposition, you
have the full battery voltage in to 0 ohms. First the battery on
the left, then the one on the right, and then you add the two
currents to get the total current. 0 is always the total, but
the intermediate results can go to infinity if you connect
the two batteries directly in parallel.

> > I certainly agree that there is no real current flowing, but the
> > fictititious If and Ir are indeed present (or pick a better word
> > if you like).
>
> now you say they are fictitious, yet you have formulas for them and
> can measure them... until you come to your senses and admit that
> reflections are real there isn't much we can do for you so the rest of
> your post is based on an incorrect premise.

Then what are the equations for computing forward and reflected waves and 'power'? That is where I started. Is that the premise you consider to be incorrect?

Do follow through the arithmetic in the previously provided examples and see if you can find any faults. Point me to any errors and I will gladly reconsider my position.

If not, perhaps it is time for you to start questioning your assumptions.

...Keith

2614. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 23:55:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <44b1681a-8786-4605-8076-31fc77250b9d@i31g2000yqm.googlegroups.com>
Source record: 8814

On Jun 18, 11:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 18, 7:04 am, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 18, 12:00 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > > except i can measure If and Ir separately and can see they are both
> > > > zero.
>
> > > How would you measure them?
>
> > you said you had a directional wattmeter, so do i. mine reads zero,
> > what does yours read?
>
> That would most likely be because your wattmeter is AC coupled.
> Working
> with DC, you need a DC-coupled meter, in which case it would read as
> I predicted.

mine is dc coupled... still nothing. please provide the schematic or
model number for the one you use to get such a reading.

>
> A highly instructive exercise is to examine the schematic for your
> directional wattmeter and work out how it implements the expressions
> Vf(t)=(V(t)+R0*I(t))/2
> Vr(t)=(V(t)-R0*I(t))/2
>
> Pf=avg(Vf(t)*Vf(t)/R0)
> Pr=avg(Vr(t)*Vr(t)/R0)
> or some equivalent variant using If and Ir.
>
> You will find a voltage sampler, a current sampler, some scaling,
> and an addition (or subtraction). If your meter is analog, the
> squaring function is usually implemented in the non-linear meter
> scale. And the averaging function might be peak-reading or rely
> on meter inertia.
>
> > > You can, though, have an arbitrary current as an intermediate
> > > result in solving a problem. With the two battery example, reduce
> > > the resistor to 0 and an infinitely large current is computed in
> > > both directions, though we know in reality that no current is
> > > actually flowing.
>
> > no it isn't. in the limit at R->0 0V/R still looks like 0 to me.
>
> When computing the intermediate results using superposition, you

> have the full battery voltage in to 0 ohms. First the battery on
> the left, then the one on the right, and then you add the two
> currents to get the total current. 0 is always the total, but
> the intermediate results can go to infinity if you connect
> the two batteries directly in parallel.

there is no battery on the right, unless you have changed the case
again. i thought we were doing the open circuit coax with the dc
source on one end.

but even if you have the case above and connect another 100v battery
on the open end of the line there will be no current flowing back as
there is no voltage difference to drive it.

>
> > > I certainly agree that there is no real current flowing, but the
> > > fictititious If and Ir are indeed present (or pick a better word
> > > if you like).
>
> > now you say they are fictitious, yet you have formulas for them and
> > can measure them... until you come to your senses and admit that
> > reflections are real there isn't much we can do for you so the rest of
> > your post is based on an incorrect premise.
>
> Then what are the equations for computing forward and reflected waves
> and 'power'? That is where I started. Is that the premise you consider
> to be incorrect?

yep, your 'waves' don't include the proper term to make them
propagating waves that satisfy maxwell's equations... so they can't be
real... so your initial premise is incorrect.

>
> Do follow through the arithmetic in the previously provided examples
> and see if you can find any faults. Point me to any errors and I will
> gladly reconsider my position.
>
> If not, perhaps it is time for you to start questioning your
> assumptions.
>
> ...Keith

my assumptions are perfectly valid... it is yours that are flawed from
the very beginning.

2615. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-18 23:56:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e282c5ca-03db-4894-9d52-caf5be80557a@x27g2000yqb.googlegroups.com>
Source record: 8815

On Jun 18, 8:23 pm, lu6etj <lu6...@gmail.com> wrote:
> On 18 jun, 16:02, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jun 18, 1:28 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > Do you agree that wave reflection can cause a redistribution of wave
> > > > energy?
>
> > > no. wave reflection causes current and voltage waves to change
> > > direction, magnitude, and phase.
>
> > The question asked by the original poster is, exactly what happens to
> > the reflected energy? Optical physicists know that a reversal of
> > energy flow direction accompanies the change in direction of the E-
> > field and the B-field which changes the direction of the ExB Poynting
> > vector, i.e. changes the "direction and momentum" of the EM wave
> > according to Eugene Hecht. How can you not know that a voltage/current
> > wave requires energy? How can the voltage and current change direction
> > without the energy changing direction? Does supernatural intervention
> > separate the voltage and current from the ExH energy?
>
> > Maybe you should reference, "Fields and Waves ...", by Ramo and
> > Whinnery where they describe the forward and reflected power-density
> > Poynting vectors.
>
> > > > Do you agree that superposition can cause a redistribution of wave
> > > > energy?
>
> > > your observed 'redistribution of wave energy' is a results of
> > > superposition of current and voltage waves and then another
> > > calculation to convert the sum to power and another calculation to
> > > integrate the energy.
>
> > Is that a yes or no answer? The same thing happens with light waves in
> > free space where voltage and current are completely irrelevant.
>
> > > > Do you agree that wave reflection and wave superposition are two
> > > > different mechanisms?
>
> > > of course, i've never said otherwise.

>
> > You sure implied otherwise. Why did you argue with me when I said they
> > are two different mechanisms in action to redistribute energy, (1)
> > reflection and (2) superposition? You said superposition is not the
> > second mechanism.
> > --
> > 73, Cecil, w5dxp.com
>
> "-Do you agree that wave reflection can cause a redistribution of
> wave
> energy?-"
> "-No. wave reflection causes current and voltage waves to change
> direction, magnitude, and phase.-"
>
> You see? Babel curse...! One ask about energy other answer with
> current, voltage, etc. (same thing divided in pieces).
>
> Do you agree cars have engines?, ¡Of course not! ¡cars have
> crankshaft, cylinder, piston, rods...!
> Thus you are never going to reach an agreement :D :D- Hide quoted text -
>
> - Show quoted text -

it wouldn't be any fun if we agreed on everything!

2616. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 00:00:38 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <573d56ed-932b-41da-b86c-57643a59c4cd@i31g2000yqm.googlegroups.com>
Source record: 8816

On Jun 17, 9:12 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 17, 5:38 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > You are an RF dude and there is nothing
> > that can possibly be learned from simple DC circuits.
>
> We studied DC circuits in EE101. Later we were forced to expand our
> knowledge into distributed networks because the DC circuit model
> failed at RF frequencies.

One does, however, usually require that the more sophisticated model
continue to provide the correct answer for the simpler problems that
could be solved in another way.

And it does here as well, though the answers make some uncomfortable.

> > Still, I observe that you have discovered no errors in the exposition.
>
> I have not wasted my time time trying to discover any errors. In a
> nutshell, what new knowledge have you presented?

Well, at least you continue to read the posts, so perhaps there is
some slim hope, but I am not holding my breath.

As for me, I have learned a lot from your postings since I first
encountered them circa 1994. Back then, I was not so knowledgeable
about transmission lines and I was trying to decide who was right.
You posted well thought out, convincing arguments and I found myself
switching from side to side. Reflected waves heat finals, no they
don't, yes they do, ... but eventually I learned. Then I continued
to read your posts, visited your web site and studied your arguments.
The challenge was to discover where you had gone wrong. Occasionally
I would think up a suitable counter example and offer it to you, but,
even then, you refused to look at examples that might threaten your
beliefs. So I no longer post with any expectation that you might be
persuaded.

Mostly now I post to ensure that a view other than yours is voiced
to help prevent those who are not yet sure from being sucked in to
your vortex.

Anyhow, I suggest you read my examples and find the flaws, for that
is the surest way to convince me that I am wrong. And don't just
post other examples that support your position, for it only takes
one counter-example to disprove a hypothesis, no matter how many
examples are in agreement. And don't reject simple DC examples

because
they lead to uncomfortable answers for it is by examining the
examples
that do not support your hypotheses that you will learn, not by
sticking
just with the ones that do.

...Keith

2617. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 00:15:04 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <c8caa9d1-6652-452d-8ef5-2e838e07a059@i28g2000yqa.googlegroups.com>
Source record: 8817

On Jun 18, 7:55 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 18, 11:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > On Jun 18, 7:04 am, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 18, 12:00 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > > > except i can measure If and Ir separately and can see they are both
> > > > > zero.
>
> > > > How would you measure them?
>
> > > you said you had a directional wattmeter, so do i. mine reads zero,
> > > what does yours read?
>
> > That would most likely be because your wattmeter is AC coupled.
> > Working
> > with DC, you need a DC-coupled meter, in which case it would read as
> > I predicted.
>
> mine is dc coupled... still nothing. please provide the schematic or
> model number for the one you use to get such a reading.

Oh my. Could you kindly provide the schematic or a reference? Before
posting I spent an hour searching my library and the web for the
circuit
for a dc-coupled directional wattmeter and was unsuccessful.

Nothing prevents one from being constructed. That one is not readily
available should not prevent you from using the equations that they
implement and then predicting the DC behaviour of the line.

> > A highly instructive exercise is to examine the schematic for your
> > directional wattmeter and work out how it implements the expressions
> >   Vf(t)=(V(t)+R0*I(t))/2
> >   Vr(t)=(V(t)-R0*I(t))/2
>
> >   Pf=avg(Vf(t)*Vf(t)/R0)
> >   Pr=avg(Vr(t)*Vr(t)/R0)
> > or some equivalent variant using If and Ir.
>
> > You will find a voltage sampler, a current sampler, some scaling,
> > and an addition (or subtraction). If your meter is analog, the
> > squaring function is usually implemented in the non-linear meter
> > scale. And the averaging function might be peak-reading or rely
> > on meter inertia.

>
> > > > You can, though, have an arbitrary current as an intermediate
> > > > result in solving a problem. With the two battery example, reduce
> > > > the resistor to 0 and an infinitely large current is computed in
> > > > both directions, though we know in reality that no current is
> > > > actually flowing.
>
> > > no it isn't. in the limit at R->0 0V/R still looks like 0 to me.
>
> > When computing the intermediate results using superposition, you
> > have the full battery voltage in to 0 ohms. First the battery on
> > the left, then the one on the right, and then you add the two
> > currents to get the total current. 0 is always the total, but
> > the intermediate results can go to infinity if you connect
> > the two batteries directly in parallel.
>
> there is no battery on the right, unless you have changed the case
> again. i thought we were doing the open circuit coax with the dc
> source on one end.

No. I was referring to the simple DC circuit with two batteries and
a resistor. I was pretty sure that was your referent when you used
"R->0".

I understand that you have not found any flaws in my exposition,
except that you are still uncomfortable with the results. It is
possible to overcome this.

And I re-iterate the value of studying your directional wattmeter's
schematic, especially if it is DC-coupled.

...Keith

2618. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 00:22:59 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <f9325077-7c6e-4e28-8b67-4e2bc8770728@w12g2000yqj.googlegroups.com>
Source record: 8818

On Jun 17, 8:38 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > I will caution again, do not assign too much reality to these
> > forward and reflected waves; very useful for solving problems,
> > but trouble if carried too far.
>
> I'm afraid you are too late with that advice. Optical physicists have
> assigned reality to forward and reflected waves inside an
> interferometer and have tracked all of the energy including the energy
> in canceled wavefronts.
>
> http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> Scroll down to, "Using Dielectric Beamsplitters to find the "missing
> energy" in destructive interference" It says: "... when interference
> is destructive at the standard output, it is constructive at the non-
> standard output."
>
> In RF terms, when interference is destructive at a Z0-match, it is
> constructive in the direction of the load.
> --
> 73, Cecil, w5dxp.com

You have fallen in to the same trap that you did with circulators.
When you introduce a circulator in to the transmission line, you
change the experiment and you get certain results. The circulator
provides some numerology that appears to support the hypothesis
of 'reflected energy' being real. The same with looking for
"missing energy" (note they even quote it) with a beamsplitter.
The beamsplitter reveals what is happening at the beamsplitter,
not what is happening at points between the two beamsplitters.

Just like a circulator.

...Keith

2619. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 00:36:54 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b533f476-4e45-44ce-ba47-40c52c317a75@g19g2000yqc.googlegroups.com>
Source record: 8819

On Jun 19, 12:22 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 17, 8:38 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > I will caution again, do not assign too much reality to these
> > > forward and reflected waves; very useful for solving problems,
> > > but trouble if carried too far.
>
> > I'm afraid you are too late with that advice. Optical physicists have
> > assigned reality to forward and reflected waves inside an
> > interferometer and have tracked all of the energy including the energy
> > in canceled wavefronts.
>
> >http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> > Scroll down to, "Using Dielectric Beamsplitters to find the "missing
> > energy" in destructive interference" It says: "... when interference
> > is destructive at the standard output, it is constructive at the non-
> > standard output."
>
> > In RF terms, when interference is destructive at a Z0-match, it is
> > constructive in the direction of the load.
> > --
> > 73, Cecil, w5dxp.com
>
> You have fallen in to the same trap that you did with circulators.
> When you introduce a circulator in to the transmission line, you
> change the experiment and you get certain results. The circulator
> provides some numerology that appears to support the hypothesis
> of 'reflected energy' being real. The same with looking for
> "missing energy" (note they even quote it) with a beamsplitter.
> The beamsplitter reveals what is happening at the beamsplitter,
> not what is happening at points between the two beamsplitters.
>
> Just like a circulator.
>
> ...Keith- Hide quoted text -
>
> - Show quoted text -

he is even more hopeless than most, first he determines there are forward and reflected waves when a dc source has charged the line, then he rejects circulators and beamsplitters that obviously work because of the waves. so dc waves exist, but rf and optical waves don't. thats a unique viewpoint.

2620. Fendi shoes (paypal payment)((http://www.cntrade09.com))

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 06:35:10 UTC
From: cntrade08 <chenxaing84@gmail.com>
Message-ID: <e91d2725-b819-4218-8c0b-2980f9ee4a3c@o28g2000prh.googlegroups.com>
Source record: 8820
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

Bape shoes
Chanel shoes (paypal payment)((http://www.cntrade09.com))
D&G shoes
Dior shoes
ED hardy shoes
Evisu shoes
Fendi shoes (paypal payment)((http://www.cntrade09.com))
Gucci shoes `
Hogan shoes (paypal payment)((http://www.cntrade09.com))
Lv shoes
Prada shoes (paypal payment)((http://www.cntrade09.com))
Timberland shoes
Tous shoes
puma shoes (paypal payment)((http://www.cntrade09.com))
Ice cream shoes
Sebago shoes (paypal payment)((http://www.cntrade09.com))
Lacoste shoes
Air force one shoes (paypal payment)((http://
www.cntrade09.com))
TODS shoes
AF shoes

Footwear (paypal payment)((http://www.cntrade09.com))
Paul Smith shoes
Jordan shoes
Bape shoes
Chanel shoes (paypal payment)((http://www.cntrade09.com))
D&G shoes
Dior shoes
ED hardy shoes
Evisu shoes
Fendi shoes (paypal payment)((http://www.cntrade09.com))
Gucci shoes
Hogan shoes (paypal payment)((http://www.cntrade09.com))
Lv shoes
Prada shoes (paypal payment)((http://www.cntrade09.com))
Timberland shoes
Tous shoes
puma shoes (paypal payment)((http://www.cntrade09.com))
Ice cream shoes
Sebago shoes (paypal payment)((http://www.cntrade09.com))
Lacoste shoes
Air force one shoes (paypal payment)((http://

www.cntrade09.com))
TODS shoes
AF shoes

2621. Only $64 (including shipping fee) for newest GHD IV Styler--Paypal

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 07:03:25 UTC
From: "www.promptc.com jordan only $38" <peonyrsh@126.com>
Message-ID: <710289cd-e87f-4f51-9a0d-b52a44b7b281@j36g2000prj.googlegroups.com>
Source record: 8821

We are Promptc Co.,Ltd from China .Professional in supplying
GHD ,Phone etc. The top quality but low price of our company have
found a good market in many countries.

1) http://www.promptc.com/index.php?main_page=index&cPath=480_481
2) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12179
3) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12180
4) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12181
5) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12181

Basic information:
1)Payment:Paypal,WU,TT etc
2)Delivery time:3-7 days door to door delivery by DHL,TNT,EMS etc
3)Free shipping,more order more discount.

The features of our company are: best quality,lowest price,prompt
delivery,good sale-after service."Customer highest,Reputation first"
is our principle.
It would be our company biggest honor to do long term business
with each other,please kindly visit our website or contact us for more
details.Thank you !
More order more discount ! ! !

Your sincerity

GHD straighter www.promptc.com Hair Straightener www.promptc.com
GHD MK5 www.promptc.com
GHD IV styler www.promptc.com
cheap GHD www.promptc.com
2010 newest ghd www.promptc.com
hot sell ghd www.promptc.com
ghd mk4 www.promptc.com
coach handbag www.promptc.com
nike air max 2009 www.promptc.com
ghd www.promptc.com

2622. Only $64 (including shipping fee) for newest GHD IV Styler--Paypal

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 07:03:34 UTC
From: "www.promptc.com jordan only $38" <peonyrsh@126.com>
Message-ID: <8241738a-c85d-406f-a08e-8349d4c9ed4f@t34g2000prd.googlegroups.com>
Source record: 8822

We are Promptc Co.,Ltd from China .Professional in supplying
GHD ,Phone etc. The top quality but low price of our company have
found a good market in many countries.

1) http://www.promptc.com/index.php?main_page=index&cPath=480_481
2) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12179
3) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12180
4) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12181
5) http://www.promptc.com/index.php?main_page=product_info&cPath=480_481&products_id=12181

Basic information:
1)Payment:Paypal,WU,TT etc
2)Delivery time:3-7 days door to door delivery by DHL,TNT,EMS etc
3)Free shipping,more order more discount.

The features of our company are: best quality,lowest price,prompt
delivery,good sale-after service."Customer highest,Reputation first"
is our principle.
It would be our company biggest honor to do long term business
with each other,please kindly visit our website or contact us for more
details.Thank you !
More order more discount ! ! !

Your sincerity

GHD straighter www.promptc.com Hair Straightener www.promptc.com
GHD MK5 www.promptc.com
GHD IV styler www.promptc.com
cheap GHD www.promptc.com
2010 newest ghd www.promptc.com
hot sell ghd www.promptc.com
ghd mk4 www.promptc.com
coach handbag www.promptc.com
nike air max 2009 www.promptc.com
ghd www.promptc.com

2623. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 07:09:11 UTC
From: 328X1 <328X1.6624d2b@radiobanter.com>
Message-ID: <328X1.6624d2b@radiobanter.com>
Source record: 8823

Irv Finkleman;708285 Wrote:
> I used one 10 ft. copper clad steel ground rod and three 10 ft. copper
> pipes. The pipes had 1/4 inch holes
> drilled randomly throughout the bottom six feet and allowed me to
> annually
> pour an epsom salt solution through them to enhance
> ground conductivity. One copper pipe was set about 6 inches away from
> the
> paired copper clad steel -- this
> enabled the salt solution to salt the region of both. The two sets were
>
> about ten feet apart and joined together
> with heavy copper clad steel wire (Silver soldered). . To one set I
> attached
> a number of random length radials running across the
> yard (along two fence lines) and around the side of the house. They
> gave me
> a real good ground as far as I
> was concerned. Due to illness I recently sold the house, and extracted
> the
> ground system. Surprisingly there was
> little if any degredation of the metal elements -- that was after 27
> years
> in the ground! Both the copper clad steel
> rod and the copper pipes were in good shape. Copper is expensive, but
> it
> lasted a long time and took the
> worry about whether I had a good ground away.
>
> To install the copper pipes, I first drove in the copper clad steel
> rod,
> then drew it out of the ground with
> a car jack and inserted the copper pipes in the resultant holes.
>
> To make the job easy, I had a young ham use a sledgehammer to drive the
>
> copper clad steel pipe into
> the ground and jack it back out -- three times! For the fourth hole I
> did
> not have to extract the rod -- it
> was left in place.
>
> I'm no engineer, and never did any ground testing (whatever that
> involved),

> but I was totally satisfied
> with the system. Do it once right amd then don't worry about it!
>
> Irv VE6BP
>
>
>
>
>
> "Richard Clark" kb7qhc@comcast.net wrote in message
> news:r2euv5d3i852tqam9e416dhp2jjcio3ajp@4ax.com...-
> On Thu, 27 May 2010 17:36:41 -0700, Bob Smits bob@rsmits.ca wrote:
> -
> Is there a significant difference between using the galvanized steel
> ground
> rods and copper to create an rf gound?-
>
> Hi Bob,
>
> Two answers for that:
> 1. No difference whatever;
> B. Neither make an RF ground.
>
> Updates will follow this brief announcement.
>
> 73's
> Richard Clark, KB7QHC -

It appears that you are a masochist [to yourself] or a sadist [to the kid you had use a sledgehammer !!! There is a much, much easier device, to place ground rods in place. It's called a 'Water Drill'. You use typically 3/4" galvanized steel pipe of the appropriate length {couple lengths together, as needed}, add a 1' > 2' section at a right angle to the main vertical length, for rotational/insertion/extraction leverage. On the end of the short piece, add a female hose [with a water shut-off] to pipe adapter. On the vertical pipe, add a older style adjustable brass spray nozzle. You usually want a forceful stream. Simply place the nozzle end where you desire to begin a hole for the ground rod. Turn on the water (wear a raincoat/wetsuit, if you like), and apply slight downward pressure. You may need to alternately extract and reinsert, to allow dirt, from the hole being drilled, to escape.

This procedure, very possibly, may not work in VE6 land; in the wintertime. Where I live, I can drill a hole in usually less than 5 minutes, and drop in the ground rod shortly thereafter.

--
328X1

2624. Re: radio noise problem

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 12:16:14 UTC
From: internaughtfull <itchyneebanshee@hotmail.com>
Message-ID: <1955c366-9eca-4dd7-8a2e-600a21b817b5@k39g2000yqd.googlegroups.com>
Source record: 8824

outside posibility that the mp3 recorder is transmitting a noise that
> the grundig picks up on that one station's frequency, you may only
> hear it when the mp3 recorder is connected to the grundig because it
> is conducted on the cable.- Hide quoted text -
>
> - Show quoted text -

I got a new miniplug cable, a coiled one and that
seems to have fixed it. Odd that the first one only picked up noise on
that one station.

thx,

itchy

2625. Re: radio noise problem

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 14:12:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <be0569a3-649d-471f-aa53-99e8ed73321f@j8g2000yqd.googlegroups.com>
Source record: 8825

On Jun 18, 5:00 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 18, 11:00 am, internaughtfull <itchyneebans...@hotmail.com>
> wrote:
>
>
>
> > Hi,
>
> > I'm not sure if this is the right group btw.
> > I have an archos mp3 recorder with a 20gb hardrive
> > in it. It has a stereo line in I use to record
> > talk shows from a grundig radio.
>
> > When I record one particular fm station, a static
> > pulse is heard thru the headphone monitor
> > output of the archos. This pulse gets recorded
> > and I want to get rid of it. It is not heard thru
> > the grundig's speaker however.
> > No matter where I position
> > the archos, using a long cable, and no matter
> > where I position the antenna, this loud
> > pulse comes through the headphone monitor.
> > Why does this not come
> > thru the actual radio, and not other stations,
> > but only on this one station?
>
> > Thanks,
>
> > itchy
>
> try listening to the line out from the grundig directly, you may be
> able to hear it in a set of headphones, or you may need some amplified
> speakers. see if there is noise there that isn't in the speaker...
> then turn on the mp3 to record near to the grundig... there is an
> outside posibility that the mp3 recorder is transmitting a noise that
> the grundig picks up on that one station's frequency, you may only
> hear it when the mp3 recorder is connected to the grundig because it
> is conducted on the cable.

test

2626. Re: Ferrite rings help needed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 14:36:17 UTC
From: barett <barett@blueyonder.co.uk>
Message-ID: <qB4Tn.1311$0G2.1006@hurricane>
Source record: 8826

Hi

I'm after some FB-31-1020 ferrite rings to go on my Hexbeam.

Any one know where I can get some from here in the UK or is there an equivalent I can get?

Thanks

2627. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 16:10:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4012e0b8-9704-42b9-aa6a-190ebeae2046@x21g2000yqa.googlegroups.com>
Source record: 8827
Body handling: HTML body converted to readable text

On May 30, 5:00 pm, You wrote:
> In article ,
> Robert Smits wrote:
>
>
>
> > Richard Clark wrote:
>
> > > On Thu, 27 May 2010 17:36:41 -0700, Bob Smits wrote:
>
> > >>Is there a significant difference between using the galvanized steel
> > >>ground rods and copper to create an rf gound?
>
> > > Hi Bob,
>
> > > Two answers for that:
> > > 1. No difference whatever;
> > > B. Neither make an RF ground.
>
> > > Updates will follow this brief announcement.
>
> > > 73's
> > > Richard Clark, KB7QHC
>
> > Looks like my follow up post didn't make it through.
>
> > Richard I intend these three ground rods to be the start of grounding my
> > station, not as a counterpoise for one of my antennas. These will be bonded
> > to my radios and the electrical service entrance ground.
>
> > Why do you say this does not make an RF ground?
>
> > Thanks, Bob
>
> A lot of folks, make the same mistake, in thinking that Electrical
> Ground and RF Ground are the same thing. They, clearly, are NOT, the
> same thing or even close to the same thing, unless you happen to be
> living on a Salt Marsh. Ground Rods, of any kind, are only Electrical
> Grounds. Rf Grounding is a Totally Different bag of cats. RF Grounds
> need to be engineered, by someone who is familiar with Antenna Design
> and Installation Procedures, for the particular Antenna and landscape,
> where the antenna is to be installed.

```
define "rf ground".
```

2628. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-19 17:47:48 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <df0q16phbvsh3u14tdeamv71bfla53j1vv@4ax.com>
Source record: 8828

Since no one stepped up who has the experience and knowledge, I will
offer an opinion:

Further would be better but the more practical decision will be based
on what is reasonable and maintainable.

Everything is a compromise!

On Thu, 17 Jun 2010 09:05:11 -0700 (PDT), "R.Scott" <w7psk@yahoo.com>
wrote:

>> The problem with holding a few parameters constant is that you have to
>> accept whatever gain, patterns and such that come with the deal.
>
>Well I did find plans for a 6 elem on a 17.5ft boom. The boom on the
>old A4S is 18Ft. If I use the parts off my old A3
>and my A4 I should be able to come up with all the parts for the 6
>element. And its direct connect.
>
>
>I wonder how far above the A4 the 6 meter needs to be. I only have a
>5ft mast.
>
>my DX800 rotor should handle it.
>
John Ferrell W8CCW

2629. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 01:33:03 UTC
From: tom <news4792@taring.org>
Message-ID: <4c1d6fcb$0$50147$8046368a@newsreader.iphouse.net>
Source record: 8829

On 6/17/2010 11:05 AM, R.Scott wrote:
>> The problem with holding a few parameters constant is that you have to
>> accept whatever gain, patterns and such that come with the deal.
>
> Well I did find plans for a 6 elem on a 17.5ft boom. The boom on the
> old A4S is 18Ft. If I use the parts off my old A3
> and my A4 I should be able to come up with all the parts for the 6
> element. And its direct connect.
>
>
> I wonder how far above the A4 the 6 meter needs to be. I only have a
> 5ft mast.
>
> my DX800 rotor should handle it.
>
>

I have plans for a very good 6 element beam which is 15.53 feet from reflector to D4. I could scale it to the element taper you have if needed.

It will not be a direct connect however, as those are almost never optimal designs for gain, F/B or pattern. They are optimized to be 50 ohms with the rest subservient to that. Most of the designs I have would be around 22 ohms so this one is probably in that area. A gamma match is easy to make.

tom
K0TAR

2630. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 02:28:16 UTC
From: tom <news4792@taring.org>
Message-ID: <4c1d7cc0$0$637$8046368a@newsreader.iphouse.net>
Source record: 8830

On 6/19/2010 8:33 PM, tom wrote:
>
> I have plans for a very good 6 element beam which is 15.53 feet from
> reflector to D4. I could scale it to the element taper you have if needed.
>
> It will not be a direct connect however, as those are almost never
> optimal designs for gain, F/B or pattern. They are optimized to be 50
> ohms with the rest subservient to that. Most of the designs I have would
> be around 22 ohms so this one is probably in that area. A gamma match is
> easy to make.
>
> tom
> K0TAR

Sorry, I should have looked before leaping, it's 5 elements on 15.5 feet.

tom
K0TAR

2631. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 10:27:52 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c3ea6612-bbb9-49ab-acaf-03a009deee43@j8g2000yqd.googlegroups.com>
Source record: 8831

On Jun 16, 5:24 pm, "R.Scott" <w7...@yahoo.com> wrote:
> I see all kinds of crazy matching sections in posts about 6 meter
> beams. How about direct connect. I have an A4S that has major issues
> in the traps and I cant find the problem (IE I opened them and cant
> find anything) SOOO I have a new A4S coming.
>
> Has anyone taken an old 3 elem tribander and converted it to 6 meter
> monobander using the direct connect.
>
> Any Issues.
>
> Would a 4 elem be better since its a long boom ?
>
> I'm pretty sure I know the answers. Just want to confirm and see if
> there is any reason not to direct connect rather than through a
> hairpin or a gamma match.
>
> Scotty W7PSK

There are at least 3 reasons to use some kind of a matching network.
1. impedance transformation - usually the feedpoint impedance of a
simple dipole in a yagi is not near 50 ohms so the matching system
gives you an easy way to adjust that.
2. it is often easier to build an aluminum element without a center
insulator and feed it with something like a gamma or T match.
3. to keep current off the feedline shield you need to go from the
unbalanced coax to a balanced dipole feedpoint. gamma matches and
others do that transformation for you.

2632. Ringo Ranger 2Mtr on 6Mtr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 13:32:02 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-1E5E4C.08320220062010@5ad64b5e.bb.sky.com>
Source record: 8832

I have an old 2-meter Ringo Ranger on top of the tower
that has not been used for some time. I wonder how it
will do for six meters?

None of my SWR boxes cover VHF so may have to just
give it try and see what happens.

Wish me luck

2633. Re: Where does it go? (mismatched power)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 13:40:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e8c51acc-055d-4e26-99ec-f4e99acdfff4@a30g2000yqn.googlegroups.com>
Source record: 8833

On Jun 18, 3:23 pm, lu6etj <lu6...@gmail.com> wrote:
> Do you agree cars have engines?

Some cars have engines but some cars have motors. :-)
--
73, Cecil, w5dxp.com

2634. Re: Ringo Ranger 2Mtr on 6Mtr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 13:43:03 UTC
From: Dick <aa5vu@nospam.arrl.net>
Message-ID: <aa5vu-82CC35.08430320062010@5ad64b5e.bb.sky.com>
Source record: 8834

In article <aa5vu-1E5E4C.08320220062010@5ad64b5e.bb.sky.com>,
Dick <aa5vu@nospam.arrl.net> wrote:

> I have an old 2-meter Ringo Ranger on top of the tower
> that has not been used for some time. I wonder how it
> will do for six meters?
>
> None of my SWR boxes cover VHF so may have to just
> give it try and see what happens.
>
> Wish me luck

It was a good idea that DID NOT work. The SWR as shown
on rig's s-meter was terrible and I could tell it was not hearing
as well as the fan dipole.

2635. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 14:03:58 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <8b6s165k6anrj48rlrnk1asiu9oj4c045s@4ax.com>
Source record: 8835

On Sun, 20 Jun 2010 03:27:52 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>On Jun 16, 5:24ï¿½pm, "R.Scott" <w7...@yahoo.com> wrote:
>> I see all kinds of crazy matching sections in posts about 6 meter
>> beams. ï¿½How about direct connect. ï¿½I have an A4S that has major issues
>> in the traps and I cant find the problem (IE I opened them and cant
>> find anything) SOOO I have a new A4S coming.
>>
>> Has anyone taken an old 3 elem tribander and converted it to 6 meter
>> monobander using the direct connect.
>>
>> Any Issues.
>>
>> Would a 4 elem be better since its a long boom ?
>>
>> I'm pretty sure I know the answers. Just want to confirm and see if
>> there is any reason not to direct connect rather than through a
>> hairpin or a gamma match.
>>
>> Scotty W7PSK
>
>There are at least 3 reasons to use some kind of a matching network.
>1. impedance transformation - usually the feedpoint impedance of a
>simple dipole in a yagi is not near 50 ohms so the matching system
>gives you an easy way to adjust that.
>2. it is often easier to build an aluminum element without a center
>insulator and feed it with something like a gamma or T match.
>3. to keep current off the feedline shield you need to go from the
>unbalanced coax to a balanced dipole feedpoint. gamma matches and
>others do that transformation for you.

I am in agreement with all your points. [Not that I am any kind of
authority!]

Many years back I purchased and installed a Cushcraft A3S tri band
beam with the 40 Meter option. The decision was based on past
experience with Cushcraft products.

When I assembled it I was disappointed to find it did not have a gamma
match! Instead it got by with a direct connection to the driven
element with the 50 ohm line. Then it used a jury rig device called a
"choke balun" to keep the RF where it ought to be... It reminded me of
the Gotham Vertical (Google it!) that so many of us fell for way back
when. I assembled and installed it according to the instructions any

way. Much to my surprise, it worked great! I have been very happy with it.

That led to my taking the ARRL Antenna course and buying the EZNEC program.

Some things I model I can make work and some I cannot.
Some things work I cannot model.
I have concluded that direct connection and gamma matches both work well.

My cumulative experience is that it is difficult to beat the commercial products at their game.

OTH, the study and construction of antennas has become one of my favorite recreational pastimes!

John Ferrell W8CCW

2636. Re: Ringo Ranger 2Mtr on 6Mtr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 14:41:30 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hvl996qqi1@news.eternal-september.org>
Source record: 8836

Dick Inscribed thus:

> In article <aa5vu-1E5E4C.083202200620l0@5ad64b5e.bb.sky.com>,
> Dick <aa5vu@nospam.arrl.net> wrote:
>
>> I have an old 2-meter Ringo Ranger on top of the tower
>> that has not been used for some time. I wonder how it
>> will do for six meters?
>>
>> None of my SWR boxes cover VHF so may have to just
>> give it try and see what happens.
>>
>> Wish me luck
>
> It was a good idea that DID NOT work. The SWR as shown
> on rig's s-meter was terrible and I could tell it was not hearing
> as well as the fan dipole.

That wasn't exactly unexpected, now was it :-(

--
Best Regards:
Baron.

2637. Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 15:04:23 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <76qTn.8899$1Q5.3711@newsfe08.iad>
Source record: 8837

Just curious if this has ever been done? I'm thinking about
putting up a 90 foot dipole feed with homemade open wire
line. I'd like to bring it into the shack using paralled runs
of LMR-400 cable, since the final 25 feet is via 3" electrical
conduit that also has rotor and other cables.

I believe the parallel cables with give me a 100 ohm impedance.
The open wire will be using #10 with homemade spreaders,
I'm going to try for 600 ohms at the feedpoint. I was wondering
if tapering the spacing on the feedline would give me a smoother
impedance where the open wire, arrestor, and twin coax arrange-
meet?

Pete k1zjh

2638. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 15:14:02 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <bfqTn.83560$HG1.27866@newsfe21.iad>
Source record: 8838
Body handling: HTML body converted to readable text

"K1TTT" wrote in message
news:4012e0b8-9704-42b9-aa6a-190ebeae2046@x21g2000yqa.googlegroups.com...
On May 30, 5:00 pm, You wrote:
> In article ,
> Robert Smits wrote:
>
>
>
> > Richard Clark wrote:
>
> > > On Thu, 27 May 2010 17:36:41 -0700, Bob Smits wrote:
>
> > >>Is there a significant difference between using the galvanized steel
> > >>ground rods and copper to create an rf gound?
>
> > > Hi Bob,
>
> > > Two answers for that:
> > > 1. No difference whatever;
> > > B. Neither make an RF ground.
>
> > > Updates will follow this brief announcement.
>
> > > 73's
> > > Richard Clark, KB7QHC
>
> > Looks like my follow up post didn't make it through.
>
> > Richard I intend these three ground rods to be the start of grounding my
> > station, not as a counterpoise for one of my antennas. These will be
> > bonded
> > to my radios and the electrical service entrance ground.
>
> > Why do you say this does not make an RF ground?
>
> > Thanks, Bob
>
> A lot of folks, make the same mistake, in thinking that Electrical
> Ground and RF Ground are the same thing. They, clearly, are NOT, the
> same thing or even close to the same thing, unless you happen to be
> living on a Salt Marsh. Ground Rods, of any kind, are only Electrical
> Grounds. Rf Grounding is a Totally Different bag of cats. RF Grounds
> need to be engineered, by someone who is familiar with Antenna Design

> and Installation Procedures, for the particular Antenna and landscape,
> where the antenna is to be installed.

define "rf ground".

Something that provides a counterpoise for an unbalanced feedline
situation that doesn't result in RF energy being wasted to heat
earthworms, soil, etc. and radiates RF energy efficiently.

2639. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 15:35:49 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <JqCdnSOXlpFoqYPRnZ2dnUVZ_vudnZ2d@earthlink.com>
Source record: 8839

"Pete Bertini" <radioconnection@cox.net> wrote in message
news:76qTn.8899$1Q5.3711@newsfe08.iad...
> Just curious if this has ever been done? I'm thinking about
> putting up a 90 foot dipole feed with homemade open wire
> line. I'd like to bring it into the shack using paralled runs
> of LMR-400 cable, since the final 25 feet is via 3" electrical
> conduit that also has rotor and other cables.
>
> I believe the parallel cables with give me a 100 ohm impedance.
> The open wire will be using #10 with homemade spreaders,
> I'm going to try for 600 ohms at the feedpoint. I was wondering
> if tapering the spacing on the feedline would give me a smoother
> impedance where the open wire, arrestor, and twin coax arrange-
> meet?
>
> Pete k1zjh
>

You have just reinvented the Delta Match.

http://www.g4nsj.co.uk/delta.shtml

Is one place to look.

2640. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 15:42:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6d533ad5-0496-4623-9f57-1eb2448df054@s9g2000yqd.googlegroups.com>
Source record: 8840

On Jun 20, 10:04 am, "Pete Bertini" <radioconnect...@cox.net> wrote:
> I was wondering
> if tapering the spacing on the feedline would give me a smoother
> impedance where the open wire, arrestor, and twin coax arrange-
> meet?

My "ARRL Antenna Book", 20th edition, has a section on "Tapered
Lines". They say it should be at lease one wavelength on the lowest
frequency of operation. They give an "air insulated" formula for such
a design.
--
73, Cecil, w5dxp.com

2641. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 16:12:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1f8c3962-9ca1-49d9-8fdc-5d100c77e138@d37g2000yqm.googlegroups.com>
Source record: 8841

On Jun 20, 5:27 am, K1TTT <k1...@arrl.net> wrote:
> 2. it is often easier to build an aluminum element without a center
> insulator and feed it with something like a gamma or T match.

Or a folded dipole driven element.
--
73, Cecil, w5dxp.com

2642. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 16:39:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni1sgr5.5bq.gsm@cable.mendelson.com>
Source record: 8842

John Ferrell wrote:
> When I assembled it I was disappointed to find it did not have a gamma
> match! Instead it got by with a direct connection to the driven
> element with the 50 ohm line.

Cushcraft prided themselves on building antennas with a DC resistance of
0 ohms.

In plain English they were static disipators. At their design frequency
they had an impedance of 50 ohms.

When I lived in Philly, we had a sever lightening problem. Whenever there
were lightening storms there were nearby strikes with all sorts of expensive
EMP problems.

When I put up a cushcraft 2m beam (the 11 element vertical polarization on
the same beam as an 11 element horizontal one) with proper gounding they
all "went away". I wonder if our neighbors suddenly noticed next spring that
the lightening had come back :-)

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
I do multitasking. If that bothers you, file a complaint and I will start
ignoring it immediately.

2643. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 16:59:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <525ae62c-d421-4b51-8cc3-d43a1a05cdb0@d37g2000yqm.googlegroups.com>
Source record: 8843
Body handling: HTML body converted to readable text

On Jun 20, 3:14 pm, "Pete Bertini" wrote:
> "K1TTT" wrote in message
>
> news:4012e0b8-9704-42b9-aa6a-190ebeae2046@x21g2000yqa.googlegroups.com...
> On May 30, 5:00 pm, You wrote:
>
>
>
> > In article ,
> > Robert Smits wrote:
>
> > > Richard Clark wrote:
>
> > > > On Thu, 27 May 2010 17:36:41 -0700, Bob Smits wrote:
>
> > > >>Is there a significant difference between using the galvanized steel
> > > >>ground rods and copper to create an rf gound?
>
> > > > Hi Bob,
>
> > > > Two answers for that:
> > > > 1. No difference whatever;
> > > > B. Neither make an RF ground.
>
> > > > Updates will follow this brief announcement.
>
> > > > 73's
> > > > Richard Clark, KB7QHC
>
> > > Looks like my follow up post didn't make it through.
>
> > > Richard I intend these three ground rods to be the start of grounding my
> > > station, not as a counterpoise for one of my antennas. These will be
> > > bonded
> > > to my radios and the electrical service entrance ground.
>
> > > Why do you say this does not make an RF ground?
>
> > > Thanks, Bob
>
> > A lot of folks, make the same mistake, in thinking that Electrical
> > Ground and RF Ground are the same thing. They, clearly, are NOT, the
> > same thing or even close to the same thing, unless you happen to be

> > living on a Salt Marsh. Ground Rods, of any kind, are only Electrical
> > Grounds. Rf Grounding is a Totally Different bag of cats. RF Grounds
> > need to be engineered, by someone who is familiar with Antenna Design
> > and Installation Procedures, for the particular Antenna and landscape,
> > where the antenna is to be installed.
>
> define "rf ground".
>
> Something that provides a counterpoise for an unbalanced feedline
> situation that doesn't result in RF energy being wasted to heat
> earthworms, soil, etc. and radiates RF energy efficiently.

the ground radiates? that's interesting.

so the raised radials on my 80m 4-square would be considered an rf
ground?

2644. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 19:34:25 UTC
From: dplatt@radagast.org
Message-ID: <1372f7-or1.ln1@radagast.org>
Source record: 8844

>Just curious if this has ever been done? I'm thinking about
>putting up a 90 foot dipole feed with homemade open wire
>line. I'd like to bring it into the shack using paralled runs
>of LMR-400 cable, since the final 25 feet is via 3" electrical
>conduit that also has rotor and other cables.
>
>I believe the parallel cables with give me a 100 ohm impedance.
>The open wire will be using #10 with homemade spreaders,
>I'm going to try for 600 ohms at the feedpoint. I was wondering
>if tapering the spacing on the feedline would give me a smoother
>impedance where the open wire, arrestor, and twin coax arrange-
>meet?

Yes, it has been done. Jasik's "Antenna Engineering Handbook" discusses tapered lines in section 31.4. You can also find a discussion of tapered-line matching in Laport's "Radio Antenna Engineering" in section 4.4.8 (this book is available as a free PDF download).

In your application, though, I'm not sure why you would want to bother. Traditionally, tapered lines are used as part of a matching network, making a transition between two known resistive impedances (e.g. transmitter and antenna).

That's not really the situation you seem to be setting up. You are (I presume) setting up a single doublet, to be used at multiple frequencies, with wildly varying impedances at the antenna feedpoint. You're then coming back to the shack with a high-impedance feedline (which has relatively low losses even at the high SWRs it'll be operating at), and then matching the impedance in the shack with a good transmatch-and-balun.

In a setup like this, the characteristic impedance of the open-wire line isn't particularly critical.. because it'll almost never be a close match to what the antenna is presenting at any given frequency. 600 ohms is a common feedline impedance... but no matter what impedance you choose here, it's unlikely to be a close match to the antenna under actual operating conditions. As a result, the impedance you actually "see" looking up into the lower end of the open-wire line won't be 600 ohms (if untapered) or 100 ohms (if tapered down close together). Rather, it'll be the feedpoint impedance of the antenna at the frequency in question, transformed by the feedline (tapered or not). You could calculate it, knowing the antenna's feedpoint impedance (e.g. from modeling it in NEC2) and the length and Z of the feedline... but it isn't likely to be close to a convenient pure

resistance except by lucky chance!

Hence, there's no real need to "match" the lower Z of the parallel-coax segment (100 ohms nominal) to Z of the open-wire line, since the latter value isn't actually what you'd have to match to!

Now, if you're planning to operate at a specific single frequency, you could perhaps utilize a tapered open-wire line as part of a tuned matching setup... in effect, designing the taper for that one antenna and frequency, in order to present a more convenient impedance to your transmitter's matching network (e.g. your external wide-range transmatch). However, optimizing the system in this way, for one specific frequency, might well make the antenna-and-feedline a *harder* load for you to match in the shack at other frequencies.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

2645. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 19:36:18 UTC
From: Dave Smirkenberg <smirk50@rocketmail.com>
Message-ID: <9616c6cc-7956-406f-bedc-786fc1ddf3f6@d8g2000yqf.googlegroups.com>
Source record: 8845

On Jun 20, 10:03 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> On Sun, 20 Jun 2010 03:27:52 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
>
>
>
>
> >On Jun 16, 5:24 pm, "R.Scott" <w7...@yahoo.com> wrote:
> >> I see all kinds of crazy matching sections in posts about 6 meter
> >> beams. How about direct connect. I have an A4S that has major issues
> >> in the traps and I cant find the problem (IE I opened them and cant
> >> find anything) SOOO I have a new A4S coming.
>
> >> Has anyone taken an old 3 elem tribander and converted it to 6 meter
> >> monobander using the direct connect.
>
> >> Any Issues.
>
> >> Would a 4 elem be better since its a long boom ?
>
> >> I'm pretty sure I know the answers. Just want to confirm and see if
> >> there is any reason not to direct connect rather than through a
> >> hairpin or a gamma match.
>
> >> Scotty W7PSK
>
> >There are at least 3 reasons to use some kind of a matching network.
> >1. impedance transformation - usually the feedpoint impedance of a
> >simple dipole in a yagi is not near 50 ohms so the matching system
> >gives you an easy way to adjust that.
> >2. it is often easier to build an aluminum element without a center
> >insulator and feed it with something like a gamma or T match.
> >3. to keep current off the feedline shield you need to go from the
> >unbalanced coax to a balanced dipole feedpoint. gamma matches and
> >others do that transformation for you.
>
> I am in agreement with all your points. [Not that I am any kind of
> authority!]
>
> Many years back I purchased and installed a Cushcraft A3S tri band
> beam with the 40 Meter option. The decision was based on past
> experience with Cushcraft products.
>

> When I assembled it I was disappointed to find it did not have a gamma
> match! Instead it got by with a direct connection to the driven
> element with the 50 ohm line. Then it used a jury rig device called a
> "choke balun" to keep the RF where it ought to be... It reminded me of
> the Gotham Vertical (Google it!) that so many of us fell for way back
> when. I assembled and installed it according to the instructions any
> way. Much to my surprise, it worked great! I have been very happy with
> it.
>
> That led to my taking the ARRL Antenna course and buying the EZNEC
> program.
>
> Some things I model I can make work and some I cannot.
> Some things work I cannot model.
> I have concluded that direct connection and gamma matches both work
> well.
>
> My cumulative experience is that it is difficult to beat the
> commercial products at their game.
>
> OTH, the study and construction of antennas has become one of my
> favorite recreational pastimes!
>
> John Ferrell W8CCW- Hide quoted text -
>
> - Show quoted text -

A gamma rod is the easiest thing in the world to build...people who
are scared of 'em just don't understand 'em. :)

2646. Re: Ringo Ranger 2Mtr on 6Mtr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 19:40:25 UTC
From: aRKay <arkay@nospam.qsl.net>
Message-ID: <arkay-2B8C5A.14402520062010@reserved-multicast-range-not-delegated.example.com>
Source record: 8846

In article <hvl996qqi1@news.eternal-september.org>,
Baron <baron.nospam@linuxmaniac.nospam.net> wrote:

> Dick Inscribed thus:
>
> > In article <aa5vu-1E5E4C.08320220062010@5ad64b5e.bb.sky.com>,
> > Dick <aa5vu@nospam.arrl.net> wrote:
> >
> >> I have an old 2-meter Ringo Ranger on top of the tower
> >> that has not been used for some time. I wonder how it
> >> will do for six meters?
> >>
> >> None of my SWR boxes cover VHF so may have to just
> >> give it try and see what happens.
> >>
> >> Wish me luck
> >
> > It was a good idea that DID NOT work. The SWR as shown
> > on rig's s-meter was terrible and I could tell it was not hearing
> > as well as the fan dipole.
>
> That wasn't exactly unexpected, now was it :-(

Not really but the price was right. HiHi

2647. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 20:04:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9E3DD07EF64nonenowhere@61.9.191.5>
Source record: 8848

"Pete Bertini" <radioconnection@cox.net> wrote in news:76qTn.8899
$1Q5.3711@newsfe08.iad:

> Just curious if this has ever been done? I'm thinking about
> putting up a 90 foot dipole feed with homemade open wire
> line. I'd like to bring it into the shack using paralled runs
> of LMR-400 cable, since the final 25 feet is via 3" electrical
> conduit that also has rotor and other cables.
>
> I believe the parallel cables with give me a 100 ohm impedance.

Yes, but will the configuration have the benefits you think? See
http://www.vk1od.net/transmissionline/stcm/index.htm for more info.

> The open wire will be using #10 with homemade spreaders,
> I'm going to try for 600 ohms at the feedpoint. I was wondering

What is 600 ohms, the feed line or the antenna.

If the feed line operates at high VSWR, it doesn't matter a lot what Zo
is. Further, that using tapered lines as a broadband impedance match
requires that the taper section is quite long wrt wavelength.

> if tapering the spacing on the feedline would give me a smoother
> impedance where the open wire, arrestor, and twin coax arrange-
> meet?

I cannot reconcile the 90' dipole and 600 ohms from the little
information you have given.

Your post is very short on information, so it is entirely a guessing
game.

Owen

2648. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 20:05:52 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <6d1a078a-e5f4-48ef-a3b1-6966278044b3@t34g2000prd.googlegroups.com>
Source record: 8847

On Jun 20, 8:04 am, "Pete Bertini" <radioconnect...@cox.net> wrote:
> Just curious if this has ever been done? I'm thinking about
> putting up a 90 foot dipole feed with homemade open wire
> line. I'd like to bring it into the shack using paralled runs
> of LMR-400 cable, since the final 25 feet is via 3" electrical
> conduit that also has rotor and other cables.
>
> I believe the parallel cables with give me a 100 ohm impedance.
> The open wire will be using #10 with homemade spreaders,
> I'm going to try for 600 ohms at the feedpoint. I was wondering
> if tapering the spacing on the feedline would give me a smoother
> impedance where the open wire, arrestor, and twin coax arrange-
> meet?
>
> Pete k1zjh

Based on my personal experience trying to replace the inside shack portion of 600 ohm open feed line with two parallel pieces of RG-213 about 8 ft. long. The coax sections will effectively kill the use of your dipole on any of the higher frequencies. As I remember, the antenna was usable up through 10 meters , but after putting in the coax, I couldn't tune the system above 20 meters.

My antenna is a full sized 160 meter horizontal loop in the form of a trapazoid, almost a square, up at 35 ft. Fed in one corner with 600 ohm open wire,125 ft. long. The feedline comes into the house (mfg home with aluminum siding) using two Birnbach feed through insulators. Then to a DPDT antenna switch to ground the system during thunder storms, and finally about 6 ft of 600 ohm feed line to the balun in the Dentron MT-3000 tuner.

I think the problem with using the double coax is the very large capacitance it adds to the feed line, effectively becoming a low pass filter. Could be mistaken about the cause, but not the symptoms. I have actually used the system to make some local 6 meter contacts.

Try it anyway, but be prepared to go all the way to the shack with your 600 ohm feed line.

Paul, KD7HB

2649. Re: Ringo Ranger 2Mtr on 6Mtr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 20:14:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9E3F7FF9DA5nonenowhere@61.9.191.5>
Source record: 8849

Dick <aa5vu@nospam.arrl.net> wrote in news:aa5vu-82CC35.08430320062010@5ad64b5e.bb.sky.com:

> In article <aa5vu-1E5E4C.08320220062010@5ad64b5e.bb.sky.com>,
> Dick <aa5vu@nospam.arrl.net> wrote:
>
>> I have an old 2-meter Ringo Ranger on top of the tower
>> that has not been used for some time. I wonder how it
>> will do for six meters?
>>
>> None of my SWR boxes cover VHF so may have to just
>> give it try and see what happens.
>>
>> Wish me luck
>
> It was a good idea that DID NOT work. The SWR as shown
> on rig's s-meter was terrible and I could tell it was not hearing
> as well as the fan dipole.

Well Dick, you only asked for positive responses, and you go none... so no surprises.

The matching arrangement on the Ringo is a quite narrow band one, so you should expect that it will not work well on 6m.

It is not uncommon to hear of people on HF using a 11m end fed half wave with narrowband matching (ie similar to the Ringo) on the lower bands (eg 7MHz) with the 'assistance' of an ATU. I quote 'assistance' because the ATU does assist in obtaining a good VSWR for the transceiver, but probably converts most of the transmitter to heat. A good example of the failure of an entirely VSWR focused approach.

An ATU can hide a multitude of sins.

Owen

2650. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 20:33:12 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9E42A3778A9nonenowhere@61.9.191.5>
Source record: 8850

"pdrahn@coinet.com" <co_farmer@yahoo.com> wrote in news:6d1a078a-e5f4-48ef-a3b1-6966278044b3@t34g2000prd.googlegroups.com:

...
> I think the problem with using the double coax is the very large
> capacitance it adds to the feed line, effectively becoming a low pass
> filter. Could be mistaken about the cause, but not the symptoms. I
> have actually used the system to make some local 6 meter contacts.

The coax is, and always is a transmission line, and at the length you described cannot be approximated well as a shunt capacitance.

What you have is a cascade of two line sections, one of say 600 ohms, then one of 100 ohms, and each is probably operating with standing waves, so there is impedance transformation.

To illustrate, lets say your feedpoint at 3.6MHz with a certain loop antenna was 100+j0, and you had say 30m (100') of 600 ohm open wire, the impedance looking into that would be around 240-j675. If you feed that with say 6m (20') of LMR400 twin, then input Z would be around 60+j260 and loss would be about 40%.

The synthesised shielded pair is relatively lossy, and low Zo. Most people use this configuration thinking that the shielding prevents external fields from common mode current, but they are quite wrong. See http://www.vk1od.net/transmissionline/stcm/index.htm .

Though the traditional approach has been to use a 4:1 voltage balun at the rig to feed these things, there is good argument to use a 1:1 Guanella balun (current balun), and it can be located outside the shack and inboard shield effectively grounded to deal with common mode current. You still need to minimise the length of coax operated at high VSWR, and it would not be necessarily absurd to think about low loss coax.

Approximating coax as a shunt capacitance might be reasonably accurate for some applications at audio frequencies, but it is probably not for most RF applications.

Owen

2651. Re: Ringo Ranger 2Mtr on 6Mtr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 20:48:10 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <hvluomoac1@news.eternal-september.org>
Source record: 8751

Owen Duffy Inscribed thus:

> Dick <aa5vu@nospam.arrl.net> wrote in
> news:aa5vu-82CC35.08430320062010@ 5ad64b5e.bb.sky.com:
>
>> In article <aa5vu-1E5E4C.08320220062010@5ad64b5e.bb.sky.com>,
>> Dick <aa5vu@nospam.arrl.net> wrote:
>>
>>> I have an old 2-meter Ringo Ranger on top of the tower
>>> that has not been used for some time. I wonder how it
>>> will do for six meters?
>>>
>>> None of my SWR boxes cover VHF so may have to just
>>> give it try and see what happens.
>>>
>>> Wish me luck
>>
>> It was a good idea that DID NOT work. The SWR as shown
>> on rig's s-meter was terrible and I could tell it was not hearing
>> as well as the fan dipole.
>
> Well Dick, you only asked for positive responses, and you go none...
> so no surprises.
>
> The matching arrangement on the Ringo is a quite narrow band one, so
> you should expect that it will not work well on 6m.
>
> It is not uncommon to hear of people on HF using a 11m end fed half
> wave with narrowband matching (ie similar to the Ringo) on the lower
> bands (eg 7MHz) with the 'assistance' of an ATU. I quote 'assistance'
> because the ATU does assist in obtaining a good VSWR for the
> transceiver, but probably converts most of the transmitter to heat. A
> good example of the failure of an entirely VSWR focused approach.
>
> An ATU can hide a multitude of sins.
>
> Owen

It might actually be better if the phasing stub were replaced by a
short !

--
Best Regards:
Baron.

2652. Re: Ferrite rings help needed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 21:27:40 UTC
From: Boris <boris.kj@googlemail.com>
Message-ID: <1e5dfc6d-c43b-4844-be8a-72079f9e30ff@w12g2000yqj.googlegroups.com>
Source record: 8752

On Jun 19, 3:36 pm, "barett" <bar...@blueyonder.co.uk> wrote:
> Hi
>
> I'm after some FB-31-1020 ferrite rings to go on my Hexbeam.
>
> Any one know where I can get some from here in the UK or is there an
> equivalent I can get?
>
> Thanks

Hi,
this is just link http://www.g3txq-hexbeam.com/hexbeam-links.html
check at the bottom of page

73

2653. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 21:38:48 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <VTvTn.24982$Xp4.2189@newsfe23.iad>
Source record: 8753

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D9E42A3778A9nonenowhere@61.9.191.5...
> "pdrahn@coinet.com" <co_farmer@yahoo.com> wrote in news:6d1a078a-e5f4-
> 48ef-a3b1-6966278044b3@t34g2000prd.googlegroups.com:
>
> ...
>> I think the problem with using the double coax is the very large
>> capacitance it adds to the feed line, effectively becoming a low pass
>> filter. Could be mistaken about the cause, but not the symptoms. I
>> have actually used the system to make some local 6 meter contacts.
>
> The coax is, and always is a transmission line, and at the length you
> described cannot be approximated well as a shunt capacitance.
>
> What you have is a cascade of two line sections, one of say 600 ohms,
> then one of 100 ohms, and each is probably operating with standing waves,
> so there is impedance transformation.
>
> To illustrate, lets say your feedpoint at 3.6MHz with a certain loop
> antenna was 100+j0, and you had say 30m (100') of 600 ohm open wire, the
> impedance looking into that would be around 240-j675. If you feed that
> with say 6m (20') of LMR400 twin, then input Z would be around 60+j260
> and loss would be about 40%.
>
> The synthesised shielded pair is relatively lossy, and low Zo. Most
> people use this configuration thinking that the shielding prevents
> external fields from common mode current, but they are quite wrong. See
> http://www.vk1od.net/transmissionline/stcm/index.htm .
>
> Though the traditional approach has been to use a 4:1 voltage balun at
> the rig to feed these things, there is good argument to use a 1:1
> Guanella balun (current balun), and it can be located outside the shack
> and inboard shield effectively grounded to deal with common mode current.
> You still need to minimise the length of coax operated at high VSWR, and
> it would not be necessarily absurd to think about low loss coax.
>
> Approximating coax as a shunt capacitance might be reasonably accurate
> for some applications at audio frequencies, but it is probably not for
> most RF applications.
>
> Owen

Owen, my thinking was to make a transmission line with a characteristic
impedance that gradually changed from 600 ohms down to as close to

200 ohms as practical, just to avoid the impedance bump at the junction of the open wire and shielded balance line. I've found a few references that state the taper should follow a log response; and also if the line needs to be a wavelength or longer pretty much dashes that idea. It would be a lot easier to construct a line with charateristic impedance of 400 to 600 ohms, and deal with narrow spacing issue for only a relatively short portion of the entire span.

I didn't expect the shielded cable to be immune to common reradiation problems, but that issue could be dealt with separately if it was a problem. Pete

2654. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 21:41:13 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <aWvTn.24983$Xp4.19365@newsfe23.iad>
Source record: 8754
Body handling: HTML body converted to readable text

```
"K1TTT" wrote in message
news:525ae62c-d421-4b51-8cc3-d43a1a05cdb0@d37g2000yqm.googlegroups.com...
On Jun 20, 3:14 pm, "Pete Bertini" wrote:
> "K1TTT" wrote in message
>
> news:4012e0b8-9704-42b9-aa6a-190ebeae2046@x21g2000yqa.googlegroups.com...
> On May 30, 5:00 pm, You wrote:
>
>
>
> > In article ,
> > Robert Smits wrote:
>
> > > Richard Clark wrote:
>
> > > > On Thu, 27 May 2010 17:36:41 -0700, Bob Smits
> > > > wrote:
>
> > > >>Is there a significant difference between using the galvanized steel
> > > >>ground rods and copper to create an rf gound?
>
> > > > Hi Bob,
>
> > > > Two answers for that:
> > > > 1. No difference whatever;
> > > > B. Neither make an RF ground.
>
> > > > Updates will follow this brief announcement.
>
> > > > 73's
> > > > Richard Clark, KB7QHC
>
> > > Looks like my follow up post didn't make it through.
>
> > > Richard I intend these three ground rods to be the start of grounding
> > > my
> > > station, not as a counterpoise for one of my antennas. These will be
> > > bonded
> > > to my radios and the electrical service entrance ground.
>
> > > Why do you say this does not make an RF ground?
>
> > > Thanks, Bob
```

>
> > A lot of folks, make the same mistake, in thinking that Electrical
> > Ground and RF Ground are the same thing. They, clearly, are NOT, the
> > same thing or even close to the same thing, unless you happen to be
> > living on a Salt Marsh. Ground Rods, of any kind, are only Electrical
> > Grounds. Rf Grounding is a Totally Different bag of cats. RF Grounds
> > need to be engineered, by someone who is familiar with Antenna Design
> > and Installation Procedures, for the particular Antenna and landscape,
> > where the antenna is to be installed.
>
> define "rf ground".
>
> Something that provides a counterpoise for an unbalanced feedline
> situation that doesn't result in RF energy being wasted to heat
> earthworms, soil, etc. and radiates RF energy efficiently.

the ground radiates? that's interesting.

so the raised radials on my 80m 4-square would be considered an rf
ground?

I would consider them to be an effective RF ground at their 1/4
wave resonant points, just as would a tuned artificial RF ground
used for stations at elevated locations.

Pete

2655. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 22:07:17 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <DiwTn.64499$h57.40497@newsfe22.iad>
Source record: 8755

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D9E42A3778A9nonenowhere@61.9.191.5...
> "pdrahn@coinet.com" <co_farmer@yahoo.com> wrote in news:6d1a078a-e5f4-
> 48ef-a3b1-6966278044b3@t34g2000prd.googlegroups.com:
>
> ...
>> > Though the traditional approach has been to use a 4:1 voltage balun at
> the rig to feed these things, there is good argument to use a 1:1
> Guanella balun (current balun), and it can be located outside the shack
> and inboard shield effectively grounded to deal with common mode current.
> You still need to minimise the length of coax operated at high VSWR, and
> it would not be necessarily absurd to think about low loss coax.
>
> Owen

Okay, then it might make sense to do this: Plan II

instead of using the balun is in the tuner, there is no reason
why I couldn't mount another 4:1 balun outdoors, and use a short run
of low loss coax back through the conduit into the operating room.

That would be about 15 feet of LMR-400 cable. I could go to 1/2 heliax
but would there be any benefit??

So, I would have balanced open-wire feedline from the dipole to
the 4:1 balun followed by a 1:1 common-mode RF choke with
the requiste RF ground for decoupling,
followed by the short run of low loss coax going back to a
unbalanced ant. port on the tuner. I'd still have coax in the mix,
but the 4:1 balun should hopefully tame the high impedance
excursions across the antenna operating range to
reduce the coax's losses at those points?

Otherwise it is going to be hard to get balanced line into the shack,
unless I pull it through the PVC conduit with the other coax cables.

Pete

2656. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 22:18:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9E547516AC7nonenowhere@61.9.191.5>
Source record: 8756

"Pete Bertini" <radioconnection@cox.net> wrote in news:DiwTn.64499
$h57.40497@newsfe22.iad:

> So, I would have balanced open-wire feedline from the dipole to
> the 4:1 balun followed by a 1:1 common-mode RF choke with
>

See my article entitled "Is a 4:1 balun a good choice for use with an ATU
on HF?" at http://vk1od.net/blog/?p=987 .

It is difficult to answer the question about the LDF without knowing the
impedances involved. I used TLLC (http://www.vk1od.net/calc/tl/tllc.php)
to work the examples I gave, you could do the same if you know the
feedpoint impedance etc.

If you want to solve the cases for an arbitrary two wire line, try
http://www.vk1od.net/calc/tl/twllc.htm .

Owen

2657. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-20 22:48:00 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <11fb9867-2fc4-4960-aaf4-d5fdeef8797a@u20g2000pru.googlegroups.com>
Source record: 8757

On Jun 20, 1:33 pm, Owen Duffy <n...@no.where> wrote:
> "pdr...@coinet.com" <co_far...@yahoo.com> wrote in news:6d1a078a-e5f4-
> 48ef-a3b1-696627804...@t34g2000prd.googlegroups.com:
>
> ...
>
> > I think the problem with using the double coax is the very large
> > capacitance it adds to the feed line, effectively becoming a low pass
> > filter. Could be mistaken about the cause, but not the symptoms. I
> > have actually used the system to make some local 6 meter contacts.
>
> The coax is, and always is a transmission line, and at the length you
> described cannot be approximated well as a shunt capacitance.
>
> What you have is a cascade of two line sections, one of say 600 ohms,
> then one of 100 ohms, and each is probably operating with standing waves,
> so there is impedance transformation.
>
> To illustrate, lets say your feedpoint at 3.6MHz with a certain loop
> antenna was 100+j0, and you had say 30m (100') of 600 ohm open wire, the
> impedance looking into that would be around 240-j675. If you feed that
> with say 6m (20') of LMR400 twin, then input Z would be around 60+j260
> and loss would be about 40%.
>
> The synthesised shielded pair is relatively lossy, and low Zo. Most
> people use this configuration thinking that the shielding prevents
> external fields from common mode current, but they are quite wrong.
Seehttp://www.vk1od.net/transmissionline/stcm/index.htm.
>
> Though the traditional approach has been to use a 4:1 voltage balun at
> the rig to feed these things, there is good argument to use a 1:1
> Guanella balun (current balun), and it can be located outside the shack
> and inboard shield effectively grounded to deal with common mode current.
> You still need to minimise the length of coax operated at high VSWR, and
> it would not be necessarily absurd to think about low loss coax.
>
> Approximating coax as a shunt capacitance might be reasonably accurate
> for some applications at audio frequencies, but it is probably not for
> most RF applications.
>
> Owen

Thanks, Owen. I made up my test after reading the june 2008 QST
story.

Paul, KD7HB

2658. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 00:13:17 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <M8yTn.83597$HG1.1565@newsfe21.iad>
Source record: 8758

Looks like most of the information I needed was already written up on the DX Engineering webpages. I'll have to go do a bit more reading before committing to anything.

Thanks for all the comments so far....

Pete

2659. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 00:40:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9E6C7FDBE8Enonenowhere@61.9.191.5>
Source record: 8759

"Pete Bertini" <radioconnection@cox.net> wrote in
news:DiwTn.64499$h57.40497@newsfe22.iad:

...
> So, I would have balanced open-wire feedline from the dipole to
> the 4:1 balun followed by a 1:1 common-mode RF choke with

I should have mentioned that 4:1 baluns integrated into ATUs are most often voltage baluns.

When operated near a voltage maximum with high standing waves, they can be very lossy. Sometimes it is claimed that they 'tame' difficult antennas better than current baluns, which is often due to their internal loss. The problem as such is not the balun, it is the extreme load presented by a very poor antenna, and the lossy balun is a poor (grossly inefficient) circumvention.

So, when a 4:1 voltage balun allows a match where a 1:1 current balun doesn't, the problem is probably the antenna, not the balun.

Owen

2660. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 01:03:11 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <a86be12b-de84-4e9b-a829-13455525275b@w12g2000yqj.googlegroups.com>
Source record: 8760

On Jun 18, 8:36 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 19, 12:22 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 17, 8:38 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > I will caution again, do not assign too much reality to these
> > > > forward and reflected waves; very useful for solving problems,
> > > > but trouble if carried too far.
>
> > > I'm afraid you are too late with that advice. Optical physicists have
> > > assigned reality to forward and reflected waves inside an
> > > interferometer and have tracked all of the energy including the energy
> > > in canceled wavefronts.
>
> > >http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> > > Scroll down to, "Using Dielectric Beamsplitters to find the "missing
> > > energy" in destructive interference" It says: "... when interference
> > > is destructive at the standard output, it is constructive at the non-
> > > standard output."
>
> > > In RF terms, when interference is destructive at a Z0-match, it is
> > > constructive in the direction of the load.
> > > --
> > > 73, Cecil, w5dxp.com
>
> > You have fallen in to the same trap that you did with circulators.
> > When you introduce a circulator in to the transmission line, you
> > change the experiment and you get certain results. The circulator
> > provides some numerology that appears to support the hypothesis
> > of 'reflected energy' being real. The same with looking for
> > "missing energy" (note they even quote it) with a beamsplitter.
> > The beamsplitter reveals what is happening at the beamsplitter,
> > not what is happening at points between the two beamsplitters.
>
> > Just like a circulator.
>
> > ...Keith- Hide quoted text -

>
> > - Show quoted text -
>
> he is even more hopeless than most, first he determines there are
> forward and reflected waves when a dc source has charged the line,
> then he rejects circulators and beamsplitters that obviously work
> because of the waves. so dc waves exist, but rf and optical waves
> don't. thats a unique viewpoint.- Hide quoted text -
>
> - Show quoted text -

You might consider the following experiment:

- a sinusoidal generator that will produce 50W in to 50 ohms
- attach one half wavelength of transmission line
- leave the far end of the transmission line open

After the line settles, a directional "wattmeter" anywhere on
the line will indicate 50W forward and 50W reflected.
The generator will not be putting any energy in to the line
since the line input appears as an open circuit at the
generator output.

Insert a circulator (with the reflected port terminated in
50 ohms) between the generator and the line. The circulator
termination will be dissipating 50W and the generator will
now be delivering 50W in to the circulator.

1. Please explain how inserting the circulator did not change
the circuit conditions. The generator went from delivering
0W to delivering 50W.

2. Where do you think the 50W being dissipated in the circulator
termination resistor is coming from? The line? Or the
generator (which is now outputting 50W)?

Just for fun, you may be interested in a DC coupled circulator
that works all the way down to 0 Hz:
http://www.techlib.com/files/RFDesign3.pdf

Answer question 2 for this circulator design.

...Keith

2661. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 01:14:51 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <u2zTn.83600$HG1.48423@newsfe21.iad>
Source record: 8761

That's pretty much what I've been reading on various websites.
At least some of the mystery is being cleared up :) A fan dipole
is starting to look better; at least I can control the feedpoint
impedance to within reason and keep a decent pattern on
the bands.

Pete

"Owen Duffy" <none@no.where> wrote in message
news:Xns9D9E6C7FDBE8Enonenowhere@61.9.191.5...
> "Pete Bertini" <radioconnection@cox.net> wrote in
> news:DiwTn.64499$h57.40497@newsfe22.iad:
>
> ...
>> So, I would have balanced open-wire feedline from the dipole to
>> the 4:1 balun followed by a 1:1 common-mode RF choke with
>
> I should have mentioned that 4:1 baluns integrated into ATUs are most
> often
> voltage baluns.
>
> When operated near a voltage maximum with high standing waves, they can be
> very lossy. Sometimes it is claimed that they 'tame' difficult antennas
> better than current baluns, which is often due to their internal loss. The
> problem as such is not the balun, it is the extreme load presented by a
> very poor antenna, and the lossy balun is a poor (grossly inefficient)
> circumvention.
>
> So, when a 4:1 voltage balun allows a match where a 1:1 current balun
> doesn't, the problem is probably the antenna, not the balun.
>
> Owen

2662. Idea: three bar antennas for clear portable AM radio listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 02:12:22 UTC
From: jidanni@jidanni.org
Message-ID: <87y6e9uo9lBLA.fsf@jidanni.org>
Source record: 8762

Gentlemen, I have an idea for a "portable AM radio" antenna to allow the user to hear the station clearly while walking, no matter what direction the radio is held.

Just have three bar antennas, aligned along the X, Y, and Z axes, like http://en.wikipedia.org/wiki/Jacks , or independently placed inside the case. A microchip would constantly pick the best signal from amongst them. Maybe even just two axes would do.

Great for farmers who are walking around all day, and just can't give up their favorite AM station for FM.

2663. Re: three bar antennas for clear portable AM radio listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 04:51:05 UTC
From: "Sal M. O'Nella" <salmonella@foodpoisoning.org>
Message-ID: <PcCTn.106445$_84.72671@newsfe18.iad>
Source record: 8763

<jidanni@jidanni.org> wrote in message news:87y6e9uo9lBLA.fsf@jidanni.org...
> Gentlemen, I have an idea for a "portable AM radio" antenna to allow the
> user to hear the station clearly while walking, no matter what direction
> the radio is held.
>
> Just have three bar antennas, aligned along the X, Y, and Z axes, like
> http://en.wikipedia.org/wiki/Jacks , or independently placed inside the
> case. A microchip would constantly pick the best signal from amongst
> them. Maybe even just two axes would do.
>
> Great for farmers who are walking around all day, and just can't give up
> their favorite AM station for FM.

It has been done. It's a form of diversity reception. It would require a
radio with two separate receivers in it. I think the liklihood of a
manufacturer deciding to build a radio optimized for your two applications
is kinda slim.

Why not try two small radios and join their outputs? Mount them
corner-to-corner (90-degrees opposed) so that when one is
in the null, the other one is at the peak. Couple the hot sides
of each of the output jacks together through a pair of small resistors,
say 39 ohms. You probably need to know how to solder and
know where Radio Shack is for a few small parts.

Next time I'm at the swap meet, I'll see if I can find a matched set of
mini-cheapo portable radios and maybe try it myself.

"Sal"

2664. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 12:53:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c634db3b-9c23-4e54-ae59-d7e5346d9d6c@w12g2000yqj.googlegroups.com>
Source record: 8764

On Jun 18, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Reflected waves heat finals, no they
> don't, yes they do, ... but eventually I learned.

Hopefully, you learned that rail arguments are rarely valid and the truth usually lies somewhere in between. Sometimes reflected waves heat finals and sometimes they don't. It all depends on what kind and how much interference exists between the forward wave and reflected wave at the source impedance and (apparently) how much of that impedance is dissipative or non-dissipative. Roy's food-for-thought article doesn't take interference into account at all and therefore arrives at magic conclusions divorced from reality.

> Anyhow, I suggest you read my examples and find the flaws, for that
> is the surest way to convince me that I am wrong.

I have pointed out many of the flaws in your examples. The way you parse the energy violates the laws of physics. Maxwell's equations only work on a function that contains classic EM traveling waves. Standing waves and DC steady-state examples don't meet the necessary boundary conditions. In fact, it can be proved that EM waves do not existent during DC steady-state. The fact that an instrument designed to detect EM waves malfunctions during DC steady-state is not unexpected. Even an SWR meter calibrated for a different Z0 than the one being used will indicate false results.

You really need to learn to recognize when your experiment and your math model are contradictory, when your concepts violate the laws of physics, and when you have chosen the wrong measuring equipment. You remind me of myself when I was 14 years old and tried to measure the screen voltage on a vacuum tube using a Simpson multimeter. It wasn't anywhere near the voltage specified in the manual so I wasted my money by buying a new tube the next time my family made a trip to Houston.

You would report those same measurement results as proof of a strange, magical happening.
--
73, Cecil, w5dxp.com

2665. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 12:56:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7f647bd7-bc32-4280-9956-23f575c8c760@k39g2000yqb.googlegroups.com>
Source record: 8765

On Jun 18, 7:22 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> The beamsplitter reveals what is happening at the beamsplitter,
> not what is happening at points between the two beamsplitters.

Oh yeah, according to you, the light beams are changing directions at every voltage and current node. Sorry, I do not accept your metaphysics, especially when they violate the accepted laws of physics.
--
73, Cecil, w5dxp.com

2666. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 13:04:31 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8e98e8c7-3c42-4b5c-b6d6-ecf051b51509@u7g2000yqm.googlegroups.com>
Source record: 8766

On Jun 20, 8:03 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> 1. Please explain how inserting the circulator did not change
>   the circuit conditions. The generator went from delivering
>   0W to delivering 50W.

The generator went from experiencing total destructive interference to
experiencing zero interference. Of course, the entire purpose of
inserting the circulator is to cause the generator to see 50 ohms as a
load impedance.

> 2. Where do you think the 50W being dissipated in the circulator
>   termination resistor is coming from? The line? Or the
>   generator (which is now outputting 50W)?

TV ghosting experiments will verify that the signal being dissipated
in the circulator load resistor has made a round trip from the
generator to the end of the N(1/2WL) stub and back to the circulator.
Please don't insult our intelligence by arguing that is not a steady-
state condition.
--
73, Cecil, w5dxp.com

2667. Re: three bar antennas for clear portable AM radio listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 14:54:27 UTC
From: amdx <amdx@knology.net>
Message-ID: <d6c1a$4c1f7d23$45013905$22000@KNOLOGY.NET>
Source record: 8767

<jidanni@jidanni.org> wrote in message news:87y6e9uo9lBLA.fsf@jidanni.org...
> Gentlemen, I have an idea for a "portable AM radio" antenna to allow the
> user to hear the station clearly while walking, no matter what direction
> the radio is held.
>
> Just have three bar antennas, aligned along the X, Y, and Z axes, like
> http://en.wikipedia.org/wiki/Jacks , or independently placed inside the
> case. A microchip would constantly pick the best signal from amongst
> them. Maybe even just two axes would do.
>
> Great for farmers who are walking around all day, and just can't give up
> their favorite AM station for FM.

It is my experience that the null of a ferrite bar antenna is very few
degrees,
making it a little dificult to get a good null.
I have not had a problem with AM.
FM on my mp3 player which uses the headphone cord as the antenna and
is a problem with respect to the direction and terrain around me.

2668. Re: Ferrite rings help needed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 15:33:18 UTC
From: barett <barett@blueyonder.co.uk>
Message-ID: <0DLTn.6221$NM4.1367@hurricane>
Source record: 8768

Thanks for the link.

"Boris" <boris.kj@googlemail.com> wrote in message
news:1e5dfc6d-c43b-4844-be8a-72079f9e30ff@w12g2000yqj.googlegroups.com...
On Jun 19, 3:36 pm, "barett" <bar...@blueyonder.co.uk> wrote:
> Hi
>
> I'm after some FB-31-1020 ferrite rings to go on my Hexbeam.
>
> Any one know where I can get some from here in the UK or is there an
> equivalent I can get?
>
> Thanks

Hi,
this is just link http://www.g3txq-hexbeam.com/hexbeam-links.html
check at the bottom of page

73

2669. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 16:12:17 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <hvo311$ms6a$1@tr22n12.aset.psu.edu>
Source record: 8769
Body handling: HTML body converted to readable text

K1TTT wrote:
> On Jun 20, 3:14 pm, "Pete Bertini" wrote:
>> "K1TTT" wrote in message
>>
>> news:4012e0b8-9704-42b9-aa6a-190ebeae2046@x21g2000yqa.googlegroups.com...
>> On May 30, 5:00 pm, You wrote:
>>
>>
>>
>>> In article ,
>>> Robert Smits wrote:
>>>> Richard Clark wrote:
>>>>> On Thu, 27 May 2010 17:36:41 -0700, Bob Smits wrote:
>>>>>> Is there a significant difference between using the galvanized steel
>>>>>> ground rods and copper to create an rf gound?
>>>>> Hi Bob,
>>>>> Two answers for that:
>>>>> 1. No difference whatever;
>>>>> B. Neither make an RF ground.
>>>>> Updates will follow this brief announcement.
>>>>> 73's
>>>>> Richard Clark, KB7QHC
>>>> Looks like my follow up post didn't make it through.
>>>> Richard I intend these three ground rods to be the start of grounding my
>>>> station, not as a counterpoise for one of my antennas. These will be
>>>> bonded
>>>> to my radios and the electrical service entrance ground.
>>>> Why do you say this does not make an RF ground?
>>>> Thanks, Bob
>>> A lot of folks, make the same mistake, in thinking that Electrical
>>> Ground and RF Ground are the same thing. They, clearly, are NOT, the
>>> same thing or even close to the same thing, unless you happen to be
>>> living on a Salt Marsh. Ground Rods, of any kind, are only Electrical
>>> Grounds. Rf Grounding is a Totally Different bag of cats. RF Grounds
>>> need to be engineered, by someone who is familiar with Antenna Design
>>> and Installation Procedures, for the particular Antenna and landscape,
>>> where the antenna is to be installed.
>> define "rf ground".
>>
>> Something that provides a counterpoise for an unbalanced feedline
>> situation that doesn't result in RF energy being wasted to heat
>> earthworms, soil, etc. and radiates RF energy efficiently.
>

> the ground radiates? that's interesting.
>
> so the raised radials on my 80m 4-square would be considered an rf
> ground?

We should define "ground" while we're at it.

- 73 de Mike N3LI -

2670. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 17:08:28 UTC
From: "R.Scott" <w7psk@yahoo.com>
Message-ID: <2f925f2d-775e-4834-8bec-de9a09a80c53@a16g2000prg.googlegroups.com>
Source record: 8770

On Jun 19, 7:28 pm, tom <news4...@taring.org> wrote:
> On 6/19/2010 8:33 PM, tom wrote:
>
>
>
> > I have plans for a very good 6 element beam which is 15.53 feet from
> > reflector to D4. I could scale it to the element taper you have if needed.
>
> > It will not be a direct connect however, as those are almost never
> > optimal designs for gain, F/B or pattern. They are optimized to be 50
> > ohms with the rest subservient to that. Most of the designs I have would
> > be around 22 ohms so this one is probably in that area. A gamma match is
> > easy to make.
>
> > tom
> > K0TAR
>
> Sorry, I should have looked before leaping, it's 5 elements on 15.5 feet.
>
> tom
> K0TAR

Id be interested in the plans.
Hard part is making the strap, Ive no shop tools/materials handy to do
it easy. Ive the tubing and
the RG8 :).

Scotty W7PSK.

2671. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 17:24:21 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c1fa04c$0$2599$65785112@news.neostrada.pl>
Source record: 8771

"Michael Coslo" <mjc5@psu.edu> wrote
news:hvo311$ms6a$1@tr22n12.aset.psu.edu...
>>
> We should define "ground" while we're at it.

If antenna emits electrons (longitudinal Tesla waves) than the ground is the source of them.

The lovers of the TEM will write more.
S*

2672. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 18:09:30 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hvo9sqldb1@news.jpl.nasa.gov>
Source record: 8772

Pete Bertini wrote:
> Just curious if this has ever been done? I'm thinking about
> putting up a 90 foot dipole feed with homemade open wire
> line. I'd like to bring it into the shack using paralled runs
> of LMR-400 cable, since the final 25 feet is via 3" electrical
> conduit that also has rotor and other cables.
>
> I believe the parallel cables with give me a 100 ohm impedance.
> The open wire will be using #10 with homemade spreaders,
> I'm going to try for 600 ohms at the feedpoint. I was wondering
> if tapering the spacing on the feedline would give me a smoother
> impedance where the open wire, arrestor, and twin coax arrange-
> meet?
>

Yes..

Tapered transmission lines have been around for decades, and work just
like you'd expect.

For the ultimate in performance, you actually want to use an exponential
taper (spacing increases by the same percentage per unit distance), but
a linear taper (spacing increases by the same distance per unit
distance) works pretty much the same, especially if the taper is "long"
(>10x) relative to the spacing. that is, going from 1" to 3" spacing
over a foot or two..

> Pete k1zjh
>
>

2673. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 20:07:41 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <AEPTn.10156$1Q5.7003@newsfe08.iad>
Source record: 8773

As an academic exercise, for example using a tapered
line to match an OCD with a known FP impedance of 200 ohms
down to a 1:1 balun at the 50 ohm coax line transition point.
What is the recommended minimum length of cable needed to
perform a four to one characteristic impedance change in the
open wire for relating to the wavelength?

Pete

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:hvo9sqldb1@news.jpl.nasa.gov...
> Pete Bertini wrote:
>> Just curious if this has ever been done? I'm thinking about
>> putting up a 90 foot dipole feed with homemade open wire
>> line. I'd like to bring it into the shack using paralled runs
>> of LMR-400 cable, since the final 25 feet is via 3" electrical
>> conduit that also has rotor and other cables.
>>
>> I believe the parallel cables with give me a 100 ohm impedance.
>> The open wire will be using #10 with homemade spreaders,
>> I'm going to try for 600 ohms at the feedpoint. I was wondering
>> if tapering the spacing on the feedline would give me a smoother
>> impedance where the open wire, arrestor, and twin coax arrange-
>> meet?
>>
>
> Yes..
>
> Tapered transmission lines have been around for decades, and work just
> like you'd expect.
>
> For the ultimate in performance, you actually want to use an exponential
> taper (spacing increases by the same percentage per unit distance), but a
> linear taper (spacing increases by the same distance per unit distance)
> works pretty much the same, especially if the taper is "long" (>10x)
> relative to the spacing. that is, going from 1" to 3" spacing over a foot
> or two..
>
>
>> Pete k1zjh

2674. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 20:49:24 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hvoj8k$ua7$1@news.jpl.nasa.gov>
Source record: 8774

Pete Bertini wrote:
> As an academic exercise, for example using a tapered
> line to match an OCD with a known FP impedance of 200 ohms
> down to a 1:1 balun at the 50 ohm coax line transition point.
> What is the recommended minimum length of cable needed to
> perform a four to one characteristic impedance change in the
> open wire for relating to the wavelength?
>

What's the VSWR and frequency spec?

50 ohm balanced pair might be hard to come by.. the usual 276*log10(D/d) equation is only valid when D>>d. (D = spacing, d = diameter) and just ballparking 50 ohms means that the spacing between the wires is about 10% more than the diameter (D/d <1.1). 200 ohms is more like D/d = 3

2675. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 21:10:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9D9F48E0B95E3nonenowhere@61.9.191.5>
Source record: 8775

"Pete Bertini" <radioconnection@cox.net> wrote in
news:AEPTn.10156$1Q5.7003@newsfe08.iad:

> As an academic exercise, for example using a tapered
> line to match an OCD with a known FP impedance of 200 ohms

Pete,

You really don't disclose very much, certainly not in a clear way. But,
some of your hints (eg OCD with open wire feed) leave me asking why? I am
not going to waste time writing a lot of words based on a hint though.

Owen

2676. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 21:16:59 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <m8ydnbz2Q-ZQS4LRnZ2dnUVZ_j2dnZ2d@giganews.com>
Source record: 8776

Pete Bertini wrote:
> As an academic exercise, for example using a tapered
> line to match an OCD with a known FP impedance of 200 ohms
> down to a 1:1 balun at the 50 ohm coax line transition point.
> What is the recommended minimum length of cable needed to
> perform a four to one characteristic impedance change in the
> open wire for relating to the wavelength?
>
> Pete

It's not practical to make a 50 ohm open wire line. The wires would have to be extremely close together.

But as to "recommended" minimum length, it depends on who does the recommending and what your criteria are. The length of line necessary to transition from one impedance to another depends on at least three things: the amount of transformation required, the type of taper (e.g., linear, exponential, Klopfenstein), and how close the impedance match has to be (usually specified as input reflection coefficient). There's a brief treatment in Johnson, _Antenna Engineering Handbook_.

In Brown, Sharpe, Hughes, and Post, _Lines, Waves, and Antennas_, it's stated that the tapered section must be at least a quarter wavelength long, and that if less than that, "it will fail in its matching function".

In Skilling, _Electric Transmission Lines_, ". . . a 2 to 1 change of characteristic impedance many be accomplished by using a tapered section that is 1 wavelength long. A good impedance match results at this frequency and at all higher frequencies. Results are fairly good if the tapered section is as little as 1/2 wavelength long, particularly if the impedance ratio required is less than 2 to 1. It is not worth while to use a tapered section much shorter than 1/2 wavelength, for a taper that is 1/4 wavelength or shorter will give nearly as much reflection as will the abrupt change of impedance at a mismatch. Those frequencies for which the length of the taper is a multiple of a half-wavelength are transmitted with the least reflection. This may be a guide in choosing the length of the taper." The author goes on to state that linear and exponential tapers give practically the same results, and summarizes with a recommendation that a tapered section be between 1/2 and 1 wavelength long at the lowest frequency of use.

Roy Lewallen, W7EL

2677. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 21:40:47 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2b1ca52d-6f56-412c-9a7b-d44e69a281ea@b35g2000yqi.googlegroups.com>
Source record: 8777

On Jun 21, 1:03 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 18, 8:36 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 19, 12:22 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > On Jun 17, 8:38 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On Jun 17, 7:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > > I will caution again, do not assign too much reality to these
> > > > > forward and reflected waves; very useful for solving problems,
> > > > > but trouble if carried too far.
>
> > > > I'm afraid you are too late with that advice. Optical physicists have
> > > > assigned reality to forward and reflected waves inside an
> > > > interferometer and have tracked all of the energy including the energy
> > > > in canceled wavefronts.
>
> > > >http://www.teachspin.com/instruments/moderni/experiments.shtml
>
> > > > Scroll down to, "Using Dielectric Beamsplitters to find the "missing
> > > > energy" in destructive interference" It says: "... when interference
> > > > is destructive at the standard output, it is constructive at the non-
> > > > standard output."
>
> > > > In RF terms, when interference is destructive at a Z0-match, it is
> > > > constructive in the direction of the load.
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > You have fallen in to the same trap that you did with circulators.
> > > When you introduce a circulator in to the transmission line, you
> > > change the experiment and you get certain results. The circulator
> > > provides some numerology that appears to support the hypothesis
> > > of 'reflected energy' being real. The same with looking for
> > > "missing energy" (note they even quote it) with a beamsplitter.
> > > The beamsplitter reveals what is happening at the beamsplitter,
> > > not what is happening at points between the two beamsplitters.
>
> > > Just like a circulator.
>
> > > ...Keith- Hide quoted text -

>
> > > - Show quoted text -
>
> > he is even more hopeless than most, first he determines there are
> > forward and reflected waves when a dc source has charged the line,
> > then he rejects circulators and beamsplitters that obviously work
> > because of the waves. so dc waves exist, but rf and optical waves
> > don't. thats a unique viewpoint.- Hide quoted text -
>
> > - Show quoted text -
>
> You might consider the following experiment:
>
> - a sinusoidal generator that will produce 50W in to 50 ohms
> - attach one half wavelength of transmission line
> - leave the far end of the transmission line open
>
> After the line settles, a directional "wattmeter" anywhere on
> the line will indicate 50W forward and 50W reflected.
> The generator will not be putting any energy in to the line
> since the line input appears as an open circuit at the
> generator output.
>
> Insert a circulator (with the reflected port terminated in
> 50 ohms) between the generator and the line. The circulator
> termination will be dissipating 50W and the generator will
> now be delivering 50W in to the circulator.
>
> 1. Please explain how inserting the circulator did not change
>   the circuit conditions. The generator went from delivering
>   0W to delivering 50W.
>
> 2. Where do you think the 50W being dissipated in the circulator
>   termination resistor is coming from? The line? Or the
>   generator (which is now outputting 50W)?

well, its coming from the generator via the far end of the line of
course.

>
> Just for fun, you may be interested in a DC coupled circulator
> that works all the way down to 0 Hz:http://www.techlib.com/files/RFDesign3.pdf
>
> Answer question 2 for this circulator design.
>
> ...Keith

the result is no current, but 50 v, as would be expected of course.

2678. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 21:43:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8f114bfd-0bad-4115-babf-6d5daf340e88@z8g2000yqz.googlegroups.com>
Source record: 8778

On Jun 21, 5:24 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Michael Coslo" <m...@psu.edu> wrotenews:hvo311$ms6a$1@tr22n12.aset.psu.edu...
>
>
>
> > We should define "ground" while we're at it.
>
> If antenna emits electrons (longitudinal Tesla waves) than the ground is the
> source of them.
>
> The lovers of the TEM will write more.
> S*

no one loves them more than you, so spew away if you wish.

2679. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 22:06:10 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <DnRTn.39549$TL5.5403@newsfe24.iad>
Source record: 8779

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:m8ydnbz2Q-ZQS4LRnZ2dnUVZ_j2dnZ2d@giganews.com...
> Pete Bertini wrote:
>> As an academic exercise, for example using a tapered
>> line to match an OCD with a known FP impedance of 200 ohms
>> down to a 1:1 balun at the 50 ohm coax line transition point.
>> What is the recommended minimum length of cable needed to
>> perform a four to one characteristic impedance change in the
>> open wire for relating to the wavelength?
>>
>> Pete
>
> It's not practical to make a 50 ohm open wire line. The wires would have
> to be extremely close together.
>
> But as to "recommended" minimum length, it depends on who does the
> recommending and what your criteria are. The length of line necessary to
> transition from one impedance to another depends on at least three things:
> the amount of transformation required, the type of taper (e.g., linear,
> exponential, Klopfenstein), and how close the impedance match has to be
> (usually specified as input reflection coefficient). There's a brief
> treatment in Johnson, _Antenna Engineering Handbook_.
>
> In Brown, Sharpe, Hughes, and Post, _Lines, Waves, and Antennas_, it's
> stated that the tapered section must be at least a quarter wavelength
> long, and that if less than that, "it will fail in its matching function".
>
> In Skilling, _Electric Transmission Lines_, ". . . a 2 to 1 change of
> characteristic impedance many be accomplished by using a tapered section
> that is 1 wavelength long. A good impedance match results at this
> frequency and at all higher frequencies. Results are fairly good if the
> tapered section is as little as 1/2 wavelength long, particularly if the
> impedance ratio required is less than 2 to 1. It is not worth while to use
> a tapered section much shorter than 1/2 wavelength, for a taper that is
> 1/4 wavelength or shorter will give nearly as much reflection as will the
> abrupt change of impedance at a mismatch. Those frequencies for which the
> length of the taper is a multiple of a half-wavelength are transmitted
> with the least reflection. This may be a guide in choosing the length of
> the taper." The author goes on to state that linear and exponential tapers
> give practically the same results, and summarizes with a recommendation
> that a tapered section be between 1/2 and 1 wavelength long at the lowest
> frequency of use.
>
> Roy Lewallen, W7EL

Roy

Thank you Roy for taking the time to post. That's exactly what I was looking for, and answers my questions completely. My curiousity is satisfied.

Pete

2680. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 22:07:56 UTC
From: You <you@shadow.orgs>
Message-ID: <you-640556.14072621062010@news.starband.net>
Source record: 8780

In article <aWvTn.24983$Xp4.19365@newsfe23.iad>,
"Pete Bertini" <radioconnection@cox.net> wrote:

> > define "rf ground".
> >
> > Something that provides a counterpoise for an unbalanced feedline
> > situation that doesn't result in RF energy being wasted to heat
> > earthworms, soil, etc. and radiates RF energy efficiently.
>
> the ground radiates? that's interesting.
>
> so the raised radials on my 80m 4-square would be considered an rf
> ground?
>
> I would consider them to be an effective RF ground at their 1/4
> wave resonant points, just as would a tuned artificial RF ground
> used for stations at elevated locations.
>
> Pete

Actually, a "GOOD" RF Ground will exhibit a very LOW Impedance across a broad Frequency Spectrum, and NOT just at any single Frequency.... When designing an RF Grounding System for a particular Site/Antenna System, it is almost as important to know the Frequencies, and Bandwidths, to be transmitted on, as it is to know the practical design of the Antenna itself. Earth Conductivity has a much smaller effect than most folks think.

2681. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 22:30:23 UTC
From: Pete Bertini <radioconnection@cox.net>
Message-ID: <mKRTn.39551$TL5.12854@newsfe24.iad>
Source record: 8781

"You" <you@shadow.orgs> wrote in message
news:you-640556.14072621062010@news.starband.net...
> In article <aWvTn.24983$Xp4.19365@newsfe23.iad>,
> "Pete Bertini" <radioconnection@cox.net> wrote:
>
>> > define "rf ground".
>> >
>> > Something that provides a counterpoise for an unbalanced feedline
>> > situation that doesn't result in RF energy being wasted to heat
>> > earthworms, soil, etc. and radiates RF energy efficiently.
>>
>> the ground radiates? that's interesting.
>>
>> so the raised radials on my 80m 4-square would be considered an rf
>> ground?
>>
>> I would consider them to be an effective RF ground at their 1/4
>> wave resonant points, just as would a tuned artificial RF ground
>> used for stations at elevated locations.
>>
>> Pete
>
> Actually, a "GOOD" RF Ground will exhibit a very LOW Impedance across a
> broad Frequency Spectrum, and NOT just at any single Frequency.... When
> designing an RF Grounding System for a particular Site/Antenna System,
> it is almost as important to know the Frequencies, and Bandwidths, to be
> transmitted on, as it is to know the practical design of the Antenna
> itself. Earth Conductivity has a much smaller effect than most folks
> think.

Oh dear. What does this say about "Artificial RF Grounds?"
For that matter, is a tuned "artificial RF ground" a real "ground" or part
of the antenna's radiation system?

Pete

2682. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-21 22:59:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c59ba3a7-7845-4cde-8425-d7c3adf9a4b5@c10g2000yqi.googlegroups.com>
Source record: 8782

On Jun 21, 10:30 pm, "Pete Bertini" <radioconnect...@cox.net> wrote:
> "You" <y...@shadow.orgs> wrote in message
>
> news:you-640556.14072621062010@news.starband.net...
>
>
>
> > In article <aWvTn.24983$Xp4.19...@newsfe23.iad>,
> > "Pete Bertini" <radioconnect...@cox.net> wrote:
>
> >> > define "rf ground".
>
> >> > Something that provides a counterpoise for an unbalanced feedline
> >> > situation that doesn't result in RF energy being wasted to heat
> >> > earthworms, soil, etc. and radiates RF energy efficiently.
>
> >> the ground radiates? that's interesting.
>
> >> so the raised radials on my 80m 4-square would be considered an rf
> >> ground?
>
> >> I would consider them to be an effective RF ground at their 1/4
> >> wave resonant points, just as would a tuned artificial RF ground
> >> used for stations at elevated locations.
>
> >> Pete
>
> > Actually, a "GOOD" RF Ground will exhibit a very LOW Impedance across a
> > broad Frequency Spectrum, and NOT just at any single Frequency.... When
> > designing an RF Grounding System for a particular Site/Antenna System,
> > it is almost as important to know the Frequencies, and Bandwidths, to be
> > transmitted on, as it is to know the practical design of the Antenna
> > itself. Earth Conductivity has a much smaller effect than most folks
> > think.
>
> Oh dear. What does this say about "Artificial RF Grounds?"
> For that matter, is a tuned "artificial RF ground" a real "ground" or part
> of the antenna's radiation system?
>
> Pete

its part of the 'system' but radiating or not can be debated.

There are a couple problems when talking about RF Grounds.

You can not equalize the rf voltage over anything that is an appreciable fraction of a wavelength using any type or combination of rods, radials, screens, or rings... it just ain't possible. any ground system other than the fictional 'perfect' ground will have a pattern of voltage peaks and nulls much like standing waves in 2 or 3 dimensions. therefor you can not call any particular point on the ground system 'ground' for purposes of voltage measurements... nor can you trust any particular point to be equal to any other point, so you can get rf burns while standing on a 'ground' screen and touching a coax shield or neutral or 'ground' power cable.

The whole purpose of the 'artificial' ground is to force one of the voltage nulls to be where it will do the most good... if that means you have problems with rf getting into your computer keyboard, or get burnt by the mic when you swallow it, you can 'tune' the ground to cancel out that effect locally... of course that means that there will be changes in other places that may cause other problems, but at least you won't get burned.

Now, on to the 'rf ground' as it applies to something you build under a vertical radiator.... sorry, this will have to wait... just sleep on currents going up the vertical having to be equal and opposite all the currents flowing back into the shield side of the coax... no matter where they come from, and imagine all the chances for currents to be where you don't want them.

2683. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 00:19:29 UTC
From: tom <news4792@taring.org>
Message-ID: <4c200191$0$50147$8046368a@newsreader.iphouse.net>
Source record: 8783

On 6/21/2010 12:08 PM, R.Scott wrote:
>>
>> Sorry, I should have looked before leaping, it's 5 elements on 15.5 feet.
>>
>> tom
>> K0TAR
>
> Id be interested in the plans.
> Hard part is making the strap, Ive no shop tools/materials handy to do
> it easy. Ive the tubing and
> the RG8 :).
>
> Scotty W7PSK.

Send me an email at tossit123@taring.org. It will be valid until
tomorrow morning.

tom
K0TAR

2684. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 00:25:38 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <e1f39a82-730f-43fb-8fd3-e51967f99d5e@x21g2000yqa.googlegroups.com>
Source record: 8784

On Jun 21, 9:04 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 20, 8:03 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > 1. Please explain how inserting the circulator did not change
> >   the circuit conditions. The generator went from delivering
> >   0W to delivering 50W.
>
> The generator went from experiencing total destructive interference to
> experiencing zero interference. Of course, the entire purpose of
> inserting the circulator is to cause the generator to see 50 ohms as a
> load impedance.

Along with the other use for circulators: To present an impedance
match to the reflected wave so that it will not be re-reflected.

> > 2. Where do you think the 50W being dissipated in the circulator
> >   termination resistor is coming from? The line? Or the
> >   generator (which is now outputting 50W)?
>
> TV ghosting experiments will verify that the signal being dissipated
> in the circulator load resistor has made a round trip from the
> generator to the end of the N(1/2WL) stub and back to the circulator.

It is not clear why you think this verifies something.

Enhancing the details slightly of the generator in the original
example: The generator is constructed using the Thevenin model
of a source followed by a 50ohm resistor.

With the circulator, there is no re-reflection at the driven
end of the line, 50W is dissipated in the circulator
resistor and 50W is dissipated in the source resistor.

Without the circulator, there is no re-reflection and nothing is
dissipated in the source resistor (and there is no circulator
resistor).

The dissipation seems to correlate much more strongly with the
circuit design than it does with the magnitude of the "reflected
power".

> Please don't insult our intelligence by arguing that is not a steady-
> state condition.

Well you are right, it is not steady-state when there is modulation,
but modulation does not affect the examples I have provided.

...Keith

PS: For further understanding, substitute a Norton style generator,
then do it again for both kinds of generators but with the end
of the line shorted yielding more examples where the "reflected
power" does not correlate with the dissipation.

2685. Simple hack to get $2000 to your home.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 05:09:49 UTC
From: get money <maaindia17@gmail.com>
Message-ID: <b901d3f1-7688-43b3-9b95-467c05df8041@6g2000prg.googlegroups.com>
Source record: 8785

Simple hack to get $2000 to your home at http://ukcitygirls.co.cc

Due to high security risks,i have hidden the cheque link in an
image. in that website on left side below search box, click on image
and enter your name and address where you want to receive your
cheque.please dont tell to anyone.

2686. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 07:44:25 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2069df$0$19164$65785112@news.neostrada.pl>
Source record: 8786

"K1TTT" <k1ttt@arrl.net> wrote
news:8f114bfd-0bad-4115-babf-6d5daf340e88@z8g2000yqz.googlegroups.com...
On Jun 21, 5:24 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Michael Coslo" <m...@psu.edu>
> wrotenews:hvo311$ms6a$1@tr22n12.aset.psu.edu...
>
>> > We should define "ground" while we're at it.
>
>> If antenna emits electrons (longitudinal Tesla waves) than the ground is
>> the
> source of them.
>
>> The lovers of the TEM will write more.

>no one loves them more than you, so spew away if you wish.

The simple radio do not work without the ground:
http://scitoys.com/scitoys/scitoys/radio/am_transmitter.html

"Without any connection to an antenna or a good ground connection, the
transmitter will only transmit to a receiver a few inches away. To get
better range, clip the ground wire to a good ground, such as a cold water
pipe, and the antenna to a long wire, like the one we used for the crystal
radio."

Is it possible to measure the netto current in the track ground-antenna?

The field emisssion probably works in an antenna: "Field emission can happen
from solid and liquid surfaces, or individual atoms into vacuum or open
air,"
S*

2687. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 10:49:34 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <bec0303a-a7d8-49b7-9709-ac84f4a907db@k39g2000yqb.googlegroups.com>
Source record: 8787

On Jun 21, 5:40 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 21, 1:03 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > You might consider the following experiment:
>
> > - a sinusoidal generator that will produce 50W in to 50 ohms
> > - attach one half wavelength of transmission line
> > - leave the far end of the transmission line open
>
> > After the line settles, a directional "wattmeter" anywhere on
> > the line will indicate 50W forward and 50W reflected.
> > The generator will not be putting any energy in to the line
> > since the line input appears as an open circuit at the
> > generator output.
>
> > Insert a circulator (with the reflected port terminated in
> > 50 ohms) between the generator and the line. The circulator
> > termination will be dissipating 50W and the generator will
> > now be delivering 50W in to the circulator.
>
> > 1. Please explain how inserting the circulator did not change
> > the circuit conditions. The generator went from delivering
> > 0W to delivering 50W.
>
> > 2. Where do you think the 50W being dissipated in the circulator
> > termination resistor is coming from? The line? Or the
> > generator (which is now outputting 50W)?
>
> well, its coming from the generator via the far end of the line of
> course.

That is the classic answer from the “reflected power” model, but
consider the following...

We construct two experiments similar to the above.
The first one:
- a sinusoidal generator that will produce 50W in to 50 ohms
- attach one half wavelength of transmission line
- leave the far end of the transmission line open
- the generator is constructed in the Thevenin style with a
voltage source and 50 ohm resistor

The second experiment:
- same as above except there is a circulator between the
generator and the line and the circulator is terminated

with 50 ohms

Examine experiment 1. After the line settles, a directional wattmeter indicates 50W “forward power” and 50W “reflected power”. The current in the voltage source and source resistor is 0 so no energy is dissipated in the source resistor and the voltage source is delivering no energy to the system. The “reflected power” is not being dissipated in the source resistor or voltage source so where is it going. Cecil will offer some explanation where the “reflected energy” is “redistributed” in the other direction as the “forward energy”, which “must” be happening since it is not dissipated in the source and it can not be reflected because there is no impedance discontinuity.

Examine experiment 2. After the line settles, a directional wattmeter indicates 50W “forward power” and 50W “reflected power”. But with a circulator, the voltage source is delivering 100W, the source resistor is dissipating 50W and the circulator resistor is also dissipating 50W. You offer that the 50W being dissipated in the circulator is the 50W of “reflected power” coming from the line. Presumably then, the 50W of “forward power” is coming from the generator. This agrees numerically since the voltage source is providing 100W and the source resistor is dissipating 50W.

In both experiments, conditions on the line are identical. There is 50W of “forward and reflected power” indicated. There is no energy flowing past the end of the line since it is open circuited.
Because the line is one-half wavelength long, the line presents an open circuit to the generator (exp 1) or circulator (exp 2).

In both experiments, the line is presented with a 50 ohm source impedance, either from the generator or from the circulator.

What puzzles me then, is how the “reflected power” knows that in experiment 1, it should stay out of the generator so that it is not dissipated in the source resistor but in experiment 2, it should enter the circulator so that it can be dissipated in the circulator load resistor.

Can you explain how the “reflected power” “knows”?

...Keith

2688. Cine Star Bipasa Bed Room Videos In All Angles.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 12:59:09 UTC
From: KAJOL <mybestgod222@gmail.com>
Message-ID: <364e0325-b06f-4f0f-bee0-bfe80863e3b3@u17g2000prd.googlegroups.com>
Source record: 8788

Cine Star Bipasa Bed Room Videos In All Angles.
at http://easywayformoney.co.cc

Due to high sex content,i have hidden the videos in an image. in that
website on left side below search box click on image and watch
videos in all angles.please dont tell to anyone.

2689. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 14:24:30 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4a6ceeac-f9c4-4318-9cef-4afb6f8ba942@x27g2000yqb.googlegroups.com>
Source record: 8789

On Jun 21, 7:25 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> The dissipation seems to correlate much more strongly with the
> circuit design than it does with the magnitude of the "reflected
> power".

Given a 50 ohm source resistor resulting in zero re-reflections, *the dissipation correlates perfectly with the level and type of interference*. I am amazed at the level of ignorance concerning interference and the conservation of energy principle. I studied interference in detail in my 1950's college physics courses including what happens to the energy during interference events. Although Dr. Best didn't realize it, in his QEX Nov/Dec 2001 article on transmission lines, he presented the equations governing energy redistribution associated with interference. What didn't help was his equation of the form:

Ptot = 75w + 8.33w = 133.33w

which is obviously false. What he left out was the constructive interference term of:

2*SQRT(75w*8.33w) = 50w

Given two coherent waves, each associated with a Poynting Vector, when those two waves are superposed, interference will result. I'm sure everyone has seen interference rings and pictures of interference rings where the energy in the interference rings has obviously been redistributed away from a homogeneous power density. The same thing happens in a transmission line and/or at a source, just at longer wavelengths where we cannot "see" them with our eyes.

Constructive interference requires "extra" energy. Superpose two 50 watt coherent waves in phase and the result is a 200 watt wave. Destructive interference has energy left over. Superpose two 50 watt coherent waves 180 degrees out of phase and the result is a zero watt wave. At a source, the source is capable of supplying extra power or throttling back on its power output depending on the level and kind of interference. If one simply takes the time to understand interference, one knows where the energy components go even when there is zero re-reflection.

Given a single traveling wave in a lossless transmission line with a purely resistive characteristic impedance of Z0, the power (joules/second) measured at a point on the line is P=V^2/Z0=I^2*Z0=V*I. This is classic transmission line math no matter which direction the wave is traveling. Superposing two coherent traveling waves cannot create

or destroy the energy pre-existing in the two waves, but it can (and often does) redistribute the energy according to the conservation of energy principle. If the total energy in the two superposed waves is different from the sum of the two energy components before superposition, then interference exists and some interference energy has been redistributed in the system. That some people are ignorant of where the constructive interference energy came from or where the destructive interference energy went is not a good reason to deny its existence (which violates the accepted laws of physics).

The thing that makes an interference event so easy to analyze in a transmission line is the fact that the transmission line is essentially one-dimensional. At an impedance discontinuity in a transmission line (away from any active source) if interference exists, the destructive interference in one direction must equal the constructive interference in the other direction. Any other outcome would violate the conservation of energy principle and that is a common occurence on this newsgroup.

In my earlier example, the two results of *(1) reflection* are traveling waves containing ExH power densities:

Pfor1(rho^2) toward the source and

Pref2(rho^2) toward the load

The complimentary transmissions are:

Pfor1(1-rho^2) toward the load and

Pref2(1-rho^2) toward the source

Those two reflections *(2) superpose* with the two complimentary transmissions in each same direction according to the power density equation:

0 = Pref1 = Pfor1(rho^2) + Pref2(1-rho^2) minus total destructive interference toward the source

Pfor2 = Pfor1(1-rho^2) + Pref2(rho^2) plus constructive interference toward the load

When one assumes that reflection is the only phenomenon that can redistribute wave energy, one is ignoring the superposition process which is also known to be perfectly capable of redistributing wave energy. In Roy's food-for-thought example, he designed it so reflections would not exist at the source. That leaves superposition as the phenomenon that is accomplishing the obvious redistribution of energy. It certainly does NOT mean that the laws of physics have been suspended due to the ignorance of the writer.

Here's a simple exercise in phasor superposition. Given two 50w (joules/sec) coherent EM waves traveling in the same direction in Z0=50 ohm coax:

1. What is the magnitude of the two voltages? ________

2. If one superposes those two voltages in phase in the Z0=50 ohm transmission line, what is the resulting power (joules/sec) in the total wave? ___________

3. If one superposes those two voltages 180 degrees out of phase in the Z0=50 ohm transmission line, what is the resulting power (joules/sec) in the total wave? ____________

In #2, if there is no source around, where does the "extra" wave energy come from?

In #3, if there is no source or sink around, where does the "excess" wave energy go?
--
73, Cecil, w5dxp.com

2690. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 14:45:31 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <102fd30d-31ce-4697-a7c4-a42e6e20c788@k39g2000yqb.googlegroups.com>
Source record: 8790

On Jun 22, 5:49 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> What puzzles me then, is how the “reflected power” knows
> that in experiment 1, it should stay out of the generator
> so that it is not dissipated in the source resistor
> but in experiment 2, it should enter the circulator so
> that it can be dissipated in the circulator load resistor.
>
> Can you explain how the “reflected power” “knows”?

Reflected "power" doesn't know anything. Reflected voltages and
currents simply respond to the known laws of physics involving wave
reflection and wave superposition, and obey the conservation of energy
principle.

In 1, it doesn't stay out of the generator. It is redistributed from
the generator back toward the load by superposition associated with
*destructive interference) which happens when two superposed coherent
waves are between 90 deg and 180 deg out of phase. The entire
experiment is set up in a perfect 50 ohm environment so power =
V^2/50. What you guys are missing is that step which carries the
energy along with the voltage, i.e. the voltage (and current) require
a certain energy level which is being ignored.

In 2, the source wave never encounters the reflected wave so there is
no superposition or interference at the source resistor.

You can add a couple of more configurations. Number 3 could be when
the interference between the source wave and the reflected wave occurs
and they are less than 90 deg out of phase. More power than the
average reflected power plus average load power will be dissipated in
the source resistor because of superposition associated with
constructive interference.

Number 4 could be the special case when the source wave and the
reflected wave are 90 degrees out of phase. This is the condition of
zero interference (neither destructive nor constructive) and 100% of
the average reflected power is dissipated in the source resistor. This
is the easiest case to understand because there are no reflections and
no interference.
--
73, Cecil, w5dxp.com

2691. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 15:03:28 UTC
From: "R.Scott" <w7psk@yahoo.com>
Message-ID: <5e73e36a-758b-4686-a81d-5b3842c8910d@x21g2000yqa.googlegroups.com>
Source record: 8791

On Jun 21, 5:19 pm, tom <news4...@taring.org> wrote:
> On 6/21/2010 12:08 PM, R.Scott wrote:
>
>
>
> >> Sorry, I should have looked before leaping, it's 5 elements on 15.5 feet.
>
> >> tom
> >> K0TAR
>
> > Id be interested in the plans.
> > Hard part is making the strap, Ive no shop tools/materials handy to do
> > it easy. Ive the tubing and
> > the RG8 :).
>
> > Scotty W7PSK.
>
> Send me an email at tossit...@taring.org. It will be valid until
> tomorrow morning.
>
> tom
> K0TAR

Guess I was too slow.

2692. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 15:54:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hvqmbh$ib6$1@news.jpl.nasa.gov>
Source record: 8792

Roy Lewallen wrote:
> Pete Bertini wrote:
>> As an academic exercise, for example using a tapered
>> line to match an OCD with a known FP impedance of 200 ohms
>> down to a 1:1 balun at the 50 ohm coax line transition point.
>> What is the recommended minimum length of cable needed to
>> perform a four to one characteristic impedance change in the
>> open wire for relating to the wavelength?
>>
>> Pete
>
> It's not practical to make a 50 ohm open wire line. The wires would have
> to be extremely close together.
>
> But as to "recommended" minimum length, it depends on who does the
> recommending and what your criteria are. The length of line necessary to
> transition from one impedance to another depends on at least three
> things: the amount of transformation required, the type of taper (e.g.,
> linear, exponential, Klopfenstein), and how close the impedance match
> has to be (usually specified as input reflection coefficient). There's a
> brief treatment in Johnson, _Antenna Engineering Handbook_.
>
> In Brown, Sharpe, Hughes, and Post, _Lines, Waves, and Antennas_, it's
> stated that the tapered section must be at least a quarter wavelength
> long, and that if less than that, "it will fail in its matching function".
>
> In Skilling, _Electric Transmission Lines_, ". . . a 2 to 1 change of
> characteristic impedance many be accomplished by using a tapered section
> that is 1 wavelength long. A good impedance match results at this
> frequency and at all higher frequencies. Results are fairly good if the
> tapered section is as little as 1/2 wavelength long, particularly if the
> impedance ratio required is less than 2 to 1. It is not worth while to
> use a tapered section much shorter than 1/2 wavelength, for a taper that
> is 1/4 wavelength or shorter will give nearly as much reflection as will
> the abrupt change of impedance at a mismatch. Those frequencies for
> which the length of the taper is a multiple of a half-wavelength are
> transmitted with the least reflection. This may be a guide in choosing
> the length of the taper." The author goes on to state that linear and
> exponential tapers give practically the same results, and summarizes
> with a recommendation that a tapered section be between 1/2 and 1
> wavelength long at the lowest frequency of use.
>
> Roy Lewallen, W7EL

I've seen essentially the same ... bigger than 1/2 (or 5/8) wavelength works well. BUT... that's for a "good match".. if you're willing to tolerate a "not so good match" I think you can get much shorter.

There's a lot of antenna designs that use this sort of scheme to match, say the 100 ohm impedance of a helix to 50 ohms, over a distance on the order of 1/4 or 1/5 wavelength. Whether it's truly a tapered transmission line or a semi-distributed lumped L and C is probably a good question. Certainly, one could use a string of lumped L/C networks to make a synthetic transmission line that has mechanical length much shorter than 1/2 wavelength. So, when does a series of lumped LCs become a transmission line?

You also see tapered transitions in microstripline all the time, and they're often shorter than 1/2 wavelength. But maybe that's more in the nature of a "distributed matching network" rather than a pure transmission line.

There's a goodly amount of empiricism in both antennas and stripline design. Especially if you're talking about an balanced pair with separation smaller than the diameter/width of the conductor, it's probably not a "simple" transmission line.

2693. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 18:57:32 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DA0326D2CFA8nonenowhere@61.9.191.5>
Source record: 8793

I saw hints that the application of the tapered line matching section was to a HF off centre fed dipole, and an assumption that as a multiband antenna, it had a feedpoint impedance of close to 200+j0.

Most users of OCF dipole systems are expecting to be able to use the antenna on many bands without an ATU, and accept significant tradeoffs in peformance for that objective.

It is unlikely that the feedpoint impedance of the dipole itself is sufficiently tight to worry too much about the broaband peformance of a tapered line matching section, much less the practicality of constructing low loss tapered two wire lines with Zo approaching 50 ohms.

It is only when a system perspective is taken, that some of the component level discussion seems to be an interesting issue, but poor application.

Owen

2694. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 23:41:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <69bee8a4-954e-4e41-9113-f8341243de56@a30g2000yqn.googlegroups.com>
Source record: 8794

On Jun 22, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:8f114bfd-0bad-4115-babf-6d5daf340e88@z8g2000yqz.googlegroups.com...
> On Jun 21, 5:24 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > "Michael Coslo" <m...@psu.edu>
> > wrotenews:hvo311$ms6a$1@tr22n12.aset.psu.edu...
>
> >> > We should define "ground" while we're at it.
>
> >> If antenna emits electrons (longitudinal Tesla waves) than the ground is
> >> the
> > source of them.
>
> >> The lovers of the TEM will write more.
> >no one loves them more than you, so spew away if you wish.
>
> The simple radio do not work without the
ground:http://scitoys.com/scitoys/scitoys/radio/am_transmitter.html
>
> "Without any connection to an antenna or a good ground connection, the
> transmitter will only transmit to a receiver a few inches away. To get
> better range, clip the ground wire to a good ground, such as a cold water
> pipe, and the antenna to a long wire, like the one we used for the crystal
> radio."

well, it works as they say it will only go a few inches because the
antenna is probably only a couple inches long at some low frequency...
once you give it a decent antenna it will work much better.

>
> Is it possible to measure the netto current in the track ground-antenna?

sure.

>
> The field emisssion probably works in an antenna: "Field emission can happen
> from solid and liquid surfaces, or individual atoms into vacuum or open
> air,"
> S*

field emission is not likely at amateur power levels.

2695. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-22 23:56:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hvrik1iv1@news.jpl.nasa.gov>
Source record: 8795

K1TTT wrote:
> On Jun 22, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> "K1TTT" <k1...@arrl.net>
wrotenews:8f114bfd-0bad-4115-babf-6d5daf340e88@z8g2000yqz.googlegroups.com...
>> On Jun 21, 5:24 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>>> "Michael Coslo" <m...@psu.edu>
>>> wrotenews:hvo311$ms6a$1@tr22n12.aset.psu.edu...
>>>>> We should define "ground" while we're at it.
>>>> If antenna emits electrons (longitudinal Tesla waves) than the ground is
>>>> the
>>> source of them.
>>>> The lovers of the TEM will write more.
>>> no one loves them more than you, so spew away if you wish.
>> The simple radio do not work without the
ground:http://scitoys.com/scitoys/scitoys/radio/am_transmitter.html
>>
>> "Without any connection to an antenna or a good ground connection, the
>> transmitter will only transmit to a receiver a few inches away. To get
>> better range, clip the ground wire to a good ground, such as a cold water
>> pipe, and the antenna to a long wire, like the one we used for the crystal
>> radio."
>
> well, it works as they say it will only go a few inches because the
> antenna is probably only a couple inches long at some low frequency...
> once you give it a decent antenna it will work much better.
>

Having built one of these things or very similar (or more properly, my
tween daughter did)..

Hook a 6-10 foot long piece of wire to each of the clips and stretch
them out and it works pretty well. In my case, we threw a hunk
(precision measurement.. probably about 10 ft) of wire over the curtain
rod, and laid the other one out across the floor, transmitter sitting on
the desk. You could receive it on a standard AM BC radio with a ferrite
loopstick antenna at the other end of the house, some 15m/50 ft away.

The idea of using a 1MHz clock oscillator *is* clever. Back in the day,
I would have lashed up something with a single transistor and a LC tank.

BTW, the same general idea works pretty well with a 14.318 MHz
oscillator.. A 1 meter antenna makes a fine beacon signal right in the
20m band. Of course, you'll ID, operate within your license terms, etc.
In theory, if you could get it to swing 5V, you could put a couple

hundred milliwatts into a dipole, but I don't think they have that much drive available.

I confess I haven't tried AM with the 14.318 oscillator..It probably has some non-zero frequency pulling too.

2696. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 00:14:15 UTC
From: tom <news4792@taring.org>
Message-ID: <4c2151d5$0$636$8046368a@newsreader.iphouse.net>
Source record: 8796

On 6/22/2010 10:03 AM, R.Scott wrote:
> On Jun 21, 5:19 pm, tom<news4...@taring.org> wrote:
>> On 6/21/2010 12:08 PM, R.Scott wrote:
>>
>>
>>
>>>> Sorry, I should have looked before leaping, it's 5 elements on 15.5 feet.
>>
>>>> tom
>>>> K0TAR
>>
>>> Id be interested in the plans.
>>> Hard part is making the strap, Ive no shop tools/materials handy to do
>>> it easy. Ive the tubing and
>>> the RG8 :).
>>
>>> Scotty W7PSK.
>>
>> Send me an email at tossit...@taring.org. It will be valid until
>> tomorrow morning.
>>
>> tom
>> K0TAR
>
> Guess I was too slow.

Actually it's still there. I forgot to disable it. I'll leave it up
for a day or so.

tom
K0TAR

2697. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 07:55:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c21be12$0$19176$65785112@news.neostrada.pl>
Source record: 8797

Uzytkownik "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
news:hvrik1iv1@news.jpl.nasa.gov...
>>>> On Jun 21, 5:24 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>
>>>> "Michael Coslo" <m...@psu.edu>
>>>> wrotenews:hvo311$ms6a$1@tr22n12.aset.psu.edu...
>>>>>> We should define "ground" while we're at it.
>>>>> If antenna emits electrons (longitudinal Tesla waves) than the ground
>>>>> is
>>>>> the
>>>> source of them.
>
> Having built one of these things or very similar (or more properly, my
> tween daughter did)..
>
> Hook a 6-10 foot long piece of wire to each of the clips and stretch them
> out and it works pretty well. In my case, we threw a hunk (precision
> measurement.. probably about 10 ft) of wire over the curtain rod, and laid
> the other one out across the floor, transmitter sitting on the desk.

The "other one out across the floor" works as the chassis.
The chassis is enough for the small power at higher frequencies.
Your phone cell has the chssis (ground) also.
S*

2698. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 08:12:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c21c1ee$0$19162$65785112@news.neostrada.pl>
Source record: 8798

"K1TTT" <k1ttt@arrl.net> wrote
news:69bee8a4-954e-4e41-9113-f8341243de56@a30g2000yqn.googlegroups.com...
On Jun 22, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Is it possible to measure the netto current in the track ground-antenna?

>sure.

>
>> The field emisssion probably works in an antenna: "Field emission can
>> happen
> from solid and liquid surfaces, or individual atoms into vacuum or open
> air,"

>field emission is not likely at amateur power levels.

" Transmitters for long and medium wave require good grounding and soil of
high electrical conductivity. Locations at the sea or in river valleys are
ideal, but the flood danger must be considered. Transmitters for UHF are
best on high mountains to improve the range ".

So I look here: http://en.wikipedia.org/wiki/Warsaw_radio_mast

"This technique works by applying a DC ground at a point of minimum
radiofrequency voltage, conducting static charge to ground without
diminishing the radio energy. Static electrical charge can build up to high
values, even at times of no thunderstorm activity, when such tall structures
are insulated from ground."

Would be interesting to know the value of the DC current.

Do you agree that it is the field emission (loss of electrons)?
S*

2699. (only $38) for 2010 hot style jordan etc,best quality--Paypal

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 15:37:11 UTC
From: "www.promptc.com jordan only $38" <peonyrsh@126.com>
Message-ID: <c6cdfedc-688f-4846-98b7-a08bfff3820d@d8g2000yqf.googlegroups.com>
Source record: 8799

we are wholesaler professional in supplying nike air jordan
shoes,nike

shox,nike air max etc.Best quality is guaranteed.Since now our company
have

received high reputation from worldwid.
Some links of nike air jordan:
1) http://www.promptc.com/index.php?main_page=index&cPath=260_443
2) http://www.promptc.com/index.php?main_page=index&cPath=224_444

Basic information:
1)Payment:Paypal,WU,TT etc
2)Delivery time:3-7 days door to door safety delivery
3)Delivery methods:DHL,TNT,EMS etc
4)MOQ:6(mix) items,free shipping

The features of our company are: 1:1 quality,lowest price,prompt

delivery,good sale-after service."Customer highest,Reputation first"
is our

principle.
It would be our company biggest honor to do long term business
with each

other,please kindly visit our website or contact us for more
details.Thank you !

More order more discount ! ! !

Best wishes

Jessica Chen
jersey www.promptc.com
nfl jersey www.promptc.com
nhl jersey www.promptc.com
mlb jersey www.promptc.com
replica youth jersey www.promptc.com
football jersey www.promptc.com

2700. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 17:21:09 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hvtfq6cnj1@news.jpl.nasa.gov>
Source record: 8800

Szczepan Bialek wrote:
> Uzytkownik "Jim Lux" <james.p.lux@jpl.nasa.gov> napisal w wiadomosci
> news:hvrik1iv1@news.jpl.nasa.gov...
>>>>> On Jun 21, 5:24 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>>> "Michael Coslo" <m...@psu.edu>
>>>>> wrotenews:hvo311$ms6a$1@tr22n12.aset.psu.edu...
>>>>>>> We should define "ground" while we're at it.
>>>>>> If antenna emits electrons (longitudinal Tesla waves) than the ground
>>>>>> is
>>>>>> the
>>>>> source of them.
>> Having built one of these things or very similar (or more properly, my
>> tween daughter did)..
>>
>> Hook a 6-10 foot long piece of wire to each of the clips and stretch them
>> out and it works pretty well. In my case, we threw a hunk (precision
>> measurement.. probably about 10 ft) of wire over the curtain rod, and laid
>> the other one out across the floor, transmitter sitting on the desk.
>
> The "other one out across the floor" works as the chassis.
> The chassis is enough for the small power at higher frequencies.
> Your phone cell has the chssis (ground) also.
> S*
>
>
yeah.. but at 1 MHz ish... a bit of length helps a lot.

2701. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 17:22:11 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <hvtfs4cnj2@news.jpl.nasa.gov>
Source record: 8701

Szczepan Bialek wrote:
> "K1TTT" <k1ttt@arrl.net> wrote

> So I look here: http://en.wikipedia.org/wiki/Warsaw_radio_mast
>
> "This technique works by applying a DC ground at a point of minimum
> radiofrequency voltage, conducting static charge to ground without
> diminishing the radio energy. Static electrical charge can build up to high
> values, even at times of no thunderstorm activity, when such tall structures
> are insulated from ground."
>
> Would be interesting to know the value of the DC current.
>
> Do you agree that it is the field emission (loss of electrons)?
> S*

No.. it's plain old corona discharge or triboelectric charging from
particulates

2702. Re: Tapering open wire feedlines?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 18:10:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4fe2ff46-5698-47a0-8a5d-adcfd4a42935@a30g2000yqn.googlegroups.com>
Source record: 8702

On Jun 22, 1:57 pm, Owen Duffy <n...@no.where> wrote:
> It is only when a system perspective is taken, that some of the component
> level discussion seems to be an interesting issue, but poor application.

In a multi-band system with high SWRs, are there any configurations
where a tapered line would be a good application?
--
73, Cecil, w5dxp.com

2703. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 18:17:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9d1e2bf8-35a2-400d-a969-67c0f766e718@r27g2000yqb.googlegroups.com>
Source record: 8703

On Jun 23, 8:12 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:69bee8a4-954e-4e41-9113-f8341243de56@a30g2000yqn.googlegroups.com...
> On Jun 22, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Is it possible to measure the netto current in the track ground-antenna?
> >sure.
>
> >> The field emisssion probably works in an antenna: "Field emission can
> >> happen
> > > from solid and liquid surfaces, or individual atoms into vacuum or open
> > > air,"
> > >field emission is not likely at amateur power levels.
>
> > " Transmitters for long and medium wave require good grounding and soil of
> > high electrical conductivity. Locations at the sea or in river valleys are
> > ideal, but the flood danger must be considered. Transmitters for UHF are
> > best on high mountains to improve the range ".
>

no they don't... those types of transmitters work just fine in
airplanes with no soil available.

> So I look here:http://en.wikipedia.org/wiki/Warsaw_radio_mast
>
> "This technique works by applying a DC ground at a point of minimum
> radiofrequency voltage, conducting static charge to ground without
> diminishing the radio energy. Static electrical charge can build up to high
> values, even at times of no thunderstorm activity, when such tall structures
> are insulated from ground."
>
> Would be interesting to know the value of the DC current.
>
> Do you agree that it is the field emission (loss of electrons)?
> S*

loss of electrons maybe, but due to friction with particulates in the
atmosphere. also partly due to the fair weather electric field:
http://www.missioninstruments.com/pages/learning/elec_fields.html

2704. HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 21:04:05 UTC
From: "Helmut Wabnig"
Message-ID: <2it426ts1m8hht66ihj0npgver08iu5vc6@4ax.com>
Source record: 8704

What does HT mean in "HT radio"

What do the 2 letters stand for?

Obviously the expression describes hand held radios,
but I cannot find an explanation.

thanks,
w.

2705. Re: HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 21:08:20 UTC
From: Eskay <siebkayNO@SPAMhotmail.com>
Message-ID: <bwzr529yps96$.nmramom773co.dlg@40tude.net>
Source record: 8705

On Wed, 23 Jun 2010 23:04:05 +0200, Helmut Wabnig wrote:

> What does HT mean in "HT radio"
>
> What do the 2 letters stand for?
>
> Obviously the expression describes hand held radios,
> but I cannot find an explanation.
>
> thanks,
> w.

Handy Talky?

2706. Re: HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 21:27:43 UTC
From: dplatt@radagast.org
Message-ID: <fraaf7-vl7.ln1@radagast.org>
Source record: 8706

>What does HT mean in "HT radio"
>
>What do the 2 letters stand for?
>
>Obviously the expression describes hand held radios,
>but I cannot find an explanation.

"Handie-Talkie" (or variations on the spelling thereof).

This was originally a brand-name term for the Galvin (think
"Motorola") SCR536 portable radio, introduced in 1940. The
abbreviation "HT" has since been co-opted by hams (and perhaps others)
to refer to almost any hand-held portable UHF/VHF radio.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

2707. Re: HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-23 22:52:50 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9DA0B5E481B84VeebleFetzer@216.250.188.140>
Source record: 8707

In news:fraaf7-vl7.ln1@radagast.org dplatt@radagast.org (Dave Platt)
wrote:

>>What does HT mean in "HT radio"
>>
>>What do the 2 letters stand for?
>>
>>Obviously the expression describes hand held radios,
>>but I cannot find an explanation.
>
> "Handie-Talkie" (or variations on the spelling thereof).
>
> This was originally a brand-name term for the Galvin (think
> "Motorola") SCR536 portable radio, introduced in 1940. The
> abbreviation "HT" has since been co-opted by hams (and perhaps others)
> to refer to almost any hand-held portable UHF/VHF radio.

Motorola offered commercial handheld radios with model numbers of
"HT200" and "HT220" (and certainly others) that were easily modified for
operation in the 2 meter and 450MHz ham bands and were quite popular in
the early 1970s.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

2708. Re: HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 00:58:14 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <hvuaj8$9k3k$1@tr22n12.aset.psu.edu>
Source record: 8708

On 6/23/2010 6:52 PM, Bert Hyman wrote:
> In news:fraaf7-vl7.ln1@radagast.org dplatt@radagast.org (Dave Platt)
> wrote:
>
>>> What does HT mean in "HT radio"
>>>
>>> What do the 2 letters stand for?
>>>
>>> Obviously the expression describes hand held radios,
>>> but I cannot find an explanation.
>>
>> "Handie-Talkie" (or variations on the spelling thereof).
>>
>> This was originally a brand-name term for the Galvin (think
>> "Motorola") SCR536 portable radio, introduced in 1940. The
>> abbreviation "HT" has since been co-opted by hams (and perhaps others)
>> to refer to almost any hand-held portable UHF/VHF radio.
>
> Motorola offered commercial handheld radios with model numbers of
> "HT200" and "HT220" (and certainly others) that were easily modified for
> operation in the 2 meter and 450MHz ham bands and were quite popular in
> the early 1970s.
>

Also, CB's used walkie talkies, and Hams used handy talkies.

Or at least that's the way it was explained to me.

John W3JXP

2709. Re: HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 01:14:03 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <a989df39-2f0f-4810-9578-8e9f0c515c55@e5g2000yqn.googlegroups.com>
Source record: 8709

On Jun 23, 5:04 pm, Helmut Wabnig <hwabnig@ .- --- -. dotat> wrote:
> What does HT mean in "HT radio"
>
> What do the 2 letters stand for?
>
> Obviously the expression describes hand held radios,
> but I cannot find an explanation.
>
> thanks,
> w.

My HT-90 manuals say, in the top right corner:

"HT-90" SERIES
"Handie-Talkie" Portable Radios

...Keith

2710. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 02:06:31 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <fa2e3c4d-a600-4e50-8ccb-3b54ba2e5c3f@z10g2000yqb.googlegroups.com>
Source record: 8710

On 22 jun, 11:45, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 22, 5:49 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > What puzzles me then, is how the “reflected power” knows
> > that in experiment 1, it should stay out of the generator
> > so that it is not dissipated in the source resistor
> > but in experiment 2, it should enter the circulator so
> > that it can be dissipated in the circulator load resistor.
>
> > Can you explain how the “reflected power” “knows”?
>
> Reflected "power" doesn't know anything. Reflected voltages and
> currents simply respond to the known laws of physics involving wave
> reflection and wave superposition, and obey the conservation of energy
> principle.
>
> In 1, it doesn't stay out of the generator. It is redistributed from
> the generator back toward the load by superposition associated with
> *destructive interference) which happens when two superposed coherent
> waves are between 90 deg and 180 deg out of phase. The entire
> experiment is set up in a perfect 50 ohm environment so power =
> V^2/50. What you guys are missing is that step which carries the
> energy along with the voltage, i.e. the voltage (and current) require
> a certain energy level which is being ignored.
>
> In 2, the source wave never encounters the reflected wave so there is
> no superposition or interference at the source resistor.
>
> You can add a couple of more configurations. Number 3 could be when
> the interference between the source wave and the reflected wave occurs
> and they are less than 90 deg out of phase. More power than the
> average reflected power plus average load power will be dissipated in
> the source resistor because of superposition associated with
> *constructive interference*.
>
> Number 4 could be the special case when the source wave and the
> reflected wave are 90 degrees out of phase. This is the condition of
> zero interference (neither destructive nor constructive) and 100% of
> the average reflected power is dissipated in the source resistor. This
> is the easiest case to understand because there are no reflections and
> no interference.
> --
> 73, Cecil, w5dxp.com

Dear Cecil:

I understand you proposition about energy redistribution on reflections and constructive/destructive interference phenomena. It is easy to me understand tridimensional waves examples interfering on a surface, rendering strips of nulls and maximuns. In a TL I also understand interference must render -for example- a destructive composition towar one direction and a constructive towards opposite direction. Full destructive interference in one directions implies full constructive on the opposite one, rendering a unidirectional energy flow towards the constructive direction, and zero flow toward the other. However I can not visualize a simple mechanism to generate such system in a TL. Tridimensional examples are easily because RF or light source can be set very close to each other as in physics traditional ligth examples and render the interference pattern, but in a TL they need be in the same place: I managed to explain my idea? Give me a hand. (It is a pitty newsgroups do not have image capabilities)

I am studying your paper published in World Radio Oct 2005. Have you a demonstration of the equation cited fro "Optics" book => Pfor=Pi +P2+2[sqrt(P1P2)]cos(theta)?

73 - Miguel - LU6ETJ

2711. Re: HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 07:24:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni261p3.n7p.gsm@cable.mendelson.com>
Source record: 8711

Dave Platt wrote:
> This was originally a brand-name term for the Galvin (think
> "Motorola") SCR536 portable radio, introduced in 1940. The
> abbreviation "HT" has since been co-opted by hams (and perhaps others)
> to refer to almost any hand-held portable UHF/VHF radio.

While Handy-Talky was probably the most used brand name that Galvin used,
Motorola was so popular that they renamed the company to it.

Geoff.
--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
I do multitasking. If that bothers you, file a complaint and I will start
ignoring it immediately.

2712. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 07:53:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c230ef3$0$2592$65785112@news.neostrada.pl>
Source record: 8712

"K1TTT" <k1ttt@arrl.net> wrote
news:9d1e2bf8-35a2-400d-a969-67c0f766e718@r27g2000yqb.googlegroups.com...
On Jun 23, 8:12 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
> >> Is it possible to measure the netto current in the track
> >> ground-antenna?
> >sure.
>

>> " Transmitters for long and medium wave require good grounding and soil
>> of
>> high electrical conductivity. Locations at the sea or in river valleys
>> are
>> ideal, but the flood danger must be considered. Transmitters for UHF are
>> best on high mountains to improve the range ".
>

>no they don't... those types of transmitters work just fine in
airplanes with no soil available.

In the airplanes is the "chassis ground". The large metal surface is the
charge source. The surface exchanges charges with the air.

>>. Static electrical charge can build up to high
>> values, even at times of no thunderstorm activity, when such tall
>> structures
>> are insulated from ground."
>
>> Would be interesting to know the value of the DC current.
>
>> Do you agree that it is the field emission (loss of electrons)?

>loss of electrons maybe, but due to friction with particulates in the
atmosphere. also partly due to the fair weather electric field:
http://www.missioninstruments.com/pages/learning/elec_fields.html

In a short period of time the atmospheric conditions are similar.

I am asking for measurement of the netto current in the track
ground-antenna.
The two measurements: before and during transmitting in the same atmospheric
conditions.
S*

2713. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 08:38:21 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c231985$0$17093$65785112@news.neostrada.pl>
Source record: 8713

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote
news:hvtfs4cnj2@news.jpl.nasa.gov...
> Szczepan Bialek wrote:
>> "K1TTT" <k1ttt@arrl.net> wrote
>
>> So I look here: http://en.wikipedia.org/wiki/Warsaw_radio_mast
>>
>> "This technique works by applying a DC ground at a point of minimum
>> radiofrequency voltage, conducting static charge to ground without
>> diminishing the radio energy. Static electrical charge can build up to
>> high values, even at times of no thunderstorm activity, when such tall
>> structures are insulated from ground."
>>
>> Would be interesting to know the value of the DC current.
>>
>> Do you agree that it is the field emission (loss of electrons)?
>> S*
>
>
> No.. it's plain old corona discharge or triboelectric charging from
> particulates

"Static electrical charge can build up to high values".

It take place during transmmiting.
Without grounding do not work.

I simply want to know "the value of the DC current".

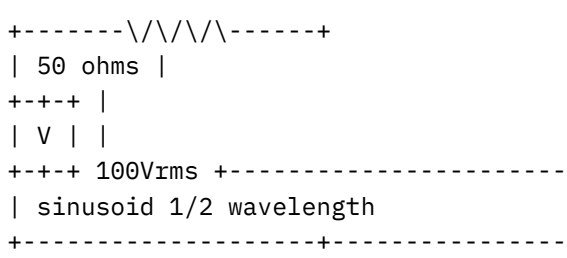
Do you know it in your station?
S*

2714. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 10:17:40 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <063b1324-fa35-4deb-ad10-a07706b3558a@d37g2000yqm.googlegroups.com>
Source record: 8714

On Jun 22, 10:45 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 22, 5:49 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > What puzzles me then, is how the “reflected power” knows
> > that in experiment 1, it should stay out of the generator
> > so that it is not dissipated in the source resistor
> > but in experiment 2, it should enter the circulator so
> > that it can be dissipated in the circulator load resistor.
>
> > Can you explain how the “reflected power” “knows”?
>
> Reflected "power" doesn't know anything. Reflected voltages and
> currents simply respond to the known laws of physics involving wave
> reflection and wave superposition, and obey the conservation of energy
> principle.
>
> In 1, it doesn't stay out of the generator. It is redistributed from
> the generator back toward the load by superposition associated with
> *destructive interference) which happens when two superposed coherent
> waves are between 90 deg and 180 deg out of phase. The entire
> experiment is set up in a perfect 50 ohm environment so power =
> V^2/50. What you guys are missing is that step which carries the
> energy along with the voltage, i.e. the voltage (and current) require
> a certain energy level which is being ignored.

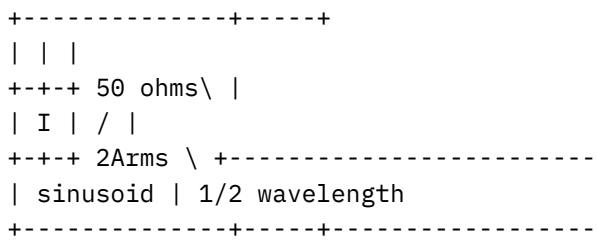
Continuing with experiment 1 and recalling its description:
- a sinusoidal generator that will produce 50W in to 50 ohms
- attach one half wavelength of transmission line
- leave the far end of the transmission line open
- the generator is constructed in the Thevenin style with a
voltage source and 50 ohm resistor
for greater certainty we can draw a schematic:



The result, as before, is 50W “reflected power”, 0W supplied by
the source and 0W dissipated in the source resistor. This you
explain as “redistribution towards the load by superposition
associated with destructive interference”.

Short the end of the transmission line. Now 100W is dissipated in the source resistor, but there is still 50W of “reflected power”. I assume you will suggest there is now “constructive interference”.

Replace the generator with one constructed in the Norton style:

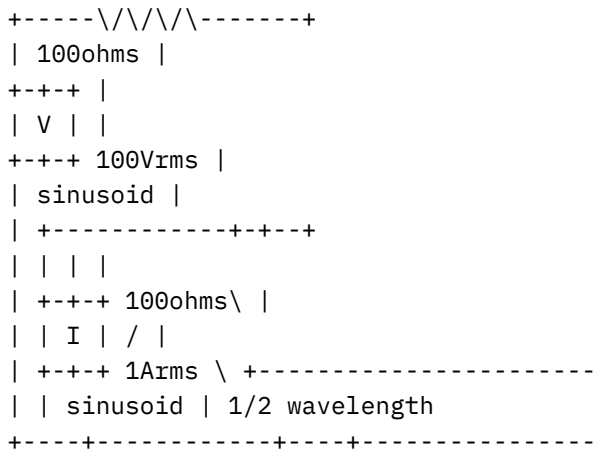


Now, as before, there is 50W “reflected power”, but the source is supplying 100W and the source resistor is dissipating 100W.

I assume you will claim that there is now “constructive interference” rather than the previous “destructive interference”, but the line conditions are the same. How does the “reflected power” know if it should construct or destroy? The phase is the same.

Apply the short at the end of the line. 0W are now dissipated in the source. “Destructive interference”? For some reason? The line conditions are the same.

Consider a generator constructed as below:



This generator has the interesting property that the power provided by the sources is constant at 100W, regardless of load.

The sources are supplying 100W, the source resistors are dissipating 100W, and the same 50W of “reflected energy” is “flowing” on the line.

Apply the short. 100W is being dissipated in the source. The line conditions are the same.

For this generator, the phase of the reflection does not appear to affect the kind of interference. Hmmm.

Now for each of the above experiments, remove the transmission line and attach the load directly to the generator output. In all cases the generator behaviour will be the same regardless of whether the half-wavelength line is present or not.

So it still seems to me that the accounting is much more dependant on the generator construction and the load applied to the generator terminals than it is on the presence of “reflected power” and constructive or destructive interference.

...Keith

2715. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 10:27:36 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <0bed472c-7019-4ba3-8968-01947ad91e95@t10g2000yqg.googlegroups.com>
Source record: 8715

On Jun 23, 10:06 pm, lu6etj <lu6...@gmail.com> wrote:
> On 22 jun, 11:45, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jun 22, 5:49 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > What puzzles me then, is how the “reflected power” knows
> > > that in experiment 1, it should stay out of the generator
> > > so that it is not dissipated in the source resistor
> > > but in experiment 2, it should enter the circulator so
> > > that it can be dissipated in the circulator load resistor.
>
> > > Can you explain how the “reflected power” “knows”?
>
> > Reflected "power" doesn't know anything. Reflected voltages and
> > currents simply respond to the known laws of physics involving wave
> > reflection and wave superposition, and obey the conservation of energy
> > principle.
>
> > In 1, it doesn't stay out of the generator. It is redistributed from
> > the generator back toward the load by superposition associated with
> > *destructive interference) which happens when two superposed coherent
> > waves are between 90 deg and 180 deg out of phase. The entire
> > experiment is set up in a perfect 50 ohm environment so power =
> > V^2/50. What you guys are missing is that step which carries the
> > energy along with the voltage, i.e. the voltage (and current) require
> > a certain energy level which is being ignored.
>
> > In 2, the source wave never encounters the reflected wave so there is
> > no superposition or interference at the source resistor.
>
> > You can add a couple of more configurations. Number 3 could be when
> > the interference between the source wave and the reflected wave occurs
> > and they are less than 90 deg out of phase. More power than the
> > average reflected power plus average load power will be dissipated in
> > the source resistor because of superposition associated with
> > *constructive interference*.
>
> > Number 4 could be the special case when the source wave and the
> > reflected wave are 90 degrees out of phase. This is the condition of
> > zero interference (neither destructive nor constructive) and 100% of

> > the average reflected power is dissipated in the source resistor. This
> > is the easiest case to understand because there are no reflections and
> > no interference.
> > --
> > 73, Cecil, w5dxp.com
>
> Dear Cecil:
>
> I understand you proposition about energy redistribution on
> reflections and constructive/destructive interference phenomena. It is
> easy to me understand tridimensional waves examples interfering on a
> surface, rendering strips of nulls and maximuns. In a TL I also
> understand interference must render -for example- a destructive
> composition towar one direction and a constructive towards opposite
> direction. Full destructive interference in one directions implies
> full constructive on the opposite one, rendering a unidirectional
> energy flow towards the constructive direction, and zero flow toward
> the other. However I can not visualize a simple mechanism to generate
> such system in a TL. Tridimensional examples are easily because RF or
> light source can be set very close to each other as in physics
> traditional ligth examples and render the interference pattern, but in
> a TL they need be in the same place: I managed to explain my idea?
> Give me a hand. (It is a pitty newsgroups do not have image
> capabilities)
>
> I am studying your paper published in World Radio Oct 2005. Have you a
> demonstration of the equation cited fro "Optics" book => Pfor=Pi
> +P2+2[sqrt(P1P2)]cos(theta)?

This equation is problematic. Firstly, it mixes power with voltage
since
theta is the angle between the voltage waveforms. As K1TTT said, "why
not just do the whole thing with voltages?" This mixing is bad form
and
clearly demonstrates the incompleteness of the power based analysis.

The second is that there are two solutions depending on whether the
positive or negative root is used? Why is one discarded? Is this
numerology at work?

Thirdly, it only produces the correct answer for average energy flows.
If the instantaneous energy flows are examined, the results using
this
equation do not align with observations.

...Keith

2716. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 13:32:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e2589821-34e0-45f4-9f7b-199013b1040b@w12g2000yqj.googlegroups.com>
Source record: 8716

On Jun 23, 9:06 pm, lu6etj <lu6...@gmail.com> wrote:
> However I can not visualize a simple mechanism to generate
> such system in a TL.

I have given the equations for what happens at an impedance discontinuity in a transmission line. The s-parameter equations are the same equations in a different format. Simply visualize the voltage phasors resulting from reflections-from and transmissions-through the impedance discontinuity. Let's start with voltages instead of power.

source------Z01=50 ohms------+------Z02=300 ohms--------load

measured Vfor1 = 50v, Vref1 = 0v
calculated rho1 = (300-50)/(300+50) = 0.7143

Vfor1*rho1 = 35.7v at zero degrees = portion of Vfor1 reflected by the impedance discontinuity at '+'.

Vref2*tau2 = 35.7v at 180 degrees = portion of Vref2 transmitted back through the impedance discontinuity at '+'.

Vref1 = Vfor*rho1 + Vref2*tau2 = 0, measured Vref1. This is the same as the s-parameter equation (1).

b1 = s11*a1 + s12*a2, all phasor math

These are the two voltage components that superpose to zero volts. Both of those wavefronts are phasors with phase angles referenced to the Vfor1 phase angle.

Now let's look at the power in the component phasor wavefronts.

(Vfor1)^2/Z01 = 50^2/50 = 50w, power in the Vfor1 forward wave

(Vref1)^2/Z01 = 0^2/50 = 0w, power in the Vref1 reflected wave

(Vfor1*rho1)^2/Z01 = 35.7^2/50 = 25.49w

(Vref2*tau2)^2/Z01 = 35.7^2/50 = 25.49w

Pref1 = 25.49w + 25.49w + 2*SQRT(25.49*25.49)cos(180)

The corresponding s-parameter power equation is:

b1^2 = (s11*a1 + s12*a2)^2

b1^2 = (s11*a1)^2 + (s12*a2)^2 + 2(s11*a1)(s12*a2)

The two wavefronts that cancel toward the source contain energy before they superpose to zero. Where does that energy go? Superposing to zero

indicates total destructive interference toward the source. The conservation of energy principle says that energy cannot be destroyed so it must appear as an equal magnitude of constructive interference in the only other direction possible, i.e. toward the load.

The above equations deal only with the destructive interference toward the source. There is a second complimentary set of voltage/energy equations that deal with constructive interference toward the load.

> I am studying your paper published in World Radio Oct 2005. Have you a
> demonstration of the equation cited fro "Optics" book => Pfor=Pi
> +P2+2[sqrt(P1P2)]cos(theta)?

See above.
--
73, Cecil, w5dxp.com

2717. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 13:42:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2fbe01c4-3632-4b36-8db7-30a595ef3479@d16g2000yqb.googlegroups.com>
Source record: 8717

On Jun 24, 5:17 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> I assume you will claim that there is now “constructive
> interference” rather than the previous “destructive interference”,
> but the line conditions are the same. How does the “reflected
> power” know if it should construct or destroy? The phase is the
> same.

That's easy to answer. The Norton equivalent is a current source so currents should be used in the calculations. The phase angles between the two current components are 180 degrees different from the phase angles between the two voltage components. If the interference between voltages is constructive, the interference between currents will be destructive. Hint: the reflected current phasor is 180 degrees out of phase with the reflected voltage phasor because of the direction of travel of the reflected wave. As a result of directional convention, the power in the reflected wave is negative.

So destructive interference for forward/reverse voltages is constructive interference for forward/reverse currents and vice versa. An SWR voltage maximum (constructive voltage interference) is an SWR current minimum (destructive current interference) and an SWR voltage minimum (destructive current interference) is an SWR current maximum (constructive voltage interference).
--
73, Cecil, w5dxp.com

2718. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 14:20:12 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <61633d5a-6534-4de5-a84c-5f8dcb10ebb1@w12g2000yqj.googlegroups.com>
Source record: 8718

On 24 jun, 10:32, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 23, 9:06 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > However I can not visualize a simple mechanism to generate
> > such system in a TL.
>
> I have given the equations for what happens at an impedance
> discontinuity in a transmission line. The s-parameter equations are
> the same equations in a different format. Simply visualize the voltage
> phasors resulting from reflections-from and transmissions-through the
> impedance discontinuity. Let's start with voltages instead of power.
>
> source------Z01=50 ohms------+------Z02=300 ohms--------load
>
> measured Vfor1 = 50v, Vref1 = 0v
> calculated rho1 = (300-50)/(300+50) = 0.7143
>
> Vfor1*rho1 = 35.7v at zero degrees = portion of Vfor1 reflected by the
> impedance discontinuity at '+'.
>
> Vref2*tau2 = 35.7v at 180 degrees = portion of Vref2 transmitted back
> through the impedance discontinuity at '+'.
>
> Vref1 = Vfor*rho1 + Vref2*tau2 = 0, measured Vref1. This is the same
> as the s-parameter equation (1).
>
> b1 = s11*a1 + s12*a2, all phasor math
>
> These are the two voltage components that superpose to zero volts.
> Both of those wavefronts are phasors with phase angles referenced to
> the Vfor1 phase angle.
>
> Now let's look at the power in the component phasor wavefronts.
>
> (Vfor1)^2/Z01 = 50^2/50 = 50w, power in the Vfor1 forward wave
>
> (Vref1)^2/Z01 = 0^2/50 = 0w, power in the Vref1 reflected wave
>
> (Vfor1*rho1)^2/Z01 = 35.7^2/50 = 25.49w
>
> (Vref2*tau2)^2/Z01 = 35.7^2/50 = 25.49w
>
> Pref1 = 25.49w + 25.49w + 2*SQRT(25.49*25.49)cos(180)
>

> The corresponding s-parameter power equation is:
>
> b1^2 = (s11*a1 + s12*a2)^2
>
> b1^2 = (s11*a1)^2 + (s12*a2)^2 + 2(s11*a1)(s12*a2)
>
> The two wavefronts that cancel toward the source contain energy before
> they superpose to zero. Where does that energy go? Superposing to zero
> indicates total destructive interference toward the source. The
> conservation of energy principle says that energy cannot be destroyed
> so it must appear as an equal magnitude of constructive interference
> in the only other direction possible, i.e. toward the load.
>
> The above equations deal only with the destructive interference toward
> the source. There is a second complimentary set of voltage/energy
> equations that deal with constructive interference toward the load.
>
> > I am studying your paper published in World Radio Oct 2005. Have you a
> > demonstration of the equation cited fro "Optics" book => Pfor=Pi
> > +P2+2[sqrt(P1P2)]cos(theta)?
>
> See above.
> --
> 73, Cecil, w5dxp.com

Oh, I'm so sorry Cecil, I should have written "However I can not
visualize a simple PHYSICAL mechanism/example to generate
such system in a TL". Anyway, your additional info it is very usefu to
me. Thanks.

Miguel

2719. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 14:39:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <48ade5dc-6f54-4a56-b1bb-a9e09c5de6db@z8g2000yqz.googlegroups.com>
Source record: 8719

On Jun 24, 5:27 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> This equation is problematic. Firstly, it mixes power with voltage
> since theta is the angle between the voltage waveforms.

You apparently don't understand what happens when one takes the dot product of two voltage phasors (and divides by Z0). The result is watts but the math involves the cosine of the angle between the two voltage phasors. All competent EEs should already know that.

> As K1TTT said, "why not just do the whole thing with voltages?"

Because the title of this thread is: "What happens to reflected energy?", not what happens to reflected voltages? Doing the whole thing with voltages allows the obfuscation of interference to be swept under the rug.

Because some of you guys don't recognize interference when it is staring you in face? I was taught to recognize interference between voltage phasors at Texas A&M in the 1950s. What happened to you guys? Here's a short lesson about dot products of voltage phasors and the resulting interference between the two voltages.

Vtot = V1*V2

Vtot^2 = (V1*V2)^2

Vtot^2/Z0 watts = (V1*V2)^2/Z0 watts

There will be the two obvious power terms, V1^2/Z0 and V2^2/Z0, representing the powers in the individual waves before superposition. There will be a third, additional interference term whose dimension is watts that *requires the dot product* between the two phasor voltages. Therefore, your objection is apparently just based on ignorance of the dot product of two voltage phasors.

> This mixing is bad form and
> clearly demonstrates the incompleteness of the power based analysis.

Good grief! This "bad form" has been honored in the field of optical physics for at least a century. It was taught in EE courses 60 years ago. I don't know what has happened in the meantime. Walter Maxwell explains interference in section 4.3 in "Reflections" and obviously understands the role of interference in the redistribution of energy.

> The second is that there are two solutions depending on whether the
> positive or negative root is used? Why is one discarded? Is this
> numerology at work?

Negative power is just a convention for "negative" direction of energy flow. All EEs are taught in our engineering courses to ignore the imiginary root when calculating resistance, energy, or power.

For instance, the Z0 for the 1/4WL matching section between R1 and R2 needs to be SQRT(R1*R2). When you perform that math function, do you really go on a world-wide search demanding a transmssion line with a negative Z0? Please get real.

> Thirdly, it only produces the correct answer for average energy flows.
> If the instantaneous energy flows are examined, the results using
> this equation do not align with observations.

You forgot to add that instantaneous energy is as useless as tits on a boar hog, or as Hecht said, putting it mildly: "of limited utility". It appears to me that instantaneous energy is just a mathematical artifact inside a process requiring integration in order to bear any resemblence to reality. Omit the integration and the process loses touch with reality. Instantaneous energy has zero area under the curve until the intergration process has been performed. A zero area represents zero energy. Otherwise, when you integrate from zero to infinity, the result would be infinite energy.

Do you have any kind of reference for your treatment of instantaneous power?
--
73, Cecil, w5dxp.com

2720. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 15:25:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <94df1dfc-4474-4401-92d3-952357e9c92f@e5g2000yqn.googlegroups.com>
Source record: 8720

On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
> Oh, I'm so sorry Cecil, I should have written "However I can not
> visualize a simple PHYSICAL mechanism/example to generate
> such system in a TL". Anyway, your additional info it is very useful to
> me. Thanks.

The physical mechanism is the Z01==>Z02 impedance discontinuity with
its associated reflection coefficient, rho. We can see that reflection
on a TDR so it is indeed a PHYSICAL mechanism.
--
73, Cecil, w5dxp.com

2721. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 17:37:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e3ec9d5c-69fc-438f-b408-93bcd3d3476a@r27g2000yqb.googlegroups.com>
Source record: 8721

On Jun 24, 9:39 am, Cecil Moore <w5...@hotmail.com> wrote:
> Vtot^2/Z0 watts = (V1*V2)^2/Z0 watts
>
> There will be the two obvious power terms, V1^2/Z0 and V2^2/Z0,

Sorry, I lost my train-of-thought here and changed horses in mid-
stream. All I was trying to illustrate is that the dot product of two
voltage phasors divided by Z0 has the dimensions of watts and contains
the cos(A) term. Again, my apology for wandering off the logical path.
--
73, Cecil, w5dxp.com

2722. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 18:34:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i008f6$q0c$1@news.jpl.nasa.gov>
Source record: 8722

Szczepan Bialek wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> wrote
> news:hvtfs4cnj2@news.jpl.nasa.gov...
>> Szczepan Bialek wrote:
>>> "K1TTT" <k1ttt@arrl.net> wrote
>>> So I look here: http://en.wikipedia.org/wiki/Warsaw_radio_mast
>>>
>>> "This technique works by applying a DC ground at a point of minimum
>>> radiofrequency voltage, conducting static charge to ground without
>>> diminishing the radio energy. Static electrical charge can build up to
>>> high values, even at times of no thunderstorm activity, when such tall
>>> structures are insulated from ground."
>>>
>>> Would be interesting to know the value of the DC current.
>>>
>>> Do you agree that it is the field emission (loss of electrons)?
>>> S*
>>
>> No.. it's plain old corona discharge or triboelectric charging from
>> particulates
>
> "Static electrical charge can build up to high values".
>
> It take place during transmmiting.
> Without grounding do not work.
>
> I simply want to know "the value of the DC current".
>

Would that be the so-called "fair weather current" about 1 pA/square meter?

Obviously, a big metal tower is going to perturb the local field, so a
tower with a cross section of 1 square meter is going to have a current
a lot bigger than 1pA.

But probably not microamps.

OTOH, a big tower could have substantial capacitance to ground.. I don't
recall off hand what the capacitance of a isolated cylinder is..
I seem to recall that for a rod with length>>diameter, it's something
like 50pF/meter.

So, a 100 m tower will be 5000 pF.

Say the current is 1000 pA.

In one second, the voltage would be 1E-9/5E-9 = 0.2V

In a minute, 30V
In 10 minutes, 300V..

etc

Probably not enough to charge to voltages quickly enough to be a problem.

Tribocharging from dust and other particulates blowing in the wind is a
LOT faster and a bigger problem.

2723. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 20:54:50 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b57dcafb-edae-4772-85b4-76007a4b9f5d@k39g2000yqb.googlegroups.com>
Source record: 8723

On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > Oh, I'm so sorry Cecil, I should have written "However I can not
> > visualize a simple PHYSICAL mechanism/example to generate
> > such system in a TL". Anyway, your additional info it is very useful to
> > me. Thanks.
>
> The physical mechanism is the Z01==>Z02 impedance discontinuity with
> its associated reflection coefficient, rho. We can see that reflection
> on a TDR so it is indeed a PHYSICAL mechanism.
> --
> 73, Cecil, w5dxp.com

don't forget the OTHER physical mechanism that is necessary,
superposition... the ability to add voltages, currents, and fields in
linear circuits and media.

2724. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 20:56:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ab367ffc-871b-43df-b515-505b3aaaa141@w12g2000yqj.googlegroups.com>
Source record: 8724

On Jun 24, 7:53 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:9d1e2bf8-35a2-400d-a969-67c0f766e718@r27g2000yqb.googlegroups.com...
> On Jun 23, 8:12 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > >> Is it possible to measure the netto current in the track
> > >> ground-antenna?
> > >sure.
>
> >> " Transmitters for long and medium wave require good grounding and soil
> >> of
> >> high electrical conductivity. Locations at the sea or in river valleys
> >> are
> >> ideal, but the flood danger must be considered. Transmitters for UHF are
> >> best on high mountains to improve the range ".
>
> >no they don't... those types of transmitters work just fine in
>
> airplanes with no soil available.
>
> In the airplanes is the "chassis ground". The large metal surface is the
> charge source. The surface exchanges charges with the air.

not nearly large enough, nor necessary.

>
> >>. Static electrical charge can build up to high
> >> values, even at times of no thunderstorm activity, when such tall
> >> structures
> >> are insulated from ground."
>
> >> Would be interesting to know the value of the DC current.
>
> >> Do you agree that it is the field emission (loss of electrons)?
> >loss of electrons maybe, but due to friction with particulates in the
>
> atmosphere. also partly due to the fair weather electric
field:http://www.missioninstruments.com/pages/learning/elec_fields.html
>
> In a short period of time the atmospheric conditions are similar.
>
> I am asking for measurement of the netto current in the track
> ground-antenna.

> The two measurements: before and during transmitting in the same atmospheric
> conditions.
> S*

net current = 0.

2725. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-24 20:57:43 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a1f605e2-04da-4f7b-b9df-a65d3b3c13ff@c33g2000yqm.googlegroups.com>
Source record: 8725

On Jun 24, 8:38 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Jim Lux" <james.p....@jpl.nasa.gov> wrotenews:hvtfs4cnj2@news.jpl.nasa.gov...
>
>
>
> > Szczepan Bialek wrote:
> >> "K1TTT" <k1...@arrl.net> wrote
>
> >> So I look here:http://en.wikipedia.org/wiki/Warsaw_radio_mast
>
> >> "This technique works by applying a DC ground at a point of minimum
> >> radiofrequency voltage, conducting static charge to ground without
> >> diminishing the radio energy. Static electrical charge can build up to
> >> high values, even at times of no thunderstorm activity, when such tall
> >> structures are insulated from ground."
>
> >> Would be interesting to know the value of the DC current.
>
> >> Do you agree that it is the field emission (loss of electrons)?
> >> S*
>
> > No.. it's plain old corona discharge or triboelectric charging from
> > particulates
>
> "Static electrical charge can build up to high values".
>
> It take place during transmmiting.
> Without grounding do not work.
>
> I simply want to know "the value of the DC current".
>
> Do you know it in your station?
> S*

there is no static build up while transmitting from an antenna
isolated from ground. easily measured and proved here every day.

2726. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 00:25:30 UTC
From: tom <news4792@taring.org>
Message-ID: <4c23f777$0$50147$8046368a@newsreader.iphouse.net>
Source record: 8726

On 6/24/2010 3:56 PM, K1TTT wrote:
> On Jun 24, 7:53 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>> Do you agree that it is the field emission (loss of electrons)?
>>> loss of electrons maybe, but due to friction with particulates in the
>>
>> atmosphere. also partly due to the fair weather electric
field:http://www.missioninstruments.com/pages/learning/elec_fields.html
>>
>> In a short period of time the atmospheric conditions are similar.
>>
>> I am asking for measurement of the netto current in the track
>> ground-antenna.
>> The two measurements: before and during transmitting in the same atmospheric
>> conditions.
>> S*
>
> net current = 0.
>

He has yet to wonder how satellites could transmit very long. After
all, there would come a point in time where the charge would be so high
on the vacuum insulated satellite that it could perform his field
emission any longer.

It should be easy to observe as the signal strength would decrease with
time. I haven't noticed that effect myself, nor has anyone else.

tom
K0TAR

2727. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 00:39:50 UTC
From: tom <news4792@taring.org>
Message-ID: <4c23fad3$0$50145$8046368a@newsreader.iphouse.net>
Source record: 8727

```
On 6/24/2010 7:25 PM, tom wrote:
> On 6/24/2010 3:56 PM, K1TTT wrote:
>> On Jun 24, 7:53 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>>> Do you agree that it is the field emission (loss of electrons)?
>>>> loss of electrons maybe, but due to friction with particulates in the
>>>
>>> atmosphere. also partly due to the fair weather electric
>>> field:http://www.missioninstruments.com/pages/learning/elec_fields.html
>>>
>>> In a short period of time the atmospheric conditions are similar.
>>>
>>> I am asking for measurement of the netto current in the track
>>> ground-antenna.
>>> The two measurements: before and during transmitting in the same
>>> atmospheric
>>> conditions.
>>> S*
>>
>> net current = 0.
>>
>
> He has yet to wonder how satellites could transmit very long. After all,
> there would come a point in time where the charge would be so high on
> the vacuum insulated satellite that it could perform his field emission

Oops should read "could NOT perform".

tom
K0TAR
```

2728. Re: HT radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 01:31:01 UTC
From: david <none@nospam.com>
Message-ID: <i010sl$i7j$1@news.eternal-september.org>
Source record: 8728

On Wed, 23 Jun 2010 23:04:05 +0200, Helmut Wabnig rearranged some
electrons to say:

> What does HT mean in "HT radio"
>
> What do the 2 letters stand for?
>
> Obviously the expression describes hand held radios, but I cannot find
> an explanation.
>
> thanks,
> w.

handheld transceiver

2729. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 01:39:45 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <91ab4680-b27b-4b86-9215-52085150ffee@d16g2000yqb.googlegroups.com>
Source record: 8729

On Jun 24, 9:42 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 24, 5:17 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > I assume you will claim that there is now “constructive
> > interference” rather than the previous “destructive interference”,
> > but the line conditions are the same. How does the “reflected
> > power” know if it should construct or destroy? The phase is the
> > same.
>
> That's easy to answer. The Norton equivalent is a current source so
> currents should be used in the calculations. The phase angles between
> the two current components are 180 degrees different from the phase
> angles between the two voltage components. If the interference between
> voltages is constructive, the interference between currents will be
> destructive. Hint: the reflected current phasor is 180 degrees out of
> phase with the reflected voltage phasor because of the direction of
> travel of the reflected wave. As a result of directional convention,
> the power in the reflected wave is negative.
>
> So destructive interference for forward/reverse voltages is
> constructive interference for forward/reverse currents and vice versa.
> An SWR voltage maximum (constructive voltage interference) is an SWR
> current minimum (destructive current interference) and an SWR voltage
> minimum (destructive current interference) is an SWR current maximum
> (constructive voltage interference).

Very inventive. And the wave just knows the difference between the
50ohm
generator that is constructed in the Thevenin style and the 50ohm
generator constructed in the Norton style. Amazing waves.

And now the explanation for the mixed constant power mixed Thevenin/
Norton
generator is ...?

...Keith

2730. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 01:58:26 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <c6965953-1399-4979-881d-4fc252bf92b3@x27g2000yqb.googlegroups.com>
Source record: 8730

On Jun 24, 10:39 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 24, 5:27 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > This equation is problematic. Firstly, it mixes power with voltage
> > since theta is the angle between the voltage waveforms.
>
> You apparently don't understand what happens when one takes the dot
> product of two voltage phasors (and divides by Z0). The result is
> watts but the math involves the cosine of the angle between the two
> voltage phasors. All competent EEs should already know that.
>
> > As K1TTT said, "why not just do the whole thing with voltages?"
>
> Because the title of this thread is: "What happens to reflected
> energy?", not what happens to reflected voltages? Doing the whole
> thing with voltages allows the obfuscation of interference to be swept
> under the rug.
>
> Because some of you guys don't recognize interference when it is
> staring you in face? I was taught to recognize interference between
> voltage phasors at Texas A&M in the 1950s. What happened to you guys?
> Here's a short lesson about dot products of voltage phasors and the
> resulting interference between the two voltages.
>
> Vtot = V1*V2
>
> Vtot^2 = (V1*V2)^2
>
> Vtot^2/Z0 watts = (V1*V2)^2/Z0 watts
>
> There will be the two obvious power terms, V1^2/Z0 and V2^2/Z0,
> representing the powers in the individual waves before superposition.
> There will be a third, additional interference term whose dimension is
> watts that *requires the dot product* between the two phasor voltages.
> Therefore, your objection is apparently just based on ignorance of the
> dot product of two voltage phasors.
>
> > This mixing is bad form and
> > clearly demonstrates the incompleteness of the power based analysis.
>
> Good grief! This "bad form" has been honored in the field of optical
> physics for at least a century. It was taught in EE courses 60 years
> ago. I don't know what has happened in the meantime. Walter Maxwell
> explains interference in section 4.3 in "Reflections" and obviously

> understands the role of interference in the redistribution of energy.
>
> > The second is that there are two solutions depending on whether the
> > positive or negative root is used? Why is one discarded? Is this
> > numerology at work?
>
> Negative power is just a convention for "negative" direction of energy
> flow.

Still does not explain why you choose only the positive root.
Especially when you let the result be negative as a consequence
of cos(theta).

> All EEs are taught in our engineering courses to ignore the
> imiginary root when calculating resistance, energy, or power.
> For instance, the Z0 for the 1/4WL matching section between R1 and R2
> needs to be SQRT(R1*R2). When you perform that math function, do you
> really go on a world-wide search demanding a transmssion line with a
> negative Z0? Please get real.
>
> > Thirdly, it only produces the correct answer for average energy flows.
> > If the instantaneous energy flows are examined, the results using
> > this equation do not align with observations.
>
> You forgot to add that instantaneous energy is as useless as tits on a
> boar hog, or as Hecht said, putting it mildly: "of limited utility".

I always get a chuckle when you write this. It makes me think of a
kid,
who, upon being told that he can not have his favourite dessert until
he finishes his brussel sprouts, declares that he has always hated
that dessert.

You might study why the real power folk prefer three phase to single.
It all has to do with instantaneous power.

Might not make a difference for light, but it sure helps the
understanding at RF and lower.

And your analysis still only produces the correct answers for the
average and still gets the instantaneous wrong. I do see the benefit
of repeating "of limited utility".

> It appears to me that instantaneous energy is just a mathematical
> artifact inside a process requiring integration in order to bear any
> resemblence to reality. Omit the integration and the process loses
> touch with reality. Instantaneous energy has zero area under the curve
> until the intergration process has been performed. A zero area
> represents zero energy. Otherwise, when you integrate from zero to
> infinity, the result would be infinite energy.
>
> Do you have any kind of reference for your treatment of instantaneous

> power?

As I suggested above, have a look at the benefit of three phase over single.

...Keith

2731. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 01:59:31 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <15bb7dff-79e0-48df-8a67-7bf0a393bf22@j8g2000yqd.googlegroups.com>
Source record: 8731

On Jun 24, 11:25 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > Oh, I'm so sorry Cecil, I should have written "However I can not
> > visualize a simple PHYSICAL mechanism/example to generate
> > such system in a TL". Anyway, your additional info it is very useful to
> > me. Thanks.
>
> The physical mechanism is the Z01==>Z02 impedance discontinuity with
> its associated reflection coefficient, rho. We can see that reflection
> on a TDR so it is indeed a PHYSICAL mechanism.

But then what explains the reflection at the generator that presents
Z0
to the line?

...Keith

2732. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 07:13:26 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <6461531a-970d-4c9b-b827-f6779210d3ff@q12g2000yqj.googlegroups.com>
Source record: 8732

On 24 jun, 12:25, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > Oh, I'm so sorry Cecil, I should have written "However I can not
> > visualize a simple PHYSICAL mechanism/example to generate
> > such system in a TL". Anyway, your additional info it is very useful to
> > me. Thanks.
>
> The physical mechanism is the Z01==>Z02 impedance discontinuity with
> its associated reflection coefficient, rho. We can see that reflection
> on a TDR so it is indeed a PHYSICAL mechanism.
> --
> 73, Cecil, w5dxp.com

Hello Cecil. I will try another translation because I think I could
not explain well my question.
We can see energy maximuns and nulls with simple experiments with
light. We set a double slits experiment and we see light flowing in
same direction reinforcing and cancellating in maximuns and minimuns
on screen. You name it "redistribution", the energy "dissapearing"
from nulls reappears on maximuns (Sorry, I use this horrifying light
example too because physics books have such unhealthy trend to explain
wave interference)
In a TL, instead, total destructive interference in one point would
mean energy stop flowing from that point forwards (is it OK say
"forwards"?) and reverse its flow direction doubling his value, is it
OK?. You name it "redistribution" too, not reflection. Well, my
question was how we can set (devise) an experiment to get such
behaviour in a TL? We need add (or put) in this point a source of
energy to make the interference (the second slit light source from the
light example, or the other front wave in a diffraction example), how
to, here?. Light experiments is easy because we put both independent
coherent light sources near each other illuminating the screen but
here I can not visualize how put them. I hope I was explain better my
question.

73 Miguel

2733. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 07:24:31 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2459b4$0$17087$65785112@news.neostrada.pl>
Source record: 8733

"K1TTT" <k1ttt@arrl.net> wrote
news:a1f605e2-04da-4f7b-b9df-a65d3b3c13ff@c33g2000yqm.googlegroups.com...
On Jun 24, 8:38 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> I simply want to know "the value of the DC current".
>
>> Do you know it in your station?

>there is no static build up while transmitting from an antenna
isolated from ground. easily measured and proved here every day.

See; http://en.wikipedia.org/wiki/Ground_(electricity)
" In electronic circuit theory, a "ground" is usually idealized as an
infinite source or sink for charge, which can absorb an unlimited amount of
current without changing its potential."

"The use of the term ground (or earth) is so common in electrical and
electronics applications that circuits in portable electronic devices such
as cell phones and media players as well as circuits in vehicles such as
ships, aircraft, and spacecraft may be spoken of as having a "ground"
connection without any actual connection to the Earth. This is usually a
large conductor attached to one side of the power supply (such as the
"ground plane" on a printed circuit board) which serves as the common return
path for current from many different components in the circuit."

" no static build up while transmitting " because your station has ground.
S*

2734. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 07:44:28 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c245e62$0$19171$65785112@news.neostrada.pl>
Source record: 8734

"tom" <news4792@taring.org> wrote
news:4c23f777$0$50147$8046368a@newsreader.iphouse.net...
> On 6/24/2010 3:56 PM, K1TTT wrote:
>> On Jun 24, 7:53 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>
>>> I am asking for measurement of the netto current in the track
>>> ground-antenna.
>>> The two measurements: before and during transmitting in the same
>>> atmospheric
>>> conditions.
>>> S*
>>
>> net current = 0.
>>
>
> He has yet to wonder how satellites could transmit very long. After all,
> there would come a point in time where the charge would be so high on the
> vacuum insulated satellite

"The use of the term ground (or earth) is so common in electrical and
electronics applications that circuits in portable electronic devices such
as cell phones and media players as well as circuits in vehicles such as
ships, aircraft, and spacecraft may be spoken of as having a "ground"
connection without any actual connection to the Earth. This is usually a
large conductor attached to one side of the power supply (such as the
"ground plane" on a printed circuit board) which serves as the common return
path for current from many different components in the circuit."

>that it could perform his field emission any longer.

In the vacuum is the rare plasma. The are free charges.

> It should be easy to observe as the signal strength would decrease with
> time. I haven't noticed that effect myself, nor has anyone else.

Are you sure?
Each ground must be large enough. Engineers know what to do.
Sometimes they water the ground area.

In the space the chassis must be large enough.
S*

2735. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 07:46:26 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <00847243-f751-4e0a-8afa-0d52a7539555@z10g2000yqb.googlegroups.com>
Source record: 8735

On 24 jun, 17:54, K1TTT <k1...@arrl.net> wrote:
> On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > Oh, I'm so sorry Cecil, I should have written "However I can not
> > > visualize a simple PHYSICAL mechanism/example to generate
> > > such system in a TL". Anyway, your additional info it is very useful to
> > > me. Thanks.
>
> > The physical mechanism is the Z01==>Z02 impedance discontinuity with
> > its associated reflection coefficient, rho. We can see that reflection
> > on a TDR so it is indeed a PHYSICAL mechanism.
> > --
> > 73, Cecil, w5dxp.com
>
> don't forget the OTHER physical mechanism that is necessary,
> superposition... the ability to add voltages, currents, and fields in
> linear circuits and media.

I mentioned same comment in another post. We use superposition
principle in two different contexts. Superposition theorem in circuit
theory, and wave superposition. Wave (traveling) superposition deals
with f(t,x,y,z) and usually with puntual magnitudes, E, H, D, B, etc)
while circuit theory deals with a subset f(t) phenomena and with
integrated magnitudes (V, I). Sometimes that becomes a confused
issue :)

Miguel

2736. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 07:57:40 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c24617a$0$17092$65785112@news.neostrada.pl>
Source record: 8736

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote
news:i008f6$q0c$1@news.jpl.nasa.gov...
> Szczepan Bialek wrote:
>>
>> "Static electrical charge can build up to high values".
>>
>> It take place during transmmiting.
>> Without grounding do not work.
>>
>> I simply want to know "the value of the DC current".
>
> Would that be the so-called "fair weather current" about 1 pA/square
> meter?

It is flowing all the time. We are interesting in the transmissing time.

> Obviously, a big metal tower is going to perturb the local field, so a
> tower with a cross section of 1 square meter is going to have a current a
> lot bigger than 1pA.
>
> But probably not microamps.
>
> OTOH, a big tower could have substantial capacitance to ground.. I don't
> recall off hand what the capacitance of a isolated cylinder is..
> I seem to recall that for a rod with length>>diameter, it's something like
> 50pF/meter.
>
> So, a 100 m tower will be 5000 pF.
>
> Say the current is 1000 pA.
>
> In one second, the voltage would be 1E-9/5E-9 = 0.2V
>
> In a minute, 30V
> In 10 minutes, 300V..
>
> etc

It is a free energy .
>
> Probably not enough to charge to voltages quickly enough to be a problem.
>
> Tribocharging from dust and other particulates blowing in the wind is a
> LOT faster and a bigger problem.

It works in the both directions. Charged tower lose charges.
S*

2737. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 11:30:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d49d481a-48ad-48db-ba25-afb09b13c701@j4g2000yqh.googlegroups.com>
Source record: 8737

On Jun 25, 7:46 am, lu6etj <lu6...@gmail.com> wrote:
> On 24 jun, 17:54, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > Oh, I'm so sorry Cecil, I should have written "However I can not
> > > > visualize a simple PHYSICAL mechanism/example to generate
> > > > such system in a TL". Anyway, your additional info it is very useful to
> > > > me. Thanks.
>
> > > The physical mechanism is the Z01==>Z02 impedance discontinuity with
> > > its associated reflection coefficient, rho. We can see that reflection
> > > on a TDR so it is indeed a PHYSICAL mechanism.
> > > --
> > > 73, Cecil, w5dxp.com
>
> > don't forget the OTHER physical mechanism that is necessary,
> > superposition... the ability to add voltages, currents, and fields in
> > linear circuits and media.
>
> I mentioned same comment in another post. We use superposition
> principle in two different contexts. Superposition theorem in circuit
> theory, and wave superposition. Wave (traveling) superposition deals
> with f(t,x,y,z) and usually with puntual magnitudes, E, H, D, B, etc)
> while circuit theory deals with a subset f(t) phenomena and with
> integrated magnitudes (V, I). Sometimes that becomes a confused
> issue :)
>
> Miguel

NO, superposition is always the same. it is the linear addition of
currents or fields in a linear media. it works the same for circuits
as for em waves.

the big problem are the people who confuse the formulas for adding
powers with adding fields or currents/voltages and forget the phase
terms.

the other big problem is keith who seems to want to separate his waves
into separate time and space variables and leaves out the requirement
that wave functions must be dependent on both space AND time.

basically any solution to the wave equations derived from maxwell's laws must be of the form f(t-x/v). this leads him to the erroneous conclusions he gets from trying to compare his batteries to wave propagation. this is the same problem people have with standing waves, they have separate dependence on t and x, so they can't travel and can't transport energy.

2738. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 11:34:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <00b7816f-df2c-4aad-a047-47f713ca67ba@a30g2000yqn.googlegroups.com>
Source record: 8738

On Jun 25, 7:24 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:a1f605e2-04da-4f7b-b9df-a65d3b3c13ff@c33g2000yqm.googlegroups.com...
> On Jun 24, 8:38 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> I simply want to know "the value of the DC current".
>
> >> Do you know it in your station?
> >there is no static build up while transmitting from an antenna
>
> isolated from ground. easily measured and proved here every day.
>
> See;http://en.wikipedia.org/wiki/Ground_(electricity)
> " In electronic circuit theory, a "ground" is usually idealized as an
> infinite source or sink for charge, which can absorb an unlimited amount of
> current without changing its potential."
>
> "The use of the term ground (or earth) is so common in electrical and
> electronics applications that circuits in portable electronic devices such
> as cell phones and media players as well as circuits in vehicles such as
> ships, aircraft, and spacecraft may be spoken of as having a "ground"
> connection without any actual connection to the Earth. This is usually a
> large conductor attached to one side of the power supply (such as the
> "ground plane" on a printed circuit board) which serves as the common return
> path for current from many different components in the circuit."
>
> " no static build up while transmitting " because your station has ground.
> S*

you are almost as much fun as art with his magical levitating
neutrinos.

no, i have antennas that are isolated from ground. they are fed
through a capacitor that prevents the charge from flowing to ground
and they do not get charged over time. i know this because when a
thunderstorm is nearby they build up enough charge to arc over the
capacitor. if there was charge being constantly emitted when they are
transmitting the capacitor would arc all the time.

2739. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 12:00:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6d57b2b0-a6ea-4133-9119-9bf8b0be3d05@x27g2000yqb.googlegroups.com>
Source record: 8739

On Jun 24, 8:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Very inventive. And the wave just knows the difference between the
> 50ohm
> generator that is constructed in the Thevenin style and the 50ohm
> generator constructed in the Norton style. Amazing waves.

Repeating myself - it is not necessary for you to imagine magical smart waves. Ignorant people invent magic and metaphysics to explain away their ignorance. All you need to do is to alleviate your ignorance concerning the laws of physics which those ordinary EM waves are obeying. *Externally*, it doesn't matter whether you use voltage superposition, current superposition, or EM field superposition - the results are identical. Every EE professor I ever had warned me about trying to look inside a Thevenin or Norton source at the power dissipation in the source resistor. For instance, their internal dissipations are exactly opposite for shorts and opens so exactly why should you expect the internal interference levels to be the same? When the Thevenin source is dissipating all the power inside the source from being connected to a *short-circuit*, it is experiencing total constructive interference. When the Norton source is dissipating all the power inside the source from being connected to an *open-circuit*, it is experiencing total constructive interference - opposite external conditions causing exactly the same phenomenon inside the two source boxes.

> And now the explanation for the mixed constant power mixed Thevenin/
> Norton generator is ...?

Neither the Thevenin equivalent source nor the Notron equivalent source is "constant power". The Thevenin equivalent source is a constant voltage source with a series source resistor and the Norton equivalent source is a constant current source with a shunt source resistor. A constant power source is conceivable but it would either need a circulator plus load, have a pretty sophisticated feedback system, or be driving an ideal instantaneous antenna tuner.
--
73, Cecil, w5dxp.com

2740. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 12:24:34 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <998fc844-4fe9-4103-b648-097fb534d031@x21g2000yqa.googlegroups.com>
Source record: 8740

On Jun 24, 8:58 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Still does not explain why you choose only the positive root.

Of course it does. In the power density equation, choosing the
negative root would lead to a violation of the conservation of energy
principle. When one of the roots is obviously impossible in reality, a
rational person chooses the other root.

> You might study why the real power folk prefer three phase to single.
> It all has to do with instantaneous power.

I am a "real power folk", Keith. My first EE degree was in power
generation and transmission. Three-phase puts less stress on the
system by eliminating the hills and valleys in the energy flow common
with traveling waves. But why do you believe that three-phase power
transmission is relevant to ham radio? Are you running three-phase RF?

Maxwell's equations don't even work for your mashed-potatoes version
of energy. That should tell you something.
--
73, Cecil, w5dxp.com

2741. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 12:37:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <035f26b9-34fe-468f-95cd-8339c38e457f@q12g2000yqj.googlegroups.com>
Source record: 8741

On Jun 24, 8:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> But then what explains the reflection at the generator that presents
> Z0 to the line?

Your error is in assuming it is a reflection. It is NOT a reflection which, by definition, involves one wave. It is a redistribution of energy due to superposition which, by definition, involves two or more waves. In a system designed to eliminate reflections at the source, ALL of the redistribution of reflected energy back toward the load is due to superposition accompanied by interference. From the FSU web site:

"... when two waves of equal amplitude and wavelength that are 180-degrees ... out of phase with each other meet, they are not actually annihilated, ... All of the ... energy present in these waves must somehow be recovered or redistributed in a new direction, according to the law of energy conservation ..."

Nothing said about *reflection* (involving a single wave). It is all about the meeting (superposition) of two waves which can cause the redistribution of energy. It may look somewhat like a reflection but it is technically NOT a reflection.
--
73, Cecil, w5dxp.com

2742. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 13:00:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3370fe76-a1a2-4110-a7cf-b9d81f215a2d@j4g2000yqh.googlegroups.com>
Source record: 8742

On Jun 25, 2:13 am, lu6etj <lu6...@gmail.com> wrote:
> In a TL, instead, total destructive interference in one point would
> mean energy stop flowing from that point forwards (is it OK say
> "forwards"?) and reverse its flow direction doubling his value, is it
> OK?.

In our ham transmission line systems, the goal is to accomplish total destructive interference toward the source, i.e. zero reflected energy incident upon the source. So let's talk about destructive interference toward the source and constructive interference toward the load.

> You name it "redistribution" too, not reflection.

By definition, reflection is something that happens to a single wave. By definition, superposition involves two or more waves. The redistribution that I am talking about can include both reflection and superposition if both are present. Depending upon the system configuration, both may be present, both may be absent, or one exist without the other.

> Well, my
> question was how we can set (devise) an experiment to get such
> behaviour in a TL?

I've presented it before and it is a simple Z0-match involving a 1/4WL matching section.

50w-----50 ohm------+------1/4WL 300 ohm------1800 ohm load

On the source side, rho at '+' is 0.7143

Using a TDR, we can verify that there is indeed a reflection from the 50/300 ohm impedance discontinuity. What happens to that reflection during steady-state?

What happens to Vfor1(rho) = 50v(0.7143) = 35.7v?

What happens to Pfor1(rho^2) = 50w(0.51) = 25.5w?
--
73, Cecil, w5dxp.com

2743. Re: Ringo Ranger 2Mtr on 6Mtr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 13:16:28 UTC
From: ON3XXX <no.mail@th.is>
Message-ID: <R_1Vn.45507$tH4.43306@hurricane>
Source record: 8743

"Dick" <aa5vu@nospam.arrl.net> schreef in bericht
news:aa5vu-82CC35.08430320062010@5ad64b5e.bb.sky.com...
> In article <aa5vu-1E5E4C.08320220062010@5ad64b5e.bb.sky.com>,
> Dick <aa5vu@nospam.arrl.net> wrote:
> It was a good idea that DID NOT work. The SWR as shown
> on rig's s-meter was terrible and I could tell it was not hearing
> as well as the fan dipole.

No luck this time doesn't mean always bad luck.
I've tried my 6M ECO vertical antenna on 20M with succes. VSWR is ok by
tuning just a bit and on BPKS31 it works outstanding.

73's de ON3xXx
Rudi

2744. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 17:06:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c24e238$0$2594$65785112@news.neostrada.pl>
Source record: 8744

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:00b7816f-df2c-4aad-a047-47f713ca67ba@a30g2000yqn.googlegroups.com...
On Jun 25, 7:24 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> See; http://en.wikipedia.org/wiki/Ground_(electricity)
>> " In electronic circuit theory, a "ground" is usually idealized as an
> infinite source or sink for charge, which can absorb an unlimited amount
> of
> current without changing its potential."
>
>> "The use of the term ground (or earth) is so common in electrical and
> electronics applications that circuits in portable electronic devices such
> as cell phones and media players as well as circuits in vehicles such as
> ships, aircraft, and spacecraft may be spoken of as having a "ground"
> connection without any actual connection to the Earth. This is usually a
> large conductor attached to one side of the power supply (such as the
> "ground plane" on a printed circuit board) which serves as the common
> return
>> path for current from many different components in the circuit."
>
>> " no static build up while transmitting " because your station has
>> ground.
> S*

>you are almost as much fun as art with his magical levitating
neutrinos.

I am as much fun like Tesla, the father of radio.

>no, i have antennas that are isolated from ground. they are fed
>through a capacitor that prevents the charge from flowing to ground

Your station produces asymetrical pulses. The all real waves are not
symmetrical. The insulator in the capacitor is a poor conductor but its
surface is large.
It CONDUCTS because the pulses are not symmetrical.

>and they do not get charged over time.

They must: " In electronic circuit theory, a "ground" is usually idealized
as an
infinite source or sink for charge, which can absorb an unlimited amount of
current without changing its potential."

The electronic circuit theory is the ruler in your station. Not EM.

> i know this because when a
>thunderstorm is nearby they build up enough charge to arc over the
>capacitor. if there was charge being constantly emitted when they are
>transmitting the capacitor would arc all the time.

Your capacitor is fit to transmitting not for lightnings.
S*

2745. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 17:17:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c24e498$0$19173$65785112@news.neostrada.pl>
Source record: 8745

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:035f26b9-34fe-468f-95cd-8339c38e457f@q12g2000yqj.googlegroups.com...
On Jun 24, 8:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>> But then what explains the reflection at the generator that presents
> Z0 to the line?

>Your error is in assuming it is a reflection. It is NOT a reflection
which, by definition, involves one wave. It is a redistribution of
energy due to superposition which, by definition, involves two or more
waves. In a system designed to eliminate reflections at the source,
ALL of the redistribution of reflected energy back toward the load is
due to superposition accompanied by interference. From the FSU web
site:

>"... when two waves of equal amplitude and wavelength that are 180-
degrees ... out of phase with each other meet, they are not actually
annihilated, ... All of the ... energy present in these waves must
somehow be recovered or redistributed in a new direction, according to
the law of energy conservation ..."

>Nothing said about *reflection* (involving a single wave). It is all
about the meeting (superposition) of two waves which can cause the
redistribution of energy. It may look somewhat like a reflection but
it is technically NOT a reflection.

In the Hertz dipole the reflection take place but in the loop antenna "two
waves of equal amplitude and wavelength that are 180-degrees ... out of
phase with each other meet,"

But the both cases are the same. At the meeting the energy is radiated and
the electrons emitted because in the meeting place the voltage is doubled.

The electronic circuit theory do not use EM.
S*.

2746. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 20:21:20 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <fd6ac4d4-a0c0-4da1-8c6b-952df6d60481@k39g2000yqd.googlegroups.com>
Source record: 8746

On 25 jun, 08:30, K1TTT <k1...@arrl.net> wrote:
> On Jun 25, 7:46 am, lu6etj <lu6...@gmail.com> wrote:
>
>
>
>
>
> > On 24 jun, 17:54, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > > Oh, I'm so sorry Cecil, I should have written "However I can not
> > > > > visualize a simple PHYSICAL mechanism/example to generate
> > > > > such system in a TL". Anyway, your additional info it is very useful to
> > > > > me. Thanks.
>
> > > > The physical mechanism is the Z01==>Z02 impedance discontinuity with
> > > > its associated reflection coefficient, rho. We can see that reflection
> > > > on a TDR so it is indeed a PHYSICAL mechanism.
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > don't forget the OTHER physical mechanism that is necessary,
> > > superposition... the ability to add voltages, currents, and fields in
> > > linear circuits and media.
>
> > I mentioned same comment in another post. We use superposition
> > principle in two different contexts. Superposition theorem in circuit
> > theory, and wave superposition. Wave (traveling) superposition deals
> > with f(t,x,y,z) and usually with puntual magnitudes, E, H, D, B, etc)
> > while circuit theory deals with a subset f(t) phenomena and with
> > integrated magnitudes (V, I). Sometimes that becomes a confused
> > issue :)
>
> > Miguel
>
> NO, superposition is always the same. it is the linear addition of
> currents or fields in a linear media. it works the same for circuits
> as for em waves.
>
> the big problem are the people who confuse the formulas for adding
> powers with adding fields or currents/voltages and forget the phase

> terms.
>
> the other big problem is keith who seems to want to separate his waves
> into separate time and space variables and leaves out the requirement
> that wave functions must be dependent on both space AND time.
> basically any solution to the wave equations derived from maxwell's
> laws must be of the form f(t-x/v). this leads him to the erroneous
> conclusions he gets from trying to compare his batteries to wave
> propagation. this is the same problem people have with standing
> waves, they have separate dependence on t and x, so they can't travel
> and can't transport energy.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

> NO, superposition is always the same

I did not say that things were fundamentally different, I said "context" it is different, as "substraction" in mathematics, you can not subtract a natural number bigger from a smaller one in natural field, but you can do it in integer field, we have to apply (comply?) contextual rules with such operations. Otherwise I agree with what you say. 73

2747. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 20:27:49 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <6df928cf-aa4c-4c89-a5a8-696050d555ba@w12g2000yqj.googlegroups.com>
Source record: 8747

On 25 jun, 10:00, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 25, 2:13 am, lu6etj <lu6...@gmail.com> wrote:
>
> > In a TL, instead, total destructive interference in one point would
> > mean energy stop flowing from that point forwards (is it OK say
> > "forwards"?) and reverse its flow direction doubling his value, is it
> > OK?.
>
> In our ham transmission line systems, the goal is to accomplish total
> destructive interference toward the source, i.e. zero reflected energy
> incident upon the source. So let's talk about destructive interference
> toward the source and constructive interference toward the load.
>
> > You name it "redistribution" too, not reflection.
>
> By definition, reflection is something that happens to a single wave.
> By definition, superposition involves two or more waves. The
> redistribution that I am talking about can include both reflection and
> superposition if both are present. Depending upon the system
> configuration, both may be present, both may be absent, or one exist
> without the other.
>
> > Well, my
> > question was how we can set (devise) an experiment to get such
> > behaviour in a TL?
>
> I've presented it before and it is a simple Z0-match involving a 1/4WL
> matching section.
>
> 50w-----50 ohm------+------1/4WL 300 ohm------1800 ohm load
>
> On the source side, rho at '+' is 0.7143
>
> Using a TDR, we can verify that there is indeed a reflection from the
> 50/300 ohm impedance discontinuity. What happens to that reflection
> during steady-state?
>
> What happens to Vfor1(rho) = 50v(0.7143) = 35.7v?
>
> What happens to Pfor1(rho^2) = 50w(0.51) = 25.5w?
> --
> 73, Cecil, w5dxp.com

Sorry. Cecil, I do not catch you (final numeric example), would you mind give to me a more explanatory/explicit answer? (the rest OK). 73 Miguel

2748. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 21:00:52 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <25df7887-cc32-4c87-8422-71021fe5ed20@g19g2000yqc.googlegroups.com>
Source record: 8748

On Jun 25, 8:24 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 24, 8:58 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Still does not explain why you choose only the positive root.
>
> Of course it does. In the power density equation, choosing the
> negative root would lead to a violation of the conservation of energy
> principle. When one of the roots is obviously impossible in reality, a
> rational person chooses the other root.
>
> > You might study why the real power folk prefer three phase to single.
> > It all has to do with instantaneous power.
>
> I am a "real power folk", Keith. My first EE degree was in power
> generation and transmission. Three-phase puts less stress on the
> system by eliminating the hills and valleys in the energy flow common
> with traveling waves.

That's the time domain. Variation in the instantaneous energy flow.

Not quite
'as useless as tits on a boar hog, or as Hecht said, putting it
mildly: "of limited utility"'.

...Keith

2749. Re: what happens to reflected energy ?

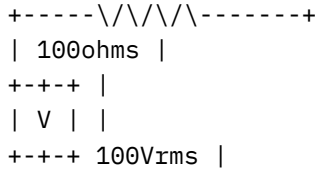
Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-25 23:47:06 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <87622d8c-323a-41f0-8593-36409cbf84d3@w12g2000yqj.googlegroups.com>
Source record: 8749

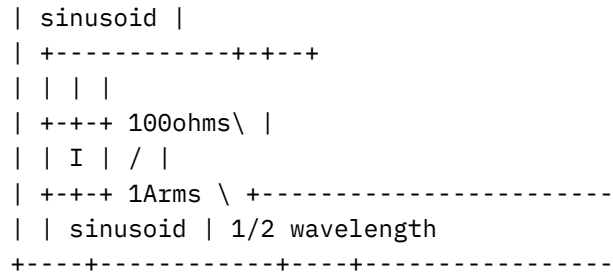
On Jun 25, 8:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 24, 8:39 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Very inventive. And the wave just knows the difference between the
> > 50ohm
> > generator that is constructed in the Thevenin style and the 50ohm
> > generator constructed in the Norton style. Amazing waves.
>
> Repeating myself - it is not necessary for you to imagine magical
> smart waves. Ignorant people invent magic and metaphysics to explain
> away their ignorance. All you need to do is to alleviate your
> ignorance concerning the laws of physics which those ordinary EM waves
> are obeying. *Externally*, it doesn't matter whether you use voltage
> superposition, current superposition, or EM field superposition

Now this I agree with. Superpose volts, current and fields to your
heart's content. Just don't attempt it for power.

> - the
> results are identical. Every EE professor I ever had warned me about
> trying to look inside a Thevenin or Norton source at the power
> dissipation in the source resistor. For instance, their internal
> dissipations are exactly opposite for shorts and opens so exactly why
> should you expect the internal interference levels to be the same?
> When the Thevenin source is dissipating all the power inside the
> source from being connected to a *short-circuit*, it is experiencing
> total constructive interference. When the Norton source is dissipating
> all the power inside the source from being connected to an *open-
> circuit*, it is experiencing total constructive interference -
> opposite external conditions causing exactly the same phenomenon
> inside the two source boxes.
>
> > And now the explanation for the mixed constant power mixed Thevenin/
> > Norton generator is ...?
>
> Neither the Thevenin equivalent source nor the Notron equivalent
> source is "constant power".

You should study the design of the generator described previously and
repeated below, for your convenience:





As I said, this generator has the interesting property that the power provided by the sources is constant at 100W, regardless of load.

Can you make your redistribution explanation work for this one?

...Keith

2750. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 00:07:15 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <c66ef105-985f-4fa8-9c70-287241305f9f@r27g2000yqb.googlegroups.com>
Source record: 8750

On Jun 25, 9:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 25, 2:13 am, lu6etj <lu6...@gmail.com> wrote:
>
> > In a TL, instead, total destructive interference in one point would
> > mean energy stop flowing from that point forwards (is it OK say
> > "forwards"?) and reverse its flow direction doubling his value, is it
> > OK?.
>
> In our ham transmission line systems, the goal is to accomplish total
> destructive interference toward the source, i.e. zero reflected energy
> incident upon the source. So let's talk about destructive interference
> toward the source and constructive interference toward the load.
>
> > You name it "redistribution" too, not reflection.
>
> By definition, reflection is something that happens to a single wave.
> By definition, superposition involves two or more waves. The
> redistribution that I am talking about can include both reflection and
> superposition if both are present. Depending upon the system
> configuration, both may be present, both may be absent, or one exist
> without the other.
>
> > Well, my
> > question was how we can set (devise) an experiment to get such
> > behaviour in a TL?
>
> I've presented it before and it is a simple Z0-match involving a 1/4WL
> matching section.
>
> 50w-----50 ohm------+------1/4WL 300 ohm------1800 ohm load
>
> On the source side, rho at '+' is 0.7143
>
> Using a TDR, we can verify that there is indeed a reflection from the
> 50/300 ohm impedance discontinuity. What happens to that reflection
> during steady-state?
>
> What happens to Vfor1(rho) = 50v(0.7143) = 35.7v?

Using superposition, when you add Vrev2(tau) to Vfor1(rho) you get
zero.
With zero voltage comes 0 energy transfer.

For further learning, do not just examine steady state, but also
examine

how it gets to steady state. Using a lattice diagram, examine what happens as the first reflection and then each re-reflection arrives at '+'. Determine how Vrev2(tau) slowly builds to equal Vrev1 and cancels it, using the simple addition of superposition. While this process is occurring, there is a Vrev1 which decreases after each round trip in the second line section.

This is all done with simple addition. No need for products and square roots.

For further marks, decide whether you should think of Vrev2 as an infinite sum of reverse waves or is it okay to think of it as one sum that slowly accumulates.
Which is it really?

Same question for Vfor2.

> What happens to Pfor1(rho^2) = 50w(0.51) = 25.5w?

Once you have computed total Vrev1 using simple superposition, it is easy to compute that the "reverse power", Prev1, is 0.

Do you really need rho^2 to understand what goes on in a transmission line?

...Keith

2751. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 00:22:29 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <d2fca7e7-425c-4c83-99b8-3d71aed1c849@e5g2000yqn.googlegroups.com>
Source record: 8551

On Jun 25, 7:30 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 25, 7:46 am, lu6etj <lu6...@gmail.com> wrote:
>
>
>
>
>
> > On 24 jun, 17:54, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > > Oh, I'm so sorry Cecil, I should have written "However I can not
> > > > > visualize a simple PHYSICAL mechanism/example to generate
> > > > > such system in a TL". Anyway, your additional info it is very useful to
> > > > > me. Thanks.
>
> > > > The physical mechanism is the Z01==>Z02 impedance discontinuity with
> > > > its associated reflection coefficient, rho. We can see that reflection
> > > > on a TDR so it is indeed a PHYSICAL mechanism.
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > don't forget the OTHER physical mechanism that is necessary,
> > > superposition... the ability to add voltages, currents, and fields in
> > > linear circuits and media.
>
> > I mentioned same comment in another post. We use superposition
> > principle in two different contexts. Superposition theorem in circuit
> > theory, and wave superposition. Wave (traveling) superposition deals
> > with f(t,x,y,z) and usually with puntual magnitudes, E, H, D, B, etc)
> > while circuit theory deals with a subset f(t) phenomena and with
> > integrated magnitudes (V, I). Sometimes that becomes a confused
> > issue :)
>
> > Miguel
>
> NO, superposition is always the same. it is the linear addition of
> currents or fields in a linear media. it works the same for circuits
> as for em waves.
>
> the big problem are the people who confuse the formulas for adding
> powers with adding fields or currents/voltages and forget the phase

> terms.
>
> the other big problem is keith who seems to want to separate his waves
> into separate time and space variables and leaves out the requirement
> that wave functions must be dependent on both space AND time.
> basically any solution to the wave equations derived from maxwell's
> laws must be of the form f(t-x/v). this leads him to the erroneous
> conclusions he gets from trying to compare his batteries to wave
> propagation. this is the same problem people have with standing
> waves, they have separate dependence on t and x, so they can't travel
> and can't transport energy.- Hide quoted text -

I see that the stress induced by considering DC waves is causing you
to misinterpret my writings.

May I suggest an alternate exploration for you. Assuming that you
accept TDR and know how to use Reflection Coefficients to compute
voltage and current reflections, then consider what happens
when a rectangular pulse is launched from a matched generator in
to a transmission line. For simple reflection coefficients like
0, 1, and -1 compute the reflected pulse. For both the forward
and reflected direction compute the voltage and current on the line
before the pulse arrives, as it passes and after it has passed.

Compute the energy in the pulse, and how long a distance it
occupies on the transmission line. Compute the power as the
pulse is passing.

Be sure you know what happens to the pulse when it re-enters
the generator. For simplicity, assume a generator constructed
using the Thevenin circuit.

Make sure all the results are in agreement; especially, the
energy delived by the source and the energy dissipated in the
various resistors.

Now make the pulse longer and longer... until it looks like
a step function. And do the computations again.

Determine if the results agree with those I previously
presented for the DC example.

...Keith

PS: Barring errors, they will.

2752. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 01:37:50 UTC
From: tom <news4792@taring.org>
Message-ID: <4c2559ef$0$638$8046368a@newsreader.iphouse.net>
Source record: 8552

On 6/25/2010 12:06 PM, Szczepan Bialek wrote:
>
> They must: " In electronic circuit theory, a "ground" is usually idealized
> as an
> infinite source or sink for charge, which can absorb an unlimited amount of
> current without changing its potential."

Your mistake here is to assume that because they can sink current that
the are sinking DC current. The "ground", as you like to think about it
may carry current during the RF cycle, but there is nothing that would
cause an unbalanced charge buildup since it IS symmetrical.

tom
K0TAR

2753. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 01:48:50 UTC
From: tom <news4792@taring.org>
Message-ID: <4c255c84$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8553

On 6/25/2010 2:44 AM, Szczepan Bialek wrote:
>
> "The use of the term ground (or earth) is so common in electrical and
> electronics applications that circuits in portable electronic devices such
> as cell phones and media players as well as circuits in vehicles such as
> ships, aircraft, and spacecraft may be spoken of as having a "ground"
> connection without any actual connection to the Earth. This is usually a
> large conductor attached to one side of the power supply (such as the
> "ground plane" on a printed circuit board) which serves as the common return
> path for current from many different components in the circuit."
>
>> that it could perform his field emission any longer.
>
> In the vacuum is the rare plasma. The are free charges.
>
>> It should be easy to observe as the signal strength would decrease with
>> time. I haven't noticed that effect myself, nor has anyone else.
>
> Are you sure?
> Each ground must be large enough. Engineers know what to do.
> Sometimes they water the ground area.
>
> In the space the chassis must be large enough.
> S*
>
>

You know, he is sort of more amusing than Art. At first. Art can argue
and Art makes no sense, and neither does Szechuan, but he can't build an
argument that even sounds a little bit logical. And his arguments never
change. Art makes up new stuff all the time.

Prediction - Szechuan will eventually become so boring no one that no
one will respond.

tom
K0TAR

2754. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 04:02:13 UTC
From: tom <news4792@taring.org>
Message-ID: <4c257bc4$0$50149$8046368a@newsreader.iphouse.net>
Source record: 8554

On 6/25/2010 8:37 PM, tom wrote:
> On 6/25/2010 12:06 PM, Szczepan Bialek wrote:
>>
>> They must: " In electronic circuit theory, a "ground" is usually
>> idealized
>> as an
>> infinite source or sink for charge, which can absorb an unlimited
>> amount of
>> current without changing its potential."
>
> Your mistake here is to assume that because they can sink current that
> the are sinking DC current. The "ground", as you like to think about it
> may carry current during the RF cycle, but there is nothing that would
> cause an unbalanced charge buildup since it IS symmetrical.
>
> tom
> K0TAR

And I forgot to include that there is no field emission, so no charge
could possibly build up.

tom
K0TAR

2755. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 07:34:35 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c25ad92$0$2600$65785112@news.neostrada.pl>
Source record: 8555

"tom" <news4792@taring.org> wrote
news:4c2559ef$0$638$8046368a@newsreader.iphouse.net...
> On 6/25/2010 12:06 PM, Szczepan Bialek wrote:
>>
>> They must: " In electronic circuit theory, a "ground" is usually
>> idealized
>> as an
>> infinite source or sink for charge, which can absorb an unlimited
>> amount of
>> current without changing its potential."
>
> Your mistake here is to assume that because they can sink current that the
> are sinking DC current. The "ground", as you like to think about it may
> carry current during the RF cycle, but there is nothing that would cause
> an unbalanced charge buildup since it IS symmetrical.

Your mistake here is to assume that the RF cycle, IS symmetrical.

Each real wave is asymmetrical. The forward pulse is always stronger than
the return.
For this reason you must have power on.
S*

2756. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 07:38:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c25ae6b$0$19174$65785112@news.neostrada.pl>
Source record: 8556

"tom" <news4792@taring.org> wrote
news:4c257bc4$0$50149$8046368a@newsreader.iphouse.net...
> >
> And I forgot to include that there is no field emission, so no charge
> could possibly build up.

Emission is the result of voltage.

If the power is ON the emissin take place.
S*

2757. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 07:46:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c25b074$0$19170$65785112@news.neostrada.pl>
Source record: 8557

"tom" <news4792@taring.org> wrote
news:4c255c84$0$50146$8046368a@newsreader.iphouse.net...
> On 6/25/2010 2:44 AM, Szczepan Bialek wrote:
>>
>
> Prediction - Szechuan will eventually become so boring no one that no one
> will respond.

Each one of you can measure the DC ground current.
Why you are so boring sending the same incontructive answer (no emission).
Emission is a fact. It is interesting how it is much.
S*

2758. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 11:41:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <70b35335-c08e-49cd-a7ec-7b3228fcceef@r27g2000yqb.googlegroups.com>
Source record: 8558

On Jun 26, 12:22 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 25, 7:30 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 25, 7:46 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > On 24 jun, 17:54, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > > On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > > > Oh, I'm so sorry Cecil, I should have written "However I can not
> > > > > > visualize a simple PHYSICAL mechanism/example to generate
> > > > > > such system in a TL". Anyway, your additional info it is very useful to
> > > > > > me. Thanks.
>
> > > > > The physical mechanism is the Z01==>Z02 impedance discontinuity with
> > > > > its associated reflection coefficient, rho. We can see that reflection
> > > > > on a TDR so it is indeed a PHYSICAL mechanism.
> > > > > --
> > > > > 73, Cecil, w5dxp.com
>
> > > > don't forget the OTHER physical mechanism that is necessary,
> > > > superposition... the ability to add voltages, currents, and fields in
> > > > linear circuits and media.
>
> > > I mentioned same comment in another post. We use superposition
> > > principle in two different contexts. Superposition theorem in circuit
> > > theory, and wave superposition. Wave (traveling) superposition deals
> > > with f(t,x,y,z) and usually with puntual magnitudes, E, H, D, B, etc)
> > > while circuit theory deals with a subset f(t) phenomena and with
> > > integrated magnitudes (V, I). Sometimes that becomes a confused
> > > issue :)
>
> > > Miguel
>
> > NO, superposition is always the same. it is the linear addition of
> > currents or fields in a linear media. it works the same for circuits
> > as for em waves.
>
> > the big problem are the people who confuse the formulas for adding
> > powers with adding fields or currents/voltages and forget the phase

> > terms.
>
> > the other big problem is keith who seems to want to separate his waves
> > into separate time and space variables and leaves out the requirement
> > that wave functions must be dependent on both space AND time.
> > basically any solution to the wave equations derived from maxwell's
> > laws must be of the form f(t-x/v). this leads him to the erroneous
> > conclusions he gets from trying to compare his batteries to wave
> > propagation. this is the same problem people have with standing
> > waves, they have separate dependence on t and x, so they can't travel
> > and can't transport energy.- Hide quoted text -
>
> I see that the stress induced by considering DC waves is causing you
> to misinterpret my writings.
>
> May I suggest an alternate exploration for you. Assuming that you
> accept TDR and know how to use Reflection Coefficients to compute
> voltage and current reflections, then consider what happens
> when a rectangular pulse is launched from a matched generator in
> to a transmission line. For simple reflection coefficients like
> 0, 1, and -1 compute the reflected pulse. For both the forward
> and reflected direction compute the voltage and current on the line
> before the pulse arrives, as it passes and after it has passed.
>
> Compute the energy in the pulse, and how long a distance it
> occupies on the transmission line. Compute the power as the
> pulse is passing.
>
> Be sure you know what happens to the pulse when it re-enters
> the generator. For simplicity, assume a generator constructed
> using the Thevenin circuit.
>
> Make sure all the results are in agreement; especially, the
> energy delived by the source and the energy dissipated in the
> various resistors.
>
> Now make the pulse longer and longer... until it looks like
> a step function. And do the computations again.
>
> Determine if the results agree with those I previously
> presented for the DC example.
>
> ...Keith
>
> PS: Barring errors, they will.

why would i want to do all that work? there is no way that my answers
will agree with your misconceptions. you'll just come up with an even
uglier generator to try to make it fit.

oh, and by the way, your fancy 2 generator and 2 resistor 'constant power' source isn't what you think it is. go back to basic circuits 101 and you will find that any linear network like that can be reduced to either a simple one source one impedance norton or thevenin equivalent. in your example it is identical to a 50v voltage source in series with a 50ohm resistor... deriving the norton equivalent is left for the student.

2759. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 11:49:26 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <547f5430-fb82-43cf-8faf-ab828d651ccc@s9g2000yqd.googlegroups.com>
Source record: 8559

On Jun 26, 7:46 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org>
wrotenews:4c255c84$0$50146$8046368a@newsreader.iphouse.net...
>
> > On 6/25/2010 2:44 AM, Szczepan Bialek wrote:
>
> > Prediction - Szechuan will eventually become so boring no one that no one
> > will respond.
>
> Each one of you can measure the DC ground current.
> Why you are so boring sending the same incontructive answer (no emission).
> Emission is a fact. It is interesting how it is much.
> S*

first, the fcc would get really mad at me if my rf waves weren't
symmetric, that would make for horribly distorted signals!

and yes, i have measured the dc ground current and it is also zero.
when you have a transmitter in your car are the rubber tires not
isolating the car body from ground? do you get shocked after you have
been transmitting for a while and step out of your car? where does
the ground current go when you have a plastic cased handheld radio?

i agree, mr. b is not as much fun as art... at least he made up things
that weren't so easy to observe as wrong, after all who could see the
waste deep levitating neutrinos jumping off their diamagnetic
antennas. mr. b's stuff is just absurd.

2760. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 13:05:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bbbf3fc7-04aa-4446-9e54-3fe126a561f0@r27g2000yqb.googlegroups.com>
Source record: 8560

On Jun 25, 4:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> That's the time domain. Variation in the instantaneous energy flow.

What you seem to be missing is that the *energy content* of power (total joules) must be conserved but the instantaneous power (joules/second) does not have to be conserved as you have argued numerous times in numerous examples. The only question that needs to be answered is: In a system designed to eliminate reflections and interference, does all the reflected energy eventually get dissipated in the source resistor. The answer is yes because there is nowhere else for it to go. There is no conservation of power principle and that includes instantaneous power. So it is irrelevant what/where instantaneous power might do/go during a single cycle.

Now I understand that instantaneous power dictates some physical design considerations as in waveguides. But since instantaneous power does not fall under the conservation of energy principle, it is simply irrelevant to the present discussion. What happens over a complete cycle is what is relevant. However, in any and every case, it is energy that is conserved, not power. How many joules are in that dt sliver of time when the instantaneous power is 100 watts? It's those joules that must be conserved, not the instantaneous power.

You didn't answer my previous question. If you measure 100 watts of instantaneous power at 100 places within an inch of each other, does that mean there is 10000 watts of instantaneous power in that one inch of wire? That is the only logical conclusion based on your argument and assertions. Any argument based on the conservation of power is doomed to fail. Please get real.

> Not quite
> 'as useless as tits on a boar hog, or as Hecht said, putting it
> mildly: "of limited utility"'.

One could argue that tits on a boar hog are not completely useless and, therefore, instantaneous energy is exactly as useless (or exactly as useful) as tits on a boar hog. (Hint: Without the existence of the tit gene in the male, female hogs would probably not have tits.)
--
73, Cecil, w5dxp.com

2761. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 13:20:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c4ad69db-6cf2-498a-8c9b-0008090e9fcd@i31g2000yqm.googlegroups.com>
Source record: 8561

On Jun 25, 6:47 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Now this I agree with. Superpose volts, current and fields to your
> heart's content. Just don't attempt it for power.

Nobody except you, using instantaneous power, has attempted to
superpose power. The Power-Density/Interference equation does NOT
superpose power because it contains the interference term. If the
interference term were omitted than it would be an attempt to
superpose power, but I have never omitted the interference term except
when it was zero.

> You should study the design of the generator described previously and
> repeated below, for your convenience:
> Can you make your redistribution explanation work for this one?

Here's what your schematic looks like. How about a web page graphic
instead?

http://www.w5dxp.com/Keith.JPG
--
73, Cecil, w5dxp.com

2762. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 13:49:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6a133b59-b303-45e4-b3cd-33b7f0e762fa@x21g2000yqa.googlegroups.com>
Source record: 8562

On Jun 25, 7:07 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Using superposition, when you add Vrev2(tau) to Vfor1(rho) you get
> zero. With zero voltage comes 0 energy transfer.

Completing your above sentence: With zero voltage comes 0 energy transfer *in the direction of travel of the original waves that were superposed*. Assuming that you believe in the conservation of energy principle, what happened to the energy in the two component voltage waves necessary for their existence before they cancel each other? If they didn't contain any energy, they would be zero but we know they are not zero, i.e. they are 35.7 volts each. That original wave energy is redistributed and *transfered* in the opposite direction, the only other direction available in a transmission line.

One cannot argue with a forked tongue that the superposed waves never existed in the first place because that would violate the laws of physics and superposition.

> Do you really need rho^2 to understand what goes on in a transmission
> line?

Not using rho^2 is why you are so confused. If you actually cared where the energy goes, you would be forced to use rho^2 or at least multiply the superposition component voltages and currents to obtain the power in the superposition component wavefronts.

In the earlier example, the impedance discontinuity has a physical voltage reflection coefficient of 0.7143 and a physical power reflection coefficient of 0.51. If you consider the steady-state power conditions, you will calculate a virtual power reflection coefficient of 0.0 and a virtual voltage reflection coefficient of 0.0. Which reflection coefficient is correct? Obviously, physical trumps virtual every time.

The 50v source voltage reflected at the 0.7143 reflection coefficient is 35.7 volts and it exists in a 50 ohm environment. Simple math yields the power = (35.7)^2/50 = 25.5 watts. Where did the energy in that 25.5 watt EM wave go? One can obtain the same value by calculating the current: 1a(0.7143) = 0.7143. Power = 35.7(0.7143) = 25.5 watts.

So you can get by without using rho^2 but to determine where the energy is going, one needs to at least multiply the EM traveling-wave voltage by the EM traveling-wave current (or calculate the ExH Poynting vectors).

In fact, this would be a good application for your instantaneous power calculations. Where is the energy going that is in the instantaneous power being reflected by the impedance discontinuity?
--
73, Cecil, w5dxp.com

2763. Fill Form And Get $5000 To Your Home.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 16:14:58 UTC
From: Bipasa <indocricket05@gmail.com>
Message-ID: <2283a473-e6c7-4776-8dab-1b70268692ca@g1g2000prg.googlegroups.com>
Source record: 8563

Fill Form And Get $5000 To Your Home At http://welcomesu.co.cc

Due to high security risks,i have hidden the cheque link in an
image. in that website on left side below search box, click on image
and enter your name and address where you want to receive your
cheque. please don't tell to anyone.

2764. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 18:21:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c264535$0$17104$65785112@news.neostrada.pl>
Source record: 8564

"K1TTT" <k1ttt@arrl.net> wrote
news:547f5430-fb82-43cf-8faf-ab828d651ccc@s9g2000yqd.googlegroups.com...
On Jun 26, 7:46 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > Emission is a fact. It is interesting how it is much.

>first, the fcc would get really mad at me if my rf waves weren't
symmetric, that would make for horribly distorted signals!

Each waves transports mass in direction from the source. This is form of
asymmetry.

>and yes, i have measured the dc ground current and it is also zero.
when you have a transmitter in your car are the rubber tires not
isolating the car body from ground?

You do not read my posts:
""The use of the term ground (or earth) is so common in electrical and
electronics applications that circuits in portable electronic devices such
as cell phones and media players as well as circuits in vehicles such as
ships, aircraft, and spacecraft may be spoken of as having a "ground"
connection without any actual connection to the Earth. This is usually a
large conductor attached to one side of the power supply (such as the
"ground plane" on a printed circuit board) which serves as the common return
path for current from many different components in the circuit."

>do you get shocked after you have
been transmitting for a while and step out of your car?

It is common event.

> where does
the ground current go when you have a plastic cased handheld radio?

To chassis. See the chassis ground.

>i agree, mr. b is not as much fun as art... at least he made up things
that weren't so easy to observe as wrong, after all who could see the
waste deep levitating neutrinos jumping off their diamagnetic
antennas. mr. b's stuff is just absurd.

Radio was made by Stokes, Helmholtz and Tesla.
I try to remember it to you.
S*

2765. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 18:27:38 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c2646a1$0$2583$65785112@news.neostrada.pl>
Source record: 8565

<jimp@specsol.spam.sux.com> wrote news:3oihf7-5b4.ln1@mail.specsol.com...
> "Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>>
>> <jimp@specsol.spam.sux.com> wrote news:oh8ff7-hvk.ln1@mail.specsol.com...
>>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>>> I am as much fun like Tesla, the father of radio.
>>>
>>> The only thing you have in common with Tesla is you both got senile.
>>
>> Before that Tesla did a little (from:
>> http://en.wikipedia.org/wiki/Nikola_Tesla): "Tesla's patents and
>> theoretical work formed the basis of modern alternating current (AC)
>> electric power systems, including the polyphase system of electrical
>> distribution and the AC motor, which helped usher in the Second
>> Industrial
>> Revolution."
>
> Yep, before Tesla went senile he did some stuff, but you have never done
> anything before going senile.

In the radio area it is nothing to do.
Everything was done by Stokes, Helmholtz and Tesla.
Radio people should know a little about them.

The first step should be measuring the DC ground current.
S*

2766. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-26 18:48:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f73a0505-9c5a-49e6-89c0-62af699b0153@d16g2000yqb.googlegroups.com>
Source record: 8566

On Jun 26, 6:21 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> where does
> the ground current go when you have a plastic cased handheld radio?
>
> To chassis. See the chassis ground.

argh

2767. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 01:08:12 UTC
From: tom <news4792@taring.org>
Message-ID: <4c26a47b$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8567

On 6/26/2010 2:38 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> wrote
> news:4c257bc4$0$50149$8046368a@newsreader.iphouse.net...
>>>
>> And I forgot to include that there is no field emission, so no charge
>> could possibly build up.
>
> Emission is the result of voltage.
>
> If the power is ON the emissin take place.
> S*
>
>

Incorrect.

tom
K0TAR

2768. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 01:08:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4c26a49a$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8568

```
On 6/26/2010 2:34 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> wrote
> news:4c2559ef$0$638$8046368a@newsreader.iphouse.net...
>> On 6/25/2010 12:06 PM, Szczepan Bialek wrote:
>>>
>>> They must: " In electronic circuit theory, a "ground" is usually
>>> idealized
>>> as an
>>> infinite source or sink for charge, which can absorb an unlimited
>>> amount of
>>> current without changing its potential."
>>
>> Your mistake here is to assume that because they can sink current that the
>> are sinking DC current. The "ground", as you like to think about it may
>> carry current during the RF cycle, but there is nothing that would cause
>> an unbalanced charge buildup since it IS symmetrical.
>
> Your mistake here is to assume that the RF cycle, IS symmetrical.
>
> Each real wave is asymmetrical. The forward pulse is always stronger than
> the return.
> For this reason you must have power on.
> S*
>
>
>

Incorrect.

tom
K0TAR
```

2769. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 01:13:14 UTC
From: tom <news4792@taring.org>
Message-ID: <4c26a5a9$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8569

On 6/26/2010 1:48 PM, K1TTT wrote:
> On Jun 26, 6:21 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> where does
>> the ground current go when you have a plastic cased handheld radio?
>>
>> To chassis. See the chassis ground.
>
> argh

Yup. At least Art makes up new nonsense when someone throws facts back at him. Mr B is BORING.

tom
K0TAR

2770. Uk College Girls Sex Videos.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 08:39:27 UTC
From: easy money <maaindia0@gmail.com>
Message-ID: <44c8d564-cc09-42b5-962c-761778e3bae2@s24g2000pri.googlegroups.com>
Source record: 8570

Uk College Girls Sex Videos At http://ukcitygirls.co.cc

Due to high sex content, i have hidden the videos in an image. in
that
website on left side below search box click on image and watch
videos in all angles.please don't tell to anyone.

2771. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 09:28:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2719ad$0$2589$65785112@news.neostrada.pl>
Source record: 8571

"tom" <news4792@taring.org> wrote
news:4c26a47b$0$50146$8046368a@newsreader.iphouse.net...
> On 6/26/2010 2:38 AM, Szczepan Bialek wrote:
>> "tom"<news4792@taring.org> wrote
>> news:4c257bc4$0$50149$8046368a@newsreader.iphouse.net...
>>>>
>>> And I forgot to include that there is no field emission, so no charge
>>> could possibly build up.
>>
>> Emission is the result of voltage.
>>
>> If the power is ON the emissin take place.
>
> Incorrect.

"(II) Field emission: In this method, a strong electric field (i.e. a high positive voltage) is applied at the metal surface which pulls the free electrons out of the metal because of the attraction of positive field. The strong the electric field, the greater is the electron emission. "

You are incorrect.
S*

2772. Re: Galvanized or Copper Gound Rods?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 13:57:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <138e6cd1-3520-4f6e-b1dd-b7bdf5e4c105@u7g2000yqm.googlegroups.com>
Source record: 8572

On Jun 27, 9:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org>
wrotenews:4c26a47b$0$50146$8046368a@newsreader.iphouse.net...
>
> > On 6/26/2010 2:38 AM, Szczepan Bialek wrote:
> >> "tom"<news4...@taring.org> wrote
> >>news:4c257bc4$0$50149$8046368a@newsreader.iphouse.net...
>
> >>> And I forgot to include that there is no field emission, so no charge
> >>> could possibly build up.
>
> >> Emission is the result of voltage.
>
> >> If the power is ON the emissin take place.
>
> > Incorrect.
>
> "(II) Field emission: In this method, a strong electric field (i.e. a high
> positive voltage) is applied at the metal surface which pulls the free
> electrons out of the metal because of the attraction of positive field. The
> strong the electric field, the greater is the electron emission. "
>
> You are incorrect.
> S*

that quote is correct... unfortunately the voltages created by most
radio transmitters aren't high enough to overcome the metal work
function so no field emission takes place from antennas. and even if
it did it wouldn't go anywhere because radio waves are symmetric.

2773. language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 14:09:09 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <i07m1l$2k0$1@speranza.aioe.org>
Source record: 8573

All begin reading the advice of a reseller on a Italian ham magazine, that claim this (translated):

"The MFJ 1796 antenna only at XXX euro !!! 2,6,10,15,20,40 meters Superior Half-Wave configuration !!"

Oh well, i'm really a rookie on antenna theory, but - thinking into myself - someone at MFJ can please explain me what the hell make on this antenna to shrink an half wave antenna on 40 meters into a stick shorter than quarter wave??

Before posting the question on this NG to learn more, a look on MFJ site and i read on the description:
"Full size halfwave on 2/6 Meters."
Ah right, someone here in Italy forget to specify *where* is 1/2 wl designed :)
But the funny thing is not what i tell until now... the funny (or sadly) thing is that 7 local hams over 10, asking them if on 40 meters perform well the MFJ 1796 or a common quarter wave antenna, reply "the 1796 for sure ! Is a half wave designed antenna" someone adding also " you know antenna theory, not ??"
Of the remaining 3 hams, 2 of this 3 replied with approximately my same doubt ("what?? an half what ??")
A special mention to the last one that replied the dipole is the only antenna that he consider. He said that vertical antenna is the best system to deliver half or more applied power to the earth, no matter how is designed. So he don't ever read the advice and don't reply to the original question :)
...
Well, marketing and language misuse can add gain on an antenna, now i know this :)

Sorry for my english, i hope that the sense of the story is clear to readers.

73,
-.-. --.-

2774. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 14:27:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2215ff87-c963-41fe-b665-4e0163c4d63d@z10g2000yqb.googlegroups.com>
Source record: 8574

On Jun 27, 2:09 pm, "-.-. --.-" <a...@a.com> wrote:
> All begin reading the advice of a reseller on a Italian ham magazine, that
> claim this (translated):
>
> "The MFJ 1796 antenna only at XXX euro !!! 2,6,10,15,20,40 meters Superior
> Half-Wave configuration !!"
>
> Oh well, i'm really a rookie on antenna theory, but - thinking into myself -
> someone at MFJ can please explain me what the hell make on this antenna to
> shrink an half wave antenna on 40 meters into a stick shorter than quarter
> wave??
>
> Before posting the question on this NG to learn more, a look on MFJ site and
> i read on the description:
> "Full size halfwave on 2/6 Meters."
> Ah right, someone here in Italy forget to specify *where* is 1/2 wl designed
> :)
> But the funny thing is not what i tell until now... the funny (or sadly)
> thing is that 7 local hams over 10, asking them if on 40 meters perform well
> the MFJ 1796 or a common quarter wave antenna, reply "the 1796 for sure ! Is
> a half wave designed antenna" someone adding also " you know antenna theory,
> not ??"
> Of the remaining 3 hams, 2 of this 3 replied with approximately my same
> doubt ("what?? an half what ??")
> A special mention to the last one that replied the dipole is the only
> antenna that he consider. He said that vertical antenna is the best system
> to deliver half or more applied power to the earth, no matter how is
> designed. So he don't ever read the advice and don't reply to the original
> question :)
> ...
> Well, marketing and language misuse can add gain on an antenna, now i know
> this :)
>
> Sorry for my english, i hope that the sense of the story is clear to
> readers.
>
> 73,
> -.-. --.-

marketing language is worse than your english!

2775. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 14:37:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d7c863b5-99cd-43c3-9522-d29dfcd5f80a@e5g2000yqn.googlegroups.com>
Source record: 8575

On Jun 25, 3:27 pm, lu6etj <lu6...@gmail.com> wrote:
> Sorry. Cecil, I do not catch you (final numeric example), would you
> mind give to me a more explanatory/explicit answer?

I previously had a senior moment and changed contexts in the middle of
a posting and I apologize for any confusion. Would you enlighten me as
to the area of the discussion that you don't catch? Do you understand
physical reflection and transmission coefficients and their effect on
voltage, current, and power?
--
73, Cecil, w5dxp.com

2776. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 17:10:58 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <i080mj$ks8$1@speranza.aioe.org>
Source record: 8576

"K1TTT" <k1ttt@arrl.net> ha scritto nel messaggio
news:2215ff87-c963-41fe-b665-4e0163c4d63d@z10g2000yqb.googlegroups.com...

>marketing language is worse than your english!

Hmm .. then i guess is a total mess :)

-.-. --.-

2777. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 17:49:09 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <e62cb27e-7a2f-4d3f-bb65-9d34665dddac@k39g2000yqb.googlegroups.com>
Source record: 8577

```
On Jun 26, 7:41 am, K1TTT <k1...@arrl.net> wrote:
> On Jun 26, 12:22 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 25, 7:30 am, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 25, 7:46 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > On 24 jun, 17:54, K1TTT <k1...@arrl.net> wrote:
>
> > > > > On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > > > On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > > > > Oh, I'm so sorry Cecil, I should have written "However I can not
> > > > > > > visualize a simple PHYSICAL mechanism/example to generate
> > > > > > > such system in a TL". Anyway, your additional info it is very useful to
> > > > > > > me. Thanks.
>
> > > > > > The physical mechanism is the Z01==>Z02 impedance discontinuity with
> > > > > > its associated reflection coefficient, rho. We can see that reflection
> > > > > > on a TDR so it is indeed a PHYSICAL mechanism.
> > > > > > --
> > > > > > 73, Cecil, w5dxp.com
>
> > > > > don't forget the OTHER physical mechanism that is necessary,
> > > > > superposition... the ability to add voltages, currents, and fields in
> > > > > linear circuits and media.
>
> > > > I mentioned same comment in another post. We use superposition
> > > > principle in two different contexts. Superposition theorem in circuit
> > > > theory, and wave superposition. Wave (traveling) superposition deals
> > > > with f(t,x,y,z) and usually with puntual magnitudes, E, H, D, B, etc)
> > > > while circuit theory deals with a subset f(t) phenomena and with
> > > > integrated magnitudes (V, I). Sometimes that becomes a confused
> > > > issue :)
>
> > > > Miguel
>
> > > NO, superposition is always the same.  it is the linear addition of
> > > currents or fields in a linear media.  it works the same for circuits
```

> > > as for em waves.
>
> > > the big problem are the people who confuse the formulas for adding
> > > powers with adding fields or currents/voltages and forget the phase
> > > terms.
>
> > > the other big problem is keith who seems to want to separate his waves
> > > into separate time and space variables and leaves out the requirement
> > > that wave functions must be dependent on both space AND time.
> > > basically any solution to the wave equations derived from maxwell's
> > > laws must be of the form f(t-x/v). this leads him to the erroneous
> > > conclusions he gets from trying to compare his batteries to wave
> > > propagation. this is the same problem people have with standing
> > > waves, they have separate dependence on t and x, so they can't travel
> > > and can't transport energy.- Hide quoted text -
>
> > I see that the stress induced by considering DC waves is causing you
> > to misinterpret my writings.
>
> > May I suggest an alternate exploration for you. Assuming that you
> > accept TDR and know how to use Reflection Coefficients to compute
> > voltage and current reflections, then consider what happens
> > when a rectangular pulse is launched from a matched generator in
> > to a transmission line. For simple reflection coefficients like
> > 0, 1, and -1 compute the reflected pulse. For both the forward
> > and reflected direction compute the voltage and current on the line
> > before the pulse arrives, as it passes and after it has passed.
>
> > Compute the energy in the pulse, and how long a distance it
> > occupies on the transmission line. Compute the power as the
> > pulse is passing.
>
> > Be sure you know what happens to the pulse when it re-enters
> > the generator. For simplicity, assume a generator constructed
> > using the Thevenin circuit.
>
> > Make sure all the results are in agreement; especially, the
> > energy delived by the source and the energy dissipated in the
> > various resistors.
>
> > Now make the pulse longer and longer... until it looks like
> > a step function. And do the computations again.
>
> > Determine if the results agree with those I previously
> > presented for the DC example.
>
> > ...Keith
>
> > PS: Barring errors, they will.
>

> why would i want to do all that work?

It would be an opportunity for you to deepen your understanding of the behaviour of transmission lines.

> there is no way that my answers will agree with your misconceptions.

I am not convinced. You have not yet found any errors in my expositions,
so if you do not make any errors, I expect we will agree on the outcome,
though perhaps not on the interpretation, for you disagree when I say "do not assign TOO much reality to the energy in reflected waves.

You seem to want your reflected waves to always transport energy, but are unhappy that this leads to a line that was originally excited with a step function having energy flowing in both directions even though the current is zero all along the line.

Cecil simply sidesteps these little inconveniences by refusing to consider anything other than sinusoidal RF excitation and by refusing to consider any time based analysis. Such is not the path to understanding, deep or otherwise.

> you'll just come up with an even uglier generator to try to make it fit.

My generators are pretty simple. So far I have only used 3: Thevenin, Norton, and one with an interesting constant input power characteristic.

> oh, and by the way, your fancy 2 generator and 2 resistor 'constant
> power' source isn't what you think it is. go back to basic circuits
> 101 and you will find that any linear network like that can be reduced
> to either a simple one source one impedance norton or thevenin
> equivalent.

You have confused a bit, models with implementation. As I said in the original: "Consider a generator constructed as below". I am not using an equivalent circuit, but a construction. Only when dealing with the actual construction is it valid to examine the internal energy flows. An "equivalent" circuit is equivalent for external behaviour but not necessarily for internal, so I avoid them when examining the internals.

...Keith

2778. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 18:20:52 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6ff82179-de30-41f0-8716-8d7131398932@y11g2000yqm.googlegroups.com>
Source record: 8578

On Jun 27, 5:49 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 26, 7:41 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jun 26, 12:22 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > On Jun 25, 7:30 am, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Jun 25, 7:46 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > > On 24 jun, 17:54, K1TTT <k1...@arrl.net> wrote:
>
> > > > > > On Jun 24, 3:25 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > > > > On Jun 24, 9:20 am, lu6etj <lu6...@gmail.com> wrote:
>
> > > > > > > > Oh, I'm so sorry Cecil, I should have written "However I can not
> > > > > > > > visualize a simple PHYSICAL mechanism/example to generate
> > > > > > > > such system in a TL". Anyway, your additional info it is very useful to
> > > > > > > > me. Thanks.
>
> > > > > > > The physical mechanism is the Z01==>Z02 impedance discontinuity with
> > > > > > > its associated reflection coefficient, rho. We can see that reflection
> > > > > > > on a TDR so it is indeed a PHYSICAL mechanism.
> > > > > > > --
> > > > > > > 73, Cecil, w5dxp.com
>
> > > > > > don't forget the OTHER physical mechanism that is necessary,
> > > > > > superposition... the ability to add voltages, currents, and fields in
> > > > > > linear circuits and media.
>
> > > > > I mentioned same comment in another post. We use superposition
> > > > > principle in two different contexts. Superposition theorem in circuit
> > > > > theory, and wave superposition. Wave (traveling) superposition deals
> > > > > with f(t,x,y,z) and usually with puntual magnitudes, E, H, D, B, etc)
> > > > > while circuit theory deals with a subset f(t) phenomena and with
> > > > > integrated magnitudes (V, I). Sometimes that becomes a confused
> > > > > issue :)
>
> > > > > Miguel
>
> > > > NO, superposition is always the same. it is the linear addition of
> > > > currents or fields in a linear media. it works the same for circuits

> > > > as for em waves.
>
> > > > the big problem are the people who confuse the formulas for adding
> > > > powers with adding fields or currents/voltages and forget the phase
> > > > terms.
>
> > > > the other big problem is keith who seems to want to separate his waves
> > > > into separate time and space variables and leaves out the requirement
> > > > that wave functions must be dependent on both space AND time.
> > > > basically any solution to the wave equations derived from maxwell's
> > > > laws must be of the form f(t-x/v). this leads him to the erroneous
> > > > conclusions he gets from trying to compare his batteries to wave
> > > > propagation. this is the same problem people have with standing
> > > > waves, they have separate dependence on t and x, so they can't travel
> > > > and can't transport energy.- Hide quoted text -
>
> > > I see that the stress induced by considering DC waves is causing you
> > > to misinterpret my writings.
>
> > > May I suggest an alternate exploration for you. Assuming that you
> > > accept TDR and know how to use Reflection Coefficients to compute
> > > voltage and current reflections, then consider what happens
> > > when a rectangular pulse is launched from a matched generator in
> > > to a transmission line. For simple reflection coefficients like
> > > 0, 1, and -1 compute the reflected pulse. For both the forward
> > > and reflected direction compute the voltage and current on the line
> > > before the pulse arrives, as it passes and after it has passed.
>
> > > Compute the energy in the pulse, and how long a distance it
> > > occupies on the transmission line. Compute the power as the
> > > pulse is passing.
>
> > > Be sure you know what happens to the pulse when it re-enters
> > > the generator. For simplicity, assume a generator constructed
> > > using the Thevenin circuit.
>
> > > Make sure all the results are in agreement; especially, the
> > > energy delived by the source and the energy dissipated in the
> > > various resistors.
>
> > > Now make the pulse longer and longer... until it looks like
> > > a step function. And do the computations again.
>
> > > Determine if the results agree with those I previously
> > > presented for the DC example.
>
> > > ...Keith
>
> > > PS: Barring errors, they will.
>

> > why would i want to do all that work?
>
> It would be an opportunity for you to deepen your understanding of the
> behaviour of transmission lines.
>
> > there is no way that my answers will agree with your misconceptions.
>
> I am not convinced. You have not yet found any errors in my
> expositions,
> so if you do not make any errors, I expect we will agree on the
> outcome,
> though perhaps not on the interpretation, for you disagree when I say
> "do not assign TOO much reality to the energy in reflected waves.
>
> You seem to want your reflected waves to always transport energy, but
> are unhappy that this leads to a line that was originally excited with
> a step function having energy flowing in both directions even though
> the current is zero all along the line.
>
> Cecil simply sidesteps these little inconveniences by refusing to
> consider anything other than sinusoidal RF excitation and by
> refusing to consider any time based analysis. Such is not the path
> to understanding, deep or otherwise.
>
> > you'll just come up with an even uglier generator to try to make it fit.
>
> My generators are pretty simple. So far I have only used 3: Thevenin,
> Norton, and one with an interesting constant input power
> characteristic.
>
> > oh, and by the way, your fancy 2 generator and 2 resistor 'constant
> > power' source isn't what you think it is. go back to basic circuits
> > 101 and you will find that any linear network like that can be reduced
> > to either a simple one source one impedance norton or thevenin
> > equivalent.
>
> You have confused a bit, models with implementation. As I said in the
> original: "Consider a generator constructed as below". I am not
> using an equivalent circuit, but a construction. Only when dealing
> with the actual construction is it valid to examine the internal
> energy flows. An "equivalent" circuit is equivalent for external
> behaviour but not necessarily for internal, so I avoid them when
> examining the internals.
>
> ...Keith

but the equivalent points out that your statements about it sourcing
constant power is incorrect.

i have also pointed out that your statements about your 'step wave'
are obviously incorrect because you have applied assumptions that are

only valid in the sinusoidal steady state to a step function that can never be in steady state. neither can your pulses for that matter, so all the assumptions are worthless, you must do the complete analysis including the summations for the infinite fourier decomposition of your step or pulses to get the full picture... in a transient analysis. as was pointed out if you go VERY far into the future with a battery connected to an open circuit piece of coax there can be no currents and therefore no waves propagating in the line. its only in the detailed transient analysis that you haven't done where you will see the propagating steps going back and forth.

2779. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 18:26:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bb180da1-63d9-458e-9cf3-494815dd946f@x21g2000yqa.googlegroups.com>
Source record: 8579

On Jun 27, 12:49 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Cecil simply sidesteps these little inconveniences by refusing to
> consider anything other than sinusoidal RF excitation and by
> refusing to consider any time based analysis.

That's simply false. Using Fourier analysis, I reduce anything other
than a sinusoid to multiple sinusoidal RF excitations, perform the
sinusoidal analysis, and then use superposition to find the answer. I
also reject any example where Maxwell's equations do not work. Your
insistance that magical waves can somehow exist during DC steady-state
violates the known laws of physics. EM waves CANNOT exist during DC
steady-state because electrons are traveling at a constant velocity.
You can measure DC voltage with an AC voltmeter but that doesn't
change DC voltage to AC voltage.
--
73, Cecil, w5dxp.com

2780. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 18:38:54 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <145815a4-920e-48e7-a2a5-13cb9843f273@r27g2000yqb.googlegroups.com>
Source record: 8580

On Jun 26, 9:05 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 25, 4:00 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > That's the time domain. Variation in the instantaneous energy flow.
>
> What you seem to be missing is that the *energy content* of power
> (total joules) must be conserved but the instantaneous power (joules/
> second) does not have to be conserved as you have argued numerous
> times in numerous examples.

In any region, the energy flowing in (i.e. power) to the region minus
the energy flowing out (i.e. power) is equal to the additional energy
per unit time (i.e. power) being stored in the region. While not
called the "conservation of power law" it is an obvious corollary
to "conservation of energy".

> The only question that needs to be
> answered is: In a system designed to eliminate reflections and
> interference, does all the reflected energy eventually get dissipated
> in the source resistor. The answer is yes because there is nowhere
> else for it to go.

The obvious alternative is that the computed energy in the reflected
wave is sometimes just a figment. Or is something else happening with
the step function example?

Not to mention that in your 1/8 wavelength example (http://
www.w5dxp.com/nointfr.htm)
you do not explain where the energy is stored so that it can be
returned at a different time.

> There is no conservation of power principle and
> that includes instantaneous power. So it is irrelevant what/where
> instantaneous power might do/go during a single cycle.

Such declarations do permit an easy out, despite not aligning with
reality.

> Now I understand that instantaneous power dictates some physical
> design considerations as in waveguides. But since instantaneous power
> does not fall under the conservation of energy principle, it is simply
> irrelevant to the present discussion. What happens over a complete
> cycle is what is relevant.

If that is the case, the whole concept of reflected energy seems
somewhat bogus. Over a whole cycle, the power delivered by the
generator is passed on towards the load. If that is all you want

to know, then there is no need at all for "reflected power".

> However, in any and every case, it is energy that is conserved,
> not power.

Yes. But see the related corollary above.

> How many joules are in that dt
> sliver of time when the instantaneous power is 100 watts? It's those
> joules that must be conserved, not the instantaneous power.

Still having problems with mapping the concepts from calculus to the
real world, I see.

> You didn't answer my previous question. If you measure 100 watts of
> instantaneous power at 100 places within an inch of each other, does
> that mean there is 10000 watts of instantaneous power in that one inch
> of wire? That is the only logical conclusion based on your argument
> and assertions.

No more than "If you measure 100 watts of *average* power at 100
places
within an inch of each other, does that mean there is 10000 watts of
average power in that one inch of wire?"

But it is a way of thinking that you like to use to distract
yourself from the really interesting results.

> Any argument based on the conservation of power is
> doomed to fail. Please get real.

Please study the corollary above.

> > Not quite
> > 'as useless as tits on a boar hog, or as Hecht said, putting it
> > mildly: "of limited utility"'.
>
> One could argue that tits on a boar hog are not completely useless
> and, therefore, instantaneous energy is exactly as useless (or exactly
> as useful) as tits on a boar hog. (Hint: Without the existence of the
> tit gene in the male, female hogs would probably not have tits.)

So which is it? Is instantaneous energy flow a useful concept? Or is
it
not? You previously suggested an understanding of the value (when I
mentioned "real power folk"), but seem to continue to want to argue
its complete lack of usefulness.

And to stop besmirching Hecht, it seems most probable that his
comment was in the context of optics. After all, the book had that
title.

...Keith

2781. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 18:44:25 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <a46d81c3-3f2b-4546-ae7f-6030953b4be7@u26g2000yqu.googlegroups.com>
Source record: 8581

On Jun 26, 9:20 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 25, 6:47 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > You should study the design of the generator described previously and
> > repeated below, for your convenience:
> > Can you make your redistribution explanation work for this one?
>
> Here's what your schematic looks like. How about a web page graphic
> instead?
>
> http://www.w5dxp.com/Keith.JPG

That does present a bit of a challenge to decipher.

Try using groups.google.com to read the message.

After opening the topic, scroll to the top and click "Options" which
should be found in the same header as the Topic. Click "Fixed font".

This significantly improves readability.

...Keith

2782. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 19:23:44 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <35470dc9-7c6c-4da4-99d4-6bbd727545b6@e5g2000yqn.googlegroups.com>
Source record: 8582

On Jun 26, 9:49 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 25, 7:07 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Using superposition, when you add Vrev2(tau) to Vfor1(rho) you get
> > zero. With zero voltage comes 0 energy transfer.
>
> Completing your above sentence: With zero voltage comes 0 energy
> transfer *in the direction of travel of the original waves that were
> superposed*. Assuming that you believe in the conservation of energy
> principle, what happened to the energy in the two component voltage
> waves necessary for their existence before they cancel each other?

The fundamental question is: "did they have energy?"

Let us express this as a hypothesis:

Hypothesis 1: The component voltage waves have energy.

Then it should follow that we can trace this energy and discover
where it goes.

At least three examples have been proposed where the energy can
not be properly traced:

Example 1: Step function applied to a transmission line. After the
line settles, a forward and reflected voltage wave
continue on the line but no energy is being transferred.
Example 2: On a line with infinite VSWR no energy crosses a
voltage minimum or maximum.
Example 3: With the 1/8 wavelength line described in
http://www.w5dxp.com/nointfr.htm the energy can not be
properly accounted for on a moment by moment basis.

Only one counter-example was needed to disprove the hypothesis,
three have been found. There may be more.

Hypothesis is disproved.

No matter how many examples are found that support the hypothesis,
the hypothesis is still disproved.

...Keith

2783. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 19:41:07 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <a58163a2-0ea7-4afa-abb4-5464b5139252@g19g2000yqc.googlegroups.com>
Source record: 8583

On 27 jun, 11:37, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 25, 3:27 pm, lu6etj <lu6...@gmail.com> wrote:
>
> > Sorry. Cecil, I do not catch you (final numeric example), would you
> > mind give to me a more explanatory/explicit answer?
>
> I previously had a senior moment and changed contexts in the middle of
> a posting and I apologize for any confusion. Would you enlighten me as
> to the area of the discussion that you don't catch? Do you understand
> physical reflection and transmission coefficients and their effect on
> voltage, current, and power?
> --
> 73, Cecil, w5dxp.com

Thanks Cecil:

Examples of you that I saw in recent weeks were about interferences generated by a single real generator and reflections, resulting, for example, in constructive/destructive interference responsible of changes in energy flow direction starting from the line point where those interferences occurs. In a nutshell: In post 127 I asked you for an example/experiment based in TWO real generators to assimilate it to more familiar double slit interference phenomenom (TWO coherent sources) rendering energy redistribution inside one dimensional TL space, two sources in tridimensional space gives maximuns and nulls on screen (redistribution). Well, I ask you for identical example in unidimensional space rendering a phenomenom similar as reflection (one wave) but with interference (two waves). Sorry I do not know how better translate my question to english words.
I not catched your answer because it does not match my question :>)

Thank you very much in advance. Miguel - LU6ETJ

PS: On Google interface, inside thread's tittle => options you can select fixed text, to correctly see ASCII drawings.

2784. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 20:01:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a77f0ee0-5da1-4603-8a64-a99db7eccd68@z10g2000yqb.googlegroups.com>
Source record: 8584

On Jun 27, 1:38 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> In any region, the energy flowing in (i.e. power) to the region minus
> the energy flowing out (i.e. power) is equal to the additional energy
> per unit time (i.e. power) being stored in the region. While not
> called the "conservation of power law" it is an obvious corollary
> to "conservation of energy".

I'm sorry, that is simply not true for power. The energy content of a
1us pulse containing one joule and the energy content of a one sec
pulse containing one joule are equal and that one joule is all that
must be conserved. The 1us pulse containing 1,000,000 watts can be
converted to a one second pulse containing 1 watt. Where did the other
999,999 watts go??? Energy has been conserved but the power changed
from 1,000,000 watts to 1 watt using exactly the same energy. Perhaps
this characteristic of power is what you are missing. Also, all the
energy can be conserved in reactance while power falls to absolute
zero. This often happens during a fraction of a cycle. That is what is
wrong with you trying to track instataneous power - it doesn't work
unless one standardizes to at least one cycle. Within each fraction of
a cycle, any principle of conservation of power will surely be
violated. If it appears that power is ever conserved, it is only by
accident. Such is the case with many megacycles/second where the
result of a fraction of a cycle will have a negligible effect on the
joules/sec.

> The obvious alternative is that the computed energy in the reflected
> wave is sometimes just a figment.

And God created the heavens and earth in six days and rested on the
seventh. I'm glad you are happy with your faith-based physics. In the
field of real-world physics, EM waves cannot exist without ExH energy.
The only way to win this argument is to prove to everyone that they
are not really detecting reflected waves containing energy when they
look at themselves in the mirror. Good luck on that one.

Question: How were the first three days measured before the creation
of the sun on the 4th day?

> Not to mention that in your 1/8 wavelength example (http://www.w5dxp.com/nointfr.htm)
> you do not explain where the energy is stored so that it can be
> returned at a different time.

Energy is stored in the transmission line and delivered as needed to
satisfy the conservaton of energy principle. Years ago, I showed how
energy can flow *into the source* (negative power) during a fractional
part of a cycle in a conjugately matched system.

> Such declarations do permit an easy out, despite not aligning with
> reality.

If you can take one joule per microsecond (1 megawatt) and conserve that one megawatt of power over a century, you can get rich selling it. Let us know when you get your patent on conservation of power. :-) Good Grief!

> If that is the case, the whole concept of reflected energy seems
> somewhat bogus. Over a whole cycle, the power delivered by the
> generator is passed on towards the load. If that is all you want
> to know, then there is no need at all for "reflected power".

But, as you can grok from the subject of this thread, that is not all that is needed to know. The last gasp of the loser is that it didn't matter anyhow. Reflected energy has always mattered to optical physicists who know it obeys the laws of physics. Now it seems to matter to some hams. If it doesn't matter to you, why do you continue posting?

> And to stop besmirching Hecht, it seems most probable that his
> comment was in the context of optics. After all, the book had that
> title.

Hint: RF waves are covered in every physics book whose title is "Light". There is absolutely no difference, from a physics standpoint, between a coherent light wave and a coherent RF wave except for frequency. The both obey exactly the same laws of physics which you seem to concede for visible light but not for light at RF frequencies.
--
73, Cecil, w5dxp.com

2785. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 20:27:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c0130252-b9b5-417e-bc64-968ba11f370d@5g2000yqz.googlegroups.com>
Source record: 8585

On Jun 27, 2:23 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Example 1: Step function applied to a transmission line. After the
> line settles, a forward and reflected voltage wave
> continue on the line but no energy is being transferred.

As far as I am concerned, if Maxwell's equations don't work on an example, it might as well be ignored. There is nothing during DC steady-state that allows Maxwell's equations to work because there are no EM waves during DC steady-state. Why don't you already know that?

I can take your approach and do you one better. Please prove that you exist. If you cannot prove that you exist, then nothing you say is of any consequence. See, I can do it also.

> Example 2: On a line with infinite VSWR no energy crosses a
> voltage minimum or maximum.

Completely false assumption. You are back to asserting that since the north-bound traffic equals the south-bound traffic on the Golden Gate Bridge that there is no traffic and no bridge maintenance is required. When are you going to give up on that irrational wet dream of yours? No *NET* energy crosses at a voltage zero or current zero point. That doesn't make the north-bound energy equal to zero and doesn't make the south-bound energy equal to zero. It just makes them equal. Just because there is no NET traffic flow on the Golden Gate Bridge doesn't mean there is zero traffic flow in both directions. Please stop clowning around with such absurb notions.

> Example 3: With the 1/8 wavelength line described in
> http://www.w5dxp.com/nointfr.htmthe energy can not be
> properly accounted for on a moment by moment basis.

There is no conservation of power principle. If you would track the RF joules and the conversion of RF joules to heat instead of the joules/second, everything would become clear to you. As it is, you are laboring under some serious misconceptions about the laws of physics. Power simply doesn't balance within a single cycle - because it doesn't have to - because there is no conservation of power principle.

People who don't learn from their mistakes are doomed to commit the same mistakes over and over. Keith, you seem to be all output and no input. Please enable your input channels for a change.
--
73, Cecil, w5dxp.com

2786. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 20:39:59 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <59e01d5d-6910-434a-8052-2a05d7b8a403@c10g2000yqi.googlegroups.com>
Source record: 8586

On Jun 27, 2:20 pm, K1TTT <k1...@arrl.net> wrote:
> but the equivalent points out that your statements about it sourcing
> constant power is incorrect.

You might like to actually test it. The two sources are always
delivering 100W.

With an open circuit load:
The current source is delivering 100 W to the parallel source
resistor.
The voltage source delivers nothing.
Total: 100W

With a shorted load:
The voltage source is delivering 100W to the series source resistor.
The current source delivers nothing.
Total: 100W

With a 50 ohm load:
The voltage source is delivering 50W.
The current source is delivering 50W.
Total: 100W
The load is receiving 50W.
Each generator resistor is dissipating 25W.

> i have also pointed out that your statements about your 'step wave'
> are obviously incorrect because you have applied assumptions that are
> only valid in the sinusoidal steady state to a step function that can
> never be in steady state.

I am not sure where you think there is an error. Perhaps you can
point them out in the following example:

Generator:
- 100V step in to an open circuit
- 50 ohm source impedance
Line:
- 50 ohm
- open circuit

Generator is commanded to produce a step.
This will produce 50 V and 1 A at the line input which will
propagate down the line.
The open end of the line has a reflection co-efficient of 1.0.
Just before the 50 V step reaches the end of the line, the
whole line will be at 50 V and 1 A will be flowing everywhere.
The 50 V step hits the end and is reflected, producing a 50 V

step (on top of the 50V already there) which propagates back
to the generator. In front of the 50 V step, the current is
still 1 A (which provides the charge necessary to produce
the reverse propagating 50 V step. Behind the step, the
current is 0.
When the reverse 50 V step (which is actually a step from
50V to 100V) reaches the generator, the source impedance
matches the line impedance so there is no further reflection.
The line state is now 100V and 0A all along its length.

The settling time was one round-trip.

The generator is still producing the step, so the forward
step voltage wave is still 'flowing' and being reflected so
there is still a reflected step voltage wave, each of 50 V.

Since the generator open circuit voltage is 100 V and the
line voltage is now 100 V, current is no longer flowing
from the generator to the line.

Does this agree with your understanding?

I have snipped the rest of your post since until the above
is agreed, there is no sense in proceeding further.

...Keith

2787. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 20:51:58 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <4YKdnQuP4coXJLrRnZ2dnUVZ_s2dnZ2d@earthlink.com>
Source record: 8587

"-.-. --.-" <a@a.com> wrote in message
news:i07m1l$2k0$1@speranza.aioe.org...
> All begin reading the advice of a reseller on a Italian ham magazine, that
> claim this (translated):
>
> "The MFJ 1796 antenna only at XXX euro !!! 2,6,10,15,20,40 meters Superior
> Half-Wave configuration !!"
>
> Oh well, i'm really a rookie on antenna theory, but - thinking into
> myself - someone at MFJ can please explain me what the hell make on this
> antenna to shrink an half wave antenna on 40 meters into a stick shorter
> than quarter wave??
>

It is easy to put anyting on paper. Antenna gain advertisement was so bad
that many years ago the ARRL would not let anyone put gain numbers in their
advertisements.
Most things made by MFJ are not very well thought of in the US.

2788. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 21:32:32 UTC
From: BillyBobMarley <whax44@gmail.com>
Message-ID: <46e0478f-173a-4bbc-9036-0658565c68c3@u7g2000yqm.googlegroups.com>
Source record: 8588

On Jun 27, 4:51 pm, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "-.-. --.-" <a...@a.com> wrote in message
>
> news:i07m1l$2k0$1@speranza.aioe.org...
>
> > All begin reading the advice of a reseller on a Italian ham magazine, that
> > claim this (translated):
>
> > "The MFJ 1796 antenna only at XXX euro !!! 2,6,10,15,20,40 meters Superior
> > Half-Wave configuration !!"
>
> > Oh well, i'm really a rookie on antenna theory, but - thinking into
> > myself - someone at MFJ can please explain me what the hell make on this
> > antenna to shrink an half wave antenna on 40 meters into a stick shorter
> > than quarter wave??
>
> It is easy to put anyting on paper. Antenna gain advertisement was so bad
> that many years ago the ARRL would not let anyone put gain numbers in their
> advertisements.
> Most things made by MFJ are not very well thought of in the US.

That's why it's referred to as "Mighty Fine Junk" remember the V31BB
Mighty Fine Junk network? Too damn funny.

2789. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 21:42:34 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <30e5076c-bda9-43ea-8f31-16bcb57eccde@j4g2000yqh.googlegroups.com>
Source record: 8589

On Jun 27, 2:26 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 27, 12:49 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Cecil simply sidesteps these little inconveniences by refusing to
> > consider anything other than sinusoidal RF excitation and by
> > refusing to consider any time based analysis.
>
> That's simply false. Using Fourier analysis, I reduce anything other
> than a sinusoid to multiple sinusoidal RF excitations, perform the
> sinusoidal analysis, and then use superposition to find the answer.

You need to expand your solution space. Some problems are so much
easier to solve in the time domain.

I can't even imagine doing some problems in the frequency domain.
Let's see: I turn on my flashlight maybe once per week, so the
fundamental is 1.6e-6 Hz, and say the risetime is 1 millisecond
-- my head hurts already -- that's about 600,000,000 harmonics to
be computed. No wonder you give up on some problems so readily.

> I also reject any example where Maxwell's equations do not work. Your
> insistance that magical waves can somehow exist during DC steady-state
> violates the known laws of physics.

It is not my insistence. It follows from the math.

Besides if you convert it to the frequency domain you should
be happy that they exist since they then align with your
understandings.

> EM waves CANNOT exist during DC
> steady-state because electrons are traveling at a constant velocity.

Are you sure you meant this? The electron velocity changes? Or did
you mean the wave velocity? Nope. That does not work either.

> You can measure DC voltage with an AC voltmeter but that doesn't
> change DC voltage to AC voltage.

And for especial fun... Why are you sure DC is so special?
v(t)=A cos(wt)
describes a sinusoid. It has the parameter w to specifiy the
frequency. Set it to 0, and voila: DC. It falls right out
of the same definition as is used for a sinusoid. It is a
sinusoid.

...Keith

2790. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 22:05:11 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <95a1352d-aee9-4e42-8e67-877ca5e466df@d8g2000yqf.googlegroups.com>
Source record: 8590

On 27 jun, 17:39, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 27, 2:20 pm, K1TTT <k1...@arrl.net> wrote:
>
> > but the equivalent points out that your statements about it sourcing
> > constant power is incorrect.
>
> You might like to actually test it. The two sources are always
> delivering 100W.
>
> With an open circuit load:
> The current source is delivering 100 W to the parallel source
> resistor.
> The voltage source delivers nothing.
> Total: 100W
>
> With a shorted load:
> The voltage source is delivering 100W to the series source resistor.
> The current source delivers nothing.
> Total: 100W
>
> With a 50 ohm load:
> The voltage source is delivering 50W.
> The current source is delivering 50W.
> Total: 100W
> The load is receiving 50W.
> Each generator resistor is dissipating 25W.
>
> > i have also pointed out that your statements about your 'step wave'
> > are obviously incorrect because you have applied assumptions that are
> > only valid in the sinusoidal steady state to a step function that can
> > never be in steady state.
>
> I am not sure where you think there is an error. Perhaps you can
> point them out in the following example:
>
> Generator:
> - 100V step in to an open circuit
> - 50 ohm source impedance
> Line:
> - 50 ohm
> - open circuit
>
> Generator is commanded to produce a step.
> This will produce 50 V and 1 A at the line input which will

> propagate down the line.
> The open end of the line has a reflection co-efficient of 1.0.
> Just before the 50 V step reaches the end of the line, the
> whole line will be at 50 V and 1 A will be flowing everywhere.
> The 50 V step hits the end and is reflected, producing a 50 V
> step (on top of the 50V already there) which propagates back
> to the generator. In front of the 50 V step, the current is
> still 1 A (which provides the charge necessary to produce
> the reverse propagating 50 V step. Behind the step, the
> current is 0.
> When the reverse 50 V step (which is actually a step from
> 50V to 100V) reaches the generator, the source impedance
> matches the line impedance so there is no further reflection.
> The line state is now 100V and 0A all along its length.
>
> The settling time was one round-trip.
>
> The generator is still producing the step, so the forward
> step voltage wave is still 'flowing' and being reflected so
> there is still a reflected step voltage wave, each of 50 V.
>
> Since the generator open circuit voltage is 100 V and the
> line voltage is now 100 V, current is no longer flowing
> from the generator to the line.
>
> Does this agree with your understanding?
>
> I have snipped the rest of your post since until the above
> is agreed, there is no sense in proceeding further.
>
> ...Keith

Sorry, I ommited aknowledge to you I understoond your example and what you mean with:

"What happens to Vfor1(rho) = 50v(0.7143) = 35.7v? "
"What happens to Pfor1(rho^2) = 50w(0.51) = 25.5w? "

(Last represent the cancellating (interference?) term of transmitted power (1.Rho^2) towards generator from the reflected power from the load to render VRef1=0 (doing the accounts with phasorial V-I math, though I suppose will give similar results employing the eq-1 of your World Radio article, but I am not sure if I'm catching it very well yet. Have you P1, P2, P3 and P4, for your 100 W example, to clear it?)

Miguel

2791. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 23:20:34 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <39e30ba9-785a-4da9-8af9-242b9569f29a@u26g2000yqu.googlegroups.com>
Source record: 8592

On 27 jun, 19:05, lu6etj <lu6...@gmail.com> wrote:
> On 27 jun, 17:39, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jun 27, 2:20 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > but the equivalent points out that your statements about it sourcing
> > > constant power is incorrect.
>
> > You might like to actually test it. The two sources are always
> > delivering 100W.
>
> > With an open circuit load:
> > The current source is delivering 100 W to the parallel source
> > resistor.
> > The voltage source delivers nothing.
> > Total: 100W
>
> > With a shorted load:
> > The voltage source is delivering 100W to the series source resistor.
> > The current source delivers nothing.
> > Total: 100W
>
> > With a 50 ohm load:
> > The voltage source is delivering 50W.
> > The current source is delivering 50W.
> > Total: 100W
> > The load is receiving 50W.
> > Each generator resistor is dissipating 25W.
>
> > > i have also pointed out that your statements about your 'step wave'
> > > are obviously incorrect because you have applied assumptions that are
> > > only valid in the sinusoidal steady state to a step function that can
> > > never be in steady state.
>
> > I am not sure where you think there is an error. Perhaps you can
> > point them out in the following example:
>
> > Generator:
> > - 100V step in to an open circuit
> > - 50 ohm source impedance

> > Line:
> > - 50 ohm
> > - open circuit
>
> > Generator is commanded to produce a step.
> > This will produce 50 V and 1 A at the line input which will
> > propagate down the line.
> > The open end of the line has a reflection co-efficient of 1.0.
> > Just before the 50 V step reaches the end of the line, the
> > whole line will be at 50 V and 1 A will be flowing everywhere.
> > The 50 V step hits the end and is reflected, producing a 50 V
> > step (on top of the 50V already there) which propagates back
> > to the generator. In front of the 50 V step, the current is
> > still 1 A (which provides the charge necessary to produce
> > the reverse propagating 50 V step. Behind the step, the
> > current is 0.
> > When the reverse 50 V step (which is actually a step from
> > 50V to 100V) reaches the generator, the source impedance
> > matches the line impedance so there is no further reflection.
> > The line state is now 100V and 0A all along its length.
>
> > The settling time was one round-trip.
>
> > The generator is still producing the step, so the forward
> > step voltage wave is still 'flowing' and being reflected so
> > there is still a reflected step voltage wave, each of 50 V.
>
> > Since the generator open circuit voltage is 100 V and the
> > line voltage is now 100 V, current is no longer flowing
> > from the generator to the line.
>
> > Does this agree with your understanding?
>
> > I have snipped the rest of your post since until the above
> > is agreed, there is no sense in proceeding further.
>
> > ...Keith
>
> Sorry, I ommited aknowledge to you I understoond your example and
> what you mean with:
>
> "What happens to Vfor1(rho) = 50v(0.7143) = 35.7v? "
> "What happens to Pfor1(rho^2) = 50w(0.51) = 25.5w? "
>
> (Last represent the cancellating (interference?) term of transmitted
> power (1.Rho^2) towards generator from the reflected power from the
> load to render VRef1=0 (doing the accounts with phasorial V-I math,
> though I suppose will give similar results employing the eq-1 of your
> World Radio article, but I am not sure if I'm catching it very well
> yet. Have you P1, P2, P3 and P4, for your 100 W example, to clear

> it?)
>
> Miguel- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Or if you prefer, tell me if in your article: P1=48.98 W; P2=53.15 W;
P3=51.02 W; P4=51.02 W

2792. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 23:21:13 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <8abe5960-6ab0-4d29-8b3d-ca06b15b8328@i31g2000yqm.googlegroups.com>
Source record: 8591

On Jun 27, 4:01 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 27, 1:38 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > In any region, the energy flowing in (i.e. power) to the region minus
> > the energy flowing out (i.e. power) is equal to the additional energy
> > per unit time (i.e. power) being stored in the region. While not
> > called the "conservation of power law" it is an obvious corollary
> > to "conservation of energy".
>
> I'm sorry, that is simply not true for power. The energy content of a
> 1us pulse containing one joule and the energy content of a one sec
> pulse containing one joule are equal and that one joule is all that
> must be conserved. The 1us pulse containing 1,000,000 watts can be
> converted to a one second pulse containing 1 watt.

Perhaps some of your difficulty is revealed in your phraseology. A
pulse does not 'contain' power. It can deliver energy at some rate.
If the pulse is rectangular, the rate will be constant for the
duration of the pulse. With some other profile, the rate will
vary over the duration of the pulse.

Perhaps a simple analogy would help. Near my house is a 50 m water
tower with a bunch of pipes connected to the bottom. The rate at
which water is added to the tower is always equal to the sum
of the rates flowing in on all the pipes (assume positive flow
raises the level in the tank, while negative flow reduces it).

Rephrased, for greater certainty: At any instant in time, the
rate at which water is being added to the tower is always equal
to the sum of the rates flowing in on all the pipes.

At any instant in time, all the water (and flows) can be
accounted for.

Same for energy (and energy flow).

<snip>

> > The obvious alternative is that the computed energy in the reflected
> > wave is sometimes just a figment.
>
> And God created the heavens and earth in six days and rested on the
> seventh.

Some do say, but this appears to be rather a non-sequitor.

> I'm glad you are happy with your faith-based physics. In the
> field of real-world physics, EM waves cannot exist without ExH energy.

Perhaps, then, you are simply arguing that these are not EM waves
since they do not have ExH energy?

> The only way to win this argument is to prove to everyone that they
> are not really detecting reflected waves containing energy when they
> look at themselves in the mirror. Good luck on that one.
>
> Question: How were the first three days measured before the creation
> of the sun on the 4th day?

Continuing with non-sequitors?

> > Not to mention that in your 1/8 wavelength example (http://www.w5dxp.com/nointfr.htm)
> > you do not explain where the energy is stored so that it can be
> > returned at a different time.
>
> Energy is stored in the transmission line and delivered as needed to
> satisfy the conservaton of energy principle.

Nope. That also failed to account for the energy when observed in the
time domain. See http://sites.google.com/site/keithdysart/radio6.

> Years ago, I showed how
> energy can flow *into the source* (negative power) during a fractional
> part of a cycle in a conjugately matched system.
>
> > Such declarations do permit an easy out, despite not aligning with
> > reality.
>
> If you can take one joule per microsecond (1 megawatt) and conserve
> that one megawatt of power over a century, you can get rich selling
> it. Let us know when you get your patent on conservation of power. :-)
> Good Grief!
>
> > If that is the case, the whole concept of reflected energy seems
> > somewhat bogus. Over a whole cycle, the power delivered by the
> > generator is passed on towards the load. If that is all you want
> > to know, then there is no need at all for "reflected power".
>
> But, as you can grok from the subject of this thread, that is not all
> that is needed to know. The last gasp of the loser is that it didn't
> matter anyhow. Reflected energy has always mattered to optical
> physicists who know it obeys the laws of physics. Now it seems to
> matter to some hams. If it doesn't matter to you, why do you continue
> posting?

Did I miss something? Was it not you who said "What happens over a
complete cycle is what is relevant."?

> > And to stop besmirching Hecht, it seems most probable that his
> > comment was in the context of optics. After all, the book had that

> > title.
>
> Hint: RF waves are covered in every physics book whose title is
> "Light". There is absolutely no difference, from a physics standpoint,
> between a coherent light wave and a coherent RF wave except for
> frequency. The both obey exactly the same laws of physics which you
> seem to concede for visible light but not for light at RF frequencies.

Several differences:
- Transmission lines work down to DC
- At lower RF, it is possible to independantly measure voltage and
current

This allows a better understanding of the behaviour, not constrained
by the capabilities of the mearsuring instruments.

...Keith

2793. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-27 23:59:39 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <f252618f-e12f-4a50-9563-90e6fff67c1f@r27g2000yqb.googlegroups.com>
Source record: 8593

On Jun 27, 4:27 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 27, 2:23 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Example 1: Step function applied to a transmission line. After the
> > line settles, a forward and reflected voltage wave
> > continue on the line but no energy is being transferred.
>
> As far as I am concerned, if Maxwell's equations don't work on an
> example, it might as well be ignored. There is nothing during DC
> steady-state that allows Maxwell's equations to work because there are
> no EM waves during DC steady-state. Why don't you already know that?

I always thought that Maxwell's equations were more complete than that
and worked all the way down to DC. Two of them do not even include
time
and nothing says that a derivative with respect to time can't be 0.

> I can take your approach and do you one better. Please prove that you
> exist. If you cannot prove that you exist, then nothing you say is of
> any consequence. See, I can do it also.

From the above, you have proved that I exist. Thank you.

> > Example 2: On a line with infinite VSWR no energy crosses a
> > voltage minimum or maximum.
>
> Completely false assumption. You are back to asserting that since the
> north-bound traffic equals the south-bound traffic on the Golden Gate
> Bridge that there is no traffic and no bridge maintenance is required.
> When are you going to give up on that irrational wet dream of yours?
> No *NET* energy crosses at a voltage zero or current zero point. That
> doesn't make the north-bound energy equal to zero and doesn't make the
> south-bound energy equal to zero. It just makes them equal. Just
> because there is no NET traffic flow on the Golden Gate Bridge doesn't
> mean there is zero traffic flow in both directions. Please stop
> clowning around with such absurb notions.

I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
considered to be a rather fundamental equation.

> > Example 3: With the 1/8 wavelength line described in
> > http://www.w5dxp.com/nointfr.htmtheenergy can not be
> > properly accounted for on a moment by moment basis.
>
> There is no conservation of power principle.

There is no mention of power above; simply energy.

Are you saying that conservation of energy only applies some of
the time?

> If you would track the RF
> joules and the conversion of RF joules to heat instead of the joules/
> second, everything would become clear to you. As it is, you are
> laboring under some serious misconceptions about the laws of physics.
> Power simply doesn't balance within a single cycle - because it
> doesn't have to - because there is no conservation of power principle.

In your example, the RF energy does seem to disappear and re-appear,
when tracked on a moment by moment basis.

> People who don't learn from their mistakes are doomed to commit the
> same mistakes over and over. Keith, you seem to be all output and no
> input. Please enable your input channels for a change.

Well, it would help if you could actually find and articulate a flaw
in http://sites.google.com/site/keithdysart/radio6.

...Keith

2794. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 01:16:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3a1832ac-91ba-4f3a-9c65-70699d452d18@d16g2000yqb.googlegroups.com>
Source record: 8594

On Jun 27, 4:42 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> It is not my insistence. It follows from the math.

Unfortunately for your arguments, math models do not dictate reality.
If the math model doesn't match reality, it is invalid. Your math
models obviously do not match reality.

> Are you sure you meant this? The electron velocity changes? Or did
> you mean the wave velocity? Nope. That does not work either.

Yes, acceleration and deceleration of electrons (in the conductor) is
required for EM waves to even exist. That's an obvious change in
electron velocity. Is that another fact of physics that shoots your
theory down? I repeat: EM waves are impossible during DC steady-state.
--
73, Cecil, w5dxp.com

2795. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 01:48:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7be2d185-6b53-4625-82be-bd1873ceb811@u7g2000yqm.googlegroups.com>
Source record: 8595

On Jun 27, 6:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> From the above, you have proved that I exist. Thank you.

Nope, I believe you are only a figment of my imagination. Please prove
that you actually exist.

> I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
> considered to be a rather fundamental equation.

I have absolutely no problem with giving up on the conservation of
power principle in which no rational technical person can possibly
believe.

> Are you saying that conservation of energy only applies some of
> the time?

No, I am saying that if you cannot balance the energy equation at all
times, you have made a mistake. You are not tracking joules. You are
attempting to track watts which can appear and disappear at any time.
The only condition where watts can be tracked is over an integer
multiple of complete cycles. That's why watts can be tracked when the
frequency is in the MHz. Trying to track instantaneous watts within a
fraction of a cycle is a moronic attempt at power superposition, a no-
no that we all learned in EE101.

> In your example, the RF energy does seem to disappear and re-appear,
> when tracked on a moment by moment basis.

No, the power can disappear and re-appear but the energy cannot. You
have not even come close to tracking the energy.

> Well, it would help if you could actually find and articulate a flaw
> inhttp://sites.google.com/site/keithdysart/radio6.

The flaw is your belief in a conservation of power principle that
doesn't exist. Instantaneous power is not required to obey any
conservation principle. What you are doing on that web page is
attempting to superpose powers apparently without a clue.

Superposition of power is a no-no. The power density equation allows
us to accomplish the addition of *average* powers taking interference
into effect. I know of no such mathematical equations for
instantaneous power and your instantaneous power superposition
technique is obviously invalid.
--
73, Cecil, w5dxp.com

2796. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 02:03:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3f7fe0cf-7e7b-4853-a391-09d803776341@y4g2000yqy.googlegroups.com>
Source record: 8596

On Jun 27, 5:05 pm, lu6etj <lu6...@gmail.com> wrote:
> Have you P1, P2, P3 and P4, for your 100 W example, to clear
> it?)

100w---50 ohm---+---1/2WL 291.5 ohm---50 ohm load

At '+', rho = 0.707, rho^2 = 0.5

P1 = Pfor1(1-rho^2) = 100w(0.5) = 50w

P2 = Pref2(rho^2) = 100w(0.5) = 50w

P3 = Pfor1(rho^2) = 100w(0.5) = 50w

P4 = Pref2(1-rho^2) = 100w(0.5) = 50w

Pref1 = P3 + P4 - 2*SQRT(P3*P4) = 0w

Pfor2 = P1 + P2 + 2*SQRT(P1*P2) = 200w

How's that?
--
73, Cecil, w5dxp.com

2797. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 02:20:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3003120f-27a8-498e-9cb1-057ed7ee1ac9@j4g2000yqh.googlegroups.com>
Source record: 8597

On Jun 27, 6:20 pm, lu6etj <lu6...@gmail.com> wrote:
> Or if you prefer, tell me if in your article: P1=48.98 W; P2=53.15 W;
> P3=51.02 W; P4=51.02 W-

P1+P3 = Pfor1 = 100w

P2+P4 = Pref2 = 104.1w

Yes, those look like close to the correct values. I guess I should add
them to my article.
--
73, Cecil, w5dxp.com

2798. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 13:09:26 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <sc7h2694rrb42hnco2t3voh0s2vu2rjpce@4ax.com>
Source record: 8598

On Sun, 27 Jun 2010 14:32:32 -0700 (PDT), BillyBobMarley
<whax44@gmail.com> wrote:

>On Jun 27, 4:51ï¿½pm, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>> "-.-. --.-" <a...@a.com> wrote in message
>>
>> news:i07m1l$2k0$1@speranza.aioe.org...
>>
>> > All begin reading the advice of a reseller on a Italian ham magazine, that
>> > claim this (translated):
>>
>> > "The MFJ 1796 antenna only at XXX euro !!! 2,6,10,15,20,40 meters Superior
>> > Half-Wave configuration !!"
>>
>> > Oh well, i'm really a rookie on antenna theory, but - thinking into
>> > myself - someone at MFJ can please explain me what the hell make on this
>> > antenna to shrink an half wave antenna on 40 meters into a stick shorter
>> > than quarter wave??
>>
>> It is easy to put anyting on paper. ï¿½Antenna gain advertisement was so bad
>> that many years ago the ARRL would not let anyone put gain numbers in their
>> advertisements.
>> Most things made by MFJ are not very well thought of in the US.
>
>That's why it's referred to as "Mighty Fine Junk" remember the V31BB
>Mighty Fine Junk network? Too damn funny.

The MFJ products that I have purchased and use work well for me.
Judging from their popularity and growth, I am not the only one who
can make their products work.

John Ferrell W8CCW

2799. Chanel shoes <free shipping paypal payment>(http:// www.cntrade09.com/)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 13:59:35 UTC
From: cntrade08 <chenxiangmei88@gmail.com>
Message-ID: <09db9984-00eb-4405-a2f0-d79b92c7862f@j7g2000prj.googlegroups.com>
Source record: 8599
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

Shox Shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
shoes shox shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
shox shoe <free shipping paypal payment>(http://www.cntrade09.com/)
LV,coach,chanel boots wholesale <free shipping paypal payment>(
http://www.cntrade09.com/)
air force ones <free shipping paypal payment>(http:// www.cntrade09.com/)
nike trading <free shipping paypal payment>(http://www.cntrade09.com/
)
nike shox <free shipping paypal payment>(http://www.cntrade09.com/)
shox air <free shipping paypal payment>(http://www.cntrade09.com/)
white shoe <free shipping paypal payment>(http:// www.cntrade09.com/
)
nike shoe <free shipping paypal payment>(http://www.cntrade09.com/)
nike air shox <free shipping paypal payment>(http://www.cntrade09.com/)
shox r4 <free shipping paypal payment>(http://www.cntrade09.com/)
tennis shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
tennis shoe <free shipping paypal payment>(http://www.cntrade09.com/)
basketball shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
jordan shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox 2 <free shipping paypal payment>(http://www.cntrade09.com/)
nike shox ace <free shipping paypal payment>(http://www.cntrade09.com/)
men's shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
buy shoe <free shipping paypal payment>(http://www.cntrade09.com/)
adidas shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
kids shoe <free shipping paypal payment>(http://www.cntrade09.com/)
buy shoes <free shipping paypal payment>(http://www.cntrade09.com/)
puma shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
converse shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
shoes sale <free shipping paypal payment>(http:// www.cntrade09.com/)
running shoes women <free shipping paypal payment>(http:// www.cntrade09.com/
)
adidas running shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Footwear <free shipping paypal payment>(http://www.cntrade09.com/)
Paul Smith shoes <free shipping paypal payment>(http://www.cntrade09.com/

)
Jordan shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
Bape shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Chanel shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
D&G shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Dior shoes <free shipping paypal payment>(http://www.cntrade09.com/)
ED hardy shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Evisu shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
Fendi shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Gucci shoes `<free shipping paypal payment>(http://www.cntrade09.com/
)
Hogan shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Lv shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
Prada shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Timberland shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Tous shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Ice cream shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Sebago shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Lacoste shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Air force one shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
TODS shoes <free shipping paypal payment>(http://www.cntrade09.com/)
AF shoes <free shipping paypal payment>(http://www.cntrade09.com/)

2800. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 21:11:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bc8a1d26-f331-439e-95d6-c75807577fd5@i28g2000yqa.googlegroups.com>
Source record: 8600

On Jun 27, 11:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 27, 4:27 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 27, 2:23 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > Example 1: Step function applied to a transmission line. After the
> > >   line settles, a forward and reflected voltage wave
> > >   continue on the line but no energy is being transferred.
>
> > As far as I am concerned, if Maxwell's equations don't work on an
> > example, it might as well be ignored. There is nothing during DC
> > steady-state that allows Maxwell's equations to work because there are
> > no EM waves during DC steady-state. Why don't you already know that?
>
> I always thought that Maxwell's equations were more complete than that
> and worked all the way down to DC. Two of them do not even include
> time
> and nothing says that a derivative with respect to time can't be 0.
>

of course they do constant electric field and constant magnetic fields
work just fine and go out to infinity in the dc steady state case.
this of course means there can be no moving electrons, therefor no
current, no d/dt terms, etc... which means no waves.

> > I can take your approach and do you one better. Please prove that you
> > exist. If you cannot prove that you exist, then nothing you say is of
> > any consequence. See, I can do it also.
>
> From the above, you have proved that I exist. Thank you.

i would debate the existence of a vacuum.

>
> > > Example 2: On a line with infinite VSWR no energy crosses a
> > >   voltage minimum or maximum.
>
> > Completely false assumption. You are back to asserting that since the
> > north-bound traffic equals the south-bound traffic on the Golden Gate
> > Bridge that there is no traffic and no bridge maintenance is required.
> > When are you going to give up on that irrational wet dream of yours?
> > No *NET* energy crosses at a voltage zero or current zero point. That
> > doesn't make the north-bound energy equal to zero and doesn't make the
> > south-bound energy equal to zero. It just makes them equal. Just
> > because there is no NET traffic flow on the Golden Gate Bridge doesn't

> > mean there is zero traffic flow in both directions. Please stop
> > clowning around with such absurb notions.
>
> I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
> considered to be a rather fundamental equation.

very fundamental, and very restricted. only good for one point in
space at one time, and for one pair of voltage and current
measurements... can not be applied to separate waves that are
superimposed, only to the final total voltage and current at the
measurement point at that instant.

>
> > > Example 3: With the 1/8 wavelength line described in
> > >   http://www.w5dxp.com/nointfr.htmtheenergycan not be
> > >   properly accounted for on a moment by moment basis.
>
> > There is no conservation of power principle.
>
> There is no mention of power above; simply energy.
>
> Are you saying that conservation of energy only applies some of
> the time?
>
> > If you would track the RF
> > joules and the conversion of RF joules to heat instead of the joules/
> > second, everything would become clear to you. As it is, you are
> > laboring under some serious misconceptions about the laws of physics.
> > Power simply doesn't balance within a single cycle - because it
> > doesn't have to - because there is no conservation of power principle.
>
> In your example, the RF energy does seem to disappear and re-appear,
> when tracked on a moment by moment basis.
>

when doing conservation of energy you must include the WHOLE system!
it doesn't work on one section of a transmission line any more than it
works for the infamous undergraduate teaser:

take a refrigerator, put it in a perfectly insulated room, and then
open the doors... what happens to the temperature in the room?

> > People who don't learn from their mistakes are doomed to commit the
> > same mistakes over and over. Keith, you seem to be all output and no
> > input. Please enable your input channels for a change.
>
> Well, it would help if you could actually find and articulate a flaw
> inhttp://sites.google.com/site/keithdysart/radio6.
>
> ...Keith

that site is rather worthless... you say Vs can be used to get the time reference for the other signals, but time is a variable, as is space. you seem to have a snapshot of a bunch of sine waves on an angular scale, but is that scale time or distance?

2801. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 22:22:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <dd0a51e7-4d7b-4273-bd29-283ab1816363@d37g2000yqm.googlegroups.com>
Source record: 8651

On Jun 27, 11:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 27, 4:27 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 27, 2:23 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > Example 1: Step function applied to a transmission line. After the
> > >   line settles, a forward and reflected voltage wave
> > >   continue on the line but no energy is being transferred.
>
> > As far as I am concerned, if Maxwell's equations don't work on an
> > example, it might as well be ignored. There is nothing during DC
> > steady-state that allows Maxwell's equations to work because there are
> > no EM waves during DC steady-state. Why don't you already know that?
>
> I always thought that Maxwell's equations were more complete than that
> and worked all the way down to DC. Two of them do not even include
> time
> and nothing says that a derivative with respect to time can't be 0.
>

of course they do constant electric field and constant magnetic fields
work just fine and go out to infinity in the dc steady state case.
this of course means there can be no moving electrons, therefor no
current, no d/dt terms, etc... which means no waves.

> > I can take your approach and do you one better. Please prove that you
> > exist. If you cannot prove that you exist, then nothing you say is of
> > any consequence. See, I can do it also.
>
> From the above, you have proved that I exist. Thank you.

i would debate the existence of a vacuum.

>
> > > Example 2: On a line with infinite VSWR no energy crosses a
> > >   voltage minimum or maximum.
>
> > Completely false assumption. You are back to asserting that since the
> > north-bound traffic equals the south-bound traffic on the Golden Gate
> > Bridge that there is no traffic and no bridge maintenance is required.
> > When are you going to give up on that irrational wet dream of yours?
> > No *NET* energy crosses at a voltage zero or current zero point. That
> > doesn't make the north-bound energy equal to zero and doesn't make the
> > south-bound energy equal to zero. It just makes them equal. Just
> > because there is no NET traffic flow on the Golden Gate Bridge doesn't

> > mean there is zero traffic flow in both directions. Please stop
> > clowning around with such absurb notions.
>
> I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
> considered to be a rather fundamental equation.

very fundamental, and very restricted. only good for one point in
space at one time, and for one pair of voltage and current
measurements... can not be applied to separate waves that are
superimposed, only to the final total voltage and current at the
measurement point at that instant.

>
> > > Example 3: With the 1/8 wavelength line described in
> > >   http://www.w5dxp.com/nointfr.htmtheenergycan not be
> > >   properly accounted for on a moment by moment basis.
>
> > There is no conservation of power principle.
>
> There is no mention of power above; simply energy.
>
> Are you saying that conservation of energy only applies some of
> the time?
>
> > If you would track the RF
> > joules and the conversion of RF joules to heat instead of the joules/
> > second, everything would become clear to you. As it is, you are
> > laboring under some serious misconceptions about the laws of physics.
> > Power simply doesn't balance within a single cycle - because it
> > doesn't have to - because there is no conservation of power principle.
>
> In your example, the RF energy does seem to disappear and re-appear,
> when tracked on a moment by moment basis.
>

when doing conservation of energy you must include the WHOLE system!
it doesn't work on one section of a transmission line any more than it
works for the infamous undergraduate teaser:

take a refrigerator, put it in a perfectly insulated room, and then
open the doors... what happens to the temperature in the room?

> > People who don't learn from their mistakes are doomed to commit the
> > same mistakes over and over. Keith, you seem to be all output and no
> > input. Please enable your input channels for a change.
>
> Well, it would help if you could actually find and articulate a flaw
> inhttp://sites.google.com/site/keithdysart/radio6.
>
> ...Keith

that site is rather worthless... you say Vs can be used to get the time reference for the other signals, but time is a variable, as is space. you seem to have a snapshot of a bunch of sine waves on an angular scale, but is that scale time or distance?

2802. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 22:27:31 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <81d99528-2eda-4f9d-b2f4-dce71bee442d@5g2000yqz.googlegroups.com>
Source record: 8652

On Jun 27, 9:16 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 27, 4:42 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > It is not my insistence. It follows from the math.
>
> Unfortunately for your arguments, math models do not dictate reality.
> If the math model doesn't match reality, it is invalid. Your math
> models obviously do not match reality.

And yet, you have not located any errors in the math or the models.

...Keith

2803. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 22:33:57 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <fd36fbd7-a6d9-4f63-b99f-a3a95f4ffe42@i31g2000yqm.googlegroups.com>
Source record: 8653

On Jun 27, 9:48 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 27, 6:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
> > considered to be a rather fundamental equation.
>
> I have absolutely no problem with giving up on the conservation of
> power principle in which no rational technical person can possibly
> believe.

There again, a non-sequitor non-answer.

Do you reject P(t)=V(t)*I(t) ?

> > Are you saying that conservation of energy only applies some of
> > the time?
>
> No, I am saying that if you cannot balance the energy equation at all
> times, you have made a mistake.

I agree completely. And my analysis does successfully track all the
energy at all times.

And after averaging, it even agrees with your analysis.

Methinks that you are perturbed that it demonstrates that your
analysis
does not track all the energy all the time, but only succeeds with
averages.

...Keith

2804. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 22:50:28 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <0fad4012-13f3-4d9c-8b76-01330e4b7393@c10g2000yqi.googlegroups.com>
Source record: 8654

On Jun 28, 5:11 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 27, 11:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
> > considered to be a rather fundamental equation.
>
> very fundamental, and very restricted. only good for one point in
> space at one time, and for one pair of voltage and current
> measurements... can not be applied to separate waves that are
> superimposed, only to the final total voltage and current at the
> measurement point at that instant.

True, but others reject it completely.

> > In your example, the RF energy does seem to disappear and re-appear,
> > when tracked on a moment by moment basis.
>
> when doing conservation of energy you must include the WHOLE system!
> it doesn't work on one section of a transmission line any more than it
> works for the infamous undergraduate teaser:
>
> take a refrigerator, put it in a perfectly insulated room, and then
> open the doors... what happens to the temperature in the room?

The teaser is amusing, but hardly relevant. In my example, all of
the energy is tracked. Or, I invite you to point out that which was
overlooked. Cecil has not found any and would rather prattle on about
the difference between energy and power than actually understand.

> > Well, it would help if you could actually find and articulate a flaw
> > inhttp://sites.google.com/site/keithdysart/radio6.
>
> > ...Keith
>
> that site is rather worthless... you say Vs can be used to get the
> time reference for the other signals, but time is a variable, as is
> space. you seem to have a snapshot of a bunch of sine waves on an
> angular scale, but is that scale time or distance?

Time, of course. I agree, though, it is not as clear as it could
have been. It helps a bit if you look at Cecil’s schematic.

Still, it is complicated and will probably take some effort to
understand.

It would probably be better to start with the step wave example
offered previously in another post and copied below for

convenience:

<example>
I am not sure where you think there is an error. Perhaps you can
point them out in the following example:
Generator:
- 100V step in to an open circuit
- 50 ohm source impedance
Line:
- 50 ohm
- open circuit
Generator is commanded to produce a step.
This will produce 50 V and 1 A at the line input which will
propagate down the line.
The open end of the line has a reflection co-efficient of 1.0.
Just before the 50 V step reaches the end of the line, the
whole line will be at 50 V and 1 A will be flowing everywhere.
The 50 V step hits the end and is reflected, producing a 50 V
step (on top of the 50V already there) which propagates back
to the generator. In front of the 50 V step, the current is
still 1 A (which provides the charge necessary to produce
the reverse propagating 50 V step. Behind the step, the
current is 0.
When the reverse 50 V step (which is actually a step from
50V to 100V) reaches the generator, the source impedance
matches the line impedance so there is no further reflection.
The line state is now 100V and 0A all along its length.
The settling time was one round-trip.
The generator is still producing the step, so the forward
step voltage wave is still 'flowing' and being reflected so
there is still a reflected step voltage wave, each of 50 V.
Since the generator open circuit voltage is 100 V and the
line voltage is now 100 V, current is no longer flowing
from the generator to the line.
Does this agree with your understanding?
</example>

...Keith

2805. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-28 23:20:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d2913ed7-34d9-41a4-b000-4b4435d6cefe@x21g2000yqa.googlegroups.com>
Source record: 8655

On Jun 28, 10:50 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jun 28, 5:11 pm, K1TTT <k1...@arrl.net> wrote:
>
> > On Jun 27, 11:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
> > > considered to be a rather fundamental equation.
>
> > very fundamental, and very restricted. only good for one point in
> > space at one time, and for one pair of voltage and current
> > measurements... can not be applied to separate waves that are
> > superimposed, only to the final total voltage and current at the
> > measurement point at that instant.
>
> True, but others reject it completely.
>
> > > In your example, the RF energy does seem to disappear and re-appear,
> > > when tracked on a moment by moment basis.
>
> > when doing conservation of energy you must include the WHOLE system!
> > it doesn't work on one section of a transmission line any more than it
> > works for the infamous undergraduate teaser:
>
> > take a refrigerator, put it in a perfectly insulated room, and then
> > open the doors... what happens to the temperature in the room?
>
> The teaser is amusing, but hardly relevant. In my example, all of
> the energy is tracked. Or, I invite you to point out that which was
> overlooked. Cecil has not found any and would rather prattle on about
> the difference between energy and power than actually understand.
>

of course its relevant... so what happens to the temperature?

> > > Well, it would help if you could actually find and articulate a flaw
> > > inhttp://sites.google.com/site/keithdysart/radio6.
>
> > > ...Keith
>
> > that site is rather worthless... you say Vs can be used to get the
> > time reference for the other signals, but time is a variable, as is
> > space. you seem to have a snapshot of a bunch of sine waves on an
> > angular scale, but is that scale time or distance?
>
> Time, of course. I agree, though, it is not as clear as it could
> have been. It helps a bit if you look at Cecil’s schematic.

>
> Still, it is complicated and will probably take some effort to
> understand.
>
> It would probably be better to start with the step wave example
> offered previously in another post and copied below for
> convenience:
>
> <example>
> I am not sure where you think there is an error. Perhaps you can
> point them out in the following example:
> Generator:
> - 100V step in to an open circuit
> - 50 ohm source impedance
> Line:
> - 50 ohm
> - open circuit
> Generator is commanded to produce a step.
> This will produce 50 V and 1 A at the line input which will
> propagate down the line.
> The open end of the line has a reflection co-efficient of 1.0.
> Just before the 50 V step reaches the end of the line, the
> whole line will be at 50 V and 1 A will be flowing everywhere.
> The 50 V step hits the end and is reflected, producing a 50 V
> step (on top of the 50V already there) which propagates back
> to the generator. In front of the 50 V step, the current is
> still 1 A (which provides the charge necessary to produce
> the reverse propagating 50 V step. Behind the step, the
> current is 0.
> When the reverse 50 V step (which is actually a step from
> 50V to 100V) reaches the generator, the source impedance
> matches the line impedance so there is no further reflection.
> The line state is now 100V and 0A all along its length.
> The settling time was one round-trip.
> The generator is still producing the step, so the forward
> step voltage wave is still 'flowing' and being reflected so
> there is still a reflected step voltage wave, each of 50 V.
> Since the generator open circuit voltage is 100 V and the
> line voltage is now 100 V, current is no longer flowing
> from the generator to the line.
> Does this agree with your understanding?
> </example>
>
> ...Keith

this is different than what you claimed before. on june 17th you
claimed:
If(t) = 50/50 = 1a
Ir(t) = 50/50 = 1a
now you sy current is no longer flowing.

i will object to you saying the voltage 'wave' is still flowing. The line is at a constant 100v, there is no current, there can be no em wave without current AND voltage, therefore voltage can not be flowing.

2806. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 13:46:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fdb628ab-176a-43c1-a016-9ae8f6219fa7@y11g2000yqm.googlegroups.com>
Source record: 8656

On Jun 28, 5:27 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> And yet, you have not located any errors in the math or the models.

Superposition of power *IS* an error! You add and subtract powers willy-nilly as if that mathematical step were valid which it is not. Two coherent 50w waves do not add up to a 100w wave, even using average powers, except for the special case of zero interference where the waves are 90 degrees out of phase with each other.

In order to use power as an energy tracking tool, we must be very careful to ensure that there is a one-to-one correspondence between energy and power, i.e. every joule passing a point in one second must result in one watt of power (no VARs allowed). If that one-to-one correspondence doesn't exist, no valid conclusion can be drawn from tracking the power and any valid conclusion must be based on tracking the energy which is no small task. The key is that there is no such thing as imaginary energy. All energy is real. Some "power" is not real.

A one-to-one correspondence does not exist in a standing wave. Therefore, tracking power as if it were equivalent to energy in standing waves is invalid. You have made that error for years.

One-to-one correspondence also does not exist over a fraction of a wave. Therefore, instantaneous power is irrevelent in tracking the energy. That's your latest error which is the same conceptual error as before. In general, average power in the traveling waves over at least one complete cycle (or over many cycles) has a one-to-one correspondence to the average energy in the traveling waves. But that one-to-one correspondence is more often than not violated within a fraction of each cycle.

Here's a quote from "Optics", by Hecht, concerning power density (irradiance).

"If however, the 'T' is now divided out, a highly practical quantity results, one that corresponds to the average energy per unit area per unit time, namely 'I'." - where 'I' is the irradiance (*AVERAGE* power density).

If I calculate the Z0 of a 1/4WL transformer, I get two roots when I take the square root of R1*R2. One of the roots is negative. If I ask you to prove something is in error with the math that yielded a negative Z0, could you find the math error? If not, does it follow that you can find the transmission line with the negative characteristic impedance existing in reality?

That's your argument in a nutshell. There may (or may not) be an error in your math but it doesn't matter either way. The conclusions that you reach from your math do not match reality so your math is a moot point, i.e. there is no one-to-one correspondence between your math and the real world.

If you have forgotten the importance of the one-to-one correspondence concept in mathematics, now would be a good time to review that concept. Without a one-to-one correspondence to reality, math is just fantasy existing only in your mind.
--
73, Cecil, w5dxp.com

2807. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 14:13:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0f6d5f71-1804-45cf-b57c-9661a09db6bc@z10g2000yqb.googlegroups.com>
Source record: 8657

On Jun 28, 5:33 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Do you reject P(t)=V(t)*I(t) ?

I certainly reject as a moronic method for attempting to track
instantaneous energy.

> I agree completely. And my analysis does successfully track all the
> energy at all times.

That is obviously false. You have tracked the *power* after assuming a
one-to-one correspondence between power (watts) and energy (joules).
Your assumption is most likely false. You usually cannot use
instantaneous watts to track joules within a fraction of a cycle. If
the voltage and current are out of phase, some of the joules are
occupied as reactive power, and not available as watts of real power.
Why do you think the power companies spend so much money trying to
balance the power factor?

> Methinks that you are perturbed that it demonstrates that your
> analysis does not track all the energy all the time, but only
> succeeds with averages.

What bothers me is that, "Figures don't lie, but liers figure." :-) I
have made no assertion or effort to track instantaneous energy. I
would have to review a lot of physics to even remember how. What I do
know is that you have been tracking power, not energy, and therefore
any conclusion that you reach is probably invalid. You first must
prove a one-to-one correspondence at all delta-t sections between the
joules at that point and the watts at that point. We know that
integrating over a complete second will make the joules equal to the
watts for a traveling wave (but not for a standing wave). Now you must
integrate over every partial cycle to prove that there are the exact
number of joules in that delta-t of time to support the exact number
of watts in that delta-t of time. I remember being warned by my
professors more than half a century ago that it was a "fool's
errand".
--
73, Cecil, w5dxp.com

2808. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 15:02:04 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bd40c2d2-cd06-4253-8507-0e65df590a56@c33g2000yqm.googlegroups.com>
Source record: 8658

On Jun 28, 5:50 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Cecil has not found any and would rather prattle on about
> the difference between energy and power than actually understand.

I have listed a number of the laws of physics that you are violating. Of course, energy and power are different. Consider an ideal LC oscillator at the instant of time when the voltage on the capacitor is maximum and the current is zero. The energy is certainly not zero and can be calculated knowing the voltage and capacitance (assume 1000 volts and 1uf). Yet the instantaneous power is zero because the instantaneous current is zero.

energy = (V^2*C)/2 = 0.5 joule

power = V(t)*I(t) = 0

Please prove a one-to-one correspondence between energy and power. How can you possibly say that you are tracking all the energy when the power equals zero and the energy does not? Good grief!

> I am not sure where you think there is an error.

Again, you need to cut off your output and enable your inputs. There are no waves during DC steady-state. Therefore, there are no forward waves and no reflected waves. Therefore, you basic assumptions are invalid. For waves to exist there must be acceleration and deceleration of carrier electrons and such does not exist during DC steady-state. Why don't you know that?
--
73, Cecil, w5dxp.com

2809. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 16:44:48 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2a2308$0$17095$65785112@news.neostrada.pl>
Source record: 8659

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:bd40c2d2-cd06-4253-8507-0e65df590a56@c33g2000yqm.googlegroups.com...

>Again, you need to cut off your output and enable your inputs. There
are no waves during DC steady-state. Therefore, there are no forward
waves and no reflected waves.
Therefore, you basic assumptions are
invalid. For waves to exist there must be acceleration and
deceleration of carrier electrons and such does not exist during DC
steady-state. Why don't you know that?

Why don't you know that oscillating current goes into the displacement
current. In EM no reflections.

You should decide: EM or electrons. The mixture is fun.
S*

2810. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 17:50:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b9e1310a-79fc-4b70-970f-8bfb80542716@g19g2000yqc.googlegroups.com>
Source record: 8660

On Jun 29, 11:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> You should decide: EM or electrons. The mixture is fun.

That's an interesting idea to which I don't know the answer. Let me
rephrase the question:

Although it is known that electrons cannot flow through the dielectric
of an ideal capacitor, how about photons? Can RF photons flow directly
through the dielectric layer of a capacitor? If they can, it would
explain a lot of things.
--
73, Cecil, w5dxp.com

2811. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 17:54:54 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i0dc1e$9vp$1@news.jpl.nasa.gov>
Source record: 8661

Cecil Moore wrote:
> On Jun 29, 11:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> You should decide: EM or electrons. The mixture is fun.
>
> That's an interesting idea to which I don't know the answer. Let me
> rephrase the question:
>
> Although it is known that electrons cannot flow through the dielectric
> of an ideal capacitor, how about photons? Can RF photons flow directly
> through the dielectric layer of a capacitor? If they can, it would
> explain a lot of things.
> --
> 73, Cecil, w5dxp.com

photons can flow through a dielectric.. isn't that what EM propagation
is, after all?

2812. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 18:08:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ba877188-17e5-4939-b885-08346eb042ea@d37g2000yqm.googlegroups.com>
Source record: 8662

On Jun 29, 12:54 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> photons can flow through a dielectric.. isn't that what EM propagation
> is, after all?

Yes, after I posted it, I realized that it was a rhetorical question.
--
73, Cecil, w5dxp.com

2813. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-29 23:57:35 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <f05c298c-d429-4268-8f1a-6691c1f66852@z10g2000yqb.googlegroups.com>
Source record: 8663

On 29 jun, 15:08, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 29, 12:54 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > photons can flow through a dielectric.. isn't that what EM propagation
> > is, after all?
>
> Yes, after I posted it, I realized that it was a rhetorical question.
> --
> 73, Cecil, w5dxp.com

Dear friends, I follow with interest your interesting digressions,
however in various different posts about differents matters, I notice
discussion arises about what is "real" and what is not. IMO that
contributes to the solution goes away from us (I remember making this
comment in a previous post). In this sense respecto to energy I would
like to quote a great physics:

"...there is a certain quantity, which we call energy, that does not
change in the manifold changes which nature undergoes. That is a most
abstract idea, because it is a mathematical principle; it says that
there is a numerical quantity which does not change when something
happens. It is not a description of a mechanism, or anything concrete;
it is just a strange fact that we can calculate some number and when
we finish watching nature go through her tricks and calculate the
number again, it is the same."

"It is important to realize that in physics today, we have no
knowledge of what
energy is. We do not have a picture that energy comes in little blobs
of a definite
amount. It is not that way. However, there are formulas for
calculating some
numerical quantity, and when we add it all together it gives "28"'—
always the
same number. It is an abstract thing in that it does not tell us the
mechanism or
the reasons for the various formulas."

From: Richard Feynman. "Six easy pieces"

Miguel LU6ETJ

2814. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 00:11:27 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5080d2d6-e1ba-4d85-8683-e7ad954bf329@z8g2000yqz.googlegroups.com>
Source record: 8664

On 29 jun, 20:57, lu6etj <lu6...@gmail.com> wrote:
> On 29 jun, 15:08, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jun 29, 12:54 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > > photons can flow through a dielectric.. isn't that what EM propagation
> > > is, after all?
>
> > Yes, after I posted it, I realized that it was a rhetorical question.
> > --
> > 73, Cecil, w5dxp.com
>
> Dear friends, I follow with interest your interesting digressions,
> however in various different posts about differents matters, I notice
> discussion arises about what is "real" and what is not. IMO that
> contributes to the solution goes away from us (I remember making this
> comment in a previous post). In this sense respecto to energy I would
> like to quote a great physics:
>
> "...there is a certain quantity, which we call energy, that does not
> change in the manifold changes which nature undergoes. That is a most
> abstract idea, because it is a mathematical principle; it says that
> there is a numerical quantity which does not change when something
> happens. It is not a description of a mechanism, or anything concrete;
> it is just a strange fact that we can calculate some number and when
> we finish watching nature go through her tricks and calculate the
> number again, it is the same."
>
> "It is important to realize that in physics today, we have no
> knowledge of what
> energy is. We do not have a picture that energy comes in little blobs
> of a definite
> amount. It is not that way. However, there are formulas for
> calculating some
> numerical quantity, and when we add it all together it gives "28"'—
> always the
> same number. It is an abstract thing in that it does not tell us the
> mechanism or
> the reasons for the various formulas."
>
> From: Richard Feynman. "Six easy pieces"
>
> Miguel LU6ETJ

Sorry, I forget to made clear that my comment not reference Cecil recent post mentioning "real power" in mathematical sense, referencing complex numbers. :>)

Miguel

2815. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 01:41:52 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <d9eb2b87-1617-46a7-a6ec-57f5f626b636@c10g2000yqi.googlegroups.com>
Source record: 8665

On 29 jun, 15:08, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 29, 12:54 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > photons can flow through a dielectric.. isn't that what EM propagation
> > is, after all?
>
> Yes, after I posted it, I realized that it was a rhetorical question.
> --
> 73, Cecil, w5dxp.com

I learnt displacement current inside a condenser it was = eo* d(phi E)/
dt no EM radiation inside the condenser to made that current possible,
in any case EM radiation in physical condenser will come out from
condenser to the rest of the universe :>).
I also learnt photons was necessary to explain certain energy
interchange phenomena such as fotoelectric effect or subatomic
particle interactions, wave-particle duality for me means "duality",
not "wave kaput" :>) to account for EM wave well explainable
phenomenom.
As it was taught to me (I am not physicist), quantum nature of a 80 m
wavelenght energy it is useless for calculations and invisible to our
instrument resolution because its immensely large quantic number. Is
it wrong?

Miguel LU6ETJ

2816. JOBS&HOTPHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 03:00:11 UTC
From: om shanthi <omshanti9247@gmail.com>
Message-ID: <1ba7b8ea-4c21-4751-adb2-e492fb6b1e49@b33g2000prd.googlegroups.com>
Source record: 8666

FOR HEROIN HOT PHOTOS VISIT www.hotphotos.co.in

FOR JOBS http://jobsjackpot.blogspot.com/

hot lip kiss1
http://hotimagesandvideos.blogspot.com/2010/04/hot-lip-kiss1.html
hot hug
http://hotimagesandvideos.blogspot.com/2010/04/hot-hug.html
super hot kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-hot-kiss.html
one lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/one-lip-kiss.html
super navel kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-navel-kiss.html
hot train lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-train-lip-kiss.html
hot boobs kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-boobs-kiss.html

2817. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 06:30:51 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2ae4a3$0$19176$65785112@news.neostrada.pl>
Source record: 8667

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:b9e1310a-79fc-4b70-970f-8bfb80542716@g19g2000yqc.googlegroups.com...
On Jun 29, 11:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> You should decide: EM or electrons. The mixture is fun.

>That's an interesting idea to which I don't know the answer. Let me
rephrase the question:

>Although it is known that electrons cannot flow through the dielectric
of an ideal capacitor, how about photons? Can RF photons flow directly
through the dielectric layer of a capacitor? If they can, it would
explain a lot of things.

Photons are in the real light. The natural light is not coherent. It is
emitted in the portions (packets).
Radio waves are emitted continously. Radar waves are in the portions.

Radio waves and the light photons flow directly through the dielectric layer
of a capacitor.

The difference between EM and electrons is in compressibility.
Electrons are compressed in the ends of the open circuit (condenser and
antenna). There the voltage is doubled (at least). Alternate electric field
is created. It is radio wave. The longitudinal electric wave.

In Heaviside EM (hydraulic analogy) incompressible current (real +
displacement) create the magnetic whirl.
The oscillating magnetic whirl is the transverse wave.

Electrons are simple. Heaviside did not understand Maxwell and made a
complete mess.
S*

2818. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 09:49:07 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <46a22360-02c5-4da5-b71a-21969f56123a@k39g2000yqb.googlegroups.com>
Source record: 8668

On Jun 30, 1:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> The difference between EM and electrons is in compressibility.
> Electrons are compressed in the ends of the open circuit (condenser and
> antenna). There the voltage is doubled (at least). Alternate electric field
> is created. It is radio wave. The longitudinal electric wave.

Then shouldn't we all expect a condensor to be as good a radiator of
EM waves as a dipole?

2819. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 10:24:57 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <684f19a2-1855-4964-8bda-0600f5ea0bee@e5g2000yqn.googlegroups.com>
Source record: 8669

On Jun 28, 7:20 pm, K1TTT <k1...@arrl.net> wrote:
> On Jun 28, 10:50 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > On Jun 28, 5:11 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jun 27, 11:59 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > > > I suppose, but then you have to give up on P(t)=V(t)*I(t), generally
> > > > considered to be a rather fundamental equation.
>
> > > very fundamental, and very restricted. only good for one point in
> > > space at one time, and for one pair of voltage and current
> > > measurements... can not be applied to separate waves that are
> > > superimposed, only to the final total voltage and current at the
> > > measurement point at that instant.
>
> > True, but others reject it completely.
>
> > > > In your example, the RF energy does seem to disappear and re-appear,
> > > > when tracked on a moment by moment basis.
>
> > > when doing conservation of energy you must include the WHOLE system!
> > > it doesn't work on one section of a transmission line any more than it
> > > works for the infamous undergraduate teaser:
>
> > > take a refrigerator, put it in a perfectly insulated room, and then
> > > open the doors... what happens to the temperature in the room?
>
> > The teaser is amusing, but hardly relevant. In my example, all of
> > the energy is tracked. Or, I invite you to point out that which was
> > overlooked. Cecil has not found any and would rather prattle on about
> > the difference between energy and power than actually understand.
>
> of course its relevant... so what happens to the temperature?

Any energy that might raise the temperature is accounted for in the
source and load resistors, so I still suggest that no energy sources
or sinks have been missed.

> > > > Well, it would help if you could actually find and articulate a flaw
> > > > inhttp://sites.google.com/site/keithdysart/radio6.
>
> > > > ...Keith
>
> > > that site is rather worthless... you say Vs can be used to get the
> > > time reference for the other signals, but time is a variable, as is
> > > space. you seem to have a snapshot of a bunch of sine waves on an

> > > angular scale, but is that scale time or distance?
>
> > Time, of course. I agree, though, it is not as clear as it could
> > have been. It helps a bit if you look at Cecil’s schematic.
>
> > Still, it is complicated and will probably take some effort to
> > understand.
>
> > It would probably be better to start with the step wave example
> > offered previously in another post and copied below for
> > convenience:
>
> > <example>
> > I am not sure where you think there is an error. Perhaps you can
> > point them out in the following example:
> > Generator:
> > - 100V step in to an open circuit
> > - 50 ohm source impedance
> > Line:
> > - 50 ohm
> > - open circuit
> > Generator is commanded to produce a step.
> > This will produce 50 V and 1 A at the line input which will
> > propagate down the line.
> > The open end of the line has a reflection co-efficient of 1.0.
> > Just before the 50 V step reaches the end of the line, the
> > whole line will be at 50 V and 1 A will be flowing everywhere.
> > The 50 V step hits the end and is reflected, producing a 50 V
> > step (on top of the 50V already there) which propagates back
> > to the generator. In front of the 50 V step, the current is
> > still 1 A (which provides the charge necessary to produce
> > the reverse propagating 50 V step. Behind the step, the
> > current is 0.
> > When the reverse 50 V step (which is actually a step from
> > 50V to 100V) reaches the generator, the source impedance
> > matches the line impedance so there is no further reflection.
> > The line state is now 100V and 0A all along its length.
> > The settling time was one round-trip.
> > The generator is still producing the step, so the forward
> > step voltage wave is still 'flowing' and being reflected so
> > there is still a reflected step voltage wave, each of 50 V.
> > Since the generator open circuit voltage is 100 V and the
> > line voltage is now 100 V, current is no longer flowing
> > from the generator to the line.
> > Does this agree with your understanding?
> > </example>
>
> > ...Keith
>
> this is different than what you claimed before. on june 17th you

> claimed:
> If(t) = 50/50 = 1a
> Ir(t) = 50/50 = 1a
> now you say current is no longer flowing.
>
> i will object to you saying the voltage 'wave' is still flowing. The
> line is at a constant 100v, there is no current, there can be no em
> wave without current AND voltage, therefore voltage can not be
> flowing.

I think I detect a bit of a problem originating with definitions.

Start by considering that old stalwart from the text books: the
infinite transmission line. For convenience, the characteristic
impedance is 50 ohms and at the left end is attached a generator
with a 50 ohm source impedance. The transmission line extends
to the right forever, and this time the generator produces a
sinusoid.

Turn on the generator and it starts to produce a sinusoidal wave.
For greater certainty in the description let us say that the
function which describes the wave is:
V(t) = 100 cos(wt)
where w is the ascii excuse for omega, the angular frequency.

Because the line is accepting this signal and transporting it
away from the generator, the voltage distribution on the line
is also a sinusoid, but spatially distributed along the line.

We can visualise this spatially distributed sine wave as
moving along the line and thus we have the term travelling wave.
If we run fast enough along the line we can get to a point
where the signal has not yet arrived and the line is at 0V,
and if we wait, the sine wave will eventually arrive and
we will observe the same sinusoidal spatially distributed
voltage pattern moving along the line.

We can run the experiment with the generator producing other
functions of time and we would observe the same function
spatially distributed along the line and moving.

A generator producing a square wave will produce a square
wave voltage distribution moving along the line.

A generator producing pulses will result in pulses moving
along the line.

A voice signal will result in a complicated voltage pattern
moving along the line.

This holds for any wave, V(t), produced by the generator.

But most lines are not infinite. What happens when the line
is terminated? Most texts will explain that if a section

of line is terminated in its characteristic impedance, that section will behave as if it was connected to a line that continued forever. That is, the observations on that section will be no different than if the line went on and on and on.

Thus in that section we would observe the moving sine, square, pulse, or whatever wave, but, we can no longer run far down the line to find a place where the wave has not yet arrived, since the line has been truncated.

Now what happens if our section of line is open-circuited? The wave reflection model allows us to compute that the reflection coefficient (rc) will be 1. This means that if a forward travelling voltage wave, Vf(t), encounters the open circuit, it will be reflected as a reverse wave, Vr(t).

Mathematically
Vr(t) = rc * Vf(t)

Going back to our waveforms, this is most readily visualised with pulses where the repetition rate is low enough that only one pulse is on the line at a time. The pulse can be seen to travel down the line, hit the end and travel in the reverse direction back to the generator. What happens when the pulse gets back to the generator? Well the generator was specified to have a source impedance that was the same as the line characteristic impedance, so the behaviour on the section of line will be exactly the same as if the line continued forever. There is no reflection, and we can forget about the pulse.

The wave reflection model also tells us that the voltage at any point on the line will be
V(t) = Vf(t) + Vr(t)
where Vf(t) is the voltage from the forward wave at that point on the line and Vr(t) is the voltage from the reverse wave at that point on the line.

For pulses, where there is only one pulse on the line at a time, this is easy to visualise, but for continuous signals, the voltage distribution on the line is now the sum of the forward and reverse travelling waves and for the most part, the forward and reverse travelling waves are no longer easily visible. For example, with a sine wave, the resulting voltage distribution on the line is the time varying, so called, standing wave.

It is important to note that even though the original travelling waves are no longer visible in the spatial

distribution of the voltage on the line, the travelling wave continues to be provided by the generator, it travels to the end of the line where it is reflected and this reverse wave travels back to the generator where it behaves as if the line continued forever because the line is terminated by its characteristic impedance.

Recall that all of this holds for any Vf(t) produced by the generator. So what happens with that original sticking point, the step function?

Consider the infinite line again. The step is moving along the line. If we run far enough ahead, we can watch the step pass, but behind the step the voltage is constant. This makes it hard to visualise as a moving wave because there are no peaks and valleys to observe, but it is still moving. If in doubt, just run further down the line to observe the step pass again.

Now if we terminate the line, we can no longer run on ahead to find the step, but the wave is still moving; we just can’t see it because of the constant nature of the wave after the step.

With the open circuited line, the step function is reflected and travels as a reverse wave back to the generator. Once the step reaches the generator, just as happens for any other V(t) wave, the wave continues to move; it just is not visible. And the voltage at any point on the line can be correctly computed from
V(t) = Vf(t) + Vr(t)

Another way to think of this is to produce the step wave in a different manner. Start with a pulse wave. Then increase the pulse width until it approaches the pulse period. The variation in voltage can still be observed on the line. Then slowly increase the width until it is equal to the period. There is now no longer any variation in the wave to be observed, but the wave is still moving just as it was when the width was infinitesimally shorter than the period.

Another view is to start with a square wave, then increase the period until it is much longer than the duration of the experiment. Over the duration of the experiment, no change in voltage will be observed, but it is a square wave. One could perform a Fourier transform on the square wave, treat all the constituent sine waves as travelling

waves, work out the reflections for each, and sum them back. Exactly the same results will be obtained as will be for treating the step as a moving wave, even though there are no peaks and valleys to aid the visualisation.

So I hope that I have persuaded you that it is completely valid to view a step function as a wave that continues to move (though it is hard to see) even after the step has passed.

If not, re-read the above to locate the flaw in my argument.

If you have been convinced, then we can get back to
If(t) = 50/50 = 1a
Ir(t) = 50/50 = 1a

Consider a generator, 50 ohms, that produces a 50 V step in to 50 ohms. For this
Vf(t) = 50V
The line has a 50 ohm impedance, so
If(t) = 50/50 = 1A

This is the voltage and current that would be observed on the infinite or terminated line after the step passes.

With the open circuit line, where the reflection coefficient is 1, the voltage will be reflected so that
Vr(t) = 50V
after the reverse step passes and
Ir(t) = 50/50 = 1A

Recalling that at any point on the line
V(t) = Vf(t) + Vr(t)
and
I(t) = If(t) – Ir(t)

we have, after the reverse step has returned to the generator, everywhere on the line:
V(t) = 50 + 50 = 100V
I(t) = 1 – 1 = 0A

This is exactly as expected for a generator with an open circuit voltage of 100V and an open circuit line that has no current flowing.

So the wave reflection model, with continuously forward and reverse waves, accurately describes the resulting observations on the line, even for

a step wave.

...Keith

2820. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 11:43:13 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <31d69561-d882-42d5-8c48-4246e0b99e16@j4g2000yqh.googlegroups.com>
Source record: 8670

On Jun 29, 9:46 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 28, 5:27 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > And yet, you have not located any errors in the math or the models.
>
> Superposition of power *IS* an error!

You have really latched on to that haven't you. I remember the good
ol'
days when you were superposing powers and the very same people with
whom you are arguing today were trying to convince you that
superposing
power was an invalid operation.

Now you have bought in to the rule and apply it even where it does
not apply.

Just because a sum is being computed does not mean that superposition
is at work.

When you add up the energies to validate that energy is not created
or destroyed, you are not superposing energy.

When I add up the energy flows for the same purpose, that does not
mean that superposition is at work.

From a basic calculus, if the energy balances, so must the energy
flow:

f(t), g(t), etc. are functions that describes the energy in
individual entities of a system with respect to time. Then

f(t) + g(t) + h(t) = k

is the expression that says the sum of all the energies must be
a constant, for energy is neither created nor destroyed.

From basic calculus

d(f(t) + g(t) + h(t))/dt = d(k)/dt
d(f(t) + g(t) + h(t))/dt = 0
d(f(t))/dt + d(g(t))/dt + d(h(t))/dt = 0

d(f(t))/dt is the derivitive with respect to time of the energy
(i.e. energy flow, or power) for the entity.

So it is completely valid to sum these energy flows to
track the energy within the system; as my example does.

> You add and subtract powers
> willy-nilly as if that mathematical step were valid which it is not.
> Two coherent 50w waves do not add up to a 100w wave, even using
> average powers, except for the special case of zero interference where
> the waves are 90 degrees out of phase with each other.

True. You must always use the actual energy flows in the entity and
not the powers that are not real.

> In order to use power as an energy tracking tool, we must be very
> careful to ensure that there is a one-to-one correspondence between
> energy and power, i.e. every joule passing a point in one second must
> result in one watt of power (no VARs allowed).

Also true. And as is done in my example.

> If that one-to-one
> correspondence doesn't exist, no valid conclusion can be drawn from
> tracking the power and any valid conclusion must be based on tracking
> the energy which is no small task. The key is that there is no such
> thing as imaginary energy. All energy is real. Some "power" is not
> real.

Agreed. Especially the power in the waves that are being superposed.
That is why you need a fudge factor when you sum your partial powers
from your waves. I carefully do not sum partial powers from
superposed waves.

> A one-to-one correspondence does not exist in a standing wave.
> Therefore, tracking power as if it were equivalent to energy in
> standing waves is invalid. You have made that error for years.

Please provide an example of such an error, preferably from one
of my expositions.

> One-to-one correspondence also does not exist over a fraction of a
> wave.

Of course it does. Energy must always balance; not just at the end
of the cycle.

> Therefore, instantaneous power is irrevelent in tracking the
> energy. That's your latest error which is the same conceptual error as
> before. In general, average power in the traveling waves over at least
> one complete cycle (or over many cycles) has a one-to-one
> correspondence to the average energy in the traveling waves. But that
> one-to-one correspondence is more often than not violated within a
> fraction of each cycle.

Now you are allowing us to create and destroy energy as long as it
balances at the end of the cycle? Are you sure you want to do this?
It does not align with the well understood principle of conservation
of energy.

If I follow that rule, I just make the cycle long enough, say, my lifetime, and I am golden.

But I do not hold out any hope for this.

> Here's a quote from "Optics", by Hecht, concerning power density
> (irradiance).
>
> "If however, the 'T' is now divided out, a highly practical quantity
> results, one that corresponds to the average energy per unit area per
> unit time, namely 'I'." - where 'I' is the irradiance (*AVERAGE* power
> density).

There you go again, assuming that the 'practical' challenges of optics also apply to transmission lines. On a transmission line, we can measure the voltage and the current. We do not suffer from the same constraints as optics.

Use the tools that are available for transmission lines. Don't tie two hands behind your back just because those tools do not work in the optical domain.

...Keith

2821. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 12:09:53 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <764a3ecc-ab14-4611-a3f9-dc7dad235261@w31g2000yqb.googlegroups.com>
Source record: 8671

On Jun 29, 10:13 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 28, 5:33 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Do you reject P(t)=V(t)*I(t) ?
>
> I certainly reject as a moronic method for attempting to track
> instantaneous energy.

Dodging the question again! It is not that hard.

> > I agree completely. And my analysis does successfully track all the
> > energy at all times.
>
> That is obviously false. You have tracked the *power* after assuming a
> one-to-one correspondence between power (watts) and energy (joules).
> Your assumption is most likely false. You usually cannot use
> instantaneous watts to track joules within a fraction of a cycle.

Of course you can. It is just like water flowing from multiple pipes
in to a tank. The sum of the instantaneous flows is exactly equal
to the rate at which the volume of water is increasing in the tank.

Not hard at all.

> If
> the voltage and current are out of phase, some of the joules are
> occupied as reactive power, and not available as watts of real power.

Mostly true. But this is accurately accounted for by using the
instantaneous voltage and current and not the RMS. This is an
important difference expressed in

P(t) = V(t) * I(t)

and why I do not use

Pavg = Vrms * Irms

which has all the problems you mention.

> Why do you think the power companies spend so much money trying to
> balance the power factor?

Not for this reason. The energy meter at my house accurately
measures the power (using P(t) = V(t) * I(t)) and integrates
so that they bill me for the energy I have used. And so they do.

Poor power factor does not affect this, but increases the losses experienced by the power company when delivering the energy to me. They want the customer to pay for these losses so they monitor VAR.

...Keith

2822. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 12:24:04 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <bede465b-c659-4f0c-8350-e11521ca3b8f@j4g2000yqh.googlegroups.com>
Source record: 8672

On Jun 29, 11:02 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 28, 5:50 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Cecil has not found any and would rather prattle on about
> > the difference between energy and power than actually understand.
>
> I have listed a number of the laws of physics that you are violating.
> Of course, energy and power are different. Consider an ideal LC
> oscillator at the instant of time when the voltage on the capacitor is
> maximum and the current is zero. The energy is certainly not zero and
> can be calculated knowing the voltage and capacitance (assume 1000
> volts and 1uf). Yet the instantaneous power is zero because the
> instantaneous current is zero.
>
> energy = (V^2*C)/2 = 0.5 joule
>
> power = V(t)*I(t) = 0

Indeed. Power and energy are related in that power is the derivitive
with
respect to time of energy. They are very closely related. See my
other
post for the derivation.

> Please prove a one-to-one correspondence between energy and power. How
> can you possibly say that you are tracking all the energy when the
> power equals zero and the energy does not? Good grief!

'cause that is how calculus works!? If one tracks all the flows, then
one knows where the energy is because it can only move by flowing.
Think water pipes and tanks for an analogy.

> > I am not sure where you think there is an error.
>
> Again, you need to cut off your output and enable your inputs. There
> are no waves during DC steady-state.

Please see my other post where this is covered.

> Therefore, there are no forward
> waves and no reflected waves. Therefore, you basic assumptions are
> invalid. For waves to exist there must be acceleration and
> deceleration of carrier electrons and such does not exist during DC
> steady-state. Why don't you know that?

You, yourself, explained once how you would use the Fourier transform to analyze such an example. After you have transformed the signal to the frequency domain, there are enough sinusoidal waves to keep anyone happy.

Or are you saying that a step function does not have a Fourier transform?

...Keith

2823. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 12:59:30 UTC
From: Token <Token.6712288@radiobanter.com>
Message-ID: <Token.6712288@radiobanter.com>
Source record: 8679

'-.-. --.-[_2_ Wrote:
> ;711198']All begin reading the advice of a reseller on a Italian ham
> magazine, that
> claim this (translated):
>
> "The MFJ 1796 antenna only at XXX euro !!! 2,6,10,15,20,40 meters
> Superior
> Half-Wave configuration !!"
>
> Oh well, i'm really a rookie on antenna theory, but - thinking into
> myself -
> someone at MFJ can please explain me what the hell make on this antenna
> to
> shrink an half wave antenna on 40 meters into a stick shorter than
> quarter
> wave??
>
> Before posting the question on this NG to learn more, a look on MFJ site
> and
> i read on the description:
> "Full size halfwave on 2/6 Meters."
> Ah right, someone here in Italy forget to specify *where* is 1/2 wl
> designed
> :)
>

The antenna is electrically a half wave on 10M to 40M, the electrical
length of an element is not directly related to it's physical length.
That is how they make a "halfwave" in a stick shorter than a physical
quarter wave.

The line "full size halfwave on 2/6 meters" indicates that on those two
bands the antenna is not loaded, but actually physically a halfwave
antenna. The manual indicates that as initially built to dimension,
before adjustment, the antenna is centered on 51 MHz on 6M, and 146 MHz
on 2M, so my assumption s it is acutally a halfwave on those two freqs.

--
Token

2824. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 13:16:11 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <444d391b-d0b6-41db-9c2a-317e8968190d@s9g2000yqd.googlegroups.com>
Source record: 8673

On Jun 29, 8:41 pm, lu6etj <lu6...@gmail.com> wrote:
> I learnt displacement current inside a condenser it was = eo* d(phi E)/
> dt no EM radiation inside the condenser to made that current possible,
> in any case EM radiation in physical condenser will come out from
> condenser to the rest of the universe :>).

It depends on your definition of "radiation". In an ideal transmission line, energy is not lost to radiation but photons (EM fields and waves) necessarily exist all up and down the line. In an ideal coaxial transmission line, the photons (EM fields and waves) are confined to the dielectric. Electrons cannot travel at the speed of light. EM waves travel at the speed of light. Therefore EM waves are photons. Given the physical nature of a capacitor, refraction would be the primary mechanism for losing energy to radiation and there's probably very, very little refraction in the capacitor dielectric. If electrons are being acelerated and decelerated in the capacitor, photons will be emitted. It seems obvious now that when electrons are decelerated on one capacitor plate, photons are emitted that propogate across the capacitor dielectric and are absorbed by electrons on the opposite plate. When the concept of displacement current was invented, nobody knew that RF fields were actually made up of particles (photons) but now we do know. Displacement current seems only to be EM radiation from one capacitor plate to the other.

> As it was taught to me (I am not physicist), quantum nature of a 80 m
> wavelenght energy it is useless for calculations and invisible to our
> instrument resolution because its immensely large quantic number. Is
> it wrong?

The quantized nature of a single RF photon is no longer open to argument and the energy in that single photon can be calculated, (h*f), where h is Planck's constant, 6.626 x 10^-34 J*s. Whether there are any instruments sensitive enough to detect a single 80m photon is a moot point that does not change the nature of RF fields and waves. What is important is that it is impossible to radiate a signal level less than (h*f). If anyone asserts that RF fields and waves can violate the laws of physics regarding photons, that person is wrong and delusional. (Light left over from the time when the universe became transparent is today red-shifted down to RF microwave frequencies and called background radiation.)
--
73, Cecil, w5dxp.com

2825. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 13:23:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a75e79a9-d0fd-4717-a451-76b55ca0c97f@q12g2000yqj.googlegroups.com>
Source record: 8674

On Jun 30, 1:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Photons are in the real light. The natural light is not coherent. It is
> emitted in the portions (packets).
> Radio waves are emitted continously. Radar waves are in the portions.

Laser light can usually be considered to be coherent light as are
waves generated by an RF transmitter. But of course, nothing is
perfect.

> Radio waves and the light photons flow directly through the dielectric layer
> of a capacitor.

Energy flow, just not as "current".

> Electrons are compressed in the ends of the open circuit (condenser and
> antenna).

"Compressed" may be overstating the phenomenon. Have you ever
calculated exactly how far an electron moves at 10 MHz?

> Electrons are simple.

Yes, too simple to move at the speed of light.

2826. Using a 18" Dish for Radio Astronomy Demonstrations--Need Simple Power Supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 13:34:07 UTC
From: "W. eWatson" <wolftracks@invalid.com>
Message-ID: <i0fh4m$t7c$1@news.eternal-september.org>
Source record: 8675

Somewhere I came across a setup for a simple "itty bitty" radio telescope a number of years ago. Its purpose is educational. Basically, it consists of a discarded 18" dish, power supply, and a satellite signal finder. I happen to have a Channel Master 1004ifd finder, but it gets its power from the LNB, which apparently gets it from a satellite rcvr. I have no rcvr. Is there some simple inexpensive 12v dc power supply (battery pack) that I could use? I would guess that it would need a connector of some sort to hook to the LNB.

2827. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 14:03:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c38cd18b-75dc-4c52-b1aa-f938d17a465c@s9g2000yqd.googlegroups.com>
Source record: 8676

On Jun 30, 6:43 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> You have really latched on to that haven't you. I remember the good
> ol' days when you were superposing powers and the very same people with
> whom you are arguing today were trying to convince you that
> superposing > power was an invalid operation.

And I remember the good ol' days when you were still messing your diapers. Do you still do that? I probably did try to superpose power back when I was young and foolish but I learned the error of my ways and corrected it.

> When I add up the energy flows for the same purpose, that does not
> mean that superposition is at work.

But you are NOT adding up the energy flows - you are adding up the power. That's superposition of power and is a no-no. Power does not obey any conservation of power principle. The instantaneous maximum charge on a capacitor contains any amount of energy while power equals zero. What is it about that concept that you don't understand?

> True. You must always use the actual energy flows in the entity and
> not the powers that are not real.

What happens when energy = 1 joule, and de/dt = 0 watts. This happens all the time during an RF cycle so you are not using actual energy flows. You are using power which goes to zero even when maximum energy is still present. There is obviously NOT a one-to-one correspondence between power and energy.

YOU CANNOT USE WATTS TO TRACK ENERGY UNLESS THERE IS A ONE-TO-ONE CORRESPONDENCE BETWEEN WATTS AND JOULES.

> Also true. And as is done in my example.

Actually false, as I have proved above. Please plot the joules, not the watts.

> Please provide an example of such an error, preferably from one
> of my expositions.

At a current node in a standing wave, you claim there is zero power which is true. You claim that since there is zero power, there is also zero energy which is absolutely false since that is a voltage maximum point and you will fry yourself if you grab it. The energy in the voltage maximum is unrelated to the power being zero - just one more proof that energy does not correspond to power. At the zero power points, there is a maximum of energy in one of the fields which you

are ignoring.

> Of course it does. Energy must always balance; not just at the end
> of the cycle.

Energy must balance but power doesn't have to balance and usually does not balance. Power only balances for special cases. You are using power in the general case as an example so anything you say is invalid.

> Now you are allowing us to create and destroy energy as long as it
> balances at the end of the cycle?

No, energy cannot be created or destroyed. But power is created and destroyed all the time because there is no conservation of power principle. Your glaring error is that you are using power as if it were energy and it is not. I have given numerous examples. In an LC oscillator, when all of the non-destructable energy is stored in the capacitor, there is ZERO power, i.e. power has been destroyed. Why do you refuse to discuss that fact of physics? 90 degrees later in the cycle, power has been created.

Every time one of your instantaneous power curves crosses the zero axis, power has been destroyed. Every time one of your instantaneous power curves reaches a peak, power has been created.

> We do not suffer from the same constraints as optics.

You suffer from the delusion that power obeys the same laws of physics that energy does. You willy-nilly interchange power and energy. Until you admit the error of your ways, there is little that can be done to alleviate your ignorance.
--
73, Cecil, w5dxp.com

2828. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 14:11:59 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7b91b0cc-9dff-4956-bd8d-ecd2c8dab306@t10g2000yqg.googlegroups.com>
Source record: 8677

On Jun 30, 7:24 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Or are you saying that a step function does not have a Fourier
> transform?

Your example has the step function disappearing during steady-state.
DC steady-state has no Fourier transform since omega equals zero. A
Fourier analysis requires a recurring function of the sum of sinusoids
involving integer multiples of omega*time. Your single step does not
recur so your conclusions are invalid.
--
73, Cecil, w5dxp.com

2829. Re: Using a 18" Dish for Radio Astronomy Demonstrations--Need Simple Power Supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 14:19:57 UTC
From: "W. eWatson" <wolftracks@invalid.com>
Message-ID: <i0fjqk$8ql$1@news.eternal-september.org>
Source record: 8678

On 6/30/2010 6:34 AM, W. eWatson wrote:
> Somewhere I came across a setup for a simple "itty bitty" radio
> telescope a number of years ago. Its purpose is educational. Basically,
> it consists of a discarded 18" dish, power supply, and a satellite
> signal finder. I happen to have a Channel Master 1004ifd finder, but it
> gets its power from the LNB, which apparently gets it from a satellite
> rcvr. I have no rcvr. Is there some simple inexpensive 12v dc power
> supply (battery pack) that I could use? I would guess that it would need
> a connector of some sort to hook to the LNB.
WEll, lucky me. A small amount of Googling got me to
<http://www.aoc.nrao.edu/epo/teachers/ittybitty/procedure.html>
I'm not sure our local The Shack has a choke. I may have one. My LNB is
different than the one in the pic. It's a Eagle Aspen DTV32+. I'm sure I
have a battery clip and 8 battery holder. This might do it. I didn't
notice the Rx connector on my CM, but that is where the power goes. I
may be set.

2830. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 16:29:55 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <57102ea3-4d38-491c-a7c4-61622f0a4cb8@c10g2000yqi.googlegroups.com>
Source record: 8680

On Jun 30, 10:11 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 30, 7:24 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > Or are you saying that a step function does not have a Fourier
> > > transform?
>
> Your example has the step function disappearing during steady-state.
> DC steady-state has no Fourier transform since omega equals zero. A
> Fourier analysis requires a recurring function of the sum of sinusoids
> involving integer multiples of omega*time. Your single step does not
> recur so your conclusions are invalid.

Check the a0 coefficient in the Fourier transform. This represents
the DC component of the signal. It is perfectly valid for it to be
the only non-zero coefficient.

Without this, how would you deal with a signal such as
V(t) = 10 + 2 cos(3t)

Alternatively, one can use the standard trick for dealing with
non-repetitive waveforms: choose an arbitrary period. 24 hours
would probably be suitable for these examples and transform from
there. Still, you will have zero frequency component to deal
with, but there will be some at higher frequencies (if you
choose your function to make it so).

...Keith

2831. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 16:30:04 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <ae45a6f8-b314-49b3-b08f-fb8f9a99a05b@w31g2000yqb.googlegroups.com>
Source record: 8681

On Jun 30, 10:03 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 30, 6:43 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > You have really latched on to that haven't you. I remember the good
> > ol' days when you were superposing powers and the very same people with
> > whom you are arguing today were trying to convince you that
> > superposing > power was an invalid operation.
>
> And I remember the good ol' days when you were still messing your
> diapers. Do you still do that?

Warning! Warning! Descent in to scatology.

> I probably did try to superpose power
> back when I was young and foolish but I learned the error of my ways
> and corrected it.

Learning is good. But now you want to over apply the rules.

> > When I add up the energy flows for the same purpose, that does not
> > mean that superposition is at work.
>
> But you are NOT adding up the energy flows - you are adding up the
> power.

Ummm. Energy flow is power. Joules/s!

If it helps, any place I have written 'power', please replace with
'energy flow'.

> That's superposition of power and is a no-no. Power does not
> obey any conservation of power principle.

Try the multiple pipe, water container, water flow example to
understand how flows must also be conserved if matter (or
energy) is not to be created or destroyed.

> The instantaneous maximum
> charge on a capacitor contains any amount of energy while power equals
> zero. What is it about that concept that you don't understand?

Excellent concept. There is no conflict with conserving flows, or
energy
for that matter.

> > True. You must always use the actual energy flows in the entity and
> > not the powers that are not real.
>

> What happens when energy = 1 joule, and de/dt = 0 watts. This happens
> all the time during an RF cycle so you are not using actual energy
> flows. You are using power which goes to zero even when maximum energy
> is still present.

Yes, indeed. That is a fundamental possibility and occurs on
transmission lines with infinite VSWR.

> There is obviously NOT a one-to-one correspondence
> between power and energy.

Correct. Power is the time derivitive of energy. They are related
but definitely not one-to-one.

> YOU CANNOT USE WATTS TO TRACK ENERGY UNLESS THERE IS A ONE-TO-ONE
> CORRESPONDENCE BETWEEN WATTS AND JOULES.

This is quite incorrect. Energy flows must balance, otherwise energy
is being created or destroyed to sustain a difference in flow.

> > Also true. And as is done in my example.
>
> Actually false, as I have proved above. Please plot the joules, not
> the watts.

If it makes you happier, since it is a discrete simulation, you can
simply substitute joules per degree wherever there is a curve labeled
Watts. You need to scale, of course, between degrees and seconds, but
the shape and sums will be identical.

> > Please provide an example of such an error, preferably from one
> > of my expositions.
>
> At a current node in a standing wave, you claim there is zero power
> which is true.

Excellent. I am glad you have come to accept that.

> You claim that since there is zero power, there is also
> zero energy

I have never claimed that. In fact, the minima and maxima are
where the energy peaks will be found. I have claimed there is
no energy flow across (i.e. power) these points.

> which is absolutely false since that is a voltage maximum
> point and you will fry yourself if you grab it. The energy in the
> voltage maximum is unrelated to the power being zero

Not quite. It follows from the functions for each. Since power is
the derivitive of energy, it should come as no surprise that
maximum energy occurs at the point of minimum power. In basic
calculus looking for the zero in the derivitive is how you
locate the maximum value of the curve.

> - just one more
> proof that energy does not correspond to power. At the zero power
> points, there is a maximum of energy in one of the fields which you
> are ignoring.
>
> > Of course it does. Energy must always balance; not just at the end
> > of the cycle.
>
> Energy must balance but power doesn't have to balance and usually does
> not balance. Power only balances for special cases. You are using
> power in the general case as an example so anything you say is
> invalid.

Unfortunately wrong. Energy flows must balance as well. Otherwise,
energy is coming from nowhere to sustain the flow.

> > Now you are allowing us to create and destroy energy as long as it
> > balances at the end of the cycle?
>
> No, energy cannot be created or destroyed. But power is created and
> destroyed all the time because there is no conservation of power
> principle. Your glaring error is that you are using power as if it
> were energy and it is not. I have given numerous examples. In an LC
> oscillator, when all of the non-destructable energy is stored in the
> capacitor, there is ZERO power, i.e. power has been destroyed.

Yes, indeed. At that instant, zero energy is flowing from the inductor
to the capacitor. But very soon, energy will be flowing from the
capacitor to the inductor. The balance is that the energy flowing
out of the capacitor is always and exactly equal to the energy flowing
in to the inductor. That is the energy flow balance. The only way for
this not to be true is for energy to be created or destroyed.

> Why do
> you refuse to discuss that fact of physics? 90 degrees later in the
> cycle, power has been created.

One way of thinking about it, I suppose. But not too useful.

Instead, think that at every instant, the energy flow between the
entities in the experiment must balance.

> Every time one of your instantaneous power curves crosses the zero
> axis, power has been destroyed. Every time one of your instantaneous
> power curves reaches a peak, power has been created.

I think you may be confused because you are only looking at the
flow in and out of a single entity. This is clearly not conserved.
Nor for that matter is the energy within that entity. It is the
total energy within the system that is conserved, just as it is
the total of the flows of energy between the entities within the
system that must be conserved.

Put more strictly: The sum of all the energy flows in to all of
the entities within the system must equal the energy flow in to
the system.

> > We do not suffer from the same constraints as optics.
>
> You suffer from the delusion that power obeys the same laws of physics
> that energy does. You willy-nilly interchange power and energy. Until
> you admit the error of your ways, there is little that can be done to
> alleviate your ignorance.

An intriguing accusation, but you do need to provide a concrete
example of where my analysis has gone wrong.

...Keith

2832. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 16:54:38 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2b76d2$0$19166$65785112@news.neostrada.pl>
Source record: 8682

"Richard Fry" <rfry@adams.net> wrote
news:46a22360-02c5-4da5-b71a-21969f56123a@k39g2000yqb.googlegroups.com...
On Jun 30, 1:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> The difference between EM and electrons is in compressibility.
> Electrons are compressed in the ends of the open circuit (condenser and
> antenna). There the voltage is doubled (at least). Alternate electric
> field
> is created. It is radio wave. The longitudinal electric wave.

>Then shouldn't we all expect a condensor to be as good a radiator of
EM waves as a dipole?

All radio people know that:
http://en.wikipedia.org/wiki/File:Dipolentstehung.gif
S*

2833. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 19:00:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cj4n26hq1llo067cjs5b4pnvdm4qdflmvv@4ax.com>
Source record: 8683

On Tue, 29 Jun 2010 18:41:52 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>As it was taught to me (I am not physicist), quantum nature of a 80 m
>wavelenght energy it is useless for calculations and invisible to our
>instrument resolution because its immensely large quantic number. Is
>it wrong?

Yes.

We experience 80M activity every day irrespective of it being
Newtonian or Quantum. All it reveals is that something with a very,
very, very low energy is still quite measurable.

However, you "can" deliberately choose the wrong instrument to measure
the energy. That instrument reveals more about the choice-maker than
the energy.

For instance, a 1KW 80M energy source presents a near 0 degree
absolute temperature. A fever thermometer is not going to register
that energy.

73's
Richard Clark, KB7QHC

2834. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 21:02:14 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <aec1a9f0-cce8-4aac-b273-13633842056e@c33g2000yqm.googlegroups.com>
Source record: 8684

On 30 jun, 16:00, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 29 Jun 2010 18:41:52 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >As it was taught to me (I am not physicist), quantum nature of a 80 m
> >wavelenght energy it is useless for calculations and invisible to our
> >instrument resolution because its immensely large quantic number. Is
> >it wrong?
>
> Yes.
>
> We experience 80M activity every day irrespective of it being
> Newtonian or Quantum. All it reveals is that something with a very,
> very, very low energy is still quite measurable.
>
> However, you "can" deliberately choose the wrong instrument to measure
> the energy. That instrument reveals more about the choice-maker than
> the energy.
>
> For instance, a 1KW 80M energy source presents a near 0 degree
> absolute temperature. A fever thermometer is not going to register
> that energy.
>
> 73's
> Richard Clark, KB7QHC

Dear Richard:

What I said is what my physics book says, I swear there no creation of
mine... :>) (I have not any authority on this matter).
I was thinking in quantic number describing the energy of a typical
100 W 80 m oscillator devolped in one second, representing a quantic
number n = 4.3 * 10^28; we know our quanta represents the minimun
possible energy of a 80 m radiation AND the minimun "delta" Energy
possible for a given oscillator, energy difference between (among?)
one quanta an two quanta of 80 m radiation is 2.3 * 10^ -27 J, that
difference (my physic book say) it is unmeasurable experimentally
(this energy leap (skip?, hop?) it is in the order of 10^-8 smaller
that green light leap (in reality my book -Resnick Halliday- give a
moving dust particle example with quantic number very much lower than
my 80 m example yet => n = 3 * 10^14, they said "we can not
distiguish energy difference among n = 3 * 10^14 and n = [3 * 10^14]
+1")
What it is the ohysical sense of working with magnitudes we can not
measure? Nobody (as we know) use (or need) quantum mechanics to deal

with (or explain) locomotive movement :>)

Cecil said "electrons can not travel at light speed, photon yes therefore EM waves are photons", well... EM CAN travel at light speed, then photons are EM waves :D :D As I know duality (particles can behave as waves and vice versa) have not dead yet (or he died and I found out?).
Cecil said: "When the concept of displacement current was invented, nobody
knew that RF fields were actually made up of particles (photons) but now we do know". Cecil seem to me as Zarathustra has declared: "¡Wave is dead!" :>)

Yes, yes, I know some people bring very strange ideas into the forums, but I think it is not necessary argue them with exotic others -even if they are true- because the partner will double the bet and will bring other even more bizarre yet...! :>)

Well, dont be bothered by my comments, I am joking a little...

73 - Miguel - LU6ETJ

2835. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 21:55:10 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <oZmdnfQQbffclLbRnZ2dnUVZ_v-dnZ2d@giganews.com>
Source record: 8685

Keith obviously understands the requirements for energy flow, but a casual reader might draw the wrong conclusions. . .

Keith Dysart wrote:
> . . .

> This is quite incorrect. Energy flows must balance, otherwise energy
> is being created or destroyed to sustain a difference in flow.

On the average, yes. But not moment-by-moment. Energy can be stored and retrieved from storage, resulting in unequal energy flow (power) into and out of a point. For a while. This was explicitly stated earlier when discussing a capacitor, but I think it's important to make the distinction here between instantaneous and average requirements. In steady state, the average condition (energy flow balance) must be met each cycle. That is, the total energy into a node over a cycle has to equal the energy out of a node over a cycle.

> . . .

> Unfortunately wrong. Energy flows must balance as well. Otherwise,
> energy is coming from nowhere to sustain the flow.

Ditto.

> . . .

> Yes, indeed. At that instant, zero energy is flowing from the inductor
> to the capacitor. But very soon, energy will be flowing from the
> capacitor to the inductor. The balance is that the energy flowing
> out of the capacitor is always and exactly equal to the energy flowing
> in to the inductor. That is the energy flow balance. The only way for
> this not to be true is for energy to be created or destroyed.

Ditto.

> . . .

> Instead, think that at every instant, the energy flow between the
> entities in the experiment must balance.

No, it doesn't, unless I'm misunderstanding the statement. At a given instant, more energy can flow into a component (e.g., a capacitor or inductor) than is flowing out, or vice-versa. But in steady state, whatever flows in during one part of the cycle must flow out during the remainder of the cycle.

>> Every time one of your instantaneous power curves crosses the zero
>> axis, power has been destroyed. Every time one of your instantaneous
>> power curves reaches a peak, power has been created.
>
> I think you may be confused because you are only looking at the
> flow in and out of a single entity. This is clearly not conserved.
> Nor for that matter is the energy within that entity. It is the
> total energy within the system that is conserved, just as it is
> the total of the flows of energy between the entities within the
> system that must be conserved.
>
> Put more strictly: The sum of all the energy flows in to all of
> the entities within the system must equal the energy flow in to
> the system.

Again, only on an average or steady-state cycle-by-cycle basis. Great inequalities can exist for shorter periods.

>. . .

Like Keith, I firmly believe that an instantaneous time-domain analysis is essential in understanding what really happens to the energy in an AC system. Averaging reduces the amount of information you have -- if all you know is the average value of a waveform, you have no way of going back and finding out what the waveform was, out of an infinite number of possibilities. If averaging is to be done, it should be done after you calculate and understand what's going on at each instant, not before you begin the analysis.

But it's also essential to make absolutely clear what conditions must be met every instant, such as p(t) = v(t) * i(t), and which must be met only on the average, such as energy in = energy out.

Roy Lewallen, W7EL

2836. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 22:03:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <oqKdnUxhu7m3IrbRnZ2dnUVZ_g-dnZ2d@giganews.com>
Source record: 8686

lu6etj wrote:
> On 29 jun, 15:08, Cecil Moore <w5...@hotmail.com> wrote:
>> On Jun 29, 12:54 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>>
>>> photons can flow through a dielectric.. isn't that what EM propagation
>>> is, after all?
>> Yes, after I posted it, I realized that it was a rhetorical question.
>> --
>> 73, Cecil, w5dxp.com
>
> I learnt displacement current inside a condenser it was = eo* d(phi E)/
> dt no EM radiation inside the condenser to made that current possible,
> in any case EM radiation in physical condenser will come out from
> condenser to the rest of the universe :>).
> I also learnt photons was necessary to explain certain energy
> interchange phenomena such as fotoelectric effect or subatomic
> particle interactions, wave-particle duality for me means "duality",
> not "wave kaput" :>) to account for EM wave well explainable
> phenomenom.
> As it was taught to me (I am not physicist), quantum nature of a 80 m
> wavelenght energy it is useless for calculations and invisible to our
> instrument resolution because its immensely large quantic number. Is
> it wrong?
>
> Miguel LU6ETJ

Photons are very useful in the analysis of transmission lines. They can be brought into the discussion to divert it from taking a path that makes a participant uncomfortable. If unable to answer a question logically, simply toss photons, optics, quantum mechanics, aether, and other confounding factors in, and presto, people will begin arguing about the spurious concepts and forget that you've avoided answering the difficult question. It's called misdirection, a time-honored technique used by politicians and prestidigitators as well as promoters of pseudoscience.

Roy Lewallen, W7EL

2837. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 22:16:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t7fn26ho6c4ntfrrup8otmnulpruv3lmva@4ax.com>
Source record: 8687

On Wed, 30 Jun 2010 14:02:14 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>I was thinking in quantic number describing the energy of a typical
>100 W 80 m oscillator devolped in one second,

Hi Miguel,

Power? Energy? One second? Choose one to talk about, and perhaps
the mystery of numbers might clear up.

>one quanta an two quanta

Quanta? Two Quanta? We are now up to four intermixed terms.
Simplify. Choose one thing.

>of 80 m radiation is 2.3 * 10^ -27 J, that
>difference (my physic book say) it is unmeasurable experimentally
>(this energy leap (skip?, hop?) it is in the order of 10^-8 smaller
>that green light leap

True, but immaterial. You are confusing wavelength and quanta (no
surprise given the blearing of topic). Compare Green and IR. Is
there a correlation on a scale of two that predicts out to a scale of
10^8? Compare Green and deep IR. Is there a correlation on a scale
of ten that predicts out to a scale of 10^8? Compare Green and the
Sub-millimeter band. Is there a correlation on a scale of 100 that
predicts out to a scale of 10^8?

> (in reality my book -Resnick Halliday- give a
>moving dust particle example with quantic number very much lower than
>my 80 m example yet => n = 3 * 10^14, they said "we can not
>distiguish energy difference among n = 3 * 10^14 and n = [3 * 10^14]
>+1")

So a quantum of smaller energy of a dust particle is measureable but
80M transmission is not? Common sense is wheezing in this dust.

OK, so they are talking about the difference in quantum, not energy.
Would it surprise you that you cannot even tell the difference between
one quanta of green light and two with conventional detecting
technology?

>What it is the ohysical sense of working with magnitudes we can not
>measure? Nobody (as we know) use (or need) quantum mechanics to deal
>with (or explain) locomotive movement :>)

The limitation is called Quatum Efficiency and the human eye is vastly
superior (to all but $1,000,000 components) at rougly QE = 50%.

>Cecil said
>Cecil said
>Yes, yes, I know some people bring very strange ideas into the forums,

Indeed.

73's
Richard Clark, KB7QHC

2838. What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 22:38:49 UTC
From: Gary Smith <vkthree@gmail.com>
Message-ID: <4c2bc774$0$14137$c3e8da3@news.astraweb.com>
Source record: 8688

Hi, i have a 2.4 metre solid dish here and was going to use it for TVRO but havn't got round to it as the majority of it is foreign with subtitles and that doesn't impress me all that much. Just wondering how i might be able to utilise this dish in the HAM scenario. I am a "Standard" licence in Australia which entitles me to transmit on most bands excluding 3776 - 3800, 50 - 52 MHz, 420 - 430 MHz, 2300 - 2302 MHz, 3.5 gig, 10gig, and above. Also can't use WARC bands. So it's a bit limited in the higher part of spectrum but just wondering if someone could offer some suggestions on what i could use it for (Except birdbath, fishpond etc lol)

Thanks

Gary
VK3LCD

2839. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 22:54:04 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <i0ghu8$7vu$1@nnrp-beta.newsland.it>
Source record: 8689

"Token" <Token.6712288@radiobanter.com> ha scritto nel messaggio
news:Token.6712288@radiobanter.com...

> The antenna is electrically a half wave on 10M to 40M, the electrical
> length of an element is not directly related to it's physical length.
> That is how they make a "halfwave" in a stick shorter than a physical
> quarter wave.

Ok... could you please explain me how i can build an, e.g., electrical half
wave for the 20 meters in a 3 meters stick ??

I repeat, i'm a great newbie on antenna theory and related arguments, so the
question i pose to you now is not ironic but really posted to increase my
knowledge, if is possible.

Thanks in advance also to other people that may contribute to this question.

-.-. --.-

2840. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 23:22:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <_5udnUOfd54uTLbRnZ2dnUVZ_vydnZ2d@giganews.com>
Source record: 8690

-.-. --.- wrote:
> "Token" <Token.6712288@radiobanter.com> ha scritto nel messaggio
> news:Token.6712288@radiobanter.com...
>
>> The antenna is electrically a half wave on 10M to 40M, the electrical
>> length of an element is not directly related to it's physical length.
>> That is how they make a "halfwave" in a stick shorter than a physical
>> quarter wave.
>
> Ok... could you please explain me how i can build an, e.g., electrical half
> wave for the 20 meters in a 3 meters stick ??
>
> I repeat, i'm a great newbie on antenna theory and related arguments, so the
> question i pose to you now is not ironic but really posted to increase my
> knowledge, if is possible.
>
> Thanks in advance also to other people that may contribute to this question.
>
> -.-. --.-

"Electrical half wave" doesn't have much meaning when applied to an antenna, so there isn't a good answer to your question. There's no way to make a short dipole behave exactly like a half wavelength dipole in all respects. But if you mean you want to make a short antenna resonant (one of the properties of a physically nearly half wavelength dipole), you can make it or an antenna of any physical size or shape resonant by putting an impedance transforming (matching) network at the feedpoint. Presto, a resonant antenna. If you want the same feedpoint resistance at resonance as a physical half wavelength antenna, you can get that too by adjusting the network component values. The pattern of a dipole of any length shorter than a half wavelength will in practice be indistinguishable from that of a half wavelength dipole. What will happen is that you'll have increased loss due to the larger currents and voltages in the shorter antenna and the matching network, the amount depending on the design. And if the losses are kept reasonable, the bandwidth of the shorter antenna will be narrower than the bandwidth of a half wavelength antenna.

Roy Lewallen, W7EL

2841. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 23:31:41 UTC
From: dplatt@radagast.org
Message-ID: <tn0tf7-vjj.ln1@radagast.org>
Source record: 8691

>> The antenna is electrically a half wave on 10M to 40M, the electrical
>> length of an element is not directly related to it's physical length.
>> That is how they make a "halfwave" in a stick shorter than a physical
>> quarter wave.

>Ok... could you please explain me how i can build an, e.g., electrical half
>wave for the 20 meters in a 3 meters stick ??

>I repeat, i'm a great newbie on antenna theory and related arguments, so the
>question i pose to you now is not ironic but really posted to increase my
>knowledge, if is possible.

The short explanation is "reactive loading".

The simplest way to achieve what you're looking for, is to take a three-meter stick, and wind it with a spiral of wire. The wire should be insulated, to prevent adjacent turns from shorting together. You would feed the antenna in the center, just as if it were a full-sized half-wave dipole.

The exact number of turns required (and thus the total length of the wire you'd need) can probably be calculated, but I lack the detailed information to know just what the calcs are. I'm sure that there are examples shown on the Web, and/or in the ARRL Antenna Compendium books. You can see one example of this approach at

http://www.w0ch.net/travel_antenna/travant.htm

There are a bunch of design alternatives, divided roughly into

(1) Wind the wire evenly along the whole length of each half of the shortened dipole.

(2) Run the wire straight along the pole for part of the way from the center to the end, and wind turns over the rest.

The "travel antenna" is of the latter sort - it puts most of the added inductance (the coiled turns) down near the feedpoint. He designed it as a shortened quarter-wave, but you could take two of these and stick them back-to-back and have a shortened half-wave.

If you measure the resonant frequency of this shortened half-wave and find that it resonates at too low a frequency, then you've got too many turns... remove some and run the wire straight along a portion of the pole (or space all of the turns further apart). If it resonates at too high a frequency, you need more turns (more inductance).

The behavior of this sort of shortened dipole will be similar to that of a full-length dipole, with several differences:

- Slightly less directional gain

- Higher electrical losses in the dipole

- Lower radiation resistance

The latter two factors result in a loss of electrical efficiency... more of your transmitter power turns into heat in the antenna itself, and less is radiated.

The feedpoint impedance is likely to be different than a full-sized half-wave, too... it may be lower (due to the lower radiation resistance) or higher (due to the additional loss resistance) or nearly the same (if these two factors cancel out).

The approach I've described uses inductive loading - you add inductance in series with the antenna in order to resonate it. Another approach is capacitive loading - you add additional capacitive coupling at the ends of the antenna. This can be done by adding a circular metal "hat" at each end, or a set of radial wires sticking out at a 90-degree angle.

The MFJ antenna under discussion actually uses both techniques - it has an inductive loading coil, and a "capacity hat" of wire spokes, at each end of the antenna (actually, one per band that it's supposed to tune). The combination of added inductance, and added capacitive loading, creates the necessary resonance on each band.

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will boycott any company which has the gall to send me such ads!

2842. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 23:35:27 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DA8618BFD562nonenowhere@61.9.191.5>
Source record: 8692

Considering the steady state...

If we accept the P(t) is the product of instantaneous voltage and current, then there will be some points on any mismatched line where P(t) is always positive. In between those points, P(t) will have positive and negative excursions.

I think that it is a reasonable interpretation that at those points where P(t) is always positive, then there is never at any instant, a flow of energy away from the load, energy is never exchanged during a cycle across those points, it always flows from source to load.

It may be that energy is exhanged during a cycle at the load end of the line, and it may be that energy is exchanged during a cycle at the source end of the line, but if the line is sufficiently long, there will exist points where instantanous power is always positive, and therefore, energy always flows in the load to source direction at those points.

The notion that a reflected wave in general conveys power over the entire path from load to source is not consistent with the above. This notion is emboddied in common language when talking about 'reflected power', but the language belies the actual phenomena.

Owen

2843. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-06-30 23:46:10 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <a9f1cee0-776a-4410-b34b-eea1fff9f756@d16g2000yqb.googlegroups.com>
Source record: 8693

On 30 jun, 19:16, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 30 Jun 2010 14:02:14 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >I was thinking in quantic number describing the energy of a typical
> >100 W 80 m oscillator devolped in one second,
>
> Hi Miguel,
>
> Power? Energy? One second? Choose one to talk about, and perhaps
> the mystery of numbers might clear up.
>
> >one quanta an two quanta
>
> Quanta? Two Quanta? We are now up to four intermixed terms.
> Simplify. Choose one thing.
>
> >of 80 m radiation is 2.3 * 10^ -27 J, that
> >difference (my physic book say) it is unmeasurable experimentally
> >(this energy leap (skip?, hop?) it is in the order of 10^-8 smaller
> >that green light leap
>
> True, but immaterial. You are confusing wavelength and quanta (no
> surprise given the blearing of topic). Compare Green and IR. Is
> there a correlation on a scale of two that predicts out to a scale of
> 10^8? Compare Green and deep IR. Is there a correlation on a scale
> of ten that predicts out to a scale of 10^8? Compare Green and the
> Sub-millimeter band. Is there a correlation on a scale of 100 that
> predicts out to a scale of 10^8?
>
> > (in reality my book -Resnick Halliday- give a
> >moving dust particle example with quantic number very much lower than
> >my 80 m example yet => n = 3 * 10^14, they said "we can not
> >distiguish energy difference among n = 3 * 10^14 and n = [3 * 10^14]
> >+1")
>
> So a quantum of smaller energy of a dust particle is measureable but
> 80M transmission is not? Common sense is wheezing in this dust.
>
> OK, so they are talking about the difference in quantum, not energy.
> Would it surprise you that you cannot even tell the difference between
> one quanta of green light and two with conventional detecting
> technology?
>

> >What it is the ohysical sense of working with magnitudes we can not
> >measure? Nobody (as we know) use (or need) quantum mechanics to deal
> >with (or explain) locomotive movement :>)
>
> The limitation is called Quatum Efficiency and the human eye is vastly
> superior (to all but $1,000,000 components) at rougly QE = 50%.
>
> >Cecil said
> >Cecil said
> >Yes, yes, I know some people bring very strange ideas into the forums,
>
> Indeed.
>
> 73's
> Richard Clark, KB7QHC

Dear Richard:

On examples we usually start with a visible common data, here I made with a 100 W TX power during one second to gives certain amount of energy, this amount of energy stored in a system (for example a LC tank) gives the quantic number of the system. well... Energy it is Power * Time and n=E/h*v, it easy, it is an electrical cuasi identical example as page 1616 part II Spanih translated Resnick & Halliday book. if for Resnick & Halliday guys is a good example for me is good too :>)

I do not confussing wavelengh with quanta!, quantized energy it is E=nhv and v it is 1/lambda, how do you calculate E without v in such equation?
I don not believe my translations are too wrong! I wrote what book say => "they said "we CAN NOT DISTINGUISH energy difference among n = 3 * 10^14 and n = [3 * 10^14] +1"), (page 1652 op.cit.); where you read: "quantum of smaller energy of a dust particle is measureable"? my text says just the opposite!

You say: "OK, so they are talking about the difference in quantum, not energy" I do not know if I am translating well your sentence... perhaps you refer to my missuse of the latin word quanta (plural) instead "quantum" (singular) (in spanish we usually say "cuanto/ cuantos" -not latin-, in english I believe you use latin, sorry by my translating error), but I think not is that.
Quantum in this context is "energy quantum", they are talking about difference of energy, that difference it is not continuos but quantized, and each energy quantum is 2.3 * 10^ -27 J, one quantum, two quantum... n*quantum, n*quantum in the system = E (op. cit. page 1615), what is wrong?

I am talking about 80 m technically useles quantum treatment, and you say to me: "The limitation is called Quatum Efficiency and the human eye is vastly superior (to all but $1,000,000 components) at rougly QE = 50%."

What sort of human eye we use to see 80 m "light"? :>)

I did not want go out off topic, I claimed quantum mechanics do not help so much to solve TL related problems and give some reasons for that. I am not an expert in quantum physics and I am not going further that my elementary physic book examples. Are they wrong? well... then, I am wrong too :>) PSE do not argue with me, I am innocent of charges, read the references...

73 - Miguel - LU6ETJ

2844. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 00:03:21 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <aISdnSVGptjRRrbRnZ2dnUVZ_hednZ2d@giganews.com>
Source record: 8694

Owen Duffy wrote:
> Considering the steady state...
>
> If we accept the P(t) is the product of instantaneous voltage and
> current, then there will be some points on any mismatched line where P(t)
> is always positive. In between those points, P(t) will have positive and
> negative excursions.
>
> I think that it is a reasonable interpretation that at those points where
> P(t) is always positive, then there is never at any instant, a flow of
> energy away from the load, energy is never exchanged during a cycle
> across those points, it always flows from source to load.

I'd make a small addition, that . . .there is never at any instant a
net flow of energy away from the load. . .

The problem is that I don't know of any way to keep track of a
particular bundle of energy -- it gets mixed together. So you could have
energy constantly flowing both ways through a point while maintaining a
net flow (power) in one direction and it would look just the same as
energy going only one way. Keith's DC thought experiments illustrate
these different approaches and some of their logical -- and illogical --
consequences.

Quite some time ago I wrote and made available a little graphic program
showing the voltage, current, power, and energy on lines under several
conditions. When a complete standing wave exists, there are points of
zero voltage and current and hence zero power. For one half the cycle
you can see energy moving into those points equally from both directions
(obviously being stored at the node), and during the other half, energy
is moving out of those points in both directions (being retrieved from
storage). One interpretation is that the energy arriving from the left
exits to the right, and vice-versa, and that fits neatly into the
concept of waves of energy simultaneously moving in both directions. Or
you can decide that the energy which came in from the right exits to the
right, and in from the left exits to the left. If that's your
interpretation, then you conclude that no energy ever crosses the
boundary. I think this is the genesis of Cecil's view that energy waves
somehow bounce off the standing wave node. Both interpretations fit
equally well with the observed net flow of energy but, like Keith's DC
thought experiments and Cecil's writings show, take you down quite
different paths when trying to divine some concept of what's
fundamentally happening.

> . . .

Roy Lewallen, W7EL

2845. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 00:45:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b7573c0e-e0fd-47d7-ab31-9770c747a900@j4g2000yqh.googlegroups.com>
Source record: 8695

On Jun 30, 10:38 pm, "Gary Smith" <vkth...@gmail.com> wrote:
> Hi, i have a 2.4 metre solid dish here and was going to use it for TVRO but
> havn't got round to it as the majority of it is foreign with subtitles and
> that doesn't impress me all that much. Just wondering how i might be able to
> utilise this dish in the HAM scenario. I am a "Standard" licence in
> Australia which entitles me to transmit on most bands excluding 3776 - 3800,
> 50 - 52 MHz, 420 - 430 MHz, 2300 - 2302 MHz, 3.5 gig, 10gig, and above. Also
> can't use WARC bands. So it's a bit limited in the higher part of spectrum
> but just wondering if someone could offer some suggestions on what i could
> use it for (Except birdbath, fishpond etc lol)
>
> Thanks
>
> Gary
> VK3LCD

it would probably be good on the 2300mhz and higher bands. not sure
about how good on 70cm it might be off hand. 10ghz is very popular
here in the states, it even has its own contest. you should probably
try to contact some local microwave guys there and see which bands
have the most activity.

2846. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 00:56:15 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <24c6e7aa-2bb1-425e-9b04-90bd5ced6d20@d8g2000yqf.googlegroups.com>
Source record: 8696

On Jun 30, 10:03 pm, Roy Lewallen <w...@eznec.com> wrote:
> lu6etj wrote:
> > On 29 jun, 15:08, Cecil Moore <w5...@hotmail.com> wrote:
> >> On Jun 29, 12:54 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> >>> photons can flow through a dielectric.. isn't that what EM propagation
> >>> is, after all?
> >> Yes, after I posted it, I realized that it was a rhetorical question.
> >> --
> >> 73, Cecil, w5dxp.com
>
> > I learnt displacement current inside a condenser it was = eo* d(phi E)/
> > dt no EM radiation inside the condenser to made that current possible,
> > in any case EM radiation in physical condenser will come out from
> > condenser to the rest of the universe :>).
> > I also learnt photons was necessary to explain certain energy
> > interchange phenomena such as fotoelectric effect or subatomic
> > particle interactions, wave-particle duality for me means "duality",
> > not "wave kaput" :>) to account for EM wave well explainable
> > phenomenom.
> > As it was taught to me (I am not physicist), quantum nature of a 80 m
> > wavelenght energy it is useless for calculations and invisible to our
> > instrument resolution because its immensely large quantic number. Is
> > it wrong?
>
> > Miguel LU6ETJ
>
> Photons are very useful in the analysis of transmission lines. They can
> be brought into the discussion to divert it from taking a path that
> makes a participant uncomfortable. If unable to answer a question
> logically, simply toss photons, optics, quantum mechanics, aether, and
> other confounding factors in, and presto, people will begin arguing
> about the spurious concepts and forget that you've avoided answering the
> difficult question. It's called misdirection, a time-honored technique
> used by politicians and prestidigitators as well as promoters of
> pseudoscience.
>
> Roy Lewallen, W7EL

yeah, ain't it great fun!

2847. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 05:42:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fr7o26pvkp92t4h2fenbvpqthn3kuhbt97@4ax.com>
Source record: 8697

On Wed, 30 Jun 2010 16:46:10 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

> a 100 W TX power during one second to gives certain amount of
>energy

Hi Miguel,

POWER. Please observe the distinction as appeals to 100W or "one
second" have no bearing on where you seem to be fixated with quanta
and energy. Introducing distractions is not very useful. [I can
appreciate that you are not the source of the distractions.]

>I do not confussing wavelengh with quanta!, quantized energy it is

Then quanta is a distraction, or wavelength is.

>What sort of human eye we use to see 80 m "light"? :>)

Why do you compare 80M to green light? The more wavelength
appropriate scale would be invisible in the 800nM Infra Red or in the
80nM Ultra Violet. Green light's correlative would be in the 55.5M
band (tropical SW).

>I did not want go out off topic, I claimed quantum mechanics do not
>help so much to solve TL related problems and give some reasons for
>that.

Indeed, no doubt this [distraction] is attributable to a Texas
[distracting] snake in the grass.

Quantum mechanics can give a certain perspective and sense of scale,
but [distracting] amateurs shouldn't try that at home or on the
Internet.

> I am not an expert in quantum physics and I am not going further
>that my elementary physic book examples. Are they wrong? well... then,
>I am wrong too :>) PSE do not argue with me, I am innocent of charges,
>read the references...

The Cosmic Radiation Background has been measured to about 2.76 K,
where the mapping variation (fluctuations of 30 microKelvins) are
within the Energy perturbation (contribution) of our Amateur
transmissions.

So as to not argue, I firmly agree with you that no one is going to
find any utility in any of this. But the debate will rage on
heedless.

73's
Richard Clark, KB7QHC

2848. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 05:58:52 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <384ba3b4-10ce-4786-a9c3-04741430c353@5g2000yqz.googlegroups.com>
Source record: 8698

On Jun 30, 3:03 pm, Roy Lewallen <w...@eznec.com> wrote:
> lu6etj wrote:
> > On 29 jun, 15:08, Cecil Moore <w5...@hotmail.com> wrote:
> >> On Jun 29, 12:54 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> >>> photons can flow through a dielectric.. isn't that what EM propagation
> >>> is, after all?
> >> Yes, after I posted it, I realized that it was a rhetorical question.
> >> --
> >> 73, Cecil, w5dxp.com
>
> > I learnt displacement current inside a condenser it was = eo* d(phi E)/
> > dt no EM radiation inside the condenser to made that current possible,
> > in any case EM radiation in physical condenser will come out from
> > condenser to the rest of the universe :>).
> > I also learnt photons was necessary to explain certain energy
> > interchange phenomena such as fotoelectric effect or subatomic
> > particle interactions, wave-particle duality for me means "duality",
> > not "wave kaput" :>) to account for EM wave well explainable
> > phenomenom.
> > As it was taught to me (I am not physicist), quantum nature of a 80 m
> > wavelenght energy it is useless for calculations and invisible to our
> > instrument resolution because its immensely large quantic number. Is
> > it wrong?
>
> > Miguel LU6ETJ
>
> Photons are very useful in the analysis of transmission lines. They can
> be brought into the discussion to divert it from taking a path that
> makes a participant uncomfortable. If unable to answer a question
> logically, simply toss photons, optics, quantum mechanics, aether, and
> other confounding factors in, and presto, people will begin arguing
> about the spurious concepts and forget that you've avoided answering the
> difficult question. It's called misdirection, a time-honored technique
> used by politicians and prestidigitators as well as promoters of
> pseudoscience.
>
> Roy Lewallen, W7EL

That reminds me that somewhere in the morass of this thread, I believe
I saw an "exchange" about whether it was more proper to think of a TEM
line in terms of inductance and capacitance, or in terms of (electric
and magnetic) fields. I suppose someone had lost sight of the fact
that capacitance is simply a model that relates energy stored in an

electric field to the applied voltage, and inductance is simply a model that relates energy stored in a magnetic field to the conducted current. How easy it seems for some to become so invested in a particular viewpoint that they can't see that other viewpoints are equally valid (and often just a different way to say the same thing) -- and may on occasion lead to new insights. Of course, those viewpoints that have little to recommend them don't have to be given a particularly prominent position in our thoughts. Far be it from me to say that 10MHz energy isn't quantized, but since the quanta are far too small for me to measure, I seldom give them much thought.

Cheers,
Tom

2849. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1277964001@panix.com>
Source record: 8699
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

2850. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 06:14:16 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2c323b$0$19184$65785112@news.neostrada.pl>
Source record: 8700

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:a75e79a9-d0fd-4717-a451-76b55ca0c97f@q12g2000yqj.googlegroups.com...
On Jun 30, 1:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Photons are in the real light. The natural light is not coherent. It is
> emitted in the portions (packets).
> Radio waves are emitted continously. Radar waves are in the portions.

Laser light can usually be considered to be coherent light

No. People produce the coherent light in :
http://en.wikipedia.org/wiki/File:HalbachArrayFEL.png

>as are
waves generated by an RF transmitter. But of course, nothing is
perfect.

>> Radio waves and the light photons flow directly through the dielectric
>> layer
> of a capacitor.

>Energy flow, just not as "current".

Each waves transports the mass and energy.

>> Electrons are compressed in the ends of the open circuit (condenser and
> antenna).

>"Compressed" may be overstating the phenomenon. Have you ever
calculated exactly how far an electron moves at 10 MHz?

Electro gas behaves like all gases.

>> Electrons are simple.

>Yes, too simple to move at the speed of light.

Air particles move with the speed temperature dependent.
Electrons do the same.
S*

2851. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 06:25:47 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2c34ed$0$17082$65785112@news.neostrada.pl>
Source record: 8601

"Roy Lewallen" <w7el@eznec.com> wrote
news:aISdnSVGptjRRrbRnZ2dnUVZ_hednZ2d@giganews.com...
> >
> I'd make a small addition, that . . .there is never at any instant a *net*
> flow of energy away from the load. . .

Each wave transports the mass and energy from the source (or mirror).
In the microwave oven the all energy is transfered into heat.

In antenna the part of energy and mass is emitted. The reflected part is
smaller.
S*

2852. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 10:42:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e95eef07-be10-4e7e-8996-c1d474281fcb@e5g2000yqn.googlegroups.com>
Source record: 8602

On Jul 1, 6:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>
wrotenews:a75e79a9-d0fd-4717-a451-76b55ca0c97f@q12g2000yqj.googlegroups.com...
> On Jun 30, 1:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > Photons are in the real light. The natural light is not coherent. It is
> > emitted in the portions (packets).
> > Radio waves are emitted continously. Radar waves are in the portions.
>
> Laser light can usually be considered to be coherent light
>
> No. People produce the coherent light in
:http://en.wikipedia.org/wiki/File:HalbachArrayFEL.png
>
> >as are
>
> waves generated by an RF transmitter. But of course, nothing is
> perfect.
>
> >> Radio waves and the light photons flow directly through the dielectric
> >> layer
> > of a capacitor.
> >Energy flow, just not as "current".
>
> Each waves transports the mass and energy.
>
> >> Electrons are compressed in the ends of the open circuit (condenser and
> > antenna).
> >"Compressed" may be overstating the phenomenon. Have you ever
>
> calculated exactly how far an electron moves at 10 MHz?
>
> Electro gas behaves like all gases.
>
> >> Electrons are simple.
> >Yes, too simple to move at the speed of light.
>
> Air particles move with the speed temperature dependent.
> Electrons do the same.
> S*

you can do better than that, you just aren't being any fun now!

2853. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 12:30:09 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <f8abc033-9c19-437f-a0fe-8309cb370897@c10g2000yqi.googlegroups.com>
Source record: 8603

A helically-wound dipole or monopole that is physically short in terms of a free-space wavelength can be made electrically resonant at its input terminals as a result of the inductance of the helical form of the radiating conductor.

But that does not mean that it has all of the electrical characteristics of a linear conductor that is inherently resonant, without the need for inductive loading.

The radiation resistance of such a helically-wound radiator can be much lower than a naturally resonant radiator, which can mean that the percentage of transmitter power radiated by the antenna SYSTEM can be much lower than when a naturally resonant radiator is used.

The link below leads to a page developing this point from Kraus' Antennas For All Applications, 3rd Edition.

http://i62.photobucket.com/albums/h85/rfry-100/Helically-woundVertical.gif

RF

2854. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 12:37:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a7d9e9af-7f6d-42ac-bac0-4a7930ef8677@y11g2000yqm.googlegroups.com>
Source record: 8604

On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Check the a0 coefficient in the Fourier transform. This represents
> the DC component of the signal.

And the result is zero EM waves, either forward or reflected, and your argument falls apart.

> Without this, how would you deal with a signal such as
> V(t) = 10 + 2 cos(3t)

If the cosine term is zero, there are zero EM waves, either forward or reflected, and your argument falls apart.

Incidentally, V(t) = 10, is a perfect way to prove that energy and the time derivitive of energy are not the same thing and your argument falls apart.

> Alternatively, one can use the standard trick for dealing with
> non-repetitive waveforms: choose an arbitrary period. 24 hours
> would probably be suitable for these examples and transform from
> there. Still, you will have zero frequency component to deal
> with, but there will be some at higher frequencies (if you
> choose your function to make it so).

Windowing doesn't generate EM waves where none exist in reality and your argument falls apart.
--
73, Cecil, w5dxp.com

2855. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 12:53:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0f913bf6-05ae-4f6d-a18a-a3debcdd89bd@q12g2000yqj.googlegroups.com>
Source record: 8605

On Jul 1, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Check the a0 coefficient in the Fourier transform. This represents
> > the DC component of the signal.
>
> And the result is zero EM waves, either forward or reflected, and your
> argument falls apart.
>
> > Without this, how would you deal with a signal such as
> >   V(t) = 10 + 2 cos(3t)
>
> If the cosine term is zero, there are zero EM waves, either forward or
> reflected, and your argument falls apart.
>
> Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> time derivitive of energy are not the same thing and your argument
> falls apart.
>
> > Alternatively, one can use the standard trick for dealing with
> > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > would probably be suitable for these examples and transform from
> > there. Still, you will have zero frequency component to deal
> > with, but there will be some at higher frequencies (if you
> > choose your function to make it so).
>
> Windowing doesn't generate EM waves where none exist in reality and
> your argument falls apart.
> --
> 73, Cecil, w5dxp.com

a better argument is that a constant voltage produces a constant
electric field everywhere, since the field is not varying in time or
space there is no time or space derivative to create a magnetic field
so there can be no propagating em wave. you could do the same with
zero or constant current producing a constant magnetic field.

essentially the dc case IS unique in that you must wait forever for it
to reach sinusoidal steady state since the lowest frequency component
is 0hz.

2856. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 13:14:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fa2e2525-b012-4d67-9f21-c5e403a62d19@j4g2000yqh.googlegroups.com>
Source record: 8606

On Jul 1, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Check the a0 coefficient in the Fourier transform. This represents
> > the DC component of the signal.
>
> And the result is zero EM waves, either forward or reflected, and your
> argument falls apart.
>
> > Without this, how would you deal with a signal such as
> > V(t) = 10 + 2 cos(3t)
>
> If the cosine term is zero, there are zero EM waves, either forward or
> reflected, and your argument falls apart.
>
> Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> time derivitive of energy are not the same thing and your argument
> falls apart.
>
> > Alternatively, one can use the standard trick for dealing with
> > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > would probably be suitable for these examples and transform from
> > there. Still, you will have zero frequency component to deal
> > with, but there will be some at higher frequencies (if you
> > choose your function to make it so).
>
> Windowing doesn't generate EM waves where none exist in reality and
> your argument falls apart.
> --
> 73, Cecil, w5dxp.com

a better argument is that a constant voltage produces a constant
electric field everywhere, since the field is not varying in time or
space there is no time or space derivative to create a magnetic field
so there can be no propagating em wave. you could do the same with
zero or constant current producing a constant magnetic field.

essentially the dc case IS unique in that you must wait forever for it
to reach sinusoidal steady state since the lowest frequency component
is 0hz.

2857. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 13:16:10 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <i0i4f4$2gl$1@speranza.aioe.org>
Source record: 8607

"Richard Fry" <rfry@adams.net> ha scritto nel messaggio
news:f8abc033-9c19-437f-a0fe-8309cb370897@c10g2000yqi.googlegroups.com...

> But that does not mean that it has all of the electrical
> characteristics of a linear conductor that is inherently resonant,
> without the need for inductive loading.

Yes, replying to Richard but also to Roy and Dave.. maybe i can't explain
very well, but the sense of my latest question is this:

if a half wave end-fed *monopole* antenna have the following primary
characteristics (if IIRC):

- High Z at the feedpoint (voltage maximum and current node);
- very small counterpoise lenght compared to the resonant wavelenght of the
antenna (typical 0.1-0.2 lambda)

can i mantain the same characteristics shortening the antenna in any way ??

Thanks for read and explain to those who want clarify my doubts.

-.-. --.-

2858. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 13:57:28 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <987p26hvvnrqemmpp7pr144ico4repbni9@4ax.com>
Source record: 8608

On Thu, 1 Jul 2010 15:16:10 +0200, "-.-. --.-" <a@a.com> wrote:

>
>"Richard Fry" <rfry@adams.net> ha scritto nel messaggio
>news:f8abc033-9c19-437f-a0fe-8309cb370897@c10g2000yqi.googlegroups.com...
>
>> But that does not mean that it has all of the electrical
>> characteristics of a linear conductor that is inherently resonant,
>> without the need for inductive loading.
>
>Yes, replying to Richard but also to Roy and Dave.. maybe i can't explain
>very well, but the sense of my latest question is this:
>
>if a half wave end-fed *monopole* antenna have the following primary
>characteristics (if IIRC):
>
>- High Z at the feedpoint (voltage maximum and current node);
>- very small counterpoise lenght compared to the resonant wavelenght of the
>antenna (typical 0.1-0.2 lambda)
>
>can i mantain the same characteristics shortening the antenna in any way ??
>
>Thanks for read and explain to those who want clarify my doubts.
>
> -.-. --.-
>
Google EZNEC and find Roy's site.
Download & install the demo version- it is free!
Go through some of the simple examples like dipoles, 1/4 verticals
etc.
Bring your questions back to this group and we will all benefit.

Antennas are pleasantly addictive!
I consider myself a perpetual student...

John Ferrell W8CCW

2859. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 14:20:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <40d20c29-a3a3-4580-a3b4-d70e47db2978@b35g2000yqi.googlegroups.com>
Source record: 8609

On Jun 30, 11:30 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> > But you are NOT adding up the energy flows - you are adding up the
> > power.
>
> Ummm. Energy flow is power. Joules/s!
>
> If it helps, any place I have written 'power', please replace with
> 'energy flow'.

One too many words - what I meant to say is that you are not adding up the energy - you are adding up the power. There is no such thing as conservation of energy flow. That is proved by your own graphs. There are times when the energy flow is destroyed. There are other points on your power graphs where energy flow is created.

> There is no conflict with conserving flows, ...

The conflict is that conservation of flows doesn't exist. Keith, you need to go back to college. There is no such thing as conservation of energy flow so your argument falls apart. When one looks up "conservation" in a physics book one finds:

conservation of energy principle
conservation of mass-energy
conservation of mechanical energy
conservation of momentum principle

There is NO conservation of energy flow or conservation of power. Until you give up on that ridiculous concept, we don't have much to discuss except your religion.

> > What happens when energy = 1 joule, and de/dt = 0 watts. This happens
> > all the time during an RF cycle so you are not using actual energy
> > flows. You are using power which goes to zero even when maximum energy
> > is still present.
>
> Yes, indeed. That is a fundamental possibility and occurs on
> transmission lines with infinite VSWR.

If power goes to zero, power has been destroyed. Therefore, there is no conservation of power principle. Anything that can go to zero, i.e. can disappear, cannot be conserved.

> Power is the time derivitive of energy. They are related
> but definitely not one-to-one.

Well, that shoots your argument down. If power and energy do not have a one-to-one correspondence, then you cannot use the conservation of energy principle to prove that power is conserved and your argument falls apart. You must then product a conservation of power principle, something that every physics professor has warned us doesn't exist.

I can provide any number of references to support the conservation of energy principle. Please provide just one bona fide reference that supports your conservation of energy flow (power) principle.

> This is quite incorrect. Energy flows must balance, otherwise energy
> is being created or destroyed to sustain a difference in flow.

Good grief! Any physicist knows that is false. Any number of examples prove that is false.

> Energy flows must balance as well. Otherwise,
> energy is coming from nowhere to sustain the flow.

Given a black box with an input and output. Measurements of the power flow vector indicates that the magnitude of each power flow vector is 50 watts and both vectors are pointing inside the black box. How can the instantaneous energy flows possibly balance?

> Instead, think that at every instant, the energy flow between the
> entities in the experiment must balance.

You are contradicting yourself. Assume the capacitor *IS* the system inside a black box. The instantaneous energy flow does NOT balance.

> It is the
> total energy within the system that is conserved, just as it is
> the total of the flows of energy between the entities within the
> system that must be conserved.

You have it half right. Energy must be conserved. Energy flow is not conserved.

> Put more strictly: The sum of all the energy flows in to all of
> the entities within the system must equal the energy flow in to
> the system.

Please see the black box experiment above and balance the energy flow.
Please produce a reference for the conservation of power principle.
--
73, Cecil, w5dxp.com

2860. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 14:24:26 UTC
From: "R.Scott" <w7psk@yahoo.com>
Message-ID: <028ffba3-9e7c-457e-b703-9a8600729e87@z8g2000yqz.googlegroups.com>
Source record: 8610

On Jun 22, 5:14 pm, tom <news4...@taring.org> wrote:
> On 6/22/2010 10:03 AM, R.Scott wrote:
>
>
>
> > On Jun 21, 5:19 pm, tom<news4...@taring.org> wrote:
> >> On 6/21/2010 12:08 PM, R.Scott wrote:
>
> >>>> Sorry, I should have looked before leaping, it's 5 elements on 15.5 feet.
>
> >>>> tom
> >>>> K0TAR
>
> >>> Id be interested in the plans.
> >>> Hard part is making the strap, Ive no shop tools/materials handy to do
> >>> it easy. Ive the tubing and
> >>> the RG8 :).
>
> >>> Scotty W7PSK.
>
> >> Send me an email at tossit...@taring.org. It will be valid until
> >> tomorrow morning.
>
> >> tom
> >> K0TAR
>
> > Guess I was too slow.
>
> Actually it's still there. I forgot to disable it. I'll leave it up
> for a day or so.
>
> tom
> K0TAR

Never did get it to work. maybe you could email me at

W 7 P S K A T W 7 P S K Dot N E T

with what ever addy you need with the information. Im going to be
building it soon.

What did you use for shorting bar ? Thats the hardest for me with no
shop tools to speak of and
limited supply of metals around here.

2861. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 14:33:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <812c1e3e-806f-4c83-86b7-9ee6e19d271c@d16g2000yqb.googlegroups.com>
Source record: 8611

On Jun 30, 5:03 pm, Roy Lewallen <w...@eznec.com> wrote:
> It's called misdirection, a time-honored technique
> used by politicians and prestidigitators as well as promoters of
> pseudoscience.

Translation: Don't bother me with technical facts based on the laws of physics. I am perfectly happy with my present metaphysics.

Actually, recognizing that EM waves are photonic in nature and are therefore bound by the laws of physics governing photons is an attempt to correct the previous years of misdirection engaged in by some RF gurus. Such concepts as zero energy in EM reflected waves comes to mind. If EM reflected waves do not obey the laws of physics, then they don't exist - but they do.
--
73, Cecil, w5dxp.com

2862. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 14:43:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ab98e76c-1dc8-4950-856a-7a0577f4e351@b35g2000yqi.googlegroups.com>
Source record: 8612

On Jun 30, 7:03 pm, Roy Lewallen <w...@eznec.com> wrote:
> I think this is the genesis of Cecil's view that energy waves
> somehow bounce off the standing wave node.

I'm sorry, Roy, but I never said anything of the sort. Keith
apparently believes that energy waves somehow bounce off a standing
wave node. I am on the opposite side of that argument. I believe that
the forward wave and reflected wave flow right through a standing wave
node. I am on record as saying the only time a reflection occurs is at
a physical impedance discontinuity.

Misdirection is also accusing someone of saying something that they
never said, is a low blow, and is not an ethical act.
--
73, Cecil, w5dxp.com

2863. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 14:49:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <685f49e8-9006-4a70-aed5-350fe543910f@s9g2000yqd.googlegroups.com>
Source record: 8613

On Jul 1, 1:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> In the microwave oven the all energy is transfered into heat.

If that is true, then why is there a pacemaker warning posted around
many microwave ovens in public places? Doesn't that warning imply that
not all energy is transfered into heat?
--
73, Cecil, w5dxp.com

2864. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 14:58:26 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <0219ecd3-3e66-47c7-8477-a4386cd4c898@r27g2000yqb.googlegroups.com>
Source record: 8614

On Jul 1, 8:16 am, "-.-. --.-" <a...@a.com> wrote:
> if a half wave end-fed *monopole* antenna have the following primary
> characteristics (if IIRC):
>
> - High Z at the feedpoint (voltage maximum and current node);
> - very small counterpoise lenght compared to the resonant wavelenght of the
> antenna (typical 0.1-0.2 lambda)
>
> can i mantain the same characteristics shortening the antenna in any way ??

With proper design you can maintain the resonance characteristic with that short antenna, but not its characteristics of SWR bandwidth, exact radiation pattern (directivity), or radiation resistance.

For a single frequency the only important difference will be radiation resistance, unless the short radiator is used with a virtually perfect (zero loss) ground plane.

A typical r-f ground loss even in a set of 120 each, 1/4-wave-long buried radials is on the order of two ohms. So referencing the example in the link to Kraus that I posted earlier, the radiation efficiency of that helically-loaded monopole system with a two ohm r-f ground would be about 0.6/2.6 = 23%, approximately.

The loss of a radial system using 0.1-0.2 lambda conductors would be significantly higher, so the antenna system radiation efficiency then would be significantly less than 23%.

A naturally-resonant, unloaded monopole about 1/4-wave high has a radiation resistance of around 34 ohms. When it is used with a two ohm r-f ground, the radiation efficiency of the antenna system is about 34/36 = 94%.

RF

2865. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 15:19:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <767afb4e-ef77-4eb3-b6f8-d89b93c5af4d@j8g2000yqd.googlegroups.com>
Source record: 8615

On Jul 1, 1:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com> wrotenews:a75e79a9-d0fd-4717-a451-
> > Laser light can usually be considered to be coherent light
>
> No. People produce the coherent light in
:http://en.wikipedia.org/wiki/File:HalbachArrayFEL.png

You say lasers are not coherent and then post the url containing
"Description: Free Electron Laser Diagram"?
--
73, Cecil, w5dxp.com

2866. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 16:16:00 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2cbf43$0$2594$65785112@news.neostrada.pl>
Source record: 8616

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:767afb4e-ef77-4eb3-b6f8-d89b93c5af4d@j8g2000yqd.googlegroups.com...
On Jul 1, 1:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com> wrotenews:a75e79a9-d0fd-4717-a451-
>> > Laser light can usually be considered to be coherent light
>
>> No. People produce the coherent light in :
>> http://en.wikipedia.org/wiki/File:HalbachArrayFEL.png

>You say lasers are not coherent and then post the url containing
"Description: Free Electron Laser Diagram"?

Free electron laser it is a quite different thing than laser.

The free electron laser produces the "laser-like" light:

" As the electrons are undergoing acceleration they radiate electromagnetic
energy in their flight direction, and as they interact with the light
already emitted, photons along its line are emitted in phase, resulting in a
"laser-like" monocromatic and coherent beam". From:
http://en.wikipedia.org/wiki/Halbach_array
S*

2867. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 16:20:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2cc03c$0$2607$65785112@news.neostrada.pl>
Source record: 8617

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:685f49e8-9006-4a70-aed5-350fe543910f@s9g2000yqd.googlegroups.com...
On Jul 1, 1:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> In the microwave oven the all energy is transfered into heat.

>If that is true, then why is there a pacemaker warning posted around
many microwave ovens in public places? Doesn't that warning imply that
not all energy is transfered into heat?

Mirrors are not perfect.
S*

2868. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 16:38:25 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2cc483$0$2590$65785112@news.neostrada.pl>
Source record: 8618

"K1TTT" <k1ttt@arrl.net> wrote
news:e95eef07-be10-4e7e-8996-c1d474281fcb@e5g2000yqn.googlegroups.com...
On Jul 1, 6:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Electro gas behaves like all gases.
>
>
>> Air particles move with the speed temperature dependent.
>> Electrons do the same.
> S*

>you can do better than that, you just aren't being any fun now!

I do my best.

May be the Wiki is better: "The electron temperature of a plasma can be
several orders of magnitude higher than the temperature of the neutral
species or of the ions. This is a result of two facts. Firstly, many plasma
sources heat the electrons more strongly than the ions. Secondly, atoms and
ions are much heavier than electrons, and energy transfer in a two-body
collision is much more efficient if the masses are similar."

You know: The Sun produces the plasma (it rotate with the Sun) and the
plasma is a medium for the longitudinal electric waves (Tesla - the father
of the radio). Is not it funny?
S*

2869. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 16:53:01 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <25GdncmgJOttWrHRnZ2dnUVZ_qOdnZ2d@giganews.com>
Source record: 8619

Richard Fry wrote:
> A helically-wound dipole or monopole that is physically short in terms
> of a free-space wavelength can be made electrically resonant at its
> input terminals as a result of the inductance of the helical form of
> the radiating conductor.
>
> But that does not mean that it has all of the electrical
> characteristics of a linear conductor that is inherently resonant,
> without the need for inductive loading.
>
> The radiation resistance of such a helically-wound radiator can be
> much lower than a naturally resonant radiator, which can mean that the
> percentage of transmitter power radiated by the antenna SYSTEM can be
> much lower than when a naturally resonant radiator is used.
> . . .

But a helically-wound radiator *is* a naturally resonant radiator if
wound to make it so. It just isn't straight.

Roy Lewallen, W7EL

2870. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 17:05:33 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <974c789e-9e10-456c-b674-ddd25db1b926@5g2000yqz.googlegroups.com>
Source record: 8620

On Jul 1, 11:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Free electron laser it is a quite different thing than laser.

When is a laser not a laser? When it is a free electron laser.
Unfortunately, I understand completely.
--
73, Cecil, w5dxp.com

2871. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 17:07:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b0db9e1c-7fa8-401e-9d4f-4d87e4eb6a13@b35g2000yqi.googlegroups.com>
Source record: 8621

On Jul 1, 11:20 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Mirrors are not perfect.

Moral: One should never use the word "all" when describing
imperfection.
--
73, Cecil, w5dxp.com

2872. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 17:42:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1b59ef06-4f30-4425-b526-d3eca6a9b9d4@z8g2000yqz.googlegroups.com>
Source record: 8622

On Jul 1, 5:05 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 1, 11:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > Free electron laser it is a quite different thing than laser.
>
> When is a laser not a laser? When it is a free electron laser.
> Unfortunately, I understand completely.
> --
> 73, Cecil, w5dxp.com

you have been in here too long.

2873. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 18:27:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <c8KdnTErRIqzQ7HRnZ2dnUVZ_uCdnZ2d@giganews.com>
Source record: 8623

Richard Fry wrote:
> . . .
> A typical r-f ground loss even in a set of 120 each, 1/4-wave-long
> buried radials is on the order of two ohms. So referencing the
> example in the link to Kraus that I posted earlier, the radiation
> efficiency of that helically-loaded monopole system with a two ohm r-f
> ground would be about 0.6/2.6 = 23%, approximately.
>
> The loss of a radial system using 0.1-0.2 lambda conductors would be
> significantly higher, so the antenna system radiation efficiency then
> would be significantly less than 23%.
>
> A naturally-resonant, unloaded monopole about 1/4-wave high has a
> radiation resistance of around 34 ohms. When it is used with a two
> ohm r-f ground, the radiation efficiency of the antenna system is
> about 34/36 = 94%.
>
> RF

Although 2 ohms is a reasonable approximation for 120 radial ground system resistance, it varies not only with ground quality and frequency, but also antenna height. For example, an NEC-4 simulation for vertical radiators at 3.7 MHz with 120 radials, each a free space half wavelength long buried 0.1 meter in average soil, shows 3.25 ohms ground system resistance when the radiator is 0.24 wavelength high (nearly resonant). When the radiator is shortened to 0.12 wavelength, the ground system resistance increases to 4.30 ohms. And with a 0.06 high radiator, the ground system resistance nearly doubles to 8.06 ohms. This decreases the efficiency of the very short radiator by about an additional 3 dB beyond what it would be if the ground system resistance were fixed at 3.25 ohms.

I believe the ground system resistance increase with short radiators is due to concentration of the field very close to the antenna, resulting in much higher ground currents in that region. It would probably be useful to use a larger number of radials, which could be shorter, when the radiator is very short.

Roy Lewallen, W7EL

2874. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 18:31:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <wvKdnbfD1caLQrHRnZ2dnUVZ_qadnZ2d@giganews.com>
Source record: 8624

-.-. --.- wrote:
> "Richard Fry" <rfry@adams.net> ha scritto nel messaggio
> news:f8abc033-9c19-437f-a0fe-8309cb370897@c10g2000yqi.googlegroups.com...
>
>> But that does not mean that it has all of the electrical
>> characteristics of a linear conductor that is inherently resonant,
>> without the need for inductive loading.
>
> Yes, replying to Richard but also to Roy and Dave.. maybe i can't explain
> very well, but the sense of my latest question is this:
>
> if a half wave end-fed *monopole* antenna have the following primary
> characteristics (if IIRC):
>
> - High Z at the feedpoint (voltage maximum and current node);
> - very small counterpoise lenght compared to the resonant wavelenght of the
> antenna (typical 0.1-0.2 lambda)
>
> can i mantain the same characteristics shortening the antenna in any way ??
>
> Thanks for read and explain to those who want clarify my doubts.
>
> -.-. --.-

You can add a top hat to a vertical that's shorter than a half wavelength, and bring it to anti-resonance (high input resistance with no reactance). The impedance won't be as high as if the antenna were a half wavelength high, and it will have narrower bandwidth, so it won't be a perfect imitation. Or you can use a combination of loading inductance and top hat to get a somewhat poorer imitation.

Roy Lewallen, W7EL

2875. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 19:49:26 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <17d7e283-5e2d-4b71-a3c3-0166a9ec8eec@j8g2000yqd.googlegroups.com>
Source record: 8625

On Jul 1, 11:53 am, Roy Lewallen <w...@eznec.com> wrote:
>
> But a helically-wound radiator *is* a naturally resonant radiator if
> wound to make it so. It just isn't straight.

That is true, but a resonant, helically-wound, electrically short radiator does *not* have the radiation resistance of a straight, self-resonant radiator of about 1/4 wavelength -- which can make a large difference between the two forms in the amount of available energy radiated vs. that lost in the r-f ground system.

RF

2876. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 20:18:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <FfSdnUX_cPiSZbHRnZ2dnUVZ_g6dnZ2d@giganews.com>
Source record: 8626

Richard Fry wrote:
> On Jul 1, 11:53 am, Roy Lewallen <w...@eznec.com> wrote:
>> But a helically-wound radiator *is* a naturally resonant radiator if
>> wound to make it so. It just isn't straight.
>
> That is true, but a resonant, helically-wound, electrically short
> radiator does *not* have the radiation resistance of a straight, self-
> resonant radiator of about 1/4 wavelength -- which can make a large
> difference between the two forms in the amount of available energy
> radiated vs. that lost in the r-f ground system.
>
> RF

Guess I just don't understand how a resonant, helically-wound antenna is "electrically short". Suppose you helically wound an eighth-wave vertical in such a way that it was resonant. Its physical length is an eighth wavelength. What would its "electrical length" be? That is, how "electrically short" would it be?

How do you determine what the "electrical length" of a vertical or dipole is? Does a loading coil at the base alter the "electrical length"? Does an L network at the base?

Roy Lewallen, W7EL

2877. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 20:57:52 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <706c930e-6df5-4594-b5cf-ba2eeb1150c9@k39g2000yqb.googlegroups.com>
Source record: 8627

On Jul 1, 3:18 pm, Roy Lewallen <w...@eznec.com> wrote:
> Guess I just don't understand how a resonant, helically-wound antenna is
> "electrically short". Suppose you helically wound an eighth-wave
> vertical in such a way that it was resonant. Its physical length is an
> eighth wavelength. What would its "electrical length" be?

Its overall height in free space wavelengths. This is the definition
used by the FCC for the unloaded monopoles used in AM broadcasting

Do you expect your 1/8 WL high, self-resonant helical to have the same
electrical length and feedpoint parameters as a self-resonant,
straight radiator about 1/4 wave high in free space wavelengths?

According to Kraus and other authors, your example above still has
about the same radiation resistance as a 1/8 WL straight conductor --
not that of a self-resonant, straight conductor about 1/4 WL high.

An 1/8 WL high helical may be resonant, but it will not perform the
same in a practical antenna system as a straight, self-resonant
vertical whose physical height in free space wavelengths is about 1/4
wave.

RF

2878. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 20:58:53 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5194195c-ab41-46f5-a6f6-ff16b3735e80@c10g2000yqi.googlegroups.com>
Source record: 8628

On 1 jul, 11:43, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 30, 7:03 pm, Roy Lewallen <w...@eznec.com> wrote:
>
> > I think this is the genesis of Cecil's view that energy waves
> > somehow bounce off the standing wave node.
>
> I'm sorry, Roy, but I never said anything of the sort. Keith
> apparently believes that energy waves somehow bounce off a standing
> wave node. I am on the opposite side of that argument. I believe that
> the forward wave and reflected wave flow right through a standing wave
> node. I am on record as saying the only time a reflection occurs is at
> a physical impedance discontinuity.
>
> Misdirection is also accusing someone of saying something that they
> never said, is a low blow, and is not an ethical act.
> --
> 73, Cecil, w5dxp.com

I swear I never read Cecill say such things!, Cecil's sin is conspire
to arrange a coup d'état to overthrow collegiate government of
physical duality to place photons at the imperial power :>)

2879. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-01 21:27:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <kKmdnZPjTf_9lbDRnZ2dnUVZ_radnZ2d@giganews.com>
Source record: 8629

Richard Fry wrote:
> On Jul 1, 3:18 pm, Roy Lewallen <w...@eznec.com> wrote:
>> Guess I just don't understand how a resonant, helically-wound antenna is
>> "electrically short". Suppose you helically wound an eighth-wave
>> vertical in such a way that it was resonant. Its physical length is an
>> eighth wavelength. What would its "electrical length" be?
>
> Its overall height in free space wavelengths. This is the definition
> used by the FCC for the unloaded monopoles used in AM broadcasting

Oh, then the "electrical length" is the same as "physical length". Why not just say "physical length" then?

> Do you expect your 1/8 WL high, self-resonant helical to have the same
> electrical length and feedpoint parameters as a self-resonant,
> straight radiator about 1/4 wave high in free space wavelengths?

You just said that the height of the antenna is the electrical length. So no, I wouldn't expect two antennas of different heights to have the same electrical length, using your definition.

> According to Kraus and other authors, your example above still has
> about the same radiation resistance as a 1/8 WL straight conductor --
> not that of a self-resonant, straight conductor about 1/4 WL high.

It'll be a little higher than a straight 1/8 wave conductor due to a bit more favorable current distribution (see the article referenced in my next paragraph for some actual measurements). But it'll surely not be as high as that of a quarter wavelength conductor. Which of course is the reason it's so important to minimize loss if you want good efficiency.

> An 1/8 WL high helical may be resonant, but it will not perform the
> same in a practical antenna system as a straight, self-resonant
> vertical whose physical height in free space wavelengths is about 1/4
> wave.

Depends. If the ground system is very good and you're willing to keep to a narrow bandwidth without retuning, you wouldn't be able to tell any practical difference between the two. For good experimental evidence see "The W2FMI Ground-Mounted Short Vertical" by Jerry Sevick, W2FMI in March 1973 QST.

Roy Lewallen, W7EL

2880. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 08:21:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2da16f$0$17096$65785112@news.neostrada.pl>
Source record: 8630

"Cecil Moore" <w5dxp@hotmail.com>wrote
news:974c789e-9e10-456c-b674-ddd25db1b926@5g2000yqz.googlegroups.com...
On Jul 1, 11:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Free electron laser it is a quite different thing than laser.

>When is a laser not a laser? When it is a free electron laser.
Unfortunately, I understand completely.

Laser = "laser - an acronym for light amplification by stimulated emission
of radiation"

Laser rework natural light (radiation).

Antennas produce artifical radiation in the result of the electron
oscillations.

To make the oscillations we use different devices.
LC for radio waves, megatrons for microwaves, claystrons for radar waves and
the Halbach array for the light frequency.

The word "laser" is probably common name for the all atificical light
sources.
S*

2881. Chanel shoes <free shipping paypal payment>(http:// www.cntrade09.com/)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 12:43:45 UTC
From: cntrade08 <chenxiangmei88@gmail.com>
Message-ID: <69113326-2224-49f0-b410-ec80db1dc591@s12g2000prc.googlegroups.com>
Source record: 8631
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

Shox Shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
shoes shox shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
shox shoe <free shipping paypal payment>(http://www.cntrade09.com/)
LV,coach,chanel boots wholesale <free shipping paypal payment>(
http://www.cntrade09.com/)
air force ones <free shipping paypal payment>(http:// www.cntrade09.com/)
nike trading <free shipping paypal payment>(http://www.cntrade09.com/
)
nike shox <free shipping paypal payment>(http://www.cntrade09.com/)
shox air <free shipping paypal payment>(http://www.cntrade09.com/)
white shoe <free shipping paypal payment>(http:// www.cntrade09.com/
)
nike shoe <free shipping paypal payment>(http://www.cntrade09.com/)
nike air shox <free shipping paypal payment>(http://www.cntrade09.com/)
shox r4 <free shipping paypal payment>(http://www.cntrade09.com/)
tennis shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
tennis shoe <free shipping paypal payment>(http://www.cntrade09.com/)
basketball shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
jordan shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox 2 <free shipping paypal payment>(http://www.cntrade09.com/)
nike shox ace <free shipping paypal payment>(http://www.cntrade09.com/)
men's shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
buy shoe <free shipping paypal payment>(http://www.cntrade09.com/)
adidas shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
kids shoe <free shipping paypal payment>(http://www.cntrade09.com/)
buy shoes <free shipping paypal payment>(http://www.cntrade09.com/)
puma shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
converse shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
shoes sale <free shipping paypal payment>(http:// www.cntrade09.com/)
running shoes women <free shipping paypal payment>(http:// www.cntrade09.com/
)
adidas running shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Footwear <free shipping paypal payment>(http://www.cntrade09.com/)
Paul Smith shoes <free shipping paypal payment>(http://www.cntrade09.com/

)
Jordan shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
Bape shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Chanel shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
D&G shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Dior shoes <free shipping paypal payment>(http://www.cntrade09.com/)
ED hardy shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Evisu shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
Fendi shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Gucci shoes `<free shipping paypal payment>(http://www.cntrade09.com/
)
Hogan shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Lv shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
Prada shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Timberland shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Tous shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Ice cream shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Sebago shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Lacoste shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Air force one shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
TODS shoes <free shipping paypal payment>(http://www.cntrade09.com/)
AF shoes <free shipping paypal payment>(http://www.cntrade09.com/)

2882. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 14:04:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <089bb911-1c1c-433c-bc95-47ef98ac1eee@f8g2000vbl.googlegroups.com>
Source record: 8632

On Jul 1, 12:42 pm, K1TTT <k1...@arrl.net> wrote:
> you have been in here too long.

Sorry, just my feeble attempt at some comic relief. Guess I should
have included a smiley face.
--
73, Cecil, w5dxp.com

2883. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 14:13:54 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <69cf14e8-1134-4b56-8883-bc72dbba0f49@e30g2000vbl.googlegroups.com>
Source record: 8633

On Jul 1, 3:58 pm, lu6etj <lu6...@gmail.com> wrote:
> I swear I never read Cecill say such things!,

If the perpetuator of that unethical false inuendo can present any posting where I said EM waves can bounce off of current or voltage nodes, I will personally write him a check for $1000. Of course, if he cannot produce proof of what he asserts, he should post a public apology.
--
73, Cecil, w5dxp.com

2884. coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 14:28:58 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <bcqdnR9h7aTZarDRnZ2dnUVZ_oudnZ2d@earthlink.com>
Source record: 8634

Is there a shortage in the supply of coax ? A ham up the road has been trying to get some rg8x from The Wireman for a couple of weeks. They are out and said they should have some in soon.

There was also some mention of shortage of the open wire\twinlead type.

Is it just this place or is there some shortage in the US of coax and antena wire.
What about the other coax such as the rg8 size ?

2885. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 14:35:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <aa4db507-9a18-4ed6-8158-2ef655feea37@z25g2000vbk.googlegroups.com>
Source record: 8635

On Jul 2, 3:21 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> The word "laser" is probably common name for the all atificical light
> sources.

No, it is not. From answers.com: "Definition: laser - Any of several devices that emit highly amplified and coherent radiation of one or more discrete frequencies."

From Wikipedia: "Light Amplification by Stimulated Emission of Radiation (LASER or laser) is a mechanism for emitting electromagnetic radiation, typically light or visible light, via the process of stimulated emission. The emitted laser light is (usually) a spatially coherent, narrow low-divergence beam, that can be manipulated with lenses. In laser technology, 'coherent light' denotes a light source that produces (emits) light of in-step waves of identical frequency, phase,[1] and polarization. The laser's beam of coherent light differentiates it from light sources that emit incoherent light beams, of random phase varying with time and position."
--
73, Cecil, w5dxp.com

2886. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 16:19:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <757224cb-bbf9-4ff7-98ad-6d00f9fb497c@m18g2000vbg.googlegroups.com>
Source record: 8636

On Jul 2, 2:35 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 2, 3:21 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > The word "laser" is probably common name for the all atificical light
> > > sources.
>
> No, it is not. From answers.com: "Definition: laser - Any of several
> devices that emit highly amplified and coherent radiation of one or
> more discrete frequencies."
>
> From Wikipedia: "Light Amplification by Stimulated Emission of
> Radiation (LASER or laser) is a mechanism for emitting
> electromagnetic radiation, typically light or visible light, via the
> process of stimulated emission. The emitted laser light is (usually) a
> spatially coherent, narrow low-divergence beam, that can be
> manipulated with lenses. In laser technology, 'coherent light' denotes
> a light source that produces (emits) light of in-step waves of
> identical frequency, phase,[1] and polarization. The laser's beam of
> coherent light differentiates it from light sources that emit
> incoherent light beams, of random phase varying with time and
> position."
> --
> 73, Cecil, w5dxp.com

should we even bring up its close cousin, the MASER? I particularly
like this definition:

"MASER stands for Microwave Amplification by Stimulation Emission of
Radiation. A LASER is a MASER that works with higher frequency photons
in the ultraviolet or visible light spectrum"
from: http://einstein.stanford.edu/content/faqs/maser.html

2887. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 17:17:37 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <cc8fd1a8-aa79-426a-be6e-4aac902d24fd@m18g2000vbg.googlegroups.com>
Source record: 8637

On Jul 2, 11:19 am, K1TTT <k1...@arrl.net> wrote:
> should we even bring up its close cousin, the MASER?

According to something I read, the MASER, which was introduced while I was still in high school, was the original idea behind the development of the LASER. Thanks for your reference which says: "Basically, a man-made MASER is a device that sets up a series of atoms or molecules and excites them to generate the chain reaction, or amplification, of photons."

What??? A MASER is an RF devices. When discussing RF, aren't photons just a diversion away from "The Truth According to the Great RF Gurus"? Someone should tell the MASER guys that they are just wasting their time associating their RF devices with atoms and photons when they really should be using fields and waves to explain the MASER phenomena. Good luck on that one. :-)
--
73, Cecil, w5dxp.com

2888. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 17:49:33 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i0l8rd$f02m$1@tr22n12.aset.psu.edu>
Source record: 8638

Ralph Mowery wrote:

> Is there a shortage in the supply of coax ?

Yes, but all is not lost. You need to get the newst Ham in the neighborhood and send him out for a coax stretcher. They come in handy from time to time.

I have to admit I never found one in my neighborhood - but all the Hams were very helpful and thought they knew who might be able to help me, and sent me off to the person.

- 73 de Mike N3LI -

2889. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 19:04:57 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <33eac0f9-0b5e-4c3e-9a79-4a1f02de6fd8@r27g2000yqb.googlegroups.com>
Source record: 8639

On 1 jul, 02:42, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 30 Jun 2010 16:46:10 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> > a 100 W TX power during one second to gives certain amount of
> >energy
>
> Hi Miguel,
>
> POWER. Please observe the distinction as appeals to 100W or "one
> second" have no bearing on where you seem to be fixated with quanta
> and energy. Introducing distractions is not very useful. [I can
> appreciate that you are not the source of the distractions.]
>
> >I do not confussing wavelengh with quanta!, quantized energy it is
>
> Then quanta is a distraction, or wavelength is.
>
> >What sort of human eye we use to see 80 m "light"? :>)
>
> Why do you compare 80M to green light? The more wavelength
> appropriate scale would be invisible in the 800nM Infra Red or in the
> 80nM Ultra Violet. Green light's correlative would be in the 55.5M
> band (tropical SW).
>
> >I did not want go out off topic, I claimed quantum mechanics do not
> >help so much to solve TL related problems and give some reasons for
> >that.
>
> Indeed, no doubt this [distraction] is attributable to a Texas
> [distracting] snake in the grass.
>
> Quantum mechanics can give a certain perspective and sense of scale,
> but [distracting] amateurs shouldn't try that at home or on the
> Internet.
>
> > I am not an expert in quantum physics and I am not going further
> >that my elementary physic book examples. Are they wrong? well... then,
> >I am wrong too :>) PSE do not argue with me, I am innocent of charges,
> >read the references...
>
> The Cosmic Radiation Background has been measured to about 2.76 K,
> where the mapping variation (fluctuations of 30 microKelvins) are
> within the Energy perturbation (contribution) of our Amateur

> transmissions.
>
> So as to not argue, I firmly agree with you that no one is going to
> find any utility in any of this. But the debate will rage on
> heedless.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard:

(I am not quoting with ">" because I get unpredictable results with google :>))

You said: "Please observe the distinction as appeals to 100W or "one second" have no bearing on where you seem to be fixated with quanta and energy."
I could not translate this sentence, (sometimes your writings are complicated for me Richard, try Tarzan style or better yet... try as you were writing to Cheeta! :>)
(I handed the sentence to a friend who lives in England and today said to me that have so many interpretations and did not solve my problem...)

"Why do you compare 80M to green light?"

Well... I like it! photons born from light, green light it is a central zone of visible light spectrum, and 80 m is my favourite ex-novice band...
Look, light has a very rough "texture", light quanta is a very energetic thing, its "granularity" it is high and we easily perceive its quantic nature, 80 m energy instead has a very, very "soft" texture, 10^8 time softer than green light, and we can not measure its "granularity" with our instruments. Think of a 1000 kg car smashing against your car at 100 km/h, now think of a mosquito (10 mg) smashing against your windshield at the same speed.. well if the one green light quantum had the cinetc energy of a 1000 kg thrown against your car, 80 m quantum would have the mosquito energy! It is a really good example... you should congratulate me for that formidable approach!! no?, hi hi

Physicists said that we can better perceive energy glanularity at lower temperatures and they say we have classic behaviour when hv << kT, well... at 1 K, kT it is 6000 times bigger than 80 m hv, a very classic oscilator indeed!, at 293 K ambient temperature I think we can not appreciate quantized nature of RF waves!, (at least with my Bird 43) :>)

I have a question too, please tell me (I am very curious): why you take every opportunity to bite (sting?) my friend Cecil, ah? ;>). I read carefully Cecil writings and I do not find flawings in his affirmations; usually he is very precise and scholar on this matters,

sometimes he has an occasional forgivable habit, such his predilection for photons and polished glass things, but I think he has not so "distractive", usually I understand wiich is "his point" to bring another physics areas on the table... I think often we have a little stubborn too :>D

73, and thank you very much for your company - Miguel - LU6ETJ

2890. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 19:10:58 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c2e39c4$0$19166$65785112@news.neostrada.pl>
Source record: 8640

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:aa4db507-9a18-4ed6-8158-2ef655feea37@z25g2000vbk.googlegroups.com...
On Jul 2, 3:21 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> The word "laser" is probably common name for the all atificical light
> sources.

>No, it is not. From answers.com: "Definition: laser - Any of several
devices that emit highly amplified and coherent radiation of one or
more discrete frequencies."

You should add: "Basically, a man-
made MASER is a device that sets up a series of atoms or molecules and
excites them to generate the chain reaction, or amplification, of
photons."

Laser and maser reworks the light produced by atoms or molecules.

In the Halbach array no atoms or molecules.
There are working only the electrons in vacuum. Like in transmitters,
megatrons and claystrons.
S*

2891. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 19:14:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6d89bfa4-5768-4548-9f4e-98c68d88d768@i28g2000yqa.googlegroups.com>
Source record: 8641

On Jul 2, 2:04 pm, lu6etj <lu6...@gmail.com> wrote:
> I have a question too, please tell me (I am very curious): why you
> take every opportunity to bite (sting?) my friend Cecil, ah? ;>).

I once caught Richard red-handed, blatently superposing powers and he
has never forgiven me for that. :-)
--
73, Cecil, w5dxp.com

2892. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 19:16:05 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i0ldtl$bg3g$1@tr22n12.aset.psu.edu>
Source record: 8642

Cecil Moore wrote:
> On Jul 2, 2:04 pm, lu6etj <lu6...@gmail.com> wrote:
>> I have a question too, please tell me (I am very curious): why you
>> take every opportunity to bite (sting?) my friend Cecil, ah? ;>).
>
> I once caught Richard red-handed, blatently superposing powers and he
> has never forgiven me for that. :-)

Is a MASER actually a LASER?

- 73 de Mike N3LI -

2893. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 19:57:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <umes269gfd943t1ogpp6ramahj92kk8gpc@4ax.com>
Source record: 8643

On Fri, 2 Jul 2010 12:04:57 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Hello Richard:
>
>(I am not quoting with ">" because I get unpredictable results with
>google :>))
>
>You said: "Please observe the distinction as appeals to 100W or "one
>second" have no bearing on where you seem to be fixated with quanta
>and energy."
>I could not translate this sentence, (sometimes your writings are
>complicated for me Richard, try Tarzan style or better yet... try as
>you were writing to Cheeta! :>)

Hi Miguel,

Fair enough - and sorry for the density of style.

>(I handed the sentence to a friend who lives in England and today said
>to me that have so many interpretations and did not solve my
>problem...)

Well, that sentence was more about context than it was about style. I
am glad you did not ask your friend to read the thread.

>"Why do you compare 80M to green light?"
>
>Well... I like it! photons born from light, green light it is a
>central zone of visible light spectrum, and 80 m is my favourite ex-
>novice band...

Yes, green (actually green-yellow) light corresponds to photopic (day)
vision. Scotopic (moonless night) vision is blue-shifted. Sitting
inside would tend towards a combination called mesopic vision.

The analogue of the eye as "receiver" gives us the peculiar action of
resonance shifting due to strength of the QSO. Propagation fading
would find the contact drifting from the 80M Band up through the 60M
band.

>Look, light has a very rough "texture",

Is Cheeta trying to say photons?

>light quanta is a very
>energetic thing, its "granularity" it is high and we easily perceive
>its quantic nature,

The eye can sense one photon out of two under the best of conditions, but what that means as far as "granularity" is lost on me. A RADAR (even if not an 80M one) can respond to a pulse it sends and senses in an echo. The packet contains at least 100 to 10000 cycles. Pulse shape signatures would suggest that individual cycles are resolved - granularity?

>80 m energy instead has a very, very "soft"
>texture, 10^8 time softer than green light, and we can not measure its
>"granularity" with our instruments.

The granularity can be expressed in microKelvins of temperature which can be (and has been) resolved. What you describe as "we can not measure" is more a function of background noise, not ability, nor instrumentation incapacity.

>Think of a 1000 kg car smashing
>against your car at 100 km/h, now think of a mosquito (10 mg) smashing
>against your windshield at the same speed.. well if the one green
>light quantum had the cinetc energy of a 1000 kg thrown against your
>car, 80 m quantum would have the mosquito energy! It is a really good
>example... you should congratulate me for that formidable approach!!
>no?, hi hi

Analogies, as we have mulled them over in the past, often lead to their own failure and that, in turn, brings down the central point trying to be argued.

Case in point with your mosquito: The two collision events can also be expressed as energy translation into temperature change. This is called phononic energy - or sound. The crash of cars or bugs resolves into a sound. Do we hear, or do we have the capacity to hear either? Both? There are 8 orders of magnitude difference between the two masses at the same velocities. Our hearing dynamic range easily encompasses that. I can hear bugs bump against my living room window at far slower velocity. I would not hear them with the background noise of an operating automobile and the various road, wind, conversational or radio noises raising the noise floor.

This points out that measurement failures are often a matter of method, hence the human component of psychological impairment. Science is more fascinating in its stories of overcoming shortfalls of perception. Einstein wasn't known for his math, or his benchwork, he gave us perspective.

>Physicists said that we can better perceive energy glanularity at
>lower temperatures and they say we have classic behaviour when hv <<
>kT, well... at 1 K, kT it is 6000 times bigger than 80 m hv, a very
>classic oscilator indeed!, at 293 K ambient temperature I think we can
>not appreciate quantized nature of RF waves!, (at least with my Bird
>43) :>)

All the matter of background noise.

>I have a question too, please tell me (I am very curious): why you
>take every opportunity to bite (sting?) my friend Cecil, ah? ;>).

Probably because you enjoy reading it, otherwise why are you offering
another opportunity? ;-)

73's
Richard Clark, KB7QHC

2894. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 21:33:35 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <bd26603c-d49c-4670-9b38-f49acb89ae2b@w31g2000yqb.googlegroups.com>
Source record: 8644

On 2 jul, 16:57, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 2 Jul 2010 12:04:57 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >Hello Richard:
>
> >(I am not quoting with ">" because I get unpredictable results with
> >google :))
>
> >You said: "Please observe the distinction as appeals to 100W or "one
> >second" have no bearing on where you seem to be fixated with quanta
> >and energy."
> >I could not translate this sentence, (sometimes your writings are
> >complicated for me Richard, try Tarzan style or better yet... try as
> >you were writing to Cheeta! :>)
>
> Hi Miguel,
>
> Fair enough - and sorry for the density of style.
>
> >(I handed the sentence to a friend who lives in England and today said
> >to me that have so many interpretations and did not solve my
> >problem...)
>
> Well, that sentence was more about context than it was about style. I
> am glad you did not ask your friend to read the thread.
>
> >"Why do you compare 80M to green light?"
>
> >Well... I like it! photons born from light, green light it is a
> >central zone of visible light spectrum, and 80 m is my favourite ex-
> >novice band...
>
> Yes, green (actually green-yellow) light corresponds to photopic (day)
> vision. Scotopic (moonless night) vision is blue-shifted. Sitting
> inside would tend towards a combination called mesopic vision.
>
> The analogue of the eye as "receiver" gives us the peculiar action of
> resonance shifting due to strength of the QSO. Propagation fading
> would find the contact drifting from the 80M Band up through the 60M
> band.
>
> >Look, light has a very rough "texture",
>

> Is Cheeta trying to say photons?
>
> >light quanta is a very
> >energetic thing, its "granularity" it is high and we easily perceive
> >its quantic nature,
>
> The eye can sense one photon out of two under the best of conditions,
> but what that means as far as "granularity" is lost on me. A RADAR
> (even if not an 80M one) can respond to a pulse it sends and senses in
> an echo. The packet contains at least 100 to 10000 cycles. Pulse
> shape signatures would suggest that individual cycles are resolved -
> granularity?
>
> >80 m energy instead has a very, very "soft"
> >texture, 10^8 time softer than green light, and we can not measure its
> >"granularity" with our instruments.
>
> The granularity can be expressed in microKelvins of temperature which
> can be (and has been) resolved. What you describe as "we can not
> measure" is more a function of background noise, not ability, nor
> instrumentation incapacity.
>
> >Think of a 1000 kg car smashing
> >against your car at 100 km/h, now think of a mosquito (10 mg) smashing
> >against your windshield at the same speed.. well if the one green
> >light quantum had the cinetc energy of a 1000 kg thrown against your
> >car, 80 m quantum would have the mosquito energy! It is a really good
> >example... you should congratulate me for that formidable approach!!
> >no?, hi hi
>
> Analogies, as we have mulled them over in the past, often lead to
> their own failure and that, in turn, brings down the central point
> trying to be argued.
>
> Case in point with your mosquito: The two collision events can also
> be expressed as energy translation into temperature change. This is
> called phononic energy - or sound. The crash of cars or bugs resolves
> into a sound. Do we hear, or do we have the capacity to hear either?
> Both? There are 8 orders of magnitude difference between the two
> masses at the same velocities. Our hearing dynamic range easily
> encompasses that. I can hear bugs bump against my living room window
> at far slower velocity. I would not hear them with the background
> noise of an operating automobile and the various road, wind,
> conversational or radio noises raising the noise floor.
>
> This points out that measurement failures are often a matter of
> method, hence the human component of psychological impairment. Science
> is more fascinating in its stories of overcoming shortfalls of
> perception. Einstein wasn't known for his math, or his benchwork, he
> gave us perspective.

>
> >Physicists said that we can better perceive energy glanularity at
> >lower temperatures and they say we have classic behaviour when hv <<
> >kT, well... at 1 K, kT it is 6000 times bigger than 80 m hv, a very
> >classic oscilator indeed!, at 293 K ambient temperature I think we can
> >not appreciate quantized nature of RF waves!, (at least with my Bird
> >43) :>)
>
> All the matter of background noise.
>
> >I have a question too, please tell me (I am very curious): why you
> >take every opportunity to bite (sting?) my friend Cecil, ah? ;>).
>
> Probably because you enjoy reading it, otherwise why are you offering
> another opportunity? ;-)
>
> 73's
> Richard Clark, KB7QHC

Hi hi, no, not Cheeta... Resnick & Halliday & Krane use "granularity" metaphor, "granularity" and "texture" are words that denote same idea: ligth photons are really very big Jerry Lee's "Great balls of fire", 80 m photons are very very tiny balls :>) For that reason your eyes catch light photon, they (photons) are fat guys, you know?.
Glanularity is not about "cycles" but quantum energy => hv, v=frequency, high frequency => high energy quantum => high granularity, not cycles

Not "analogies", no, no, I am only comparing energy magnitud differences! (I am not resigning my rights to analogies, with this), 10^8 more bigger cinetic E represents so much energy difference at any scale; obviously a light photon has very, very much lower energy as a 1 t (Tm) car at 100 km/h (it has 3.6*10^-19 J) but 80 m photon it is 100000000 lower!, Can you hear 80 dB sounds below mosquito buzzing? are you the six million dollar man? :>)
You talk about "fluctuations" OK, can you assure to me those fluctuations are due quantized nature of RF signals? have you references about that? Naturally I have my doubts, what you say do not match my sacred Wiley & sons bible physics verses: remember at only 1 K, kt >> hv, and for R, H & K elders, granularity can not be perceived.

Well, but stop here, please: I did not say we can not measure 100 W oscillator granularity, eh?, I am not any authority to say such thing!, look what the fathers of my church say in page 483:
"Quantized energy simply not reveales in large scale oscillators, the smallness of the h Plank component make the granulosity very fine (thin?) so that we can not detect it"
I bet you live a little more near them than I, Ask to them why they said that. I am innocent, I am only the postman who brings the news (where is Petrocelli?) :D :D

73 - Miguel - LU6ETJ

PS: Cecil, friend, this man this is already yours. Just confessed his inconditional love for RF quanta...

2895. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 22:00:03 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <3f16c2a7-b523-4fad-b7b2-c6a0f7288159@z10g2000yqb.googlegroups.com>
Source record: 8645

On Jul 2, 9:28 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> Is there a shortage in the supply of coax ? A ham up the road has been
> trying to get some rg8x from The Wireman for a couple of weeks. They are
> out and said they should have some in soon.
>
> There was also some mention of shortage of the open wire\twinlead type.
>
> Is it just this place or is there some shortage in the US of coax and antena
> wire.
> What about the other coax such as the rg8 size ?

I ran in to the same thing last August at the Huntsville, Al. hamfest-
no 450 ohm open wire line. The high cost of copper prohibits them
from keeping too much inventory on hand. Apparently not much has
changed since August.

Gary N4AST

2896. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 23:13:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ijss26pceu2vmnoh7s8e9ngtg33tik9mg2@4ax.com>
Source record: 8646

On Fri, 02 Jul 2010 15:16:05 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>Cecil Moore wrote:
>> On Jul 2, 2:04 pm, lu6etj <lu6...@gmail.com> wrote:
>>> I have a question too, please tell me (I am very curious): why you
>>> take every opportunity to bite (sting?) my friend Cecil, ah? ;>).
>>
>> I once caught Richard red-handed, blatently superposing powers and he
>> has never forgiven me for that. :-)
>
>Is a MASER actually a LASER?

It reads TASER (Cecil didn't know which end to hold).

73's
Richard Clark, KB7QHC

2897. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-02 23:32:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fmss26daneuqkd3m4o04pkuqngkr9vibjo@4ax.com>
Source record: 8647

On Fri, 2 Jul 2010 14:33:35 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Hi hi, no, not Cheeta... Resnick & Halliday & Krane use "granularity"
>metaphor, "granularity" and "texture" are words that denote same idea:
>ligth photons are really very big Jerry Lee's "Great balls of fire",
>80 m photons are very very tiny balls :>) For that reason your eyes
>catch light photon, they (photons) are fat guys, you know?.
>Glanularity is not about "cycles" but quantum energy => hv,
>v=frequency, high frequency => high energy quantum => high
>granularity, not cycles

**** warning: Stylistic alert, skip to next comment ********
Mmmm, that is at least the second time with glanularity that I cannot
allow to pass:
Ovarian waves? Cyclic period? Menstraphotons?
well, enough English....

>Not "analogies", no, no, I am only comparing energy magnitud
>differences! (I am not resigning my rights to analogies, with this),
>10^8 more bigger cinetic E represents so much energy difference at any
>scale; obviously a light photon has very, very much lower energy as a
>1 t (Tm) car at 100 km/h (it has 3.6*10^-19 J) but 80 m photon it is
>100000000 lower!, Can you hear 80 dB sounds below mosquito buzzing?
>are you the six million dollar man? :>)

Is a car crash 80dB down from mosquitos? You have your magnitudes
inverted or you are crossing between metaphors (another failure
mechanism).

>You talk about "fluctuations" OK, can you assure to me those
>fluctuations are due quantized nature of RF signals? have you
>references about that? Naturally I have my doubts, what you say do not
>match my sacred Wiley & sons bible physics verses: remember at only 1
>K, kt >> hv, and for R, H & K elders, granularity can not be
>perceived.

It isn't their field, but that doesn't mean science is invalid. Google
the terms (you already have one in quotes). This has been around for
a decade or more.

>"Quantized energy simply not reveales in large scale oscillators, the
>smallness of the h Plank component make the granulosity very fine
>(thin?) so that we can not detect it"

The problem with selective quoting is that the reader doesn't know the
boundaries - aside from it being a paraphrase and not a literal quote

- unless they write like Cheeta. Sorry for the allusion to a monkey, but the grammar reveals this is not a true source. I can read between the lines, but then I get to expand upon that to introduce my own spin. That doesn't get things very far, does it? Don't pick up on Cecil's bad habit of leaning on the Xerox copy button.

>I bet you live a little more near them than I, Ask to them why they
>said that. I am innocent, I am only the postman who brings the news
>(where is Petrocelli?) :D :D

Why don't I? The price of email is the same from any location on earth (or through a satellite link freely accessible from outerspace).

73's
Richard Clark, KB7QHC

2898. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 10:07:20 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <qJc2oaSYvwLMFw3u@g3ohx.demon.co.uk>
Source record: 8648

In message <i0l8rd$f02m$1@tr22n12.aset.psu.edu>, Michael Coslo
<mjc5@psu.edu> writes
>Ralph Mowery wrote:
>
>> Is there a shortage in the supply of coax ?
>
>
>Yes, but all is not lost. You need to get the newst Ham in the
>neighborhood and send him out for a coax stretcher. They come in handy
>from time to time.
>
>I have to admit I never found one in my neighborhood - but all the Hams
>were very helpful and thought they knew who might be able to help me,
>and sent me off to the person.
>
But, when the coax is stretched, what happens to the characteristic
impedance and the loss? [This is a (sort of) serious question!]
--
Ian

2899. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 10:13:09 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <RYnocYU10wLMFwQq@g3ohx.demon.co.uk>
Source record: 8649

In message <4c2bc774$0$14137$c3e8da3@news.astraweb.com>, Gary Smith
<vkthree@gmail.com> writes
>Hi, i have a 2.4 metre solid dish here and was going to use it for TVRO but
>havn't got round to it as the majority of it is foreign with subtitles and
>that doesn't impress me all that much. Just wondering how i might be able to
>utilise this dish in the HAM scenario. I am a "Standard" licence in
>Australia which entitles me to transmit on most bands excluding 3776 - 3800,
>50 - 52 MHz, 420 - 430 MHz, 2300 - 2302 MHz, 3.5 gig, 10gig, and above. Also
>can't use WARC bands. So it's a bit limited in the higher part of spectrum
>but just wondering if someone could offer some suggestions on what i could
>use it for (Except birdbath, fishpond etc lol)
>
>Thanks
>
>Gary
>VK3LCD
>
Have you got lots of friends? If so, what about a barbie? [Very popular
in VK, I believe.] Or a wok?
--
Ian

2900. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 13:52:30 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <rmfu26pgq1hm1slh0ahfbdejba114eqv2b@4ax.com>
Source record: 8650

On Thu, 01 Jul 2010 14:27:56 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>Richard Fry wrote:
>> On Jul 1, 3:18 pm, Roy Lewallen <w...@eznec.com> wrote:
>>> Guess I just don't understand how a resonant, helically-wound antenna is
>>> "electrically short". Suppose you helically wound an eighth-wave
>>> vertical in such a way that it was resonant. Its physical length is an
>>> eighth wavelength. What would its "electrical length" be?
{SNIP}
>Depends. If the ground system is very good and you're willing to keep to
>a narrow bandwidth without retuning, you wouldn't be able to tell any
>practical difference between the two. For good experimental evidence see
>"The W2FMI Ground-Mounted Short Vertical" by Jerry Sevick, W2FMI in
>March 1973 QST.
>
>Roy Lewallen, W7EL
Somewhere back in time the word "aperature" was used to describe
antennas, especially stacked arrays. I think one of the prominate
authors that used the expression was Bill Orr.

Would that be relevant to this discussion? I have not heard the term
used in years.

John, W8CCW
Perpetual Student of many subjects.

2901. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 14:11:59 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <FP2dnerbi7VU2bLRnZ2dnUVZ_vCdnZ2d@earthlink.com>
Source record: 8501

"Ian Jackson" <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in message
news:qJc2oaSYvwLMFw3u@g3ohx.demon.co.uk...
>> But, when the coax is stretched, what happens to the characteristic
> impedance and the loss? [This is a (sort of) serious question!]
> --
> Ian

If the ratio of the conductors stay the same, there should not be a change except the losses go up. As you streach the coax, the shield and the center conductor will get smaller. Also the dialectric will have to get smaller. If they do not srink at the same ratio, the impedance will change depending on which conductor gets smaller the fastest.

The losses will go up because the center conductor and the outer conductor are smaller. This is the simple IR loss of the conductors. It is the same as going from a rg-8 to a rg-58 type coax.

2902. Re: language and antenna gain

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 14:23:43 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <bMCdnfQIM_1t2rLRnZ2dnUVZ_sudnZ2d@giganews.com>
Source record: 8502

John Ferrell wrote:
> Somewhere back in time the word "aperature" was used to describe
> antennas, especially stacked arrays. I think one of the prominate
> authors that used the expression was Bill Orr.
>
> Would that be relevant to this discussion? I have not heard the term
> used in years.
>
> John, W8CCW
> Perpetual Student of many subjects.
>

Here are postings (about 35) I've made in the past in this newsgroup about this topic: http://tinyurl.com/rraa-aperture. Enjoy.

Roy Lewallen, W7EL

2903. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 15:54:13 UTC
From: walt <walt@w2du.com>
Message-ID: <bc34f69c-0ae8-4b65-8dcc-4c6d45242c7a@d16g2000yqb.googlegroups.com>
Source record: 8503

On Jul 3, 10:11 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
> "Ian Jackson" <ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote in message
>
> news:qJc2oaSYvwLMFw3u@g3ohx.demon.co.uk...
>
> >> But, when the coax is stretched, what happens to the characteristic
> > > impedance and the loss? [This is a (sort of) serious question!]
> > > --
> > > Ian
>
> If the ratio of the conductors stay the same, there should not be a change
> except the losses go up. As you streach the coax, the shield and the center
> conductor will get smaller. Also the dialectric will have to get smaller.
> If they do not srink at the same ratio, the impedance will change depending
> on which conductor gets smaller the fastest.
>
> The losses will go up because the center conductor and the outer conductor
> are smaller. This is the simple IR loss of the conductors. It is the same
> as going from a rg-8 to a rg-58 type coax.

I'd be pleased to trade two buckets of prop wash for a coax stretcher.
Any takers?

Walt, W2DU

2904. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 18:03:58 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-878407.14035703072010@5ad64b5e.bb.sky.com>
Source record: 8504

In article
<bc34f69c-0ae8-4b65-8dcc-4c6d45242c7a@d16g2000yqb.googlegroups.com>,
walt <walt@w2du.com> wrote:

> I'd be pleased to trade two buckets of prop wash for a coax stretcher.
> Any takers?

Walt-

Contact Tucker Electronics to see if they are willing to deal!

One such device is the General Radio 874LK20L line stretcher. Tucker
may have them in stock. See
<http://www.tucker.com/java/jsp/product_partno874LK20L_invid17338_condR.h
tm>.

The product is described in a GR document at
<http://www.tucker.com/images/images_spec/00001006.pdf>. It is supposed
to have a constant impedance.

Fred
K4DII

2905. Antenna Question Re HF Handhelds

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 18:52:15 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i0o0tfisn1@news.eternal-september.org>
Source record: 8505

Hi,

I tried a shortwave radio group first, but no answers.
Should have posted here, first.

Enjoy sw listening, but frankly not all that sharp re antennas.

Over the past few months, I have seen several ads for those handheld sw
receivers and transceivers. From different mfgs.
About the size of the typical hand-held scanner receiver.

They all seem to cover up to at least 30 MHz, and most beyond.

Got to thinking about this a bit.
What do they use for an antenna for 30 MHz and below ?

I have a long end fed antenna for my listening.
Obviously they have a short "something" antenna.

How effective is a short "something" around 5 to 10 MHz, e.g. ?

How can it work down there at all ?

I can visualize s tuned ferrite loop, such as the very old fashioned AM
table radios used to have, but wouldn't this only be effective over a
very small range ?

Or, do they expect you to hook up something "decent" to it, even though
it is supposed to be portable, and is very small ?

Any technical explanation on this would be most appreciated.

Thanks,
Bob

2906. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 19:29:16 UTC
From: walt <walt@w2du.com>
Message-ID: <35e32718-5dd1-461a-8803-57f8797696a7@x27g2000yqb.googlegroups.com>
Source record: 8506

On Jul 3, 2:03 pm, Fred McKenzie <fm...@aol.com> wrote:
> In article
> <bc34f69c-0ae8-4b65-8dcc-4c6d45242...@d16g2000yqb.googlegroups.com>,
>
> walt <w...@w2du.com> wrote:
> > I'd be pleased to trade two buckets of prop wash for a coax stretcher.
> > Any takers?
>
> Walt-
>
> Contact Tucker Electronics to see if they are willing to deal!
>
> One such device is the General Radio 874LK20L line stretcher. Tucker
> may have them in stock. See
> <http://www.tucker.com/java/jsp/product_partno874LK20L_invid17338_condR.h
> tm>.
>
> The product is described in a GR document at
> <http://www.tucker.com/images/images_spec/00001006.pdf>. It is supposed
> to have a constant impedance.
>
> Fred
> K4DII

Well Fred, I have a couple of GR line stretchers. What I need is a
coax stretcher!

Walt

2907. Re: Antenna Question Re HF Handhelds

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 20:23:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4j6v261qm27c4fdcnudu4bl1o8nksvnmn5@4ax.com>
Source record: 8507

On Sat, 03 Jul 2010 14:52:15 -0400, Bob <rgsros@notme.invalid> wrote:

>I have a long end fed antenna for my listening.
>Obviously they have a short "something" antenna.
>
>How effective is a short "something" around 5 to 10 MHz, e.g. ?
>
>How can it work down there at all ?
>
>I can visualize s tuned ferrite loop, such as the very old fashioned AM
>table radios used to have, but wouldn't this only be effective over a
>very small range ?

Hi Bob,

A make and model number would get you a more definitive answer.
However, for the broader question, and as you undoubtedly expect, more antenna is better - to a point. Some will argue, theoretically, otherwise. I go with results.

When I was in South Africa (no, not the World Cup), I took along one of Radio Shack's cheapest SW radios. It had the conventional whip, and it offered the conventional whimp. However, having foresight, I also took along about 20 feet of wirewrap wire with a quarter taped onto one end. At the close of day, I would wrap one end around the shortened whip and I would toss the quarter into the rafters (we stayed in thatched covered huts), all of a ten or fourteen foot height; and signals came booming in from all over the continent and Europe.

Another thing missing from these small jobs are a tuned front end. In fact, you can spend a lot of money on SW radios and still not get front end tuning. A preselector, or simple antenna tuner (as cheap as one as you can find, or build one for $10) will go far, far, far.

73's
Richard Clark, KB7QHC

2908. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 21:15:21 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <dec1e62b-5df1-45cc-a37e-86e7094c4281@i28g2000yqa.googlegroups.com>
Source record: 8508

I seriously doubt if there is any shortage of copper for coax or any other type feed line. It's probably more a matter of someone forgetting to order stock, or enough stock. Or, like gasoline, it's a contrived 'shortage'.

As for a 'coax stretcher', all is not lost, I have one. No, I do not loan it out. I might be talked into selling it, but you probably couldn't afford it, sorry.
- 'Doc

2909. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 22:00:47 UTC
From: BillyBobMarley <whax44@gmail.com>
Message-ID: <8ee09773-c8df-4085-85c4-4de6ec9cc0a0@x21g2000yqa.googlegroups.com>
Source record: 8509

On Jul 3, 11:54 am, walt <w...@w2du.com> wrote:
> On Jul 3, 10:11 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>
>
>
> > "Ian Jackson" <ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote in message
>
> >news:qJc2oaSYvwLMFw3u@g3ohx.demon.co.uk...
>
> > >> But, when the coax is stretched, what happens to the characteristic
> > > impedance and the loss? [This is a (sort of) serious question!]
> > > --
> > > Ian
>
> > If the ratio of the conductors stay the same, there should not be a change
> > except the losses go up. As you streach the coax, the shield and the center
> > conductor will get smaller. Also the dialectric will have to get smaller.
> > If they do not srink at the same ratio, the impedance will change depending
> > on which conductor gets smaller the fastest.
>
> > The losses will go up because the center conductor and the outer conductor
> > are smaller. This is the simple IR loss of the conductors. It is the same
> > as going from a rg-8 to a rg-58 type coax.
>
> I'd be pleased to trade two buckets of prop wash for a coax stretcher.
> Any takers?
>
> Walt, W2DU

I see your prop wash and will give you a left handed pipe wrench in
exchange.If not the pipe wrench how about a can of muzzle blast?

2910. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-03 23:13:27 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <881d135b-15b3-4223-8db9-cadb243b71b8@u7g2000yqm.googlegroups.com>
Source record: 8510

On 2 jul, 20:32, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 2 Jul 2010 14:33:35 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >Hi hi, no, not Cheeta... Resnick & Halliday & Krane use "granularity"
> >metaphor, "granularity" and "texture" are words that denote same idea:
> >ligth photons are really very big Jerry Lee's "Great balls of fire",
> >80 m photons are very very tiny balls :>) For that reason your eyes
> >catch light photon, they (photons) are fat guys, you know?.
> >Glanularity is not about "cycles" but quantum energy => hv,
> >v=frequency, high frequency => high energy quantum => high
> >granularity, not cycles
>
> **** warning: Stylistic alert, skip to next comment ********
> Mmmm, that is at least the second time with glanularity that I cannot
> allow to pass:
>   Ovarian waves? Cyclic period? Menstraphotons?
> well, enough English....
>
> >Not "analogies", no, no, I am only comparing energy magnitud
> >differences! (I am not resigning my rights to analogies, with this),
> >10^8 more bigger cinetic E represents so much energy difference at any
> >scale; obviously a light photon has very, very much lower energy as a
> >1 t (Tm) car at 100 km/h (it has 3.6*10^-19 J) but 80 m photon it is
> >100000000 lower!, Can you hear 80 dB sounds below mosquito buzzing?
> >are you the six million dollar man? :>)
>
> Is a car crash 80dB down from mosquitos? You have your magnitudes
> inverted or you are crossing between metaphors (another failure
> mechanism).
>
> >You talk about "fluctuations" OK, can you assure to me those
> >fluctuations are due quantized nature of RF signals? have you
> >references about that? Naturally I have my doubts, what you say do not
> >match my sacred Wiley & sons bible physics verses: remember at only 1
> >K, kt >> hv, and for R, H & K elders, granularity can not be
> >perceived.
>
> It isn't their field, but that doesn't mean science is invalid. Google
> the terms (you already have one in quotes). This has been around for
> a decade or more.
>
> >"Quantized energy simply not reveales in large scale oscillators, the
> >smallness of the h Plank component make the granulosity very fine

> >(thin?) so that we can not detect it"
>
> The problem with selective quoting is that the reader doesn't know the
> boundaries - aside from it being a paraphrase and not a literal quote
> - unless they write like Cheeta. Sorry for the allusion to a monkey,
> but the grammar reveals this is not a true source. I can read between
> the lines, but then I get to expand upon that to introduce my own
> spin. That doesn't get things very far, does it? Don't pick up on
> Cecil's bad habit of leaning on the Xerox copy button.
>
> >I bet you live a little more near them than I, Ask to them why they
> >said that. I am innocent, I am only the postman who brings the news
> >(where is Petrocelli?) :D :D
>
> Why don't I? The price of email is the same from any location on
> earth (or through a satellite link freely accessible from outerspace).
>
> 73's
> Richard Clark, KB7QHC

Hi, hi, I do not quite understand/translate your jokes: do you dislike Resnick's "granularity"? I think it is a sort of energy acne :>)

You said you could hear an insect shooting your window then I asked you if you can hear sound 80 dB below insect shooting your window. 80 dB example it is only a about difference (quotient) of magnitudes. Or you do not read well or I not write well my sentences -the last has a probability of 0,99- :>)

Certainly, my book is in spanish, the original is "Physics" Vol II, Extended version, 4th ed. ISBN 0-471-54804-9 (I do not have it), read from here. Yes, it is dated 1992 a little old, doesn't it?. so... can we today measure quantum acne from large scale 3,5 MHz oscillator at room temperature? (Use caution to answer me because your words can turn against us and someone may be tempted to postulate "The uncerntainty VSWR principle" and rots all here :>D)

Yes, yes, I by far prefer Xerox button to my own non senses :=D :=D. (another sting to my friend Cecil?).

Well, I stop here because I think our friends are going to reprimand me for not posting serious matters.

Thank you very much for your friendly and patient with me posts .
Miguel LU6ETJ.

2911. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 00:00:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8hhv265j3d85pg2u7hb96id6vo9o7tlpeo@4ax.com>
Source record: 8511

On Sat, 3 Jul 2010 16:13:27 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Hi, hi, I do not quite understand/translate your jokes: do you dislike
>Resnick's "granularity"? I think it is a sort of energy acne :>)

Hi Miguel,

Good joke. Others may not be aware that Buenos Aires is one among
cities that have the highest psychiatrist to population ratio in the
world. To set the record straight, Seattle has a very high suicide
rate. This in no way intimates that you are crazy and I am about to
off myself (this may disappoint some that drawl).

>You said you could hear an insect shooting your window then I asked
>you if you can hear sound 80 dB below insect shooting your window.

You presented the analogue of car vs mosquito. You expressed the
magnitude of difference. I disputed neither, accepted them, showed
that the difference(s) could be perceived. Why add a new variable? If
you are not, are you challenging your own analogue?

> 80
>dB example it is only a about difference (quotient) of magnitudes. Or
>you do not read well or I not write well my sentences -the last has a
>probability of 0,99- :>)

You are now extending it to 160dB of difference.

As I said, you either have your magnitudes inverted, or are now mixing
metaphors. The argument is in failure mode. This is invariably the
fate of metaphor/analog/allegory when it is forced to replace simple
math for observable and demonstrable science.

To touch on allegory, the snake in Eden (read Texas) introduced
analogues (read Hallelujah - let there be Photons!) and seduced (read
perverted) logic to obtain mastery over creation (read RRAA).

Don't blame the guy with the horn. :-)

>Certainly, my book is in spanish, the original is "Physics" Vol II,
>Extended version, 4th ed. ISBN 0-471-54804-9 (I do not have it), read
>from here. Yes, it is dated 1992 a little old, doesn't it?.

Not too many of us get new copies from the future, so I am not
particularly upset about its copyright date.

>so... can
>we today measure quantum acne from large scale 3,5 MHz oscillator at
>room temperature?

Did you miss my comments about noise floor? Can you breath,
unassisted, under water? Does a tree make a noise when it topples on
the Moon? Can you feel the tingle of 110VAC when you are being struck
by lightning? Do these questions sound like Cecileo? (As I have long
ago blocked his postings, I assume our newsgroup victim has at least
once made an allusion to his torment by the inquisition.)

There are 10,000 ways to fail and you found at least one that was
documented. I showed you an equal number of success (1) and that is
unsatisfactory. Could it be answered that between the two examples
that one exhibits a huge S+N/N? In other words, why at:
>room temperature?
Do you have a New York flight to catch to solve the Financial crisis?
Plan on the next flight out tomorrow and cool the room down.

>(Use caution to answer me because your words can
>turn against us and someone may be tempted to postulate "The
>uncerntainty VSWR principle" and rots all here :>D)

"However your VSWR may vary, no Standing Waves were interfered with in
the making of this response."

73's
Richard Clark, KB7QHC

2912. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 02:34:14 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <fe0793d1-c5e9-4fae-b937-fa13308a57a0@x27g2000yqb.googlegroups.com>
Source record: 8512

On 3 jul, 21:00, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 3 Jul 2010 16:13:27 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >Hi, hi, I do not quite understand/translate your jokes: do you dislike
> >Resnick's "granularity"? I think it is a sort of energy acne :>)
>
> Hi Miguel,
>
> Good joke. Others may not be aware that Buenos Aires is one among
> cities that have the highest psychiatrist to population ratio in the
> world. To set the record straight, Seattle has a very high suicide
> rate. This in no way intimates that you are crazy and I am about to
> off myself (this may disappoint some that drawl).
>
> >You said you could hear an insect shooting your window then I asked
> >you if you can hear sound 80 dB below insect shooting your window.
>
> You presented the analogue of car vs mosquito. You expressed the
> magnitude of difference. I disputed neither, accepted them, showed
> that the difference(s) could be perceived. Why add a new variable? If
> you are not, are you challenging your own analogue?
>
> > 80
> >dB example it is only a about difference (quotient) of magnitudes. Or
> >you do not read well or I not write well my sentences -the last has a
> >probability of 0,99- :>)
>
> You are now extending it to 160dB of difference.
>
> As I said, you either have your magnitudes inverted, or are now mixing
> metaphors. The argument is in failure mode. This is invariably the
> fate of metaphor/analog/allegory when it is forced to replace simple
> math for observable and demonstrable science.
>
> To touch on allegory, the snake in Eden (read Texas) introduced
> analogues (read Hallelujah - let there be Photons!) and seduced (read
> perverted) logic to obtain mastery over creation (read RRAA).
>
> Don't blame the guy with the horn. :-)
>
> >Certainly, my book is in spanish, the original is "Physics" Vol II,
> >Extended version, 4th ed. ISBN 0-471-54804-9 (I do not have it), read
> >from here. Yes, it is dated 1992 a little old, doesn't it?.

>
> Not too many of us get new copies from the future, so I am not
> particularly upset about its copyright date.
>
> >so... can
> >we today measure quantum acne from large scale 3,5 MHz oscillator at
> >room temperature?
>
> Did you miss my comments about noise floor? Can you breath,
> unassisted, under water? Does a tree make a noise when it topples on
> the Moon? Can you feel the tingle of 110VAC when you are being struck
> by lightning? Do these questions sound like Cecileo? (As I have long
> ago blocked his postings, I assume our newsgroup victim has at least
> once made an allusion to his torment by the inquisition.)
>
> There are 10,000 ways to fail and you found at least one that was
> documented. I showed you an equal number of success (1) and that is
> unsatisfactory. Could it be answered that between the two examples
> that one exhibits a huge S+N/N? In other words, why at:>room temperature?
>
> Do you have a New York flight to catch to solve the Financial crisis?
> Plan on the next flight out tomorrow and cool the room down.
>
> >(Use caution to answer me because your words can
> >turn against us and someone may be tempted to postulate "The
> >uncerntainty VSWR principle" and rots all here :>D)
>
> "However your VSWR may vary, no Standing Waves were interfered with in
> the making of this response."
>
> 73's
> Richard Clark, KB7QHC

Hi hi, Why I find it more hard to translate your writings than another guys ones? is it a peculiarity of your playing with words or your zone manners? I am sorry because I miss some of your subtleties or grammatical tricks and I suspect they have more funny meanings that I can capture :>)

I believe what we have more here are psychoanalysts not psychiatrists (I read something about it time ago), but do not worry I am a little crazy too! :>)

Look, my first idea example was compare difference in marbels size with hydrogen atom size (about 10^8) to point to granularity, but inmediately I realized that dealing with differences in size was not a correct example and turn to Ec example. You said our retinas sometimes can perceive individual light photons, no? then I pointed to an eigty meters photon had 10^-8 smaller energy than green photon.
I was telling we are talking about truly classics system therefore quantum effects (photon) it is useless because in our level of

discussion oscillators/transmitters do not manifest quantum effects because its very high quantum numbers Of course I know (do I know?, really?, mmm) correspondence principle.

Why at room temperature? Do we see if I understood your question... at room temperature because we Hams usually make our TL Bird Truline measurements at room temperatures. Answer this your question? (my freezer do not go beyond -20 Celcius degrees!). Theorical/extreme cases are welcomed too but... to rebut normal/standard situations?
I do not believe you has blocking Cecil posts, no no, you say it => we have a lot of psychoanalysts here: one of them are whispering to my ear just now, you really like him, remember TV series: "The odd couple"? :>D
.....
(You see?, I'm lost with some interesting sentences such "However your VSWR may vary, no Standing Waves were interfered with in the making of this response." If tomorrow I find my london friend I ask his helping to translate better your entire post :>))

73, and now being 23:31 I will take my girlfriend LU2ET to a night trip motorcycle by the city. Well... 2ET has been my XYL for over thirty years :>)
Have you a really nice motorcycle as Cecil? eh?

2913. Re: Antenna Question Re HF Handhelds

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 02:55:56 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-516805.22555603072010@5ad64b5e.bb.sky.com>
Source record: 8513

In article <i0o0tfisn1@news.eternal-september.org>,
Bob <rgsros@notme.invalid> wrote:

> How effective is a short "something" around 5 to 10 MHz, e.g. ?
>
> How can it work down there at all ?

Bob-

Like Richard, I have one of the small Radio Shack SW Receivers. I think it was made for them by Sangean. It has a telescoping antenna that may be as long as 36 inches when extended. No, a 36 inch antenna is not as good as a longer wire for Shortwave reception.

Someone with a better understanding of antenna theory may be able to calculate just how much worse it is, but suppose it receives a signal at a 20 dB lower level (1/100th the power level or 1/10th the voltage) than a full-size antenna. All you need is a stronger signal to make up for it. But when propagation is good, signals can be quite strong.

Even so, it wouldn't hurt to take along some extra antenna wire!

Fred

2914. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 05:02:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8vvv26dq5ogatm83irj39mojnu5k2t9b46@4ax.com>
Source record: 8514

On Sat, 3 Jul 2010 19:34:14 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Hi hi, Why I find it more hard to translate your writings than another
>guys ones? is it a peculiarity of your playing with words or your zone
>manners? I am sorry because I miss some of your subtleties or
>grammatical tricks and I suspect they have more funny meanings that I
>can capture :>)

Hi Miguel,

Sorry for the loss in translation. It is what is called "deep
metaphors" that go beyond the simpler ones of mosquitoes against the
windshield.

>I believe what we have more here are psychoanalysts not psychiatrists
>(I read something about it time ago), but do not worry I am a little
>crazy too! :>)

You are correct (about analysts...).

Here, the game of language is found in the ellipsis (or the
parenthetical aside - this one being doubly self-referential).

>Look, my first idea example was compare difference in marbels size
>with hydrogen atom size (about 10^8) to point to granularity, but
>inmediately I realized that dealing with differences in size was not a
>correct example and turn to Ec example. You said our retinas sometimes
>can perceive individual light photons, no?

Yes, in the best of circumstances half of those that impact the
retina. This returns us to background noise and S+N/N.

> then I pointed to an eigty
>meters photon had 10^-8 smaller energy than green photon.

Hence the eight orders of scale comparison. Yes.

>I was telling we are talking about truly classics system therefore
>quantum effects (photon) it is useless because in our level of
>discussion oscillators/transmitters do not manifest quantum effects
>because its very high quantum numbers Of course I know (do I know?,
>really?, mmm) correspondence principle.

You can experience one photon, however could you state that it was not
two instead? I have designed with components that are specifically
photon counters. These are called photomultiplier tubes (PMTs for
short). Where they do not match up against the eye for dynamic range,

spectral bandwidth, or quantum efficiency; they do present us with individual events within a group. Our eyes do not count very well.

>Why at room temperature? Do we see if I understood your question... at
>room temperature because we Hams usually make our TL Bird Truline
>measurements at room temperatures. Answer this your question? (my
>freezer do not go beyond -20 Celcius degrees!).

So, I am to understand that you want to measure quantum effects at energy background levels in excess of 0.04 eV or roughly 10 TeraHertz. I don't think you can afford the Bird plug for that band.

I come from a field called Metrology. This is so rare that many, many engineers have never heard of it. It is the science of measurement. If you want a quantum correlative to frequency, this field abounds in them. The Atomic Clock (Cesium Beam Standard) comes close, but the Josephson Junction is a direct translation of frequency to voltage. It is also an instrument in quantum computing.

I will offer a page for your consideration:
http://www.ptb.de/en/org/2/Inhalte/Josephson/_josephs.htm

Anticipating your objection that the frequencies involved are not in the 80M band; I would offer that is satisfied easily through frequency multiplication. (The Atomic Clock does this in reverse and no one complains about that.)

Anticipating your objection that this is not done at room temperature; true, the junction is cooled far below what is available to you - but is this about your limited resources, or is it about being done? Don't join the legions pleading destitution (poverty) as that might migrate into the metaphors and analogies for a very poor (sorry for the pun) outcome.

>Theorical/extreme
>cases are welcomed too but... to rebut normal/standard situations?
>I do not believe you has blocking Cecil posts, no no, you say it => we
>have a lot of psychoanalysts here: one of them are whispering to my
>ear just now, you really like him, remember TV series: "The odd
>couple"? :>D

Yes, I do block him. There are traces that sift through the cracks, but that doesn't elevate them to poignancy. Again (do I have to repeat this?), this is about S+N/N.

"The Odd Couple" is a good cultural reference. I would suggest (and I hope you have access to) "House." Cecil is among those who cannot be trusted to write on the white board.

If you don't have TV access to this series, try an episode from:
http://www.hulu.com/search?query=house&st=0
You write and understand English quite well, but if listening to it is not easy, I am sure that watching 10 minutes around that white board

will give you enough "body language" to translate the psychology
easily.

>.....
>(You see?, I'm lost with some interesting sentences such "However your
>VSWR may vary, no Standing Waves were interfered with in the making of
>this response." If tomorrow I find my london friend I ask his helping
>to translate better your entire post :>))

This might be lost on your English friend too, because it constructed
with cultural references (it is suppose to be bad form to have to
explain a joke - but here we go):
"However your VSWR may vary"
is a variant on YMMV that you may see as shorthand. It means Your
Mileage May Vary. It is a reference to how car gas performance was
reported by those who sold cars. They would quote government tests
that were generally optimistic, and the real experience would
disappoint customers who saw poorer results. The customers would
complain to the vendor. Thus the vendor would qualify with "the
government reports this car gets 50MPG on the Highway - but your
mileage may vary." Thus the usage of YMMV is a cultural joke
indicating disappointment was likely.
" no Standing Waves were interfered with
in the making of this response."
is a variant on the disclosure you see at the end of movies:
"No animal was harmed during the filming of this movie."
You will, no doubt, draw out the meaning of Standing Waves,
interference, and response as being related to soothing those people
who cry uncontrollably when they see the movie "Bambi." We have a
similar class of sob-sisters (your English friend should be able to
translate that).
>
>73, and now being 23:31 I will take my girlfriend LU2ET to a night
>trip motorcycle by the city. Well... 2ET has been my XYL for over
>thirty years :>)
>Have you a really nice motorcycle as Cecil? eh?

I drive an engineer's car with a rotary engine (pistons suck): Mazda
RX-7.

However, you would probably like House's ride.

73's
Richard Clark, KB7QHC

2915. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 07:07:27 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <+OWDJEBvMDMMFwdC@g3ohx.demon.co.uk>
Source record: 8515

In message
<8ee09773-c8df-4085-85c4-4de6ec9cc0a0@x21g2000yqa.googlegroups.com>,
BillyBobMarley <whax44@gmail.com> writes
>On Jul 3, 11:54ï¿½am, walt <w...@w2du.com> wrote:
>> On Jul 3, 10:11ï¿½am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>>
>>
>>
>> > "Ian Jackson" <ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote in message
>>
>> >news:qJc2oaSYvwLMFw3u@g3ohx.demon.co.uk...
>>
>> > >> But, when the coax is stretched, what happens to the characteristic
>> > > impedance and the loss? [This is a (sort of) serious question!]
>> > > --
>> > > Ian
>>
>> > If the ratio of the conductors stay the same, there should not be a change
>> > except the losses go up. ï¿½As you streach the coax, the shield and
>> >the center
>> > conductor will get smaller. ï¿½Also the dialectric will have to get smaller.
>> > If they do not srink at the same ratio, the impedance will change depending
>> > on which conductor gets smaller the fastest.
>>
>> > The losses will go up because the center conductor and the outer conductor
>> > are smaller. ï¿½This is the simple IR loss of the conductors. ï¿½It is the same
>> > as going from a rg-8 to a rg-58 type coax.
>>
>> I'd be pleased to trade two buckets of prop wash for a coax stretcher.
>> Any takers?
>>
>> Walt, W2DU
>
>I see your prop wash and will give you a left handed pipe wrench in
>exchange.If not the pipe wrench how about a can of muzzle blast?

I suppose a long screw is out of the question?
--
Ian

2916. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 08:14:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni30ghb.k2f.gsm@cable.mendelson.com>
Source record: 8516

Ralph Mowery wrote:
> Is there a shortage in the supply of coax ? A ham up the road has been
> trying to get some rg8x from The Wireman for a couple of weeks. They are
> out and said they should have some in soon.

There was a long discussion here about using compression type F connectors (and BNC) with RG/6QS coax recently. I suggest that you look it up and refer your friend to it.

The general consesus was that RG6QS was a pretty good choice for amateur use. Not the best, but for the usual low power setup, it was ok.

There is RG6QS coax designed for satellite downleads (1-2gHz) so if you get that it should work for 900 and 1296mHz, possibly 2.4gHz.

It is very important to note that we were talking about COMPRESSION connectors, which compress from front to back sealing the cable in, and NOT crimp on connectors, which are squeezed from side to side and often fall off.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
I do multitasking. If that bothers you, file a complaint and I will start ignoring it immediately.

2917. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 08:28:54 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c304649$0$19173$65785112@news.neostrada.pl>
Source record: 8517

"lu6etj" <lu6etj@gmail.com> wrote
news:fe0793d1-c5e9-4fae-b937-fa13308a57a0@x27g2000yqb.googlegroups.com...

>Hi hi, Why I find it more hard to translate your writings than another
guys ones? is it a peculiarity of your playing with words or your zone
manners? I am sorry because I miss some of your subtleties or
grammatical tricks and I suspect they have more funny meanings that I
can capture :>)

Try to understand. Richard gives the free English lessons. I have learnt a
lot from him.
S*

2918. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 09:41:15 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <OMTvZFT7cFMMFw7f@g3ohx.demon.co.uk>
Source record: 8518

In message <slrni30ghb.k2f.gsm@cable.mendelson.com>, Geoffrey S.
Mendelson <gsm@cable.mendelson.com> writes
>Ralph Mowery wrote:
>> Is there a shortage in the supply of coax ? A ham up the road has been
>> trying to get some rg8x from The Wireman for a couple of weeks. They are
>> out and said they should have some in soon.
>
>There was a long discussion here about using compression type F connectors
>(and BNC) with RG/6QS coax recently. I suggest that you look it up and refer
>your friend to it.
>
>The general consesus was that RG6QS was a pretty good choice for amateur
>use. Not the best, but for the usual low power setup, it was ok.
>
>There is RG6QS coax designed for satellite downleads (1-2gHz) so if you
>get that it should work for 900 and 1296mHz, possibly 2.4gHz.
>
>It is very important to note that we were talking about COMPRESSION
>connectors, which compress from front to back sealing the cable in,

Usually known on the business as 'Snap and Seal' (or 'Snap-N-Seal',
'SNS' etc) connectors. This type is now the only type used in most of
the UK cable TV industry (and, no doubt, in the USA). They are very
difficult to pull off, and are essentially watertight.

For example:
http://www.wittenberg-antennen.de/snapnseal.pdf
<http://www.3starinc.com/lrc_sns11as_snap_n_seal_rg-11_cable_f_connector.
html>

You do, of course, need the appropriate tool.

>and NOT crimp on connectors, which are squeezed from side to side and often
>fall off.
>
'Proper' crimp connectors, properly crimped, with the 'proper' tool, are
also hard to pull off - at least, mine are!
--
Ian

2919. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 10:30:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <68679e63-c0e3-4cf0-9b11-05e09864c3c8@g19g2000yqc.googlegroups.com>
Source record: 8519

On Jul 4, 8:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "lu6etj" <lu6...@gmail.com>
wrotenews:fe0793d1-c5e9-4fae-b937-fa13308a57a0@x27g2000yqb.googlegroups.com...
>
> >Hi hi, Why I find it more hard to translate your writings than another
>
> guys ones? is it a peculiarity of your playing with words or your zone
> manners? I am sorry because I miss some of your subtleties or
> grammatical tricks and I suspect they have more funny meanings that I
> can capture :>)
>
> Try to understand. Richard gives the free English lessons. I have learnt a
> lot from him.
> S*

just nothing about electromagnetics i guess.

2920. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 12:04:06 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni30tuk.oon.gsm@cable.mendelson.com>
Source record: 8520

Ian Jackson wrote:
> You do, of course, need the appropriate tool.

They are relatively cheap. I've seen a set of tool, cutter and stripper (3 tools) and 20 F connectors for as little as $12 on eBay. Here, a month ago I paid $60 for such a set without connectors, today when I went to the same store, the tool alone was $30. Last month they did not have the tool alone.

The bad news is that they raised the price on the connectors from $.90 each to $1.25 each, but dropped them to $.77 if you bought 100. They had 2 packages of 50 and to convince me not clean them out, they gave me the 100 price for 50.

>>and NOT crimp on connectors, which are squeezed from side to side and often
>>fall off.
>>
> 'Proper' crimp connectors, properly crimped, with the 'proper' tool, are
> also hard to pull off - at least, mine are!

From my experience, the tools are more expensive, and the skill level required is much higher to get the done properly. Most of the crimp on ones are not water resistant, while most of the compression ones are.

Geoff.
--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
I do multitasking. If that bothers you, file a complaint and I will start ignoring it immediately.

2921. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 12:51:55 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <47e01ff3-8cec-40b7-862b-e98826393f17@w31g2000yqb.googlegroups.com>
Source record: 8521

On Jul 3, 6:13 pm, lu6etj <lu6...@gmail.com> wrote:
> ... then I asked
> you if you can hear sound 80 dB below insect shooting your window.

That reminds me of the medical profession two hundred years ago when
doctors believed that there was no such thing as a virus because they
couldn't see it and besides that, how could it possibly exist and be
alive without a cellular structure?
--
73, Cecil, w5dxp.com

2922. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 13:02:04 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <221cbc0e-4949-44e4-a33c-0c4d426859d2@g19g2000yqc.googlegroups.com>
Source record: 8522

On Jul 3, 9:34 pm, lu6etj <lu6...@gmail.com> wrote:
> Hi hi, Why I find it more hard to translate your writings than another
> guys ones? is it a peculiarity of your playing with words or your zone
> manners?

Don't worry about it, Miguel. I am an English major and understand
your English better than Richard's. He is not unlike a court jester
who talks in riddles and takes pride in himself when nobody
understands.
--
73, Cecil, w5dxp.com

2923. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 13:11:31 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0aaff56b-76ec-4dbd-973c-4a1b01d264f2@b35g2000yqi.googlegroups.com>
Source record: 8523

On Jul 4, 12:02 am, Richard Clark <kb7...@comcast.net> wrote:
> You can experience one photon, however could you state that it was not
> two instead?

Actually, human rods can detect one photon but that small impulse does
not reach the brain. It takes about nine photons for our brains to
experience photons. It's a transmission line problem, not a detector
problem.

> Cecil is among those who cannot be
> trusted to write on the white board.

Translation: Don't bother me with technical facts. I am already
satisfied with my present metaphysics. :-)
--
73, Cecil, w5dxp.com

2924. Rigexpert AA-200 Software

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 13:32:09 UTC
From: barett <barett@blueyonder.co.uk>
Message-ID: <t30Yn.122348$w51.101280@hurricane>
Source record: 8524

Hi all

I'm looking for software that will work with my Rigexpert AA-200 Antenna Analyzer. I'm using the Antscope software that came with it. I was wondering if there was any other software out there that would work with it. Any ideas?

Thanks

2925. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 14:59:50 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <Xa6dnUgOK9ccPK3RnZ2dnUVZ_hGdnZ2d@earthlink.com>
Source record: 8525

"Geoffrey S. Mendelson" <gsm@cable.mendelson.com> wrote in message
news:slrni30ghb.k2f.gsm@cable.mendelson.com...
> Ralph Mowery wrote:
>> Is there a shortage in the supply of coax ? A ham up the road has been
>> trying to get some rg8x from The Wireman for a couple of weeks. They are
>> out and said they should have some in soon.
>
> There was a long discussion here about using compression type F connectors
> (and BNC) with RG/6QS coax recently. I suggest that you look it up and
> refer
> your friend to it.
>
> The general consesus was that RG6QS was a pretty good choice for amateur
> use. Not the best, but for the usual low power setup, it was ok.
>
> There is RG6QS coax designed for satellite downleads (1-2gHz) so if you
> get that it should work for 900 and 1296mHz, possibly 2.4gHz.
>
> It is very important to note that we were talking about COMPRESSION
> connectors, which compress from front to back sealing the cable in,
> and NOT crimp on connectors, which are squeezed from side to side and
> often
> fall off.
>
> Geoff.

Thanks for the reply. My friend has been a ham for over 40 years and was an electronic engineer involving RF. I have been a ham close to 40 years and also know a bit about the types of coax. He just does not want to use the rg-6 types. As we both have many ot the connectors for rg-8 and adaptors for the 8x and 58 types it is no use to get the rg-6./ Also as pointed out you often need special connectors or tools to install the F connectors for outside use. He has a small setup of just two or 3 antennas and does not want to buy special tools for the rg-6. I have often use over 1000 watts for the low bands and also work weak signals on 6 meters and above. That leaves me out for the smaller coax also. Neither of us like the solid small wires for outside use on 80 meter dipoles. Too much flexing in the wind. I am not sure what the losses would be for the copper coated steel often used in some of the rg-6 at frequencies below 10 mhz where he wants to use it.

It just seems that some things seem to be in short supply at differant times in this country. Around 1974 there was a gas shortage (I think that was when the shortages started), one year it was a toilet paper shortage, one year it was a chicken shortage. For about the last year or two it was an

ammunition shortage for guns.

Every time it snows in the South US there is a big run on bread and milk and that runs out .

We were just wondering if the one big supplier close by was the only one having trouble getting coax.

I don't know much about the making of coax amd other wire, but assume it is like where I work. We make polyester material that is shipped out for car tires and other things. The machines are set up for one type of material and ran for a while . When the warehouse is stocked with that, we change the machines to run another type. If the inventory is running low on one type, it may be a while before we switch over to run it again.

2926. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 15:32:16 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <T3NY3aBAmKMMFwLi@g3ohx.demon.co.uk>
Source record: 8526

In message <Xa6dnUgOK9ccPK3RnZ2dnUVZ_hGdnZ2d@earthlink.com>, Ralph
Mowery <rmowery28146@earthlink.net> writes
>
>
>

>We were just wondering if the one big supplier close by was the only one
>having trouble getting coax.

Maybe the quantities of coax being manufactured these days is being
affected by the increasing demand for optical fibre?
>

>
>
--
Ian

2927. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 15:44:25 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <04edna3vAvBuNq3RnZ2dnUVZ_sednZ2d@earthlink.com>
Source record: 8527

"Ian Jackson" <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in message
news:T3NY3aBAmKMMFwLi@g3ohx.demon.co.uk...
> In message <Xa6dnUgOK9ccPK3RnZ2dnUVZ_hGdnZ2d@earthlink.com>, Ralph Mowery
> <rmowery28146@earthlink.net> writes
>>
>>
>>
>
>>We were just wondering if the one big supplier close by was the only one
>>having trouble getting coax.
>
> Maybe the quantities of coax being manufactured these days is being
> affected by the increasing demand for optical fibre?
>>

Could be. While I would think it would take a differnat plant to make the
OF, maybe not as much coax is used and some plants have shut down making the
coax. Hard telling how many miles of coax was made for cable TV/internet
and computer connections that are now going to the OF.

2928. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 16:19:11 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c30b482$0$2582$65785112@news.neostrada.pl>
Source record: 8528

"K1TTT" <k1ttt@arrl.net> wrote
news:68679e63-c0e3-4cf0-9b11-05e09864c3c8@g19g2000yqc.googlegroups.com...
On Jul 4, 8:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "lu6etj" <lu6...@gmail.com>
> wrotenews:fe0793d1-c5e9-4fae-b937-fa13308a57a0@x27g2000yqb.googlegroups.com...
>
> >Hi hi, Why I find it more hard to translate your writings than another
>
>> guys ones? is it a peculiarity of your playing with words or your zone
> manners? I am sorry because I miss some of your subtleties or
> grammatical tricks and I suspect they have more funny meanings that I
> can capture :>)
>
>> Try to understand. Richard gives the free English lessons. I have learnt
>> a
> lot from him.
> S*

>just nothing about electromagnetics i guess.

Yes. Because I am interested in the antennas and Richard is an expert in it.
In electromagnetics Maxwell and Heaveside are the experts. Available on
line.
S*

2929. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-04 23:53:52 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <640caad4-6316-4f11-800a-9d4d61049ee2@c33g2000yqm.googlegroups.com>
Source record: 8529

On Jul 4, 4:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:68679e63-c0e3-4cf0-9b11-05e09864c3c8@g19g2000yqc.googlegroups.com...
> On Jul 4, 8:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > "lu6etj" <lu6...@gmail.com>
> > wrotenews:fe0793d1-c5e9-4fae-b937-fa13308a57a0@x27g2000yqb.googlegroups.com...
>
> > >Hi hi, Why I find it more hard to translate your writings than another
>
> >> guys ones? is it a peculiarity of your playing with words or your zone
> > > manners? I am sorry because I miss some of your subtleties or
> > > grammatical tricks and I suspect they have more funny meanings that I
> > > can capture :>)
>
> >> Try to understand. Richard gives the free English lessons. I have learnt
> >> a
> > > lot from him.
> > > S*
> > >just nothing about electromagnetics i guess.
>
> Yes. Because I am interested in the antennas and Richard is an expert in it.
> In electromagnetics Maxwell and Heaveside are the experts. Available on
> line.
> S*

unfortunately you have to learn modern em to know what writings of
maxwell and heaveside to bother believing... they both went through
learning periods before they came to the final transverse wave
formulations. if you read their earlier works you will be mislead
because they were still learning and following dead end paths like
aether theory and fluid analogies.

2930. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 01:08:00 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <769605e5-ea62-4b86-855e-7c1fe53c0aea@k39g2000yqd.googlegroups.com>
Source record: 8530

On Jun 30, 5:55 pm, Roy Lewallen <w...@eznec.com> wrote:
> Keith obviously understands the requirements for energy flow, but a
> casual reader might draw the wrong conclusions. . .
>
> Keith Dysart wrote:
> > . . .
> > This is quite incorrect. Energy flows must balance, otherwise energy
> > is being created or destroyed to sustain a difference in flow.
>
> On the average, yes. But not moment-by-moment. Energy can be stored and
> retrieved from storage, resulting in unequal energy flow (power) into
> and out of a point. For a while. This was explicitly stated earlier when
> discussing a capacitor, but I think it's important to make the
> distinction here between instantaneous and average requirements. In
> steady state, the average condition (energy flow balance) must be met
> each cycle. That is, the total energy into a node over a cycle has to
> equal the energy out of a node over a cycle.
>
> > . . .
> > Unfortunately wrong. Energy flows must balance as well. Otherwise,
> > energy is coming from nowhere to sustain the flow.
>
> Ditto.
>
> > . . .
> > Yes, indeed. At that instant, zero energy is flowing from the inductor
> > to the capacitor. But very soon, energy will be flowing from the
> > capacitor to the inductor. The balance is that the energy flowing
> > out of the capacitor is always and exactly equal to the energy flowing
> > in to the inductor. That is the energy flow balance. The only way for
> > this not to be true is for energy to be created or destroyed.
>
> Ditto.
>
> > . . .
> > Instead, think that at every instant, the energy flow between the
> > entities in the experiment must balance.
>
> No, it doesn't, unless I'm misunderstanding the statement. At a given
> instant, more energy can flow into a component (e.g., a capacitor or
> inductor) than is flowing out, or vice-versa. But in steady state,
> whatever flows in during one part of the cycle must flow out during the
> remainder of the cycle.

I think you are misunderstanding, possibly because I am not expressing
as clearly as could be. I find it difficult to pick a vocabulary that
will not be confusing due to prior associations with the words. But
then words like 'entity' are too fuzzy.

The system I have in mind has ports through which energy can flow in
or out of the system and components inside the system which can
store energy. For such a system, the energy flowing in to ports
of the system minus the energy flowing out of ports must
equal the increase in energy being stored in the system.

This must be true at all times, or energy is being created or
destroyed; a bit of a no-no.

This system can be subdivided in to sub-systems for which this
energy flow balance must also hold.

As such, if the energy stored in one of the entities (e.g.
capacitor) is increasing, either net energy is flowing in to
the ports of the system, or the energy stored in some other
entity in the system is decreasing (or both). But the sum
of all the flows entering or leaving the ports, plus
the flows between the internal entities must balance on
a moment by moment basis.

Of course the expressions written to describe this will
be dependent on the details of the system. One must also
not forget to account for energy that leaves the system
as heat courtesy resistors. These can be thought of as
ports which only remove energy from the system.

The requirement for moment-by-moment balance is more stringent
than the requirement for average balance. The former inevitably
leads to the latter, but the converse is not true.

From Wikipedia, I have just learned that the concept I am attempting
to describe is known as a "Continuity equation".

> >> Every time one of your instantaneous power curves crosses the zero
> >> axis, power has been destroyed. Every time one of your instantaneous
> >> power curves reaches a peak, power has been created.
>
> > I think you may be confused because you are only looking at the
> > flow in and out of a single entity. This is clearly not conserved.
> > Nor for that matter is the energy within that entity. It is the
> > total energy within the system that is conserved, just as it is
> > the total of the flows of energy between the entities within the
> > system that must be conserved.
>
> > Put more strictly: The sum of all the energy flows in to all of
> > the entities within the system must equal the energy flow in to
> > the system.
>
> Again, only on an average or steady-state cycle-by-cycle basis. Great

> inequalities can exist for shorter periods.
>
> >. . .
>
> Like Keith, I firmly believe that an instantaneous time-domain analysis
> is essential in understanding what really happens to the energy in an AC
> system. Averaging reduces the amount of information you have -- if all
> you know is the average value of a waveform, you have no way of going
> back and finding out what the waveform was, out of an infinite number of
> possibilities. If averaging is to be done, it should be done after you
> calculate and understand what's going on at each instant, not before you
> begin the analysis.
>
> But it's also essential to make absolutely clear what conditions must be
> met every instant, such as p(t) = v(t) * i(t), and which must be met
> only on the average, such as energy in = energy out.
>
> Roy Lewallen, W7EL

2931. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 01:24:47 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <51ecce2c-6f32-4b66-b842-f11bd5910dd6@d37g2000yqm.googlegroups.com>
Source record: 8531

On Jul 1, 8:37 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Check the a0 coefficient in the Fourier transform. This represents
> > the DC component of the signal.
>
> And the result is zero EM waves, either forward or reflected, and your
> argument falls apart.

What was my argument that fell apart? I am not the one pushing the
notion
of forward and reflected EM waves. That's you. I am just trying to
help
you fit square waves in to your model.

So how do you characterize a slow square wave? Say one that is 0V for
one year, then 10V for a year, then 0, then...

With several meters of open circuited transmission line, what do you
think is happening on the line for the year while you are waiting for
the
signal to drop back to zero volts? Does it have a constant voltage?
And
0 current for most of that year? Is it an EM wave?

> > Without this, how would you deal with a signal such as
> >   V(t) = 10 + 2 cos(3t)
>
> If the cosine term is zero, there are zero EM waves, either forward or
> reflected, and your argument falls apart.
>
> Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> time derivitive of energy are not the same thing and your argument
> falls apart.

You need to read more carefully. I have never claimed they are the
same.

> > Alternatively, one can use the standard trick for dealing with
> > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > would probably be suitable for these examples and transform from
> > there. Still, you will have zero frequency component to deal
> > with, but there will be some at higher frequencies (if you
> > choose your function to make it so).
>
> Windowing doesn't generate EM waves where none exist in reality and

> your argument falls apart.

A question for your model...

With an infinitely long transmission line excited by a step function,
is there an EM wave propagating down the line?

If not, what is it that is propagating down the line? Especially at
the leading edge?

...Keith

2932. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 01:26:36 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <3a60c8d1-8039-47a1-b86f-36a1b8929844@z8g2000yqz.googlegroups.com>
Source record: 8532

```
On Jul 1, 8:53 am, K1TTT <k1...@arrl.net> wrote:
> On Jul 1, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > Check the a0 coefficient in the Fourier transform. This represents
> > > the DC component of the signal.
>
> > And the result is zero EM waves, either forward or reflected, and your
> > argument falls apart.
>
> > > Without this, how would you deal with a signal such as
> > >   V(t) = 10 + 2 cos(3t)
>
> > If the cosine term is zero, there are zero EM waves, either forward or
> > reflected, and your argument falls apart.
>
> > Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> > time derivitive of energy are not the same thing and your argument
> > falls apart.
>
> > > Alternatively, one can use the standard trick for dealing with
> > > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > > would probably be suitable for these examples and transform from
> > > there. Still, you will have zero frequency component to deal
> > > with, but there will be some at higher frequencies (if you
> > > choose your function to make it so).
>
> > Windowing doesn't generate EM waves where none exist in reality and
> > your argument falls apart.
> > --
> > 73, Cecil, w5dxp.com
>
> a better argument is that a constant voltage produces a constant
> electric field everywhere, since the field is not varying in time or
> space there is no time or space derivative to create a magnetic field
> so there can be no propagating em wave.  you could do the same with
> zero or constant current producing a constant magnetic field.

The same question for you...
```

With an infinitely long transmission line excited by a step function,
is there an EM wave propagating down the line?

If not, what is it that is propagating down the line? Especially at
the leading edge?

> essentially the dc case IS unique in that you must wait forever for it
> to reach sinusoidal steady state since the lowest frequency component
> is 0hz

You have used similar phrases before. Are you suggesting that an
open circuited transmission line excited with a step function takes
infinitely long to read steady state?

...Keith

2933. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 01:51:19 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <aead5163-0613-443f-a594-300a8fd2d49e@s9g2000yqd.googlegroups.com>
Source record: 8533

On 4 jul, 20:53, K1TTT <k1...@arrl.net> wrote:
> On Jul 4, 4:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > "K1TTT" <k1...@arrl.net>
wrotenews:68679e63-c0e3-4cf0-9b11-05e09864c3c8@g19g2000yqc.googlegroups.com...
> > On Jul 4, 8:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > "lu6etj" <lu6...@gmail.com>
> > > wrotenews:fe0793d1-c5e9-4fae-b937-fa13308a57a0@x27g2000yqb.googlegroups.com...
>
> > > >Hi hi, Why I find it more hard to translate your writings than another
>
> > >> guys ones? is it a peculiarity of your playing with words or your zone
> > > manners? I am sorry because I miss some of your subtleties or
> > > grammatical tricks and I suspect they have more funny meanings that I
> > > can capture :>)
>
> > >> Try to understand. Richard gives the free English lessons. I have learnt
> > >> a
> > > lot from him.
> > > S*
> > >just nothing about electromagnetics i guess.
>
> > Yes. Because I am interested in the antennas and Richard is an expert in it.
> > In electromagnetics Maxwell and Heaveside are the experts. Available on
> > line.
> > S*
>
> unfortunately you have to learn modern em to know what writings of
> maxwell and heaveside to bother believing... they both went through
> learning periods before they came to the final transverse wave
> formulations. if you read their earlier works you will be mislead
> because they were still learning and following dead end paths like
> aether theory and fluid analogies.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hello all, friends.

Sorry, I thought we was basically alone in this issue with Richard :>)

Then, perhaps some of you can help me if I am not capable to make my poor english writings intelligible enough. I feel as if Richard had not pointed in the direction I point. I think that because his references to S+N/N and others made me think Richard are thinking in detect low frequency wave quanta at little energy levels, and I am talking about to perceive the little LF quanta at high energy levels (large scale oscillators).
In my original example I said we are not able distinguish (today... tomorrow who knows?) Osc. A from Osc. B, having Osc. A 4*10^28 quanta and Osc. B 4*10^28 +1 quanta, having each 80 m quantum 2.3 * 10^-19 J.

(I know my friend Richard inevitably is going to penalize me for this "analogy", but it is so beautiful that I could not resist..!) => The problem is such as distinguish between two zeppelins of about 1500 m^3 each one having zeppelin A only one molecule more than zeppelin B...! Do not we need an alien Roswell Grey technology for that? :>)

Last night I found in the web the "strange word", it is not "granularity" it is => "graininess", graininess translate to spanish properly to "granularidad" and granularidad to english as granularity :>)

At the end of this link:
http://panda.unm.edu/Courses/Finley/P262/ThermalRad/ThermalRad.html there are a similar text in its original english words =>

"Therefore, we see that the quantization of energy simply does not show up for large-scale oscillators. The smallness of Planck's constant makes the graininess in the energy much too fine to detect in those experiments. This is quite similar to the statement that we do not ordinarily observe the fact that the air in the room is actually made up of many, many individual molecules. Nonetheless, we can indeed perform experiments in which this graininess is noticeable, and even important. Obviously the behavior of the spectral radiancy at very short wavelengths is one such case. The phenomena involved with the photoelectric effect, and the Compton effect, are others."

I apologize for my insistence dear Richard, I do not want to be stubborn but I remember Carl Sagan telling: "Extraordinary claims require extraordinary evidence" and my posting about the very large quantum number of the 3.5 MHz Xmtrs play here the "conservative" role :>)

73 to all Miguel - LU6ETJ

PS: Szczepan: Thanks for your info.
Richard: Why a "white board"? has a special meaning? - You are saying Cecil it is as Dr. House? - Really nice car your RX-7, I envy you! - My London friend is "missing2 I owe you some answers :>(

2934. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 01:58:16 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <0c94e259-464a-4e96-b90e-b9e0701cbc7d@u26g2000yqu.googlegroups.com>
Source record: 8534

On Jul 1, 10:20 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jun 30, 11:30 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > But you are NOT adding up the energy flows - you are adding up the
> > > power.
>
> > Ummm. Energy flow is power. Joules/s!
>
> > If it helps, any place I have written 'power', please replace with
> > 'energy flow'.
>
> One too many words - what I meant to say is that you are not adding up
> the energy - you are adding up the power. There is no such thing as
> conservation of energy flow. That is proved by your own graphs. There
> are times when the energy flow is destroyed. There are other points on
> your power graphs where energy flow is created.
>
> > There is no conflict with conserving flows, ...
>
> The conflict is that conservation of flows doesn't exist. Keith, you
> need to go back to college. There is no such thing as conservation of
> energy flow so your argument falls apart. When one looks up
> "conservation" in a physics book one finds:
>
> conservation of energy principle
> conservation of mass-energy
> conservation of mechanical energy
> conservation of momentum principle
>
> There is NO conservation of energy flow or conservation of power.
> Until you give up on that ridiculous concept, we don't have much to
> discuss except your religion.

One example you should be familiar with is Kirchoffs Current Law;
it tells you that sum of the FLOWs must equal 0 based on the
Conservation of Charge law. Recall that current is charge per
unit time.

For a more general treatment look up 'Continuity equation' in
Wikidedia where you will find "A continuity equation in physics is a
differential equation that describes the transport of some kind of
conserved quantity. Since mass, energy, momentum, electric charge
and other natural quantities are conserved, a vast variety of
physics may be described with continuity equations.".

Welcome to a new tool for analysis.

> > > What happens when energy = 1 joule, and de/dt = 0 watts. This happens
> > > all the time during an RF cycle so you are not using actual energy
> > > flows. You are using power which goes to zero even when maximum energy
> > > is still present.
>
> > Yes, indeed. That is a fundamental possibility and occurs on
> > transmission lines with infinite VSWR.
>
> If power goes to zero, power has been destroyed. Therefore, there is
> no conservation of power principle. Anything that can go to zero, i.e.
> can disappear, cannot be conserved.
>
> > Power is the time derivitive of energy. They are related
> > but definitely not one-to-one.
>
> Well, that shoots your argument down. If power and energy do not have
> a one-to-one correspondence, then you cannot use the conservation of
> energy principle to prove that power is conserved and your argument
> falls apart. You must then product a conservation of power principle,
> something that every physics professor has warned us doesn't exist.
>
> I can provide any number of references to support the conservation of
> energy principle. Please provide just one bona fide reference that
> supports your conservation of energy flow (power) principle.

See above, though it seems the common term is Continuity equation.

> > This is quite incorrect. Energy flows must balance, otherwise energy
> > is being created or destroyed to sustain a difference in flow.
>
> Good grief! Any physicist knows that is false. Any number of examples
> prove that is false.
>
> > Energy flows must balance as well. Otherwise,
> > energy is coming from nowhere to sustain the flow.
>
> Given a black box with an input and output. Measurements of the power
> flow vector indicates that the magnitude of each power flow vector is
> 50 watts and both vectors are pointing inside the black box. How can
> the instantaneous energy flows possibly balance?

Inside the box are some elements whose stored energy is increasing
at the same rate.

> > Instead, think that at every instant, the energy flow between the
> > entities in the experiment must balance.
>
> You are contradicting yourself. Assume the capacitor *IS* the system
> inside a black box. The instantaneous energy flow does NOT balance.

Expand your thinking a bit. Energy is being stored in the capacitor.
You do need to account for this. It is just another flow to track.

> > It is the
> > total energy within the system that is conserved, just as it is
> > the total of the flows of energy between the entities within the
> > system that must be conserved.
>
> You have it half right. Energy must be conserved. Energy flow is not
> conserved.

See above.

> > Put more strictly: The sum of all the energy flows in to all of
> > the entities within the system must equal the energy flow in to
> > the system.
>
> Please see the black box experiment above and balance the energy flow.
> Please produce a reference for the conservation of power principle.

See above.

...Keith

2935. Re: Using a 18" Dish for Radio Astronomy Demonstrations--Need Simple Power Supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 03:03:57 UTC
From: "W. eWatson" <wolftracks@invalid.com>
Message-ID: <i0ri30sjm1@news.eternal-september.org>
Source record: 8535

On 6/30/2010 7:19 AM, W. eWatson wrote:
> On 6/30/2010 6:34 AM, W. eWatson wrote:
>> Somewhere I came across a setup for a simple "itty bitty" radio
>> telescope a number of years ago. Its purpose is educational. Basically,
>> it consists of a discarded 18" dish, power supply, and a satellite
>> signal finder. I happen to have a Channel Master 1004ifd finder, but it
>> gets its power from the LNB, which apparently gets it from a satellite
>> rcvr. I have no rcvr. Is there some simple inexpensive 12v dc power
>> supply (battery pack) that I could use? I would guess that it would need
>> a connector of some sort to hook to the LNB.
> WEll, lucky me. A small amount of Googling got me to
> <http://www.aoc.nrao.edu/epo/teachers/ittybitty/procedure.html>
> I'm not sure our local The Shack has a choke. I may have one. My LNB is
> different than the one in the pic. It's a Eagle Aspen DTV32+. I'm sure I
> have a battery clip and 8 battery holder. This might do it. I didn't
> notice the Rx connector on my CM, but that is where the power goes. I
> may be set.
Under the assumption that even though my topic involves an LNB, and
that's not technically a radio, I'll beg your pardon for pressing on
under the guise of "radio" astronomy. Maybe someone here talks LNBs and
satellite signal devices.

I constructed the battery pack in the link above, but w/o the coil. I
plugged it into the 1004ifd and immediately got something of a single
note noise from the device. This seems wrong. Any ideas? I did not
connect to the LNB and disk.

2936. See Hot College Girls Sex images.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 06:26:47 UTC
From: jolie <maaindia16@gmail.com>
Message-ID: <1dd331a4-4b31-487c-bc16-ac6860729e80@m35g2000prn.googlegroups.com>
Source record: 8536

See Hot College Girls Sex images At http://welcomesu.co.cc

Due to high sex content, i have hidden the videos in an image. in
that
website on Up Side search box click on image and watch
videos in all angles. please don,t tell to anyone.

2937. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 08:12:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c3193f1$0$19180$65785112@news.neostrada.pl>
Source record: 8537

"K1TTT" <k1ttt@arrl.net> wrote
news:640caad4-6316-4f11-800a-9d4d61049ee2@c33g2000yqm.googlegroups.com...
On Jul 4, 4:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> In electromagnetics Maxwell and Heaveside are the experts. Available on
> line.

>unfortunately you have to learn modern em to know what writings of
maxwell and heaveside to bother believing... they both went through
learning periods before they came to the final transverse wave
formulations. if you read their earlier works you will be mislead
because they were still learning and following dead end paths like
aether theory and fluid analogies.

Maxwell's aether was as perfect solid with the molecular vortices. The
magnetic field was the sum of the molecular.
The Faraday effect was explained. Transverse waves possible. But in solid
possible are also the longitudinal.
Which of them are in reality decide experiments.

Heaviside modified Maxwell' model. His aether is also motionless but withot
the molecular vortices:
http://en.wikisource.org/wiki/Electromagnetic_effects_of_a_moving_charge

Now inside the solenoid no rotations. What rotate the polarisation plane?

Heaviside (father of Maxwell' equations) did not understand Maxwell and did
not agree with the rest:

"Prof. Thomson, who otherwise confirms my results, has also extended the
matter by supposing that the medium itself is set in motion, as well as the
electrification. This is somewhat beyond me. I do not yet know certainly
that the ether can move, or its laws of motion if it can. Fresnel thought
the earth could move through the ether without disturbing it; Stokes, that
it carried the ether along with it, by giving irrotational motion to it."

" I must, however, disagree with Prof. Thomson's assumption that the motion
must be irrotational. It would appear, by the above, that this limitation is
unnecessary."

I simply agree with Maxwell, Stokes, Thompson and the rest famous scientists
that no rotational vibrations (transverse waves).

You prefer Heaviside (engineer) and Authors of the textbooks .
S*

2938. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 09:31:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t56336t7ij5n4hj8mouaa8ftlmidbe10b7@4ax.com>
Source record: 8538

On Sun, 4 Jul 2010 18:51:19 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>I apologize for my insistence dear Richard, I do not want to be
>stubborn but I remember Carl Sagan telling: "Extraordinary claims
>require extraordinary evidence"

Hi Miguel,

Sagan never impressed me, and this quote even less. It relies on
mystical explanations when ordinary works quite well.

>and my posting about the very large
>quantum number of the 3.5 MHz Xmtrs play here the "conservative"
>role :>)

The link leads to a lot of tedious and pedantic writing.

Your new analogy fails as quickly as the rest, so by extension I must
presume that the work revealed at your link fails too. That is the
usual fate of tying two things together when one is a rhetorical
anchor.

When I speak of S+N/N, this is to mean that extraneous detail (fables
of mosquitoes, large cars and even larger blimps) only adds noise.

Skip the "extraordinary," stop the fables, and simply state your case.
When you remove all this noise, you may discover you are not writing
about a quantum system at all, but numbers without meaning. A simple
test: what changes its quantum state at 3.5MHz? Is it sub-atomic,
atomic, or molecular?

>Richard: Why a "white board"? has a special meaning? - You are
>saying Cecil it is as Dr. House? - Really nice car your RX-7, I envy
>you! - My London friend is "missing2 I owe you some answers :>(

Dr. House refuses to let students write on his white board.

I've driven RXs for 28 years: a 1978 and a 1990 GTU.

London is a nice place to be missing in. I've spent time near
Vauxhall bridge in Westminster.

73's
Richard Clark, KB7QHC

2939. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 10:19:50 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a07583cb-218d-4a4f-a6bf-41957afa6153@u26g2000yqu.googlegroups.com>
Source record: 8539

```
On Jul 5, 1:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jul 1, 8:53 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jul 1, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > Check the a0 coefficient in the Fourier transform. This represents
> > > > the DC component of the signal.
>
> > > And the result is zero EM waves, either forward or reflected, and your
> > > argument falls apart.
>
> > > > Without this, how would you deal with a signal such as
> > > >   V(t) = 10 + 2 cos(3t)
>
> > > If the cosine term is zero, there are zero EM waves, either forward or
> > > reflected, and your argument falls apart.
>
> > > Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> > > time derivitive of energy are not the same thing and your argument
> > > falls apart.
>
> > > > Alternatively, one can use the standard trick for dealing with
> > > > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > > > would probably be suitable for these examples and transform from
> > > > there. Still, you will have zero frequency component to deal
> > > > with, but there will be some at higher frequencies (if you
> > > > choose your function to make it so).
>
> > > Windowing doesn't generate EM waves where none exist in reality and
> > > your argument falls apart.
> > > --
> > > 73, Cecil, w5dxp.com
>
> > a better argument is that a constant voltage produces a constant
> > electric field everywhere, since the field is not varying in time or
> > space there is no time or space derivative to create a magnetic field
> > so there can be no propagating em wave.  you could do the same with
> > zero or constant current producing a constant magnetic field.
>
> The same question for you...
```

>
> With an infinitely long transmission line excited by a step function,
> is there an EM wave propagating down the line?
>
> If not, what is it that is propagating down the line? Especially at
> the leading edge?
>
> > essentially the dc case IS unique in that you must wait forever for it
> > to reach sinusoidal steady state since the lowest frequency component
> > is 0hz
>
> You have used similar phrases before. Are you suggesting that an
> open circuited transmission line excited with a step function takes
> infinitely long to read steady state?
>
> ...Keith

'it depends'... in the special case you have concocted where the signal source has no reflections it only takes one round trip. this case is very misleading if you try to extend it to cover other cases. in general it takes infinitely long and you must account for the infinite series of reflections. that is why the approximations used to come up with the sinusoidal steady state solution is so useful, and exactly why it can not be applied to steps and square waves and other non sinusoidal constant sources.

and in your infinite line example it never reaches steady state so the step wave propagates forever.

2940. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 10:28:59 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <699ec740-4218-49d9-8a80-83799f37959b@r27g2000yqb.googlegroups.com>
Source record: 8540

On Jul 5, 1:58 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jul 1, 10:20 am, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On Jun 30, 11:30 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > But you are NOT adding up the energy flows - you are adding up the
> > > > power.
>
> > > Ummm. Energy flow is power. Joules/s!
>
> > > If it helps, any place I have written 'power', please replace with
> > > 'energy flow'.
>
> > One too many words - what I meant to say is that you are not adding up
> > the energy - you are adding up the power. There is no such thing as
> > conservation of energy flow. That is proved by your own graphs. There
> > are times when the energy flow is destroyed. There are other points on
> > your power graphs where energy flow is created.
>
> > > There is no conflict with conserving flows, ...
>
> > The conflict is that conservation of flows doesn't exist. Keith, you
> > need to go back to college. There is no such thing as conservation of
> > energy flow so your argument falls apart. When one looks up
> > "conservation" in a physics book one finds:
>
> > conservation of energy principle
> > conservation of mass-energy
> > conservation of mechanical energy
> > conservation of momentum principle
>
> > There is NO conservation of energy flow or conservation of power.
> > Until you give up on that ridiculous concept, we don't have much to
> > discuss except your religion.
>
> One example you should be familiar with is Kirchoffs Current Law;
> it tells you that sum of the FLOWs must equal 0 based on the
> Conservation of Charge law. Recall that current is charge per
> unit time.
>
> For a more general treatment look up 'Continuity equation' in
> Wikidedia where you will find "A continuity equation in physics is a

> differential equation that describes the transport of some kind of
> conserved quantity. Since mass, energy, momentum, electric charge
> and other natural quantities are conserved, a vast variety of
> physics may be described with continuity equations.".
>
> Welcome to a new tool for analysis.
>
>
>
> > > > What happens when energy = 1 joule, and de/dt = 0 watts. This happens
> > > > all the time during an RF cycle so you are not using actual energy
> > > > flows. You are using power which goes to zero even when maximum energy
> > > > is still present.
>
> > > Yes, indeed. That is a fundamental possibility and occurs on
> > > transmission lines with infinite VSWR.
>
> > If power goes to zero, power has been destroyed. Therefore, there is
> > no conservation of power principle. Anything that can go to zero, i.e.
> > can disappear, cannot be conserved.
>
> > > Power is the time derivitive of energy. They are related
> > > but definitely not one-to-one.
>
> > Well, that shoots your argument down. If power and energy do not have
> > a one-to-one correspondence, then you cannot use the conservation of
> > energy principle to prove that power is conserved and your argument
> > falls apart. You must then product a conservation of power principle,
> > something that every physics professor has warned us doesn't exist.
>
> > I can provide any number of references to support the conservation of
> > energy principle. Please provide just one bona fide reference that
> > supports your conservation of energy flow (power) principle.
>
> See above, though it seems the common term is Continuity equation.
>
> > > This is quite incorrect. Energy flows must balance, otherwise energy
> > > is being created or destroyed to sustain a difference in flow.
>
> > Good grief! Any physicist knows that is false. Any number of examples
> > prove that is false.
>
> > > Energy flows must balance as well. Otherwise,
> > > energy is coming from nowhere to sustain the flow.
>
> > Given a black box with an input and output. Measurements of the power
> > flow vector indicates that the magnitude of each power flow vector is
> > 50 watts and both vectors are pointing inside the black box. How can
> > the instantaneous energy flows possibly balance?
>

> Inside the box are some elements whose stored energy is increasing
> at the same rate.
>
> > > Instead, think that at every instant, the energy flow between the
> > > entities in the experiment must balance.
>
> > You are contradicting yourself. Assume the capacitor *IS* the system
> > inside a black box. The instantaneous energy flow does NOT balance.
>
> Expand your thinking a bit. Energy is being stored in the capacitor.
> You do need to account for this. It is just another flow to track.
>
> > > It is the
> > > total energy within the system that is conserved, just as it is
> > > the total of the flows of energy between the entities within the
> > > system that must be conserved.
>
> > You have it half right. Energy must be conserved. Energy flow is not
> > conserved.
>
> See above.
>
> > > Put more strictly: The sum of all the energy flows in to all of
> > > the entities within the system must equal the energy flow in to
> > > the system.
>
> > Please see the black box experiment above and balance the energy flow.
> > Please produce a reference for the conservation of power principle.
>
> See above.
>
> ...Keith

'normally' black boxes are just that, opaque elements that you can not measure an internal state with. when you specify a box or something generic with a couple of ports any good engineer will assume that you know NOTHING about what is inside the box, and that you don't care. those type of simplifications are common in engineering methods in order to simplify problems down to the things that you are really interested in... normally BY DEFINITION you don't know and don't care about what is inside 'the box'. so your statement that you know the energy stored in the box is a function of instantaneous flows in and out is non-sequitar, we engineers just don't care and would never try to do a balance like that. if you want to study the energy flow in and out of a box AND the storage of it in the box then provide the circuit for the box and study it properly.

for instance, take your infinitely long transmission line. as an engineer my first action is to reduce that line to a resistor that has a value equal to the characteristic impedance of the line. i can use that equivalent resistor for all calculations for EVERYTHING ELSE in

the circuit, but NOT for the internal state of the replacement box....
for obviously if you look in the box and find a resistor dissipating
all the power you put into it as heat that will be much different from
looking in the box and seeing an infinite transmission line with all
that energy propagating forever as an em wave.

2941. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 11:24:28 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <88fb5760-71e9-43cf-96ef-62536682c138@u26g2000yqu.googlegroups.com>
Source record: 8541

On Jul 5, 8:12 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:640caad4-6316-4f11-800a-9d4d61049ee2@c33g2000yqm.googlegroups.com...
> On Jul 4, 4:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In electromagnetics Maxwell and Heaveside are the experts. Available on
> > > line.
> > >unfortunately you have to learn modern em to know what writings of
>
> > maxwell and heaveside to bother believing... they both went through
> > learning periods before they came to the final transverse wave
> > formulations. if you read their earlier works you will be mislead
> > because they were still learning and following dead end paths like
> > aether theory and fluid analogies.
>
> > Maxwell's aether was as perfect solid with the molecular vortices. The
> > magnetic field was the sum of the molecular.
> > The Faraday effect was explained. Transverse waves possible. But in solid
> > possible are also the longitudinal.
> > Which of them are in reality decide experiments.
>
> > Heaviside modified Maxwell' model. His aether is also motionless but withot
> > the molecular
vortices:http://en.wikisource.org/wiki/Electromagnetic_effects_of_a_moving_charge

if that is all the further you have read then you have much to learn.
at the very beginning they are conjecturing about the possibility of
infinite vs finite propagation velocity, so obviously they have not
made the critical measurements yet to refine the equations to the
proper ones and eliminate all the possible aetheric solutions.

2942. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 12:33:06 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <206cfc9a-e0f9-416f-b548-4980c2c3ac6b@x21g2000yqa.googlegroups.com>
Source record: 8542

On Jul 4, 8:08 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> The system I have in mind has ports through which energy can flow in
> or out of the system and components inside the system which can
> store energy. For such a system, the energy flowing in to ports
> of the system minus the energy flowing out of ports must
> equal the increase in energy being stored in the system.
>
> This must be true at all times, or energy is being created or
> destroyed; a bit of a no-no.

But you are not tracking energy - you are tracking power. As Roy has said, there is no requirement that instantaneous power must balance. Where are the stored energy terms in any of your instantaneous power equations? How do you handle the difference in dimensions between energy and power? The only condition for which NET power must balance is during a time interval in which there is zero NET stored power, e.g. during one cycle.

I have rev'ed my zero interference article to include the following statement:

"Over a time period of many cycles, e.g. one second at MHz frequencies, the net average energy and the net average power are related by joules/second. Thus, if certain conditions are met, net average power can be used to track the net average energy flow based on the conservation of energy principle. However, at time intervals of less than one cycle, as exists for instantaneous power, power cannot be used to track energy because energy is often stored in a reactance, is not moving at that instant, and is therefore technically not power. In fact, unlike energy, power often appears and disappears. There are special cases where average power in joules/second can be used to track average energy in joules but instantaneous power is not one of those special cases."
--
73, Cecil, w5dxp.com

2943. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 13:07:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c5419602-98f9-48e3-9c54-e5ffaf6534dc@a30g2000yqn.googlegroups.com>
Source record: 8543

On Jul 4, 8:24 pm, Keith Dysart <keith.dys...@gmail.com> wrote:

> From Wikipedia, I have just learned that the concept I am
> attempting to describe is known as a "Continuity equation".

In all your previous equations, you have presented only the first term and completely ignored the second (delta-dot-v) term of the equation which is required for balance. When you add the proper term, i.e. you track and account for all of the energy, your energy equation will balance - as I told you days ago.

> So how do you characterize a slow square wave? Say one that is 0V for
> one year, then 10V for a year, then 0, then...

The same way I characterize, "How many angels can dance on the head of a pin?" The length of time makes absolutely no difference to the concept involved. The above conditions do not match the DC steady-state conditions of your earlier example.

> With an infinitely long transmission line excited by a step function,
> is there an EM wave propagating down the line?

Yes, there is an EM wave at the leading edge. Electrons cannot move at the speed of light. But it is impossible to window such an example in a valid manner because windowing creates other EM waves where none exist in your example. There is no trailing edge in your example yet windowing would necessarily create a trailing edge. Since an infinitely long transmission line is impossible, we are back to the "angels on the head of a pin" problem. In any region of the example where steady-state DC conditions exist, EM waves have ceased to exist. That's what happens when you make the line a fixed length and terminate it at that point. Anywhere DC steady-state conditions exist, your DC forward and reflected wave analysis falls apart.
--
73, Cecil, w5dxp.com

2944. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 13:16:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <81da1e3b-f7af-457a-9676-4542bbac869d@i31g2000yqm.googlegroups.com>
Source record: 8544

On Jul 4, 8:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Are you suggesting that an
> open circuited transmission line excited with a step function takes
> infinitely long to read steady state?

Your infinitely long open-circuited transmission line example
certainly takes infinitely long to reach steady-state so the leading-
edge EM wave continues forever with zero reflected EM waves and your
argument involving reflected waves falls apart.

Your finite open-circuited transmission line example reaches DC steady-
state where EM waves cease to exist so your argument involving forward
and reflected waves falls apart.
--
73, Cecil, w5dxp.com

2945. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 13:29:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <37695252-74bb-4163-a459-7bfaf8f1d3c2@w12g2000yqj.googlegroups.com>
Source record: 8545

On Jul 4, 8:58 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Expand your thinking a bit. Energy is being stored in the capacitor.
> You do need to account for this. It is just another flow to track.

I don't need to track it. I am not the one who is arguing that
instantaneous power is conserved. I have said all along that your
instantaneous power equations were not tracking all the energy. It is
you who have not been tracking the energy stored in the capacitor.
When you do that in a valid way, you will discover that the energy
does balance but the instantaneous power still does NOT balance, nor
is it required to balance. IT IS ENERGY THAT IS CONSERVED, NOT POWER!
Please note that the 'Continuity equation' discussion does *NOT* list
power as one of the conserved quantities.
--
73, Cecil, w5dxp.com

2946. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 13:38:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d29bab18-a229-4c1b-be18-4c83706dbae6@k39g2000yqb.googlegroups.com>
Source record: 8546

On Jul 5, 1:16 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 4, 8:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Are you suggesting that an
> > open circuited transmission line excited with a step function takes
> > infinitely long to read steady state?
>
> Your infinitely long open-circuited transmission line example
> certainly takes infinitely long to reach steady-state so the leading-
> edge EM wave continues forever with zero reflected EM waves and your
> argument involving reflected waves falls apart.
>
> Your finite open-circuited transmission line example reaches DC steady-
> state where EM waves cease to exist so your argument involving forward
> and reflected waves falls apart.
> --
> 73, Cecil, w5dxp.com

'dc steady state' is an oxymoron...

2947. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 13:51:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b364174a-abbd-440a-9355-cae5c89f84e3@c33g2000yqm.googlegroups.com>
Source record: 8547

On Jul 5, 8:38 am, K1TTT <k1...@arrl.net> wrote:
> 'dc steady state' is an oxymoron...

Webster's says an "oxymoron" is self-contradictory. "DC transient
state" would be an oxymoron. "DC steady-state" is merely
redundant. :-)
--
73, Cecil, w5dxp.com

2948. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 16:41:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c320b53$0$17095$65785112@news.neostrada.pl>
Source record: 8548

"K1TTT" <k1ttt@arrl.net>wrote
news:88fb5760-71e9-43cf-96ef-62536682c138@u26g2000yqu.googlegroups.com...
On Jul 5, 8:12 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Heaviside modified Maxwell' model. His aether is also motionless but
>> withot
>> the molecular
>> vortices:http://en.wikisource.org/wiki/Electromagnetic_effects_of_a_moving_charge

>if that is all the further you have read then you have much to learn.
at the very beginning they
infinite vs finite propagation velocity, so obviously they have not
made the critical measurements yet to refine the equations to the
proper ones and eliminate all the possible aetheric solutions.

You probably have heard about the sulimation of matter and photoemission of
electrons,
It means that in the space is the saturated vapour (todays plasma). It is
the medium for your radio waves.
It is known from Ludwig Lorenz.

Todays authors are conjecturing about the possibility of the transverse
waves. Is it not funny?
What waves are in your transmissing line?
S*

2949. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 16:47:33 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e66a7273-758f-48ce-84db-519ae312269c@c10g2000yqi.googlegroups.com>
Source record: 8549

On Jul 5, 4:41 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>wrotenews:88fb5760-71e9-43cf-96ef-62536682c138@u26g2000yqu.goog
legroups.com...
> On Jul 5, 8:12 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Heaviside modified Maxwell' model. His aether is also motionless but
> >> withot
> >> the molecular
> >> vortices:http://en.wikisource.org/wiki/Electromagnetic_effects_of_a_moving_charge
> >if that is all the further you have read then you have much to learn.
>
> at the very beginning they
> infinite vs finite propagation velocity, so obviously they have not
> made the critical measurements yet to refine the equations to the
> proper ones and eliminate all the possible aetheric solutions.
>
> You probably have heard about the sulimation of matter and photoemission of
> electrons,
> It means that in the space is the saturated vapour (todays plasma). It is
> the medium for your radio waves.
> It is known from Ludwig Lorenz.
>
> Todays authors are conjecturing about the possibility of the transverse
> waves. Is it not funny?
> What waves are in your transmissing line?
> S*

i still want to see how you polarize longitudinal waves.

2950. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 17:05:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f196cc11-ed6d-40bb-b1a0-16005848a34f@w12g2000yqj.googlegroups.com>
Source record: 8550

On Jul 5, 11:41 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> What waves are in your transmissing line?

They are photonic waves, obviously subject to the laws of physics that
govern photons.
--
73, Cecil, w5dxp.com

2951. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 17:14:54 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c321311$0$17104$65785112@news.neostrada.pl>
Source record: 8451

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:e66a7273-758f-48ce-84db-519ae312269c@c10g2000yqi.googlegroups.com...
On Jul 5, 4:41 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> You probably have heard about the sulimation of matter and photoemission
>> of
>> electrons,
>> It means that in the space is the saturated vapour (todays plasma). It is
>> the medium for your radio waves.
> >It is known from Ludwig Lorenz.
>
>> Todays authors are conjecturing about the possibility of the transverse
>> waves. Is it not funny?
>> What waves are in your transmissing line?
>> S*

>i still want to see how you polarize longitudinal waves.

Richard has learn me that the dipoles are polarized not waves.
Monopoles do not need the directional orientation.
Directional patterns are the result of interference.

Is is trouble with understanding that the all scientists work on plasma?
Only students are in the solid aether. But they simply do not know that the
famous equations describes such.
Vectors describes the motions of something. Students should not be told what
it is. Because the goal is math (field method) teaching.
S*
S*

2952. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 17:20:51 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <4dccb7f5-8cae-47df-b4fb-39455e5450e3@d16g2000yqb.googlegroups.com>
Source record: 8452

On 5 jul, 10:16, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 4, 8:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Are you suggesting that an
> > open circuited transmission line excited with a step function takes
> > infinitely long to read steady state?
>
> Your infinitely long open-circuited transmission line example
> certainly takes infinitely long to reach steady-state so the leading-
> edge EM wave continues forever with zero reflected EM waves and your
> argument involving reflected waves falls apart.
>
> Your finite open-circuited transmission line example reaches DC steady-
> state where EM waves cease to exist so your argument involving forward
> and reflected waves falls apart.
> --
> 73, Cecil, w5dxp.com

Hi Richard, good day:

Again you give me another rethoric answer... Please, tell us how to measure to distinguish Osc. A from Osc. B, having Osc. A 4*10^28 quanta and Osc. B 4*10^28 +1 quanta, having each 80 m quantum 2.3 * 10^-19 J.

Your answers are making me remember => "It was the only explicit answer you will ever get" or "Superman's cataracts with his xray vision. This is probably going to be your only direct answer." (Please do not go upsetting, I am joking).

You dislike my examples, you dislike R & H & K classic and obviously really good peer reviewed book reference (and examples), you dislike university notes, you dislike analogies, you dislike Sagan... Today I know all things you dislike, what I do not know is how measure A and B oscillator to distinguish each other... :>D
Remember, you are rebutting things stated in standard university physics book, does not reverse the burden of proof.
Please be a good boy, be plain and do not resort to old tricks such as posting esoteric rocket science hiper-specialized incomprehensible answers :>)

73 Miguel Ghezzi - LU6ETJ

2953. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 17:27:31 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <-I-dnaPOflubi6_RnZ2dnUVZ_hydnZ2d@giganews.com>
Source record: 8453

Keith Dysart wrote:
>
> I think you are misunderstanding, possibly because I am not expressing
> as clearly as could be. I find it difficult to pick a vocabulary that
> will not be confusing due to prior associations with the words. But
> then words like 'entity' are too fuzzy.

> . . .

The problem I had was the use of "energy flow balance" which implied equal energy flow into and out of any point at any time. Your more detailed description explicitly includes stored and dissipated energy, which as we've both said, makes it possible for energy flow into and out of a point to be unequal at times, while obeying conservation of energy by being equal on the average (when dissipated energy is accounted for as removed from the system). The more detailed detailed description should help alleviate misunderstandings some readers might have had.

> . . .

> From Wikipedia, I have just learned that the concept I am attempting
> to describe is known as a "Continuity equation".

I can't recall ever having come across that term, but then I'm not a physicist.

Roy Lewallen, W7EL

2954. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 18:35:22 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <181752fa-399a-4000-90a9-92d32af8c10b@d8g2000yqf.googlegroups.com>
Source record: 8454

On 5 jul, 14:20, lu6etj <lu6...@gmail.com> wrote:
> On 5 jul, 10:16, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
>
>
> > On Jul 4, 8:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > Are you suggesting that an
> > > open circuited transmission line excited with a step function takes
> > > infinitely long to read steady state?
>
> > Your infinitely long open-circuited transmission line example
> > certainly takes infinitely long to reach steady-state so the leading-
> > edge EM wave continues forever with zero reflected EM waves and your
> > argument involving reflected waves falls apart.
>
> > Your finite open-circuited transmission line example reaches DC steady-
> > state where EM waves cease to exist so your argument involving forward
> > and reflected waves falls apart.
> > --
> > 73, Cecil, w5dxp.com
>
> Hi Richard, good day:
>
> Again you give me another rethoric answer... Please, tell us how to
> measure to distinguish Osc. A from Osc. B, having Osc. A 4*10^28
> quanta and Osc. B 4*10^28 +1 quanta, having each 80 m quantum 2.3 *
> 10^-19 J.
>
> Your answers are making me remember => "It was the only explicit
> answer you will ever get" or "Superman's cataracts with his xray
> vision. This is probably going to be your only direct
> answer." (Please do not go upsetting, I am joking).
>
> You dislike my examples, you dislike R & H & K classic and obviously
> really good peer reviewed book reference (and examples), you dislike
> university notes, you dislike analogies, you dislike Sagan... Today I
> know all things you dislike, what I do not know is how measure A and B
> oscillator to distinguish each other... :>D
> Remember, you are rebutting things stated in standard university
> physics book, does not reverse the burden of proof.
> Please be a good boy, be plain and do not resort to old tricks such as

> posting esoteric rocket science hiper-specialized incomprehensible
> answers :>)
>
> 73 Miguel Ghezzi - LU6ETJ- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

SRI, I ommited to say the example of the University of New Mexico link it is similar to the one given in "Physics for scientists and engineers" (Serway & Beichner, my copy is in spanish). They say the same about it.

Humoroues note: Richard Feynman do not share your dislike for analogies he compare corks in water with charged objects fields :>)

2955. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-05 20:50:26 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <07f6002b-a0af-4eb3-a3a8-44313b409008@c10g2000yqi.googlegroups.com>
Source record: 8455

On Jul 5, 5:14 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:e66a7273-758f-48ce-84db-519ae312269c@c10g2000yqi.googlegroups.com...
> On Jul 5, 4:41 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> You probably have heard about the sulimation of matter and photoemission
> >> of
> >> electrons,
> >> It means that in the space is the saturated vapour (todays plasma). It is
> >> the medium for your radio waves.
> > >It is known from Ludwig Lorenz.
>
> >> Todays authors are conjecturing about the possibility of the transverse
> >> waves. Is it not funny?
> >> What waves are in your transmissing line?
> >> S*
> >i still want to see how you polarize longitudinal waves.
>
> Richard has learn me that the dipoles are polarized not waves.
> Monopoles do not need the directional orientation.
> Directional patterns are the result of interference.
>
> Is is trouble with understanding that the all scientists work on plasma?
> Only students are in the solid aether. But they simply do not know that the
> famous equations describes such.
> Vectors describes the motions of something. Students should not be told what
> it is. Because the goal is math (field method) teaching.
> S*
> S*

its too hot for this, i'm going for a swim... maybe some nice
longitudinal waves in the water will make me feel better.

2956. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 00:17:04 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <2c41c046-a542-4deb-99b7-f07aed6ae388@j4g2000yqh.googlegroups.com>
Source record: 8456

```
On Jul 5, 6:19 am, K1TTT <k1...@arrl.net> wrote:
> On Jul 5, 1:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jul 1, 8:53 am, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jul 1, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > > Check the a0 coefficient in the Fourier transform. This represents
> > > > > the DC component of the signal.
>
> > > > And the result is zero EM waves, either forward or reflected, and your
> > > > argument falls apart.
>
> > > > > Without this, how would you deal with a signal such as
> > > > >   V(t) = 10 + 2 cos(3t)
>
> > > > If the cosine term is zero, there are zero EM waves, either forward or
> > > > reflected, and your argument falls apart.
>
> > > > Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> > > > time derivitive of energy are not the same thing and your argument
> > > > falls apart.
>
> > > > > Alternatively, one can use the standard trick for dealing with
> > > > > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > > > > would probably be suitable for these examples and transform from
> > > > > there. Still, you will have zero frequency component to deal
> > > > > with, but there will be some at higher frequencies (if you
> > > > > choose your function to make it so).
>
> > > > Windowing doesn't generate EM waves where none exist in reality and
> > > > your argument falls apart.
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > a better argument is that a constant voltage produces a constant
> > > electric field everywhere, since the field is not varying in time or
> > > space there is no time or space derivative to create a magnetic field
```

> > > so there can be no propagating em wave. you could do the same with
> > > zero or constant current producing a constant magnetic field.
>
> > The same question for you...
>
> > With an infinitely long transmission line excited by a step function,
> > is there an EM wave propagating down the line?
>
> > If not, what is it that is propagating down the line? Especially at
> > the leading edge?
>
> > > essentially the dc case IS unique in that you must wait forever for it
> > > to reach sinusoidal steady state since the lowest frequency component
> > > is 0hz
>
> > You have used similar phrases before. Are you suggesting that an
> > open circuited transmission line excited with a step function takes
> > infinitely long to read steady state?
>
> > ...Keith
>
> 'it depends'... in the special case you have concocted where the

'Concocted has such perjorative ring to it. Much better would be
'appropriately selected to illustrate a point'!

> signal source has no reflections it only takes one round trip.

Excellent. Some agreement.

> this
> case is very misleading if you try to extend it to cover other cases.
> in general it takes infinitely long and you must account for the
> infinite series of reflections.

Of course. But this illustrates one of the benefits of "appropriately
selecting" examples. One can choose examples that do not take forever
to settle and therefore can be analyzed in finite time.

> that is why the approximations

To which approximations do you refer?

> used
> to come up with the sinusoidal steady state solution is so useful, and
> exactly why it can not be applied to steps and square waves and other
> non sinusoidal constant sources.

Are you suggesting that it is inappropriate to use the reflection
coefficient computed at an impedance discontinuity to predict the
behaviour of a transmission line excited with a 'step, square wave or
other non sinusoidal constant sources"?

> and in your infinite line example it never reaches steady state so the
> step wave propagates forever

So is this 'step wave' an EM wave, according to your definition of an
EM wave? If not, what would you call it?

...Keith

2957. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 00:22:44 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <fcc2b758-b458-4c3d-bd23-c81acca00ac7@w31g2000yqb.googlegroups.com>
Source record: 8457

On Jul 5, 6:28 am, K1TTT <k1...@arrl.net> wrote:
> On Jul 5, 1:58 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jul 1, 10:20 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jun 30, 11:30 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > > But you are NOT adding up the energy flows - you are adding up the
> > > > > power.
>
> > > > Ummm. Energy flow is power. Joules/s!
>
> > > > If it helps, any place I have written 'power', please replace with
> > > > 'energy flow'.
>
> > > One too many words - what I meant to say is that you are not adding up
> > > the energy - you are adding up the power. There is no such thing as
> > > conservation of energy flow. That is proved by your own graphs. There
> > > are times when the energy flow is destroyed. There are other points on
> > > your power graphs where energy flow is created.
>
> > > > There is no conflict with conserving flows, ...
>
> > > The conflict is that conservation of flows doesn't exist. Keith, you
> > > need to go back to college. There is no such thing as conservation of
> > > energy flow so your argument falls apart. When one looks up
> > > "conservation" in a physics book one finds:
>
> > > conservation of energy principle
> > > conservation of mass-energy
> > > conservation of mechanical energy
> > > conservation of momentum principle
>
> > > There is NO conservation of energy flow or conservation of power.
> > > Until you give up on that ridiculous concept, we don't have much to
> > > discuss except your religion.
>
> > One example you should be familiar with is Kirchoffs Current Law;
> > it tells you that sum of the FLOWs must equal 0 based on the
> > Conservation of Charge law. Recall that current is charge per

> > unit time.
>
> > For a more general treatment look up 'Continuity equation' in
> > Wikidedia where you will find "A continuity equation in physics is a
> > differential equation that describes the transport of some kind of
> > conserved quantity. Since mass, energy, momentum, electric charge
> > and other natural quantities are conserved, a vast variety of
> > physics may be described with continuity equations.".
>
> > Welcome to a new tool for analysis.
>
> > > > > What happens when energy = 1 joule, and de/dt = 0 watts. This happens
> > > > > all the time during an RF cycle so you are not using actual energy
> > > > > flows. You are using power which goes to zero even when maximum energy
> > > > > is still present.
>
> > > > Yes, indeed. That is a fundamental possibility and occurs on
> > > > transmission lines with infinite VSWR.
>
> > > If power goes to zero, power has been destroyed. Therefore, there is
> > > no conservation of power principle. Anything that can go to zero, i.e.
> > > can disappear, cannot be conserved.
>
> > > > Power is the time derivitive of energy. They are related
> > > > but definitely not one-to-one.
>
> > > Well, that shoots your argument down. If power and energy do not have
> > > a one-to-one correspondence, then you cannot use the conservation of
> > > energy principle to prove that power is conserved and your argument
> > > falls apart. You must then product a conservation of power principle,
> > > something that every physics professor has warned us doesn't exist.
>
> > > I can provide any number of references to support the conservation of
> > > energy principle. Please provide just one bona fide reference that
> > > supports your conservation of energy flow (power) principle.
>
> > See above, though it seems the common term is Continuity equation.
>
> > > > > This is quite incorrect. Energy flows must balance, otherwise energy
> > > > > is being created or destroyed to sustain a difference in flow.
>
> > > > Good grief! Any physicist knows that is false. Any number of examples
> > > > prove that is false.
>
> > > > > Energy flows must balance as well. Otherwise,
> > > > > energy is coming from nowhere to sustain the flow.
>
> > > Given a black box with an input and output. Measurements of the power
> > > flow vector indicates that the magnitude of each power flow vector is
> > > 50 watts and both vectors are pointing inside the black box. How can

> > > the instantaneous energy flows possibly balance?
>
> > Inside the box are some elements whose stored energy is increasing
> > at the same rate.
>
> > > > Instead, think that at every instant, the energy flow between the
> > > > entities in the experiment must balance.
>
> > > You are contradicting yourself. Assume the capacitor *IS* the system
> > > inside a black box. The instantaneous energy flow does NOT balance.
>
> > Expand your thinking a bit. Energy is being stored in the capacitor.
> > You do need to account for this. It is just another flow to track.
>
> > > > It is the
> > > > total energy within the system that is conserved, just as it is
> > > > the total of the flows of energy between the entities within the
> > > > system that must be conserved.
>
> > > You have it half right. Energy must be conserved. Energy flow is not
> > > conserved.
>
> > See above.
>
> > > > Put more strictly: The sum of all the energy flows in to all of
> > > > the entities within the system must equal the energy flow in to
> > > > the system.
>
> > > Please see the black box experiment above and balance the energy flow.
> > > Please produce a reference for the conservation of power principle.
>
> > See above.
>
> > ...Keith
>
> 'normally' black boxes are just that, opaque elements that you can not
> measure an internal state with. when you specify a box or something
> generic with a couple of ports any good engineer will assume that you
> know NOTHING about what is inside the box, and that you don't care.
> those type of simplifications are common in engineering methods in
> order to simplify problems down to the things that you are really
> interested in... normally BY DEFINITION you don't know and don't care
> about what is inside 'the box'. so your statement that you know the
> energy stored in the box is a function of instantaneous flows in and
> out is non-sequitar, we engineers just don't care and would never try
> to do a balance like that. if you want to study the energy flow in
> and out of a box AND the storage of it in the box then provide the
> circuit for the box and study it properly.

Well, it was Cecil's question and I answered it in the context of the limited information that he provided.

But I agree, we would learn much more if the experiment included some internals of the box.

> for instance, take your infinitely long transmission line. as an
> engineer my first action is to reduce that line to a resistor that has
> a value equal to the characteristic impedance of the line. i can use
> that equivalent resistor for all calculations for EVERYTHING ELSE in
> the circuit, but NOT for the internal state of the replacement box....
> for obviously if you look in the box and find a resistor dissipating
> all the power you put into it as heat that will be much different from
> looking in the box and seeing an infinite transmission line with all
> that energy propagating forever as an em wave

Yes, indeed. Though black boxes still have their uses as an aid to learning. Or to simplify analysis when some aspect is simply not of concern.

...Keith

2958. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 00:26:36 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <295c68b8-d3a2-412b-a334-985a6b2e5212@e5g2000yqn.googlegroups.com>
Source record: 8458

On Jul 5, 8:33 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 4, 8:08 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > The system I have in mind has ports through which energy can flow in
> > or out of the system and components inside the system which can
> > store energy. For such a system, the energy flowing in to ports
> > of the system minus the energy flowing out of ports must
> > equal the increase in energy being stored in the system.
>
> > This must be true at all times, or energy is being created or
> > destroyed; a bit of a no-no.
>
> But you are not tracking energy - you are tracking power. As Roy has
> said, there is no requirement that instantaneous power must balance.
> Where are the stored energy terms in any of your instantaneous power
> equations? How do you handle the difference in dimensions between
> energy and power? The only condition for which NET power must balance
> is during a time interval in which there is zero NET stored power,
> e.g. during one cycle.
>
> I have rev'ed my zero interference article to include the following
> statement:
>
> "Over a time period of many cycles, e.g. one second at MHz
> frequencies, the net average energy and the net average power are
> related by joules/second. Thus, if certain conditions are met, net
> average power can be used to track the net average energy flow based
> on the conservation of energy principle. However, at time intervals of
> less than one cycle, as exists for instantaneous power, power cannot
> be used to track energy because energy is often stored in a reactance,
> is not moving at that instant, and is therefore technically not power.
> In fact, unlike energy, power often appears and disappears. There are
> special cases where average power in joules/second can be used to
> track average energy in joules but instantaneous power is not one of
> those special cases."
> --
> 73, Cecil, w5dxp.com

Well, you are digging your hole deeper and deeper. You really should
take a pause and try to understand the significance of "Continuity
equations". Do seriously consider Kerchoff's current law as an
example.

...Keith

2959. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 00:29:49 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5c9161bf-faad-42e1-845a-2b4e44cef2ad@d37g2000yqm.googlegroups.com>
Source record: 8459

On 5 jul, 06:31, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 4 Jul 2010 18:51:19 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >I apologize for my insistence dear Richard, I do not want to be
> >stubborn but I remember Carl Sagan telling: "Extraordinary claims
> >require extraordinary evidence"
>
> Hi Miguel,
>
> Sagan never impressed me, and this quote even less. It relies on
> mystical explanations when ordinary works quite well.
>
> >and my posting about the very large
> >quantum number of the 3.5 MHz Xmtrs play here the "conservative"
> >role :>)
>
> The link leads to a lot of tedious and pedantic writing.
>
> Your new analogy fails as quickly as the rest, so by extension I must
> presume that the work revealed at your link fails too. That is the
> usual fate of tying two things together when one is a rhetorical
> anchor.
>
> When I speak of S+N/N, this is to mean that extraneous detail (fables
> of mosquitoes, large cars and even larger blimps) only adds noise.
>
> Skip the "extraordinary," stop the fables, and simply state your case.
> When you remove all this noise, you may discover you are not writing
> about a quantum system at all, but numbers without meaning. A simple
> test: what changes its quantum state at 3.5MHz? Is it sub-atomic,
> atomic, or molecular?
>
> >Richard: Why a "white board"? has a special meaning? - You are
> >saying Cecil it is as Dr. House? - Really nice car your RX-7, I envy
> >you! - My London friend is "missing2 I owe you some answers :>(
>
> Dr. House refuses to let students write on his white board.
>
> I've driven RXs for 28 years: a 1978 and a 1990 GTU.
>
> London is a nice place to be missing in. I've spent time near
> Vauxhall bridge in Westminster.
>

> 73's
> Richard Clark, KB7QHC

Sorry, I posted my answer in another branch of the thread (I hope not to have bothered our friends...)

Hi Richard, good day:

Again you give me another rethoric answer... Please, tell us how to measure to distinguish Osc. A from Osc. B, having Osc. A 4*10^28 quanta and Osc. B 4*10^28 +1 quanta, having each 80 m quantum 2.3 * 10^-19 J.

Your answers are making me remember => "It was the only explicit answer you will ever get" or "Superman's cataracts with his xray vision. This is probably going to be your only direct answer." (Please do not go upsetting, I am joking).

You dislike my examples, you dislike R & H & K classic and obviously really good peer reviewed book reference (and examples), you dislike university notes, you dislike analogies, you dislike Sagan... Today I know all things you dislike, what I do not know is how measure A and B
oscillator to distinguish each other... :>D
Remember, you are rebutting things stated in standard university physics book, does not reverse the burden of proof.
Please be a good boy, be plain and do not resort to old tricks such as
posting esoteric rocket science hiper-specialized incomprehensible answers :>)
.....
I ommited to say the example of the University of New Mexico link it is similar to the one given in "Physics for scientists and engineers" (Serway & Beichner, my copy is in spanish). They say the same about it.

Humorous note: Richard Feynman do not share your dislike for analogies he compare corks in water with charged objects fields :>)

73 Miguel Ghezzi - LU6ETJ

2960. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 00:41:52 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <4ba7064b-afe6-4191-a5fc-6c5dde142741@z8g2000yqz.googlegroups.com>
Source record: 8460

On Jul 5, 9:07 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 4, 8:24 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > From Wikipedia, I have just learned that the concept I am
> > attempting to describe is known as a "Continuity equation".
>
> In all your previous equations, you have presented only the first term
> and completely ignored the second (delta-dot-v) term of the equation
> which is required for balance. When you add the proper term, i.e. you
> track and account for all of the energy, your energy equation will
> balance - as I told you days ago.

So you now are in agreement that flows must balance if charge (or
energy)
is to be conserved. Excellent.

> > So how do you characterize a slow square wave? Say one that is 0V for
> > one year, then 10V for a year, then 0, then...
>
> The same way I characterize, "How many angels can dance on the head of
> a pin?" The length of time makes absolutely no difference to the
> concept involved. The above conditions do not match the DC steady-
> state conditions of your earlier example.
>
> > With an infinitely long transmission line excited by a step function,
> > is there an EM wave propagating down the line?
>
> Yes, there is an EM wave at the leading edge.

For greater certainty, I paraphrase: "Only the leading edge has an EM
wave".

What is follows just after the leading edge since it is not an EM
wave?
What is it? What do you call it?

Now back to the square wave with a two year period...

After the rising edge goes by, which I assume you will still call an
EM wave, what follows until the falling edge occurs a year later?
Is it an EM wave?

If so, how is it different than what follows the rising edge of the
step wave? They both look like DC for a year.

If not, why is it not an EM wave?

...Keith

2961. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 00:44:41 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <2f0fcbb8-2c3c-4547-83ee-d22379b7666c@i28g2000yqa.googlegroups.com>
Source record: 8461

On Jul 5, 9:16 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 4, 8:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Are you suggesting that an
> > open circuited transmission line excited with a step function takes
> > infinitely long to read steady state?
>
> Your infinitely long open-circuited transmission line example
> certainly takes infinitely long to reach steady-state so the leading-
> edge EM wave continues forever with zero reflected EM waves and your
> argument involving reflected waves falls apart.

No reflections here, so little impact on any argument.

> Your finite open-circuited transmission line example reaches DC steady-
> state where EM waves cease to exist so your argument involving forward
> and reflected waves falls apart.

When, exactly, does the EM wave cease to exist?
Just after the edge passes? Or only when the edge makes it all the way
back to the source?

...Keith

2962. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 01:01:06 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <a92e094d-c72e-4bc2-9b1d-2464c9f0e98b@c33g2000yqm.googlegroups.com>
Source record: 8462

On Jul 5, 9:29 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 4, 8:58 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Expand your thinking a bit. Energy is being stored in the capacitor.
> > You do need to account for this. It is just another flow to track.
>
> I don't need to track it. I am not the one who is arguing that
> instantaneous power is conserved. I have said all along that your
> instantaneous power equations were not tracking all the energy. It is
> *you* who have not been tracking the energy stored in the capacitor.
> When you do that in a valid way, you will discover that the energy
> does balance but the instantaneous power still does NOT balance, nor
> is it required to balance. IT IS ENERGY THAT IS CONSERVED, NOT POWER!
> Please note that the 'Continuity equation' discussion does *NOT* list
> power as one of the conserved quantities.

Do study Kirchoff's current law and its relation to conservation of
charge.
Recall that current is charge per time.

Map this to conservation of energy...
Current is to power as charge is to energy.

The relationship and utility is the same.

Or you could do mass flow in a pipe junction; mass must be conserved.
Mass flow is to power(energy flow) as mass is to energy.

Or, pick any number of conservation laws to use as examples.

But back to Kirchoff...

I am sure you have made extensive use of Kirchoff's current law and
will
find "Keith's" power law equally useful, once you understand how it
works.

They are quite analogous.

...Keith

PS: Since the power law is apparently unnamed, and this is holding you
back, I make the somewhat presumptuous suggestion of naming it after
myself. But if you would prefer to call it Cecil's law, that would
work for me, as long as it has a name and you no longer feel that it
can not exist because it is unnamed.

2963. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 01:19:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <bac46733-b113-41d8-81f2-60070b1382a0@c10g2000yqi.googlegroups.com>
Source record: 8463

On Jul 5, 7:26 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> You really should
> take a pause and try to understand the significance of "Continuity
> equations".

So you finally admit I was right all along, adopt my original position, and claim it was yours all the while. Old trick - won't work. I studied similar equations half a century ago when I studied the conservation of energy principle. I told you long ago that your P(t) = V(t)*I(t) equation did not contain all the energy in the system.

I have never posted anything that disagrees with the continuity equations. You are the one who chose to ignore the delta-dot-v terms and have reversed your original position by introducing the continuity equation. All you had in your equation previously was the de/dt term.

Do you still believe in the conservation of instantaneous power principle?
--
73, Cecil, w5dxp.com

2964. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 01:54:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7cae99eb-1b67-4f27-8f39-5b0fc2ffea7a@y11g2000yqm.googlegroups.com>
Source record: 8464

On Jul 5, 7:41 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> So you now are in agreement that flows must balance if charge (or
> energy) is to be conserved.

No, you remain confused and mistaken. Energy flows (de/dt) do NOT have to balance. That's what I have been saying all along. Energy must balance whether it is flowing and/or not flowing. I told you weeks ago that the sum of your instantaneous energy flows do NOT include all the energy, i.e. there is no such thing as conservation of instantaneous power (energy flow). If you don't correct that basic misconception, you will never get it.

The continuity equation aids my side of the argument, not yours. It proves that you have been wrong all along when you did not include all the energy in your instantaneous power equation.

Back to the LC oscillator. At the instant when all of the energy is stored in the capacitor, energy flow has been completely destroyed, i.e. de/dt=0, yet there is plenty of energy in the capacitor. Your P(t)=V(t)*I(t) =0 equation completely ignores the energy in the capacitor when I(t)=0 and I have told you all this many times before. The continuity equation only highlights your error of ignoring the stored energy.

> After the rising edge goes by, which I assume you will still call an
> EM wave, what follows until the falling edge occurs a year later?
> Is it an EM wave?

If electrons (carriers) are not being accelerated and/or decelerated, i.e. if DC steady-state exists, then there are no EM waves.
--
73, Cecil, w5dxp.com

2965. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 01:57:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1e6d2cfc-0a4a-4899-ae6c-b280d412eaa7@g19g2000yqc.googlegroups.com>
Source record: 8465

On Jul 5, 7:44 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> When, exactly, does the EM wave cease to exist?

I don't know exactly but it will be when DC steady-state has been
achieved, i.e. when electrons are no longer being accelerated or
decelerated.
--
73, Cecil, w5dxp.com

2966. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 02:06:30 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a96058c2-c67a-4100-ae76-3214e809f1b3@w12g2000yqj.googlegroups.com>
Source record: 8466

On Jul 5, 8:01 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Map this to conservation of energy...
> Current is to power as charge is to energy.
> The relationship and utility is the same.

So now you are pushing a conservation of current principle as well as
a conservation of power principle? You can *destroy* the current and
power with the flip of a switch. Can you destroy charge and energy?
Good Grief!
--
73, Cecil, w5dxp.com

2967. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 05:20:15 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <2b6b4279-3791-4139-9235-f3573b7caef8@z8g2000yqz.googlegroups.com>
Source record: 8467

On Jul 5, 9:54 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 5, 7:41 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> > After the rising edge goes by, which I assume you will still call an
> > EM wave, what follows until the falling edge occurs a year later?
> > Is it an EM wave?
>
> If electrons (carriers) are not being accelerated and/or decelerated,
> i.e. if DC steady-state exists, then there are no EM waves.

I detect evasion. Is there a problem providing an answer?

Is what follows the rising edge an EM wave? Or not?

I invite you to view the 15.84e-9 Hz square wave as one year at
a constant value of voltage and current followed by another year
with zero voltage and current, repeated.

Or you can perform the fourier transform and obtain an infinite
number of odd harmonics of the 15.84 nanoHz fundamental.

Does either one of these views assist you with deciding whether
there are EM waves present during the one year intervals where
the signal value does not change?

If the square wave frequency was 1 MHz, would you have the same
difficulty deciding? Why not?

...Keith

2968. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 05:23:43 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <549211b8-94cc-4875-9632-85227a84d0f3@c10g2000yqi.googlegroups.com>
Source record: 8468

On Jul 5, 9:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 5, 7:44 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > When, exactly, does the EM wave cease to exist?
>
> I don't know exactly but it will be when DC steady-state has been
> achieved, i.e. when electrons are no longer being accelerated or
> decelerated.

More evasion. So are now saying there may indeed be an EM wave present with DC? Even with DC, the electrons are not moving with constant velocity but hop from atom to atom. Seems like acceleration and deceleration to me.

...Keith

2969. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 05:29:51 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <e21e6bf2-c80f-4976-b915-c5f58d9a92c9@y11g2000yqm.googlegroups.com>
Source record: 8469

On Jul 5, 10:06 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 5, 8:01 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Map this to conservation of energy...
> > Current is to power as charge is to energy.
> > The relationship and utility is the same.
>
> So now you are pushing a conservation of current principle as well as
> a conservation of power principle? You can *destroy* the current and
> power with the flip of a switch. Can you destroy charge and energy?
> Good Grief!

Maybe you should just start with Kirchoff's current law and understand
what it says before following my suggestion to compare it with the
conservation of energy law.

You seem to have forgotten what you almost certainly once knew.

Google will provide many adequate explanations.

...Keith

2970. Gucci shoes `<free shipping paypal payment>(http://www.cntrade09.com/)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 06:07:28 UTC
From: cntrade08 <chenlily86@hotmail.com>
Message-ID: <6e58728a-7ba2-491b-8bc5-c87005088953@s17g2000prh.googlegroups.com>
Source record: 8470
Cross-posted to: rec.radio.amateur.antenna,rec.travel.usa-canada

Shox Shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
shoes shox shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
shox shoe <free shipping paypal payment>(http://www.cntrade09.com/)
LV,coach,chanel boots wholesale <free shipping paypal payment>(
http://www.cntrade09.com/)
air force ones <free shipping paypal payment>(http:// www.cntrade09.com/)
nike trading <free shipping paypal payment>(http://www.cntrade09.com/
)
nike shox <free shipping paypal payment>(http://www.cntrade09.com/)
shox air <free shipping paypal payment>(http://www.cntrade09.com/)
white shoe <free shipping paypal payment>(http:// www.cntrade09.com/
)
nike shoe <free shipping paypal payment>(http://www.cntrade09.com/)
nike air shox <free shipping paypal payment>(http://www.cntrade09.com/)
shox r4 <free shipping paypal payment>(http://www.cntrade09.com/)
tennis shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
tennis shoe <free shipping paypal payment>(http://www.cntrade09.com/)
basketball shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
jordan shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
nike shox 2 <free shipping paypal payment>(http://www.cntrade09.com/)
nike shox ace <free shipping paypal payment>(http://www.cntrade09.com/)
men's shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
buy shoe <free shipping paypal payment>(http://www.cntrade09.com/)
adidas shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
kids shoe <free shipping paypal payment>(http://www.cntrade09.com/)
buy shoes <free shipping paypal payment>(http://www.cntrade09.com/)
puma shoe <free shipping paypal payment>(http:// www.cntrade09.com/)
converse shoe <free shipping paypal payment>(http://www.cntrade09.com/
)
shoes sale <free shipping paypal payment>(http:// www.cntrade09.com/)
running shoes women <free shipping paypal payment>(http:// www.cntrade09.com/
)
adidas running shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Footwear <free shipping paypal payment>(http://www.cntrade09.com/)
Paul Smith shoes <free shipping paypal payment>(http://www.cntrade09.com/

)
Jordan shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
Bape shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Chanel shoes <free shipping paypal payment>(http:// www.cntrade09.com/
)
D&G shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Dior shoes <free shipping paypal payment>(http://www.cntrade09.com/)
ED hardy shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Evisu shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
Fendi shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Gucci shoes `<free shipping paypal payment>(http://www.cntrade09.com/
)
Hogan shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Lv shoes <free shipping paypal payment>(http:// www.cntrade09.com/)
Prada shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Timberland shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Tous shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Ice cream shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Sebago shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
Lacoste shoes <free shipping paypal payment>(http://www.cntrade09.com/)
Air force one shoes <free shipping paypal payment>(http://www.cntrade09.com/
)
TODS shoes <free shipping paypal payment>(http://www.cntrade09.com/)
AF shoes <free shipping paypal payment>(http://www.cntrade09.com/)

2971. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 06:57:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c32d3c9$0$19178$65785112@news.neostrada.pl>
Source record: 8471

"Keith Dysart" <keith.dysart@gmail.com> wrote
news:549211b8-94cc-4875-9632-85227a84d0f3@c10g2000yqi.googlegroups.com...
On Jul 5, 9:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 5, 7:44 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>> > When, exactly, does the EM wave cease to exist?
>
>> I don't know exactly but it will be when DC steady-state has been
> achieved, i.e. when electrons are no longer being accelerated or
> decelerated.

>More evasion. So are now saying there may indeed be an EM wave
present with DC?

Not EM but the electric wave.
In the free electron laser (halbach array) is DC and waves are produced.

>Even with DC, the electrons are not moving with
constant velocity but hop from atom to atom. Seems like
acceleration and deceleration to me.

If the electron beam is periodically deflected the current is DC but the all
works like the dipole.
S*

2972. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 07:02:14 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c32d4f8$0$2594$65785112@news.neostrada.pl>
Source record: 8472

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:7cae99eb-1b67-4f27-8f39-5b0fc2ffea7a@y11g2000yqm.googlegroups.com...

>If electrons (carriers) are not being accelerated and/or decelerated,
i.e. if DC steady-state exists, then there are no EM waves.

You do not read my posts.

In the free electron laser the DC steady-state exists and there are electric
waves.
"If the electron beam is periodically deflected the current is DC but the
all
works like the dipole."
S*

2973. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 07:15:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c32d812$0$17088$65785112@news.neostrada.pl>
Source record: 8473

"K1TTT" <k1ttt@arrl.net> wrote
news:07f6002b-a0af-4eb3-a3a8-44313b409008@c10g2000yqi.googlegroups.com...
On Jul 5, 5:14 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Is is trouble with understanding that the all scientists work on plasma?
>> Only students are in the solid aether. But they simply do not know that
>> the
>> famous equations describes such.
>> Vectors describes the motions of something. Students should not be told
>> what
>> it is. Because the goal is math (field method) teaching.

>its too hot for this, i'm going for a swim... maybe some nice
longitudinal waves in the water will make me feel better.

Next time look at water waves with the Stokes eyes:
http://en.wikipedia.org/wiki/Stokes_drift

They are more longitudinal than transversal. They transport the mass and the
energy.
S*

2974. HOT KISS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 12:32:20 UTC
From: OJDJSH <vdsgdfsgdvgv@gmail.com>
Message-ID: <de4702ad-6e60-4c5c-acc0-e097a4cf43a5@b4g2000pra.googlegroups.com>
Source record: 8474

for jobs http://jobsjackpot.blogspot.com/

hot lip kiss1
http://hotimagesandvideos.blogspot.com/2010/04/hot-lip-kiss1.html
hot hug
http://hotimagesandvideos.blogspot.com/2010/04/hot-hug.html
super hot kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-hot-kiss.html
one lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/one-lip-kiss.html
super navel kiss
http://hotimagesandvideos.blogspot.com/2010/04/super-navel-kiss.html
hot train lip kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-train-lip-kiss.html
hot boobs kiss
http://hotimagesandvideos.blogspot.com/2010/04/hot-boobs-kiss.html

FOR MORE PHOTOS http://hotphotos.co.in/

FOR LOANS

http://insuranceandloansdetails.blogspot.com/

2975. AIM4170 antenna analyzer presentations at the RSGB 2010 Convention

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 13:48:52 UTC
From: Ian Wade G3NRW <g3nrw@yahoo.co.uk>
Message-ID: <ANOPBXDERzMMFw6j@ntlworld.com>
Source record: 8475

If you are in the UK in October, you may be interested in coming along
to the RSGB 2010 Convention:
http://www.rsgb.org/rsgbconvention/index.php

The full program for the convention is here:
http://www.rsgb.org/rsgbconvention/events_programme.php

On the Sunday morning (10 October) I will be giving a couple of
presentations on the AIM4170. The first will cover the basics of antenna
measurement and the 4170, and the second will illustrate the use of the
4170 as a design tool.

Live demonstrations of the 4170 will be the main feature of the
presentations, and will include tuning a 4m groundplane, trap tuning,
designing a 160/80m trap dipole, measuring quartz crystal parameters,
using the Smith chart, quarter-wave stub tuning and measuring the
impedance at the antenna feedpoint. The final demonstration will show
how to control the analyzer remotely via a WiFi link, allowing you to
tune your antenna while standing in the yard (or on the roof or at the
top of the tower).

The presentations will be based on the material at :
http://homepage.ntlworld.com/wadei/aim4170.htm

The venue for the Convention is Horwood House in the county of
Buckinghamshire:
http://www.rsgb.org/news/article.php?id=0027

Horwood House is located about 50 miles (80km) north-west of London,
close to the city of Milton Keynes.

A further local attraction, just 5 miles (8km) from Horwood House, is
Bletchley Park, home of the World War II Codes and Ciphers School where
the Enigma and other encryption systems were broken:
http://en.wikipedia.org/wiki/Bletchley_Park

If you plan to come along to my presentations at the Convention, please
let me know and I will reserve a front seat for you!

--
73
Ian, G3NRW

2976. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 14:00:19 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <26a63e77-7a50-4a6a-94c6-02e0fc235199@r27g2000yqb.googlegroups.com>
Source record: 8476

On Jul 6, 12:20 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Is there a problem providing an answer?

I don't know how to measure the exact answer. How many photons does it take to cause a measurable EM field at one cycle per two years? If the EM field is too low to measure, how do you know it is there at all? Blind faith in a math model?

> Does either one of these views assist you with deciding whether
> there are EM waves present during the one year intervals where
> the signal value does not change?

No they don't. The problem is random/natural/man-made EM noise. When the EM wave level drops far below the EM noise, how can you measure the EM wave level? If you cannot measure it, you are back to angels on the head of a pin.

> If the square wave frequency was 1 MHz, would you have the same
> difficulty deciding? Why not?

Because I could measure those EM waves.

> So are now saying there may indeed be an EM wave
> present with DC? Even with DC, the electrons are not moving with
> constant velocity but hop from atom to atom. Seems like
> acceleration and deceleration to me.

No, EM waves do not exist at DC steady-state. Those are free electrons which do not change orbital levels. The only force acting on an electron during DC steady-state is a constant force.

> Maybe you should just start with Kirchoff's current law and
> understand what it says before following my suggestion to
> compare it with the conservation of energy law.

You have two phasor currents flowing into a junction. One current is one amp at zero degrees. The other is one amp at 180 degrees. What is the total current flowing out of the junction? Hint: There is no such thing as a conservation of current principle. If the quantity can be completely destroyed to zero at any time, it cannot be conserved.

> You seem to have forgotten what you almost certainly once
> knew.

And you seem to have invented an impossible metaphysics. So do you really know how many angels can dance on the head of a pin?
--
73, Cecil, w5dxp.com

2977. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 14:18:28 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i0vdvk$bs0c$1@tr22n12.aset.psu.edu>
Source record: 8477

Ian Jackson wrote:
> In message
> <8ee09773-c8df-4085-85c4-4de6ec9cc0a0@x21g2000yqa.googlegroups.com>,
> BillyBobMarley <whax44@gmail.com> writes
>> On Jul 3, 11:54 am, walt <w...@w2du.com> wrote:
>>> On Jul 3, 10:11 am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>>>
>>>
>>>
>>> > "Ian Jackson" <ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote in
>>> message
>>>
>>> >news:qJc2oaSYvwLMFw3u@g3ohx.demon.co.uk...
>>>
>>> > >> But, when the coax is stretched, what happens to the characteristic
>>> > > impedance and the loss? [This is a (sort of) serious question!]
>>> > > --
>>> > > Ian
>>>
>>> > If the ratio of the conductors stay the same, there should not be a
>>> change
>>> > except the losses go up. As you streach the coax, the shield and
>>> >the center
>>> > conductor will get smaller. Also the dialectric will have to get
>>> smaller.
>>> > If they do not srink at the same ratio, the impedance will change
>>> depending
>>> > on which conductor gets smaller the fastest.
>>>
>>> > The losses will go up because the center conductor and the outer
>>> conductor
>>> > are smaller. This is the simple IR loss of the conductors. It is
>>> the same
>>> > as going from a rg-8 to a rg-58 type coax.
>>>
>>> I'd be pleased to trade two buckets of prop wash for a coax stretcher.
>>> Any takers?
>>>
>>> Walt, W2DU
>>
>> I see your prop wash and will give you a left handed pipe wrench in
>> exchange.If not the pipe wrench how about a can of muzzle blast?
>
> I suppose a long screw is out of the question?

Must.....Resist..... Temptation....

2978. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 15:09:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <424f570b-e0e8-4e98-8ee4-ebe32c66dc4a@a30g2000yqn.googlegroups.com>
Source record: 8478

On Jul 6, 2:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "If the electron beam is periodically deflected the current is DC but the
> all works like the dipole."

I'm afraid "periodically deflected" violates the definition of steady-
state.
--
73, Cecil, w5dxp.com

2979. Simple Hack To Get $2000 To Your PayPal Account.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 15:47:49 UTC
From: masti dunia <maaindia6@gmail.com>
Message-ID: <0eb9b1f9-b33e-41f9-bdd0-f9bd69de910e@w15g2000pro.googlegroups.com>
Source record: 8479

Simple Hack To Get $2000 To Your PayPal Account.
At http://bannerclickandget.tk

Due to high security risks, i have hidden the PayPal Form link in an
image. in that website On search box Top Side, click on image
and enter your PayPal id And Your name. please don,t tell to
anyone.

2980. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 16:12:11 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c3355dd$0$17102$65785112@news.neostrada.pl>
Source record: 8480

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:424f570b-e0e8-4e98-8ee4-ebe32c66dc4a@a30g2000yqn.googlegroups.com...
On Jul 6, 2:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> "If the electron beam is periodically deflected the current is DC but the
>> all works like the dipole."

I>'m afraid "periodically deflected" violates the definition of steady-
state.

In AC coulombs/s in one direction is not const In the DC is.
In this sense in the free electronn laser is DC.
S*

2981. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 19:24:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ahv636dtehfg674uin8an9rqvigor4hfmi@4ax.com>
Source record: 8481

On Mon, 5 Jul 2010 17:29:49 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>what I do not know is how measure A and
>B oscillator to distinguish each other... :>D

I gave you that solution: multiply them. Very simple exercise
available to anyone with sufficient bench equipment. Skip the quotes
of undergraduate scribblers with little imagination that shrug their
shoulders at their own failure.

>Humorous note: Richard Feynman do not share your dislike for
>analogies he compare corks in water with charged objects fields :>)

Feynman was a humorous fellow, but you are using undergrad texts
instead of his - why?

As I've already offered, drop all the frills and adornment and tell me
what scale the source of your 80M problem exists at:
1. Subatomic,
2. Atomic,
3. Molecular.

73's
Richard Clark, KB7QHC

2982. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 20:19:56 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <948cd572-3832-4f9c-abf1-18883d5ad69e@k39g2000yqb.googlegroups.com>
Source record: 8482

On 6 jul, 16:24, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 5 Jul 2010 17:29:49 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >what I do not know is how measure A and
> >B oscillator to distinguish each other... :>D
>
> I gave you that solution: multiply them. Very simple exercise
> available to anyone with sufficient bench equipment. Skip the quotes
> of undergraduate scribblers with little imagination that shrug their
> shoulders at their own failure.
>
> >Humorous note: Richard Feynman do not share your dislike for
> >analogies he compare corks in water with charged objects fields :>)
>
> Feynman was a humorous fellow, but you are using undergrad texts
> instead of his - why?
>
> As I've already offered, drop all the frills and adornment and tell me
> what scale the source of your 80M problem exists at:
> 1. Subatomic,
> 2. Atomic,
> 3. Molecular.
>
> 73's
> Richard Clark, KB7QHC

Hello Richard, good day.

Thank you very much for your friendly company, I enjoyed this
conversation but I think it is time to go back because it is leaning
dangerously close to an eristic exercise :>)
I am sure we will have very interesting other things to talk about our
common topic.

Best regards

Your friend Miguel

2983. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 22:01:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e60f34cf-3700-4423-ad7b-5d8fcf0cdbb2@u26g2000yqu.googlegroups.com>
Source record: 8483

```
On Jul 6, 12:17 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jul 5, 6:19 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jul 5, 1:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > On Jul 1, 8:53 am, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Jul 1, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > > On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > > > Check the a0 coefficient in the Fourier transform. This represents
> > > > > > the DC component of the signal.
>
> > > > > And the result is zero EM waves, either forward or reflected, and your
> > > > > argument falls apart.
>
> > > > > > Without this, how would you deal with a signal such as
> > > > > >   V(t) = 10 + 2 cos(3t)
>
> > > > > If the cosine term is zero, there are zero EM waves, either forward or
> > > > > reflected, and your argument falls apart.
>
> > > > > Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> > > > > time derivitive of energy are not the same thing and your argument
> > > > > falls apart.
>
> > > > > > Alternatively, one can use the standard trick for dealing with
> > > > > > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > > > > > would probably be suitable for these examples and transform from
> > > > > > there. Still, you will have zero frequency component to deal
> > > > > > with, but there will be some at higher frequencies (if you
> > > > > > choose your function to make it so).
>
> > > > > Windowing doesn't generate EM waves where none exist in reality and
> > > > > your argument falls apart.
> > > > > --
> > > > > 73, Cecil, w5dxp.com
>
> > > a better argument is that a constant voltage produces a constant
> > > electric field everywhere, since the field is not varying in time or
> > > space there is no time or space derivative to create a magnetic field
```

> > > > so there can be no propagating em wave. you could do the same with
> > > > zero or constant current producing a constant magnetic field.
>
> > > The same question for you...
>
> > > With an infinitely long transmission line excited by a step function,
> > > is there an EM wave propagating down the line?
>
> > > If not, what is it that is propagating down the line? Especially at
> > > the leading edge?
>
> > > > essentially the dc case IS unique in that you must wait forever for it
> > > > to reach sinusoidal steady state since the lowest frequency component
> > > > is 0hz
>
> > > You have used similar phrases before. Are you suggesting that an
> > > open circuited transmission line excited with a step function takes
> > > infinitely long to read steady state?
>
> > > ...Keith
>
> > 'it depends'... in the special case you have concocted where the
>
> 'Concocted has such perjorative ring to it. Much better would be
> 'appropriately selected to illustrate a point'!
>
> > signal source has no reflections it only takes one round trip.
>
> Excellent. Some agreement.
>
> > this
> > case is very misleading if you try to extend it to cover other cases.
> > in general it takes infinitely long and you must account for the
> > infinite series of reflections.
>
> Of course. But this illustrates one of the benefits of "appropriately
> selecting" examples. One can choose examples that do not take forever
> to settle and therefore can be analyzed in finite time.
>
> > that is why the approximations
>
> To which approximations do you refer?
>
> > used
> > to come up with the sinusoidal steady state solution is so useful, and
> > exactly why it can not be applied to steps and square waves and other
> > non sinusoidal constant sources.
>
> Are you suggesting that it is inappropriate to use the reflection
> coefficient computed at an impedance discontinuity to predict the

> behaviour of a transmission line excited with a 'step, square wave or
> other non sinusoidal constant sources"?
>
> > and in your infinite line example it never reaches steady state so the
> > step wave propagates forever
>
> So is this 'step wave' an EM wave, according to your definition of an
> EM wave? If not, what would you call it?
>
> ...Keith

correct, the 'step wave' is not AN EM wave, it is an infinite
summation of EM waves.

2984. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 22:02:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0f414569-1139-4e9f-9503-bf49ba3de024@j8g2000yqd.googlegroups.com>
Source record: 8484

On Jul 6, 12:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jul 5, 8:33 am, Cecil Moore <w5...@hotmail.com> wrote:
>
>
>
> > On Jul 4, 8:08 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > The system I have in mind has ports through which energy can flow in
> > > or out of the system and components inside the system which can
> > > store energy. For such a system, the energy flowing in to ports
> > > of the system minus the energy flowing out of ports must
> > > equal the increase in energy being stored in the system.
>
> > > This must be true at all times, or energy is being created or
> > > destroyed; a bit of a no-no.
>
> > But you are not tracking energy - you are tracking power. As Roy has
> > said, there is no requirement that instantaneous power must balance.
> > Where are the stored energy terms in any of your instantaneous power
> > equations? How do you handle the difference in dimensions between
> > energy and power? The only condition for which NET power must balance
> > is during a time interval in which there is zero NET stored power,
> > e.g. during one cycle.
>
> > I have rev'ed my zero interference article to include the following
> > statement:
>
> > "Over a time period of many cycles, e.g. one second at MHz
> > frequencies, the net average energy and the net average power are
> > related by joules/second. Thus, if certain conditions are met, net
> > average power can be used to track the net average energy flow based
> > on the conservation of energy principle. However, at time intervals of
> > less than one cycle, as exists for instantaneous power, power cannot
> > be used to track energy because energy is often stored in a reactance,
> > is not moving at that instant, and is therefore technically not power.
> > In fact, unlike energy, power often appears and disappears. There are
> > special cases where average power in joules/second can be used to
> > track average energy in joules but instantaneous power is not one of
> > those special cases."
> > --
> > 73, Cecil, w5dxp.com
>
> Well, you are digging your hole deeper and deeper. You really should
> take a pause and try to understand the significance of "Continuity

> equations". Do seriously consider Kerchoff's current law as an
> example.
>
> ...Keith

do you not think that it is telling that there is a current law and a voltage law, but not a basic power law included in basic circuit theory? maybe there is a reason for that.

2985. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 22:07:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6e614e55-d0c0-464f-9903-be40a3bf67b2@i31g2000yqm.googlegroups.com>
Source record: 8485

On Jul 6, 5:23 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jul 5, 9:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jul 5, 7:44 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > When, exactly, does the EM wave cease to exist?
>
> > I don't know exactly but it will be when DC steady-state has been
> > achieved, i.e. when electrons are no longer being accelerated or
> > decelerated.
>
> More evasion. So are now saying there may indeed be an EM wave
> present with DC? Even with DC, the electrons are not moving with
> constant velocity but hop from atom to atom. Seems like
> acceleration and deceleration to me.
>
> ...Keith

DC does not an EM wave make... nor does one year make DC, the
summation is infinite, you must wait FOREVER for DC to be achieved and
by then you just won't care any more.

2986. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-06 22:18:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0e0da395-7dba-4db3-a0c1-4af45471a2a4@u7g2000yqm.googlegroups.com>
Source record: 8486

On Jul 6, 2:00 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 6, 12:20 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Is there a problem providing an answer?
>
> I don't know how to measure the exact answer. How many photons does it
> take to cause a measurable EM field at one cycle per two years? If the
> EM field is too low to measure, how do you know it is there at all?
> Blind faith in a math model?

beware cecil... remember, there are electric fields, and there are magnetic fields, there is NOT an Electro-Magnetic 'Field'! there are Electro-Magnetic WAVES but NOT a 'Field'! he is trying to draw you in! remember DC is forever, any direct current creates a Magnetic FIELD... and any net charge imbalance would create an Electric FIELD (though DC does not require a charge imbalance, only a moving charge at a constant velocity). But in any case if it is a stream of charged particles moving at constant velocity forever they create an Electric FIELD... BUT there is no Electro-Magnetic WAVE produced by those static fields.

note, if you google 'electromagnetic field' you will indeed find may misuses of the term, including wikipedia that inappropriately abreviates it EMF, which we all know means Electro-Motive Force. The term 'electromagnetic fields', little f, and plural, is commonly used to refer to collections of electric and magnetic fields. This is seen quite often when talking about relativistic transformations where the electric and magnetic fields are linked by the frame transformation.

2987. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 00:27:53 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <fcf29c85-914b-4ad7-8492-19c78e3bf5dd@d37g2000yqm.googlegroups.com>
Source record: 8487

On Jul 6, 10:00 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 6, 12:20 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Is there a problem providing an answer?
>
> I don't know how to measure the exact answer. How many photons does it
> take to cause a measurable EM field at one cycle per two years?

Excellent attempt at diversion.

> If the
> EM field is too low to measure, how do you know it is there at all?

Plenty of joules are being moved per second. There is no reason to
expect the field to be small.

> Blind faith in a math model?
>
> > Does either one of these views assist you with deciding whether
> > there are EM waves present during the one year intervals where
> > the signal value does not change?
>
> No they don't. The problem is random/natural/man-made EM noise. When
> the EM wave level drops far below the EM noise, how can you measure
> the EM wave level? If you cannot measure it, you are back to angels on
> the head of a pin.

The signal is well above the noise.

What if the signal was a sinusoid instead of square wave?

Is it then 'obviously' an EM wave?

> > If the square wave frequency was 1 MHz, would you have the same
> > difficulty deciding? Why not?
>
> Because I could measure those EM waves.

Same joules per second. Lots of energy to detect. My 'diversion'
detector is still firing.

> > So are now saying there may indeed be an EM wave
> > present with DC? Even with DC, the electrons are not moving with
> > constant velocity but hop from atom to atom. Seems like
> > acceleration and deceleration to me.
>
> No, EM waves do not exist at DC steady-state. Those are free electrons

> which do not change orbital levels. The only force acting on an
> electron during DC steady-state is a constant force.
>
> > Maybe you should just start with Kirchoff's current law and
> > understand what it says before following my suggestion to
> > compare it with the conservation of energy law.
>
> You have two phasor currents flowing into a junction. One current is
> one amp at zero degrees. The other is one amp at 180 degrees. What is
> the total current flowing out of the junction? Hint: There is no such
> thing as a conservation of current principle. If the quantity can be
> completely destroyed to zero at any time, it cannot be conserved.

I suppose that is an obtuse hint that you understand Kirchoff's
current law, but why not just come out and say it.

Assuming that you have grasped it, study how it is derived from
and relates to the 'conservation of charge' law. Remember that
current is the rate of flow of charge.

Then contrast those two laws with the previously discussed
power (rate of flow of energy) and 'conservation of energy'
law.

You should be able to discern the similarities.

...Keith

2988. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 00:32:59 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <21fcb342-0b83-488c-940c-faf615e01e1d@j4g2000yqh.googlegroups.com>
Source record: 8488

On Jul 6, 6:01 pm, K1TTT <k1...@arrl.net> wrote:
> On Jul 6, 12:17 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> > On Jul 5, 6:19 am, K1TTT <k1...@arrl.net> wrote:
>
> > > On Jul 5, 1:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > On Jul 1, 8:53 am, K1TTT <k1...@arrl.net> wrote:
>
> > > > > On Jul 1, 12:37 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > > > On Jun 30, 11:29 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > > > > Check the a0 coefficient in the Fourier transform. This represents
> > > > > > > the DC component of the signal.
>
> > > > > > And the result is zero EM waves, either forward or reflected, and your
> > > > > > argument falls apart.
>
> > > > > > > Without this, how would you deal with a signal such as
> > > > > > >   V(t) = 10 + 2 cos(3t)
>
> > > > > > If the cosine term is zero, there are zero EM waves, either forward or
> > > > > > reflected, and your argument falls apart.
>
> > > > > > Incidentally, V(t) = 10, is a perfect way to prove that energy and the
> > > > > > time derivitive of energy are not the same thing and your argument
> > > > > > falls apart.
>
> > > > > > Alternatively, one can use the standard trick for dealing with
> > > > > > non-repetitive waveforms: choose an arbitrary period. 24 hours
> > > > > > would probably be suitable for these examples and transform from
> > > > > > there. Still, you will have zero frequency component to deal
> > > > > > with, but there will be some at higher frequencies (if you
> > > > > > choose your function to make it so).
>
> > > > > > Windowing doesn't generate EM waves where none exist in reality and
> > > > > > your argument falls apart.
> > > > > > --
> > > > > > 73, Cecil, w5dxp.com
>
> > > > > a better argument is that a constant voltage produces a constant
> > > > > electric field everywhere, since the field is not varying in time or
> > > > > space there is no time or space derivative to create a magnetic field
> > > > > so there can be no propagating em wave. you could do the same with

> > > > > zero or constant current producing a constant magnetic field.
>
> > > > The same question for you...
>
> > > > With an infinitely long transmission line excited by a step function,
> > > > is there an EM wave propagating down the line?
>
> > > > If not, what is it that is propagating down the line? Especially at
> > > > the leading edge?
>
> > > > > essentially the dc case IS unique in that you must wait forever for it
> > > > > to reach sinusoidal steady state since the lowest frequency component
> > > > > is 0hz
>
> > > > You have used similar phrases before. Are you suggesting that an
> > > > open circuited transmission line excited with a step function takes
> > > > infinitely long to read steady state?
>
> > > > ...Keith
>
> > > 'it depends'... in the special case you have concocted where the
>
> > 'Concocted has such perjorative ring to it. Much better would be
> > 'appropriately selected to illustrate a point'!
>
> > > signal source has no reflections it only takes one round trip.
>
> > Excellent. Some agreement.
>
> > > this
> > > case is very misleading if you try to extend it to cover other cases.
> > > in general it takes infinitely long and you must account for the
> > > infinite series of reflections.
>
> > Of course. But this illustrates one of the benefits of "appropriately
> > selecting" examples. One can choose examples that do not take forever
> > to settle and therefore can be analyzed in finite time.
>
> > > that is why the approximations
>
> > To which approximations do you refer?
>
> > > used
> > > to come up with the sinusoidal steady state solution is so useful, and
> > > exactly why it can not be applied to steps and square waves and other
> > > non sinusoidal constant sources.
>
> > Are you suggesting that it is inappropriate to use the reflection
> > coefficient computed at an impedance discontinuity to predict the
> > behaviour of a transmission line excited with a 'step, square wave or

> > other non sinusoidal constant sources"?
>
> > > and in your infinite line example it never reaches steady state so the
> > > step wave propagates forever
>
> > So is this 'step wave' an EM wave, according to your definition of an
> > EM wave? If not, what would you call it?
>
> > ...Keith
>
> correct, the 'step wave' is not AN EM wave, it is an infinite
> summation of EM waves

Well at least there is no attempt at diversion here.

What is the shape of these EM waves of which there is an infinite
number which sum to a step?

...Keith

2989. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 00:34:31 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <3afea159-34a1-43d5-be6c-58ffe53d5356@z10g2000yqb.googlegroups.com>
Source record: 8489

On Jul 6, 6:02 pm, K1TTT <k1...@arrl.net> wrote:
> On Jul 6, 12:26 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jul 5, 8:33 am, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jul 4, 8:08 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > The system I have in mind has ports through which energy can flow in
> > > > or out of the system and components inside the system which can
> > > > store energy. For such a system, the energy flowing in to ports
> > > > of the system minus the energy flowing out of ports must
> > > > equal the increase in energy being stored in the system.
>
> > > > This must be true at all times, or energy is being created or
> > > > destroyed; a bit of a no-no.
>
> > > But you are not tracking energy - you are tracking power. As Roy has
> > > said, there is no requirement that instantaneous power must balance.
> > > Where are the stored energy terms in any of your instantaneous power
> > > equations? How do you handle the difference in dimensions between
> > > energy and power? The only condition for which NET power must balance
> > > is during a time interval in which there is zero NET stored power,
> > > e.g. during one cycle.
>
> > > I have rev'ed my zero interference article to include the following
> > > statement:
>
> > > "Over a time period of many cycles, e.g. one second at MHz
> > > frequencies, the net average energy and the net average power are
> > > related by joules/second. Thus, if certain conditions are met, net
> > > average power can be used to track the net average energy flow based
> > > on the conservation of energy principle. However, at time intervals of
> > > less than one cycle, as exists for instantaneous power, power cannot
> > > be used to track energy because energy is often stored in a reactance,
> > > is not moving at that instant, and is therefore technically not power.
> > > In fact, unlike energy, power often appears and disappears. There are
> > > special cases where average power in joules/second can be used to
> > > track average energy in joules but instantaneous power is not one of
> > > those special cases."
> > > --

> > > 73, Cecil, w5dxp.com
>
> > Well, you are digging your hole deeper and deeper. You really should
> > take a pause and try to understand the significance of "Continuity
> > equations". Do seriously consider Kerchoff's current law as an
> > example.
>
> > ...Keith
>
> do you not think that it is telling that there is a current law and a
> voltage law, but not a basic power law included in basic circuit
> theory? maybe there is a reason for that

Perhaps. What is your explanation?

...Keith

2990. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 00:36:02 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <b5ec47a8-54dc-44fa-a69e-8131b221a59b@s9g2000yqd.googlegroups.com>
Source record: 8490

On Jul 6, 6:07 pm, K1TTT <k1...@arrl.net> wrote:
> On Jul 6, 5:23 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jul 5, 9:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jul 5, 7:44 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > When, exactly, does the EM wave cease to exist?
>
> > > I don't know exactly but it will be when DC steady-state has been
> > > achieved, i.e. when electrons are no longer being accelerated or
> > > decelerated.
>
> > More evasion. So are now saying there may indeed be an EM wave
> > present with DC? Even with DC, the electrons are not moving with
> > constant velocity but hop from atom to atom. Seems like
> > acceleration and deceleration to me.
>
> > ...Keith
>
> DC does not an EM wave make... nor does one year make DC, the
> summation is infinite, you must wait FOREVER for DC to be achieved and
> by then you just won't care any more

But previously you said the line would settle after one round trip if
the source was matched. How is this consistent with having to wait
forever?

...Keith

2991. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 01:32:27 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <ddcc8a0b-d317-413f-99ea-0e0b75d74434@y4g2000yqy.googlegroups.com>
Source record: 8491

On 6 jul, 19:07, K1TTT <k1...@arrl.net> wrote:
> On Jul 6, 5:23 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
>
>
>
>
> > On Jul 5, 9:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Jul 5, 7:44 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > > When, exactly, does the EM wave cease to exist?
>
> > > I don't know exactly but it will be when DC steady-state has been
> > > achieved, i.e. when electrons are no longer being accelerated or
> > > decelerated.
>
> > More evasion. So are now saying there may indeed be an EM wave
> > present with DC? Even with DC, the electrons are not moving with
> > constant velocity but hop from atom to atom. Seems like
> > acceleration and deceleration to me.
>
> > ...Keith
>
> DC does not an EM wave make... nor does one year make DC, the
> summation is infinite, you must wait FOREVER for DC to be achieved and
> by then you just won't care any more.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hello friends:

A few years ago I posted in this newsgroup a doubt from a friend of me about DC current (such a batery connected to a lamp) radiating EM waves... It was in topic "Antenna gain question" (2005-10-31). My answer wold be that classic physics postulate EM radiation from accelerated charges in closed circuit because charges are under centripetal acceleration (I though of ciclotron radiation analogy, of course). My friend Richard Clarke disagreed with my hypothesis and I archived the issue for a couple of years, (he give me some analogies with moving cars, I remember...)

Time later I was casually reading some pages from Kraus and I found the answer! :>D: Kraus says: "a charge moving at uniform velocity along a curved or bent wire it is accelerated and radiates".

The clue was in words "straight wire" , he says: "Electric charge moving with uniform velocity along a straight wire does not radiate". then, a DC also must be rectlinear (perhaps it must move on a geodesic, but I do not know general relativity enough to say it) (*)

(*) "Antennas" John D. Krauss - Second Edition -1997 Page 50.

73 - Miguel Ghezzi - LU6ETJ

2992. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 02:59:20 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <dd785387-637f-40f7-8870-4a70352d06d3@w31g2000yqb.googlegroups.com>
Source record: 8492

On Jul 6, 7:27 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Then contrast those two laws with the previously discussed
> power (rate of flow of energy) and 'conservation of energy'
> law. You should be able to discern the similarities.

Of course, the similarities are so obvious I don't even need to state
them. Why are they not obvious to you?

There is a principle of conservation of energy. There is no principle
of conservation of energy flow (power). All you have to do to destroy
power is stop the flow of energy. All you have to do to create power
is to start the flow of energy.

There is a principle of conservation of charge. There is no principle
of conservation of charge flow (current). All you have to do to
destroy current is stop the flow of charges. All you have to do to
create current is to start the flow of charges.
--
73, Cecil, w5dxp.com

2993. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 03:07:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0729b6df-f58f-4594-a42f-820af5f6eb29@j4g2000yqh.googlegroups.com>
Source record: 8493

On Jul 6, 5:18 pm, K1TTT <k1...@arrl.net> wrote:
> beware cecil... remember, there are electric fields, and there are
> magnetic fields, there is NOT an Electro-Magnetic 'Field'!

I would normally have used "photons" instead of "EM fields" but there
were objections.
--
73, Cecil, w5dxp.com

2994. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 03:11:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0c674878-e06c-4819-9a2c-8f21d5db00f9@d16g2000yqb.googlegroups.com>
Source record: 8494

On Jul 6, 7:27 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> Excellent attempt at diversion.

Sorry, "I don't know", is NOT a diversion.
--
73, Cecil, w5dxp.com

2995. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1278482701@panix.com>
Source record: 8495
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

2996. 2010 HOT PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 08:22:56 UTC
From: krishna <jumpjeelan@gmail.com>
Message-ID: <8c09c9e8-bf40-4c12-bc9f-6c7cf07a4073@m40g2000prc.googlegroups.com>
Source record: 8496

FOR HOT ACTRESSES PHOTOS & VIDEOS

http://hotheroinesphoto.blogspot.com

FOR HOT LIPKISS&BIKINIS

http://hotphotos.co.in/

FOR LOOKING JOBS IN MNC COMPANYS

http://jobsjackpot.blogspot.com/

FOR LOANS IN ALL BRANCHES

http://insuranceandloansdetails.blogspot.com/

FOR GETTING INSURANCE IDEAS

http://lowpremiumtermplans.blogspot.com

FOR SAVE WATER&CHILD PROTECTION

http://savewaterinworld.blogspot.com

FOR HOT PHOTOS&VIDEOS WITH LATEST UPDATES

http://hotimagesandvideos.blogspot.com

2997. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 11:04:40 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <4ef6f5ca-140b-460b-a7a8-ff1573358000@r27g2000yqb.googlegroups.com>
Source record: 8497

On Jul 6, 10:59 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 6, 7:27 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Then contrast those two laws with the previously discussed
> > power (rate of flow of energy) and 'conservation of energy'
> > law. You should be able to discern the similarities.
>
> Of course, the similarities are so obvious I don't even need to state
> them.

Good. You have made some progress then...

> There is a principle of conservation of energy. There is no principle
> of conservation of energy flow (power). All you have to do to destroy
> power is stop the flow of energy. All you have to do to create power
> is to start the flow of energy.
>
> There is a principle of conservation of charge. There is no principle
> of conservation of charge flow (current). All you have to do to
> destroy current is stop the flow of charges. All you have to do to
> create current is to start the flow of charges.

and partially contrasted the two. But you did not show how Kirchoff's
current law derives from conservation of charge.

Still, you have made some progress, so I will try again with showing
the derivation, though this time with charge and current.

Conservation of charge requires that:
the charge added to a region
- the charge removed from a region
equals
the charge originally in the region
+ the increase of charge stored in the region

When the charge can be described with functions of time, we can write:

Qin(t) - Qout(t) = Qoriginal + Qstored(t)

Differentiating we obtain

Qin(t)/dt - Qout(t)/dt = 0 + Qstored(t)/dt

At a junction, where charge can not be stored, this reduces to

Qin(t)/dt - Qout(t)/dt = 0

Alternatively

Qin(t)/dt = Qout(t)/dt

Recognizing that Q(t)/dt is charge flow per unit time or current we obtain Kirchoff's current law, colloquially: the current flowing in to a junction equals the current flowing out of a junction.

I leave it to you to do the similar derivation for energy, based on conservation of energy. The result will be

EnergyIn(t)/dt = EnergyOut(t)/dt

And similar to Kirchoff, this applies at a juncion, a place where energy can not be stored.

Of course Energy(t)/dt is just a mathematical expression of energy flow or power, so we obtain

PowerIn(t) = PowerOut(t) (at a junction)

But don't beleive me. Do the derivation yourself. You can pattern your derivation on the one above for Kirchoff.

I'd go on to show how my analysis of your circuit carefully picked junctions that could not store energy, but I have found it better to educate one step at a time. So we can do that later.

...Keith

2998. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 11:14:07 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <2eacdec3-7d66-45ae-bdd7-4a65e7828bc1@w31g2000yqb.googlegroups.com>
Source record: 8498

On Jul 6, 11:11 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 6, 7:27 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > Excellent attempt at diversion.
>
> Sorry, "I don't know", is NOT a diversion.

T'is when the thing you claim not to know has nothing to do with
the problem at hand.

As i pointed out, the energy levels are well above the noise.

And you skipped the intriguing question...

If the signal was a 50 W sinusoid at 15 nHz, would you have the
same reluctance to declare it an EM wave? It is a sinusoid.
What criteria could it possibly fail to satisfy?

At what frequency would you no longer be reluctanct?
1 microHz
1 mHz
0.1 Hz
1 Hz
10 Hz
100 Hz
1 kHz
10 kHz
?

Real applications run at 10 kHz so I assume you would accept,
without concern, at least this number. Where would your
trepidation begin?

...Keith

2999. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 12:05:13 UTC
From: joe <none@domain.invalid>
Message-ID: <i11q8u$46h$1@speranza.aioe.org>
Source record: 8499

Keith Dysart wrote:
current law derives from conservation of charge.
>
> Still, you have made some progress, so I will try again with showing
> the derivation, though this time with charge and current.
>
> Conservation of charge requires that:
> the charge added to a region
> - the charge removed from a region
> equals
> the charge originally in the region
> + the increase of charge stored in the region
>
> When the charge can be described with functions of time, we can write:
>
> Qin(t) - Qout(t) = Qoriginal + Qstored(t)
>
> Differentiating we obtain
>
> Qin(t)/dt - Qout(t)/dt = 0 + Qstored(t)/dt
>
> At a junction, where charge can not be stored, this reduces to
>
> Qin(t)/dt - Qout(t)/dt = 0
>
> Alternatively
>
> Qin(t)/dt = Qout(t)/dt
>
> Recognizing that Q(t)/dt is charge flow per unit time or current
> we obtain Kirchoff's current law, colloquially: the current flowing
> in to a junction equals the current flowing out of a junction.
>
> I leave it to you to do the similar derivation for energy, based
> on conservation of energy. The result will be
>
> EnergyIn(t)/dt = EnergyOut(t)/dt
>
> And similar to Kirchoff, this applies at a juncion, a place where
> energy can not be stored.
>
> Of course Energy(t)/dt is just a mathematical expression of energy
> flow or power, so we obtain
>

> PowerIn(t) = PowerOut(t) (at a junction)
>
> But don't beleive me. Do the derivation yourself. You can pattern
> your derivation on the one above for Kirchoff.
>
> I'd go on to show how my analysis of your circuit carefully
> picked junctions that could not store energy, but I have found
> it better to educate one step at a time. So we can do that
> later.
>
> ...Keith

How do you define energy of a node without reference to another node.
How is it measured?

3000. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 16:57:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a1b59d2b-876f-49a2-9ce6-43492111f4a9@t10g2000yqg.googlegroups.com>
Source record: 8500

On Jul 7, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> At a junction, where charge can not be stored, this reduces to

Sorry, your examples are irrelevant to the technical fact that there
is no conservation of current principle because charge can be stored.
Until you can prove a conservation of current principle, you are
wasting my time.
--
73, Cecil, w5dxp.com

3001. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 17:12:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5ec822a0-eac3-4d87-b457-afe9fa267e14@5g2000yqz.googlegroups.com>
Source record: 8301

On Jul 7, 6:14 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> As i pointed out, the energy levels are well above the noise.

You have certainly not proved that to be true. The current is essentially DC for most of the year. Therefore, you cannot assume the proof to the question of whether the photons, which may or may not exist, are above the noise level. (Hint: assuming the proof is one of the most well known logical diversions.)

What I said was that one photon at 0.5 cycles/year is NOT above the noise. You are free to try to prove that I was wrong. If you window your signal for 1/2 of a year, I believe you will find it to be DC steady-state. I do not believe it is far enough removed from DC to generate any detectable photons.

I will be away from my computer for a few days. In the meanwhile, I suggest that you prove that a conservation of power principle exists and a conservation of current principle exists. Until you do that, you are just blowing smoke. But it you succeed, you will no doubt receive a Nobel Prize.
--
73, Cecil, w5dxp.com

3002. V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 18:56:59 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <mtCdnZA2pZYOUKnRnZ2dnUVZ_hudnZ2d@earthlink.com>
Source record: 8302

Over the years I have seen many patterns for horizontal dipoles and the inverted V antennas,but do not recall seeing any V shaped patterns in the books. That is a dipole that is supported on the ends, but sag in the middle. I know the sag is needed to some extent because of the weight of the wire and feedline, but what happens to the pattern if it is say 1/2 wavelength or 1/4 wavelengths at the ends and the sag in the middle is changed. Maybe drop it a few feet, then 10, 15 and 20 feet for 80 meters.

I know that for maximum distance you usually want the high current portions up high,but maybe it will be better as a close in or omnidirectional antenna if the center is lowered somewhat.

3003. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 19:46:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c34d98e$0$17094$65785112@news.neostrada.pl>
Source record: 8303

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:a1b59d2b-876f-49a2-9ce6-43492111f4a9@t10g2000yqg.googlegroups.com...
On Jul 7, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>> At a junction, where charge can not be stored, this reduces to

>Sorry, your examples are irrelevant to the technical fact that there
is no conservation of current principle because charge can be stored.

In EM current is incompressible. EM is older then electrons.
"charge can be stored" apply to electrons. It is impossible to marry EM and
electrons.

>Until you can prove a conservation of current principle, you are
wasting my time.

"According to theory" a conservation of current principle (continuity
equation) is the assumption.

In EM is the displacement current in solid insulators (also in vacuum). It
is always incompressible because the motions of the particles are
synchronized (charges can not be gathered).

EM is beautiful but useles in techniques. It is useful to teach the math.
S*
--
73, Cecil, w5dxp.com

3004. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 19:55:16 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c34dba7$0$2592$65785112@news.neostrada.pl>
Source record: 8304

"lu6etj" <lu6etj@gmail.com> wrote
news:ddcc8a0b-d317-413f-99ea-0e0b75d74434@y4g2000yqy.googlegroups.com...
>
>D: Kraus says: "a charge moving at uniform velocity
along a curved or bent wire it is accelerated and radiates".
The clue was in words "straight wire" , he says: "Electric charge
moving with uniform velocity along a straight wire does not radiate".

This principle is used today to produce the light in the free electron
laser: http://en.wikipedia.org/wiki/File:FEL_principle.png
S*

3005. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 21:52:00 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <ba1ab27b-6f05-4612-bf66-0b12de1cd4fa@k39g2000yqd.googlegroups.com>
Source record: 8305

On 7 jul, 16:55, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "lu6etj" <lu6...@gmail.com>
wrotenews:ddcc8a0b-d317-413f-99ea-0e0b75d74434@y4g2000yqy.googlegroups.com...
>
> >D: Kraus says: "a charge moving at uniform velocity
>
> along a curved or bent wire it is accelerated and radiates".
> The clue was in words "straight wire" , he says: "Electric charge
> moving with uniform velocity along a straight wire does not radiate".
>
> This principle is used today to produce the light in the free electron
> laser:http://en.wikipedia.org/wiki/File:FEL_principle.png
> S*

Yes, very interesting example (and device),

Cecil it is right respect a photon/noise power ratio, even one photon
of 80 m per second it is very below of noise at 1 K, 80 m-quantum/
Noise dB ratio @1 Hz BW = -38 dB.

Respect to DC current EM radiation, In that time Richard bring an
interesting example of 20 kV electron rectilinear beam rendering a
frequency of 34.6 EHz, the calculus it was quite right, but that
frequency it is not EM waves radiated by electrons but a "matter wave'
frequency... (idem with car analogy => not charged and acelerated
cars :>) do not radiates EM waves, but may have a matter wave
asociated to them).
For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
physics books are very useful to helping us to better understand and
enjoy our ham topics.

73 - Miguel

3006. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 22:00:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i12tdg$3ko$1@news.jpl.nasa.gov>
Source record: 8306

Ralph Mowery wrote:
> Over the years I have seen many patterns for horizontal dipoles and the
> inverted V antennas,but do not recall seeing any V shaped patterns in the
> books. That is a dipole that is supported on the ends, but sag in the
> middle. I know the sag is needed to some extent because of the weight of
> the wire and feedline, but what happens to the pattern if it is say 1/2
> wavelength or 1/4 wavelengths at the ends and the sag in the middle is
> changed. Maybe drop it a few feet, then 10, 15 and 20 feet for 80 meters.
>
> I know that for maximum distance you usually want the high current portions
> up high,but maybe it will be better as a close in or omnidirectional antenna
> if the center is lowered somewhat.
>
>

In free space, there is not much difference in pattern between a dipole that is perfectly horizontal and one that is drooped or sags (or for that matter one that is bent horizontally). What changes is the feedpoint impedance (72 ohms for perfectly flat, getting towards 50 ohms with a 120 degree included angle).

The other thing that changes is the apparent height above ground. If you model a drooped dipole and fiddle with the height to try and match the vertical pattern for a perfectly flat dipole, you find that the "effective center" of the drooped dipole is around 1/3 of the droop distance. That is, if you had a dipole where the center were at 100ft, and it drooped 30 feet on either end, the pattern is about the same as a flat dipole at 90 ft.

The height above ground has a HUGE effect on the dipole pattern (especially at low elevation angles) and probably dominates any small changes.

After all, a perfect dipole has a gain of 2.15dBi and a infinitely short dipole has a gain of 1.6dBi, and a drooped or sagging dipole pretty much has to be somewhere in between.

3007. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 22:24:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <AKWdncbvSP4kY6nRnZ2dnUVZ_sOdnZ2d@giganews.com>
Source record: 8307

Jim Lux wrote:
>
> In free space, there is not much difference in pattern between a dipole
> that is perfectly horizontal and one that is drooped or sags (or for
> that matter one that is bent horizontally). What changes is the
> feedpoint impedance (72 ohms for perfectly flat, getting towards 50 ohms
> with a 120 degree included angle).
>
>
> The other thing that changes is the apparent height above ground. If
> you model a drooped dipole and fiddle with the height to try and match
> the vertical pattern for a perfectly flat dipole, you find that the
> "effective center" of the drooped dipole is around 1/3 of the droop
> distance. That is, if you had a dipole where the center were at 100ft,
> and it drooped 30 feet on either end, the pattern is about the same as a
> flat dipole at 90 ft.
>
> The height above ground has a HUGE effect on the dipole pattern
> (especially at low elevation angles) and probably dominates any small
> changes.
>
> After all, a perfect dipole has a gain of 2.15dBi and a infinitely short
> dipole has a gain of 1.6dBi, and a drooped or sagging dipole pretty much
> has to be somewhere in between.

Those gains are for dipoles in free space. A dipole over ground
typically has several dB greater gain.

The absolutely worst gain any efficient antenna can have in free space
in its best direction is 0 dBi. So nothing you can possibly do to the
pattern can reduce it below this value in free space, as long as you
don't introduce loss. But as Jim says, you can mess with a dipole a fair
amount without changing the pattern much -- except for filling in or
moving the nulls, which can be very sensitive to small changes.

Roy Lewallen, W7EL

3008. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 23:07:43 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <b86a4587-194f-4d86-a0f4-cff16dbff3e3@e5g2000yqn.googlegroups.com>
Source record: 8308

On Jul 7, 8:05 am, joe <n...@domain.invalid> wrote:
> Keith Dysart wrote:
>
> current law derives from conservation of charge.
>
>
>
>
>
>
>
>
> > Still, you have made some progress, so I will try again with showing
> > the derivation, though this time with charge and current.
>
> > Conservation of charge requires that:
> > the charge added to a region
> > - the charge removed from a region
> > equals
> > the charge originally in the region
> > + the increase of charge stored in the region
>
> > When the charge can be described with functions of time, we can write:
>
> > Qin(t) - Qout(t) = Qoriginal + Qstored(t)
>
> > Differentiating we obtain
>
> > Qin(t)/dt - Qout(t)/dt = 0 + Qstored(t)/dt
>
> > At a junction, where charge can not be stored, this reduces to
>
> > Qin(t)/dt - Qout(t)/dt = 0
>
> > Alternatively
>
> > Qin(t)/dt = Qout(t)/dt
>
> > Recognizing that Q(t)/dt is charge flow per unit time or current
> > we obtain Kirchoff's current law, colloquially: the current flowing
> > in to a junction equals the current flowing out of a junction.
>
> > I leave it to you to do the similar derivation for energy, based
> > on conservation of energy. The result will be
>

> >   EnergyIn(t)/dt = EnergyOut(t)/dt
>
> > And similar to Kirchoff, this applies at a juncion, a place where
> > energy can not be stored.
>
> > Of course Energy(t)/dt is just a mathematical expression of energy
> > flow or power, so we obtain
>
> >   PowerIn(t) = PowerOut(t)   (at a junction)
>
> > But don't beleive me. Do the derivation yourself. You can pattern
> > your derivation on the one above for Kirchoff.
>
> > I'd go on to show how my analysis of your circuit carefully
> > picked junctions that could not store energy, but I have found
> > it better to educate one step at a time. So we can do that
> > later.
>
> > ...Keith
>
> How do you define energy of a node without reference to another node.
> How is it measured

I am sorry, I do not understand the question. Can you provide a bit
more context, or perhaps a representative example?

...Keith

3009. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 23:08:15 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <b168ee8b-b76a-4c1d-8c83-892dcfd0f7f6@s9g2000yqd.googlegroups.com>
Source record: 8309

On Jul 7, 12:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 7, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > At a junction, where charge can not be stored, this reduces to
>
> Sorry, your examples are irrelevant to the technical fact that there
> is no conservation of current principle because charge can be stored.
> Until you can prove a conservation of current principle, you are
> wasting my time.

This is toooooo amusing.

You refuse to start to examine the proof because it has not yet been
proved ... which can not happen until you examine the proof.

You are truly amazing at developing mind stopping techniques that
inhibit your ability to learn.

...Keith

3010. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-07 23:41:19 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <3881e210-a6c1-4b53-9a3b-cbe823433875@x21g2000yqa.googlegroups.com>
Source record: 8310

On Jul 7, 1:12 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Jul 7, 6:14 am, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > As i pointed out, the energy levels are well above the noise.
>
> You have certainly not proved that to be true. The current is
> essentially DC for most of the year. Therefore, you cannot assume the
> proof to the question of whether the photons, which may or may not
> exist, are above the noise level. (Hint: assuming the proof is one of
> the most well known logical diversions.)
>
> What I said was that one photon at 0.5 cycles/year is NOT above the
> noise.

Of course, there are many photons in the 50W signal previously
mentioned. That is the only way to get to 50W.

> You are free to try to prove that I was wrong. If you window
> your signal for 1/2 of a year, I believe you will find it to be DC
> steady-state. I do not believe it is far enough removed from DC to
> generate any detectable photons.
>
> I will be away from my computer for a few days. In the meanwhile, I
> suggest that you prove that a conservation of power principle exists
> and a conservation of current principle exists. Until you do that, you
> are just blowing smoke. But it you succeed, you will no doubt receive
> a Nobel Prize.

Ahhm, so you are proposing a new concept: a lower frequency limit
where
a sinusoid stops being an EM wave and becomes what? Slowly varying DC?

I have never seen such a concept mentioned previously. Perhaps it will
be you who deserves the Nobel prize.

At what frequency, approximately, is this limit?

Or, if that is not yet known, what is the lowest frequency that you
are currently convinced would be an EM wave, such that the cutoff
must be less than this frequency?

Ballpark is good:
1 MHz
10 kHz
1 kHz
100 Hz

10 Hz
1 Hz
0.1 Hz
0.01 Hz
0.001 Hz
1 uHz
1 nHz

Just to the nearest order of magnitude, from the above list, which frequency are you sure is still an EM wave rather than slowly varying DC?

I am pretty sure that you would accept 10 kHz as been EM. Omega used to be around 10 kHz.
How about 60 Hz? This is standard AC power in some jurisdictions.
25 Hz used to be common as AC power.
10 Hz? Is the audio on its way to the woofer an EM wave?
1 Hz?

Just an order of magnitude frequency that you are sure your EM cutoff frequency will be below.

And how much above the noise does a photon have to be for you to consider it to be a photon? Perhaps this will help you choose your cutoff frequency, though it seems to me you will have some difficulty when there are lots and lots of photons at this low frequency. Will this not be adequate for detection?

By the way, is it possible to detect a single photon at 10 kHz, a frequency which I am pretty sure you would consider to be an EM wave.

...Keith

3011. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 00:16:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <757cc84f-7445-4c65-bfa9-fc44d6f9ea5b@u26g2000yqu.googlegroups.com>
Source record: 8311

On Jul 7, 6:08 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
> You refuse to start to examine the proof because it has not yet been
> proved ... which can not happen until you examine the proof.

Again, you are completely confused and mistaken - I simply refuse to
allow you to interfere with my vacation. Have fun while I'm gone.
--
73, Cecil, w5dxp.com

3012. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 01:36:42 UTC
From: joe <none@domain.invalid>
Message-ID: <i139qh$8iu$1@speranza.aioe.org>
Source record: 8312

Keith Dysart wrote:
> On Jul 7, 8:05 am, joe <n...@domain.invalid> wrote:
>> Keith Dysart wrote:
>>
>> current law derives from conservation of charge.
>>
>>
>>
>>
>>
>>
>>
>>
>>> Still, you have made some progress, so I will try again with showing
>>> the derivation, though this time with charge and current.
>>> Conservation of charge requires that:
>>> the charge added to a region
>>> - the charge removed from a region
>>> equals
>>> the charge originally in the region
>>> + the increase of charge stored in the region
>>> When the charge can be described with functions of time, we can write:
>>> Qin(t) - Qout(t) = Qoriginal + Qstored(t)
>>> Differentiating we obtain
>>> Qin(t)/dt - Qout(t)/dt = 0 + Qstored(t)/dt
>>> At a junction, where charge can not be stored, this reduces to
>>> Qin(t)/dt - Qout(t)/dt = 0
>>> Alternatively
>>> Qin(t)/dt = Qout(t)/dt
>>> Recognizing that Q(t)/dt is charge flow per unit time or current
>>> we obtain Kirchoff's current law, colloquially: the current flowing
>>> in to a junction equals the current flowing out of a junction.
>>> I leave it to you to do the similar derivation for energy, based
>>> on conservation of energy. The result will be
>>> EnergyIn(t)/dt = EnergyOut(t)/dt
>>> And similar to Kirchoff, this applies at a juncion, a place where
>>> energy can not be stored.
>>> Of course Energy(t)/dt is just a mathematical expression of energy
>>> flow or power, so we obtain
>>> PowerIn(t) = PowerOut(t) (at a junction)
>>> But don't beleive me. Do the derivation yourself. You can pattern
>>> your derivation on the one above for Kirchoff.
>>> I'd go on to show how my analysis of your circuit carefully
>>> picked junctions that could not store energy, but I have found
>>> it better to educate one step at a time. So we can do that

>>> later.
>>> ...Keith
>> How do you define energy of a node without reference to another node.
>> How is it measured
>
> I am sorry, I do not understand the question. Can you provide a bit
> more context, or perhaps a representative example?
>
> ...Keith

Sure. You described charge flow in and out of an isolated node with no need to reference any other node or part of the circuit. Then you say the same thing can be defined for energy. However, how is energy defined in terms that only refer to characteristics of the node without involving any other part of the circuit or other nodes.

3013. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 06:15:30 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <9gqa3652qah45l5n6m4q936cuhdnhptsh9@4ax.com>
Source record: 8313

On Wed, 31 Mar 2010 18:25:13 -0700 (PDT), brent
<bulegoge@columbus.rr.com> wrote:

>On Mar 30, 2:08ï¿½pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> Bill wrote:
>> > On Mar 29, 10:08 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> >> Lord Rayleigh was an amateur: nobody was paying him to do his work.
>>
>> > Are you talking about the Professor of Physics at Cambridge?
>>
>> 3rd Baron John Strutt
>>
>> During the time he managed his late father's barony from 1873 to 1879,
>> he did some research. The Theory of Sound was published in 1878.
>>
>> Then, after he left the Cavendish Lab at Cambridge in 1884, he continued
>> his research at home.
>>
>> For all I know, Cambridge didn't pay him either.. he was definitely a
>> "man of means" and sort of typifies the "gentleman amateur"
>>
>> Antoine Lavoisier or Joeseph Fourier would be other examples. Both had
>> "jobs" that paid well and didn't require a lot of their time, so they
>> could spend their spare time and cash on science/engineering.
>

Thanks for that information Jim.

>when amateurs get bored out of their mind of the activity in question
>they can take a break from it. Professionals cannot. They must
>soldier on until they get interested in their livelihood again.
>
>I believe that the "quitting (or resting) is not an option" is what
>makes professionals so much better than amateurs in almost all cases.

That has absolutely nothing to do with the quality of the persons
work. If they no longer enjoy it, and many never did from the start,
they chose the wrong field. Generally when a person becomes bored
with their work, or dissatisfied the quality of their work suffers.
With nearly 35 years of working I saw a lot of that.

If you are a professional who is bored out of their mind, quitting and
going back to college to pursue a different field certainly is an
option.

That is what I did after working over 26 years.
I originally enjoyed the work and had fun on the job. Did that make me an amateur professional? I chose the line of work because I loved doing it. OTOH there were those who figured I must not be doing my work because I appeared to be having "too much fun". After changing professions and jobs I ended up working for and with people who were not so narrow minded and understood. When I retired it was as a project manager with good people working for me and good bosses above me.

I still loved the work, but I had reached the point where I was seeing too many people working until they dropped at work, or retiring and dropping within a month or two. OTOH I saw more than a few who didn't know any thing other than work. I decided I wanted to go play.

I also love retirement (does that make me an amateur retiree?) , but it could pay better.
>
>Can there even be such a thing as an amateur soldier?

Sure...they don't last too long though.

73

Roger (K8RI)

3014. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 06:26:26 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <pdra36htsdqups7876kbmmtp0jehc398fq@4ax.com>
Source record: 8314

On Thu, 01 Apr 2010 12:48:37 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Thu, 1 Apr 2010 10:56:44 -0700, "Joel Koltner"
><zapwireDASHgroups@yahoo.com> wrote:
>
>>Software projects by "professionals" are quit all the time -- there's some
>>shockingly low percentage of software projects that are ever actually finished
>>(like, <25%). Even for hardware projects, at least for awhile Tektronix
>>seemed to be quitting upwards of a quarter of all the projects they'd start.
>
>Usually a problem of poor specification.

That is why we have "project Charters" The "Charter" describes the
project goals and how to determine when those goals have been met.

Any change in goals, or how to determine they have been met means
going back and rewriting the charter and then having all involved
reauthorized it.

My standard replay when some one asked if we could do something with a
project was "is it in the charter?". If not they had the option of
getting the heads of all the involved departments and often "sites" to
review the project charger. That usually minimized attempts to expand
projects beyond their original design. It also give all involved the
desire to put everything on the table at the beginning. <:-))

>You cannot design what is
>not described. Frequently, success is in the mind of the beholder:
>"Oh! I forgot to mention you need to....(gestures made here). You
>know what I mean."

Yup, "did you include it in the charter?"<:-))
>
>In other words, professionalism that fails to rise above rank amateur.

I really don't see it in that light. To me there is no higher rank
than amateur. A professional can just be a "grunt", or they can be
some one with goals, or rather "goal oriented".

73

Roger (K8RI)

>
>My amateur designs are far more complete and robust than professional
>ones, but they are not commercial. They would take too long the first

>time (but they always could have been done in the time it had actually
>taken to get to shipping).
>
>Tracy Kidder's "Soul of a New Machine" proved how little so-called
>professional effort is needed to do a professional job right. I work
>with a lot of inventors/entrepreneurs whose idea-to-shipping time is
>measured in the single digits of weeks.
>
>73's
>Richard Clark, KB7QHC

3015. Juicy Handbags (httpwww.cntrade09.com) - free shipping

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 06:52:19 UTC
From: cntrade08 <chenlily86@hotmail.com>
Message-ID: <a26280ab-b8fa-4037-9950-4f1dae11e374@h40g2000pro.googlegroups.com>
Source record: 8315
Cross-posted to: rec.radio.amateur.antenna,rec.travel.usa-canada

Handbags

BOSS Handbag (httpwww.cntrade09.com) - free shipping paypal
payment
Burberry Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
Chanel Handbags (httpwww.cntrade09.com - free shipping
paypal payment
Chloe Handbags Discount Wholesale free shipping paypal payment
Christian Audigier Handbags Discount Wholesale free shipping paypal
payment
Coach Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
D&G Handbags Discount Wholesale free shipping paypal payment
Dooney&Bourke Handbags (httpwww.cntrade09.com) - free
shipping paypal payment
ED Hardy Handbags Discount Wholesale free shipping paypal payment
Fendi Handbags Discount Wholesale free shipping paypal payment
Gucci Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
Hermas Handbags Discount Wholesale free shipping paypal payment
JIMMY CHOO Handbags
Juicy Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
LV Handbags Discount Wholesale free shipping paypal payment
Miu Miu Handbags (httpwww.cntrade09.com) - free shipping
paypal payment
Prada Handbags Discount Wholesale free shipping paypal payment
Versace Handbags Discount Wholesale free shipping paypal payment
Tous Handbag (httpwww.cntrade09.com) - free shipping paypal
payment

Handbags
AAA True Leather Discount Wholesale free shipping paypal payment
Burberry Handbags wholesaler
Balenciaga Handbags wholesaler (httpwww.cntrade09.com) -
(paypal
payment)
Balenciaga Purse wholesaler Discount Wholesale free shipping paypal
payment
Bally Purse wholesaler
BOSS Purse wholesaler (httpwww.cntrade09.com) - (paypal
payment)
Chanel Handbags wholesaler

Chanel Purse wholesaler
Chloe Handbags wholesaler (httpwww.cntrade09.com) - (paypal payment)
Chloe Purse wholesaler
Coach Handbags wholesaler (httpwww.cntrade09.com) - (paypal payment)

3016. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 07:44:23 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c3581dd$0$17090$65785112@news.neostrada.pl>
Source record: 8316

"lu6etj" <lu6etj@gmail.com> wrote
news:ba1ab27b-6f05-4612-bf66-0b12de1cd4fa@k39g2000yqd.googlegroups.com...
On 7 jul, 16:55, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> This principle is used today to produce the light in the free electron
> laser: http://en.wikipedia.org/wiki/File:FEL_principle.png

>Yes, very interesting example (and device),

>Respect to DC current EM radiation, In that time Richard bring an
interesting example of 20 kV electron rectilinear beam rendering a
frequency of 34.6 EHz, the calculus it was quite right, but that
frequency it is not EM waves radiated by electrons but a "matter wave'
frequency... (idem with car analogy => not charged and acelerated
cars :>) do not radiates EM waves, but may have a matter wave
asociated to them).

Each waves are the matter waves. The speed is the particles mass dependent.
So in the wire the sound waves travel with the low speed (medium are ions),
and the electric waves (medium are the free electrons) with the extremally
high speed.

>For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
physics books are very useful to helping us to better understand and
enjoy our ham topics.

For graduated is the field math only.
S*

73 - Miguel

3017. Re: HY-Gain Trap Orientation th5mk2

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 08:21:11 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <t72b36dg5bpnehv89j58uacad7ml0d15j2@4ax.com>
Source record: 8317

On Thu, 08 Apr 2010 20:00:44 -0500, Chuck Forsberg WA7KGX N2469R
<caf@omen.com> wrote:

>I am installing a used Hy-Gain th5mk2 tribander.
>A previous owner added screws on some of the elements at the
>boom to element clamp and between element sections.
>This is not mentioned in the manual.
>
>Unfortunately whoever added the screws forgot to make sure
>the trap assembly drain holes point down. They are up to
>20 or so degrees from straight down. Is this good enough
>or would it be better to remove the screws so the traps can
>be adjusted with the drain holes down?

I've used a TH-5 for quite a few years. The drain holes should be
down, but if they are no more than 20 degrees off if the disassembly
is difficult as it sounds, I'd simply drill additional drain holes
that would point straight down. The two sets of holes would probably
drain better any way instead of the meniscus stopping the drainage.
Just make sure the new holes are no larger than the old ones. It does
no good to get better drainage if the critters are going to move in.
The drain hole in the matching network for my AV-640 was large enough
for a paper wasp to get in. The virtually packed it with nests. 800
watts on 6 with a KW on HF was enough to thoroughly cook the critters
and mess up the matching.
http://www.rogerhalstead.com/ham_files/AV-640/AV640.htm

The AV-640 is a good antenna. I've been working world wide using it on
40 since mid winter. It leaves a bit to be desired on 6, but I'm used
to a 7L Yagi on a 30' boom at 115'.

73

Roger (K8RI)

3018. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 11:04:28 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <b04cebdb-1f8b-4630-aa82-175aa4a41568@z10g2000yqb.googlegroups.com>
Source record: 8318

```
On Jul 7, 9:36 pm, joe <n...@domain.invalid> wrote:
> Keith Dysart wrote:
> > On Jul 7, 8:05 am, joe <n...@domain.invalid> wrote:
> >> Keith Dysart wrote:
>
> >> current law derives from conservation of charge.
>
> >>> Still, you have made some progress, so I will try again with showing
> >>> the derivation, though this time with charge and current.
> >>> Conservation of charge requires that:
> >>>   the charge added to a region
> >>>   - the charge removed from a region
> >>>   equals
> >>>   the charge originally in the region
> >>>   + the increase of charge stored in the region
> >>> When the charge can be described with functions of time, we can write:
> >>>   Qin(t) - Qout(t) = Qoriginal + Qstored(t)
> >>> Differentiating we obtain
> >>>    Qin(t)/dt - Qout(t)/dt = 0 + Qstored(t)/dt
> >>> At a junction, where charge can not be stored, this reduces to
> >>>    Qin(t)/dt - Qout(t)/dt = 0
> >>> Alternatively
> >>>    Qin(t)/dt = Qout(t)/dt
> >>> Recognizing that Q(t)/dt is charge flow per unit time or current
> >>> we obtain Kirchoff's current law, colloquially: the current flowing
> >>> in to a junction equals the current flowing out of a junction.
> >>> I leave it to you to do the similar derivation for energy, based
> >>> on conservation of energy. The result will be
> >>>    EnergyIn(t)/dt = EnergyOut(t)/dt
> >>> And similar to Kirchoff, this applies at a juncion, a place where
> >>> energy can not be stored.
> >>> Of course Energy(t)/dt is just a mathematical expression of energy
> >>> flow or power, so we obtain
> >>>    PowerIn(t) = PowerOut(t)    (at a junction)
> >>> But don't beleive me. Do the derivation yourself. You can pattern
> >>> your derivation on the one above for Kirchoff.
> >>> I'd go on to show how my analysis of your circuit carefully
> >>> picked junctions that could not store energy, but I have found
> >>> it better to educate one step at a time. So we can do that
> >>> later.
> >>> ...Keith
> >> How do you define energy of a node without reference to another node.
> >> How is it measured
>
```

> > I am sorry, I do not understand the question. Can you provide a bit
> > more context, or perhaps a representative example?
>
> > ...Keith
>
> Sure. You described charge flow in and out of an isolated node with no
> need to reference any other node or part of the circuit. Then you say
> the same thing can be defined for energy. However, how is energy defined
> in terms that only refer to characteristics of the node without
> involving any other part of the circuit or other nodes.

Perhaps some examples will help.

Consider the output terminals of a generator to be junction. Then the
power delivered from the generator to the junction must exactly equal,
at all times, the power taken from the junction by the load, since
there is no storage in the junction.

It should be noted that the 'junctions' used for a power analysis
are not the same as the junctions used in Kirchoff's current
law. The concepts are analogous, not identical.

Another example. In the simple Thevenin generator, the power provided
by the voltage source must exactly equal, at all times, the power
taken by the resistor plus the power taken by the load. In this
example, it is difficult (impossible?) to identify a physical
'junction' where the power must balance, yet the notion is still
applicable.

...Keith

3019. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 12:18:52 UTC
From: Steve Reinhardt <stevereinhardt@noearthspamlink.net>
Message-ID: <0njZn.6372$xZ2.5719@newsfe07.iad>
Source record: 8319

On 7/7/2010 6:00 PM, Jim Lux wrote:
> Ralph Mowery wrote:
>> Over the years I have seen many patterns for horizontal dipoles and
>> the inverted V antennas,but do not recall seeing any V shaped patterns
>> in the books. That is a dipole that is supported on the ends, but sag
>> in the middle. I know the sag is needed to some extent because of the
>> weight of the wire and feedline, but what happens to the pattern if it
>> is say 1/2 wavelength or 1/4 wavelengths at the ends and the sag in
>> the middle is changed. Maybe drop it a few feet, then 10, 15 and 20
>> feet for 80 meters.
>>
>> I know that for maximum distance you usually want the high current
>> portions up high,but maybe it will be better as a close in or
>> omnidirectional antenna if the center is lowered somewhat.
>>
>>
>
> In free space, there is not much difference in pattern between a dipole
> that is perfectly horizontal and one that is drooped or sags (or for
> that matter one that is bent horizontally). What changes is the
> feedpoint impedance (72 ohms for perfectly flat, getting towards 50 ohms
> with a 120 degree included angle).
>
>
> The other thing that changes is the apparent height above ground. If you
> model a drooped dipole and fiddle with the height to try and match the
> vertical pattern for a perfectly flat dipole, you find that the
> "effective center" of the drooped dipole is around 1/3 of the droop
> distance. That is, if you had a dipole where the center were at 100ft,
> and it drooped 30 feet on either end, the pattern is about the same as a
> flat dipole at 90 ft.
>
> The height above ground has a HUGE effect on the dipole pattern
> (especially at low elevation angles) and probably dominates any small
> changes.
>
> After all, a perfect dipole has a gain of 2.15dBi and a infinitely short
> dipole has a gain of 1.6dBi, and a drooped or sagging dipole pretty much
> has to be somewhere in between.

Jim,

My simulations, and some practical experience, has found that an
included angle closer to 90 degrees yields a 50 ohm feedpoint impedance.
These are 'practical' designs, and not in free-space, of course. Is

there a reference you can give me that derives the 120 degree 50 ohm result?

Steve
W1KF

3020. Portable H FAntenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 13:11:04 UTC
From: Howard Kowall <hkowall@shaw.ca>
Message-ID: <K7kZn.6693$OU6.1172@newsfe20.iad>
Source record: 8320

Good morning all
I am going to France for a month in October.
Going to take some HF gear with me (FT897D),But I need some sort of Balcony antenna for HF bands (prob 20mtrs would be ok)does anyone have any ideas what i can build or buy for an antenna,with a balcony mount.I am not sure what else we there for me to string up,all I know is that we have a balcony.I did look at the MFJ 1622 antenna,it look like what I am looking for,i need to be able to pack it in a suitcase some how
Thanks to all who read and respond
Howard
VE4ISP

3021. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 13:19:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <44bde965-baea-4321-85f8-209e272f1349@j8g2000yqd.googlegroups.com>
Source record: 8321

On Jul 8, 6:04 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> Consider the output terminals of a generator to be junction. Then the
> power delivered from the generator to the junction must exactly equal,
> at all times, the power taken from the junction by the load, since
> there is no storage in the junction.

I will leave you with this parting thought. All that you are saying is that the power at one point (special case: away from any energy storage device) is the same as the power at another point in the same wire (special case: an infinitesimal distance away). No rational person would argue with you on that point. However, that is NOT a general case and in no way proves that power is conserved in general. It is simply a special case where there is a one-to-one correspondence between energy and power, something I pointed out earlier.

The throw of a switch can cause power to be created or destroyed. The throw of a switch cannot cause energy to be created or destroyed. That's the basic conceptual difference between power and energy that you are missing. The same thing is true for current vs charge.

In my energy articles, I took advantage of the special case of one-to-one correspondence between average energy and average power. You neglected to do that for your instantaneous power calculations and proved beyond any doubt that power is not conserved. Your own continuity equation posting indicated that you had erroneously omitted something important from your previous calculations.
--
See y'all later, 73, Cecil, w5dxp.com

3022. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 14:15:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <cladnd3tkff6QKjRnZ2dnUVZ_rmdnZ2d@giganews.com>
Source record: 8322

Keith Dysart wrote:
>
> Perhaps some examples will help.
>
> Consider the output terminals of a generator to be junction. Then the
> power delivered from the generator to the junction must exactly equal,
> at all times, the power taken from the junction by the load, since
> there is no storage in the junction.
>
> It should be noted that the 'junctions' used for a power analysis
> are not the same as the junctions used in Kirchoff's current
> law. The concepts are analogous, not identical.
>
> Another example. In the simple Thevenin generator, the power provided
> by the voltage source must exactly equal, at all times, the power
> taken by the resistor plus the power taken by the load. In this
> example, it is difficult (impossible?) to identify a physical
> 'junction' where the power must balance, yet the notion is still
> applicable.
>
> ...Keith

It sounds like your "junction" for energy analysis is what's called a "port" in RF analysis. If so, it would be less confusing for you to use that term, since "junction" has a different established meaning in circuit analysis.

Roy Lewallen, W7EL

3023. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 15:51:15 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b7473fe5-432c-4b9b-a99d-a8b53e0d0ccf@u26g2000yqu.googlegroups.com>
Source record: 8323

On Jul 7, 11:14 am, Keith Dysart <keith.dys...@gmail.com> wrote:
> On Jul 6, 11:11 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Jul 6, 7:27 pm, Keith Dysart <keith.dys...@gmail.com> wrote:
>
> > > Excellent attempt at diversion.
>
> > Sorry, "I don't know", is NOT a diversion.
>
> T'is when the thing you claim not to know has nothing to do with
> the problem at hand.
>
> As i pointed out, the energy levels are well above the noise.
>
> And you skipped the intriguing question...
>
> If the signal was a 50 W sinusoid at 15 nHz, would you have the
> same reluctance to declare it an EM wave? It is a sinusoid.
> What criteria could it possibly fail to satisfy?
>
> At what frequency would you no longer be reluctanct?
>   1 microHz
>   1 mHz
>   0.1 Hz
>   1 Hz
>   10 Hz
>   100 Hz
>   1 kHz
>   10 kHz
>   ?
>
> Real applications run at 10 kHz so I assume you would accept,
> without concern, at least this number. Where would your
> trepidation begin?
>
> ...Keith

i have trepidation when it takes longer to reach steady state than i
am willing to sit and watch the experiment.

3024. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 16:39:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c8338c9b-7a7d-4c66-8082-9afde10d47dc@5g2000yqz.googlegroups.com>
Source record: 8324

On Jul 8, 10:51 am, K1TTT <k1...@arrl.net> wrote:
> i have trepidation when it takes longer to reach steady state than i
> am willing to sit and watch the experiment.

For some reason, Keith prefers living in the theoretical world rather
than the real world. His idea of reality is what his math model
subliminally tells him to believe. He doesn't seem to know that
reality is supposed to dictate math models, not vice-versa. :-)

P.S. Let's go card-counting.
--
73, Cecil, w5dxp.com

3025. Re: Portable H FAntenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 17:41:06 UTC
From: Dave Oldridge <doldridg@leavethisoutshaw.ca>
Message-ID: <Xns9DAF6CB6DB838doldridgshawca@69.16.185.250>
Source record: 8325

"Howard Kowall" <hkowall@shaw.ca> wrote in
news:K7kZn.6693$OU6.1172@newsfe20.iad:

> Good morning all
> I am going to France for a month in October.
> Going to take some HF gear with me (FT897D),But I need some sort of
> Balcony antenna for HF bands (prob 20mtrs would be ok)does anyone have
> any ideas what i can build or buy for an antenna,with a balcony
> mount.I am not sure what else we there for me to string up,all I know
> is that we have a balcony.I did look at the MFJ 1622 antenna,it look
> like what I am looking for,i need to be able to pack it in a suitcase
> some how Thanks to all who read and respond
> Howard
> VE4ISP

Signalwise, a 20M hamstick on a visegrip mount has worked ok for me. But
I got way too much RFI into people's plasma and LCD TV sets.

--
Dave Oldridge+

3026. Re: amateur vs pro

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 18:47:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i156fu$11v$1@news.jpl.nasa.gov>
Source record: 8326

Roger wrote:
> On Wed, 31 Mar 2010 18:25:13 -0700 (PDT), brent
> <bulegoge@columbus.rr.com> wrote:
>

>> when amateurs get bored out of their mind of the activity in question
>> they can take a break from it. Professionals cannot. They must
>> soldier on until they get interested in their livelihood again.
>>
>> I believe that the "quitting (or resting) is not an option" is what
>> makes professionals so much better than amateurs in almost all cases.
>
> That has absolutely nothing to do with the quality of the persons
> work. If they no longer enjoy it, and many never did from the start,
> they chose the wrong field. Generally when a person becomes bored
> with their work, or dissatisfied the quality of their work suffers.
> With nearly 35 years of working I saw a lot of that.

I agree with Roger here. However, there is, for lack of a better word, a forced rigor or discipline that comes from having to make a living at something. A professional who is "making a living at it" has to meet some minimum standard, or they'll be forced to choose another activity in order to keep body and soul together.

An amateur is under no such restriction. So the "spread" in ability/quality/whatever metric is greater on the bottom tail of the distribution for amateurs.

One sees this very markedly in professions such as acting or modeling.

3027. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 19:08:48 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i157o0$ms5$1@news.jpl.nasa.gov>
Source record: 8327

Steve Reinhardt wrote:
> On 7/7/2010 6:00 PM, Jim Lux wrote:
>> Ralph Mowery wrote:
>>> Over the years I have seen many patterns for horizontal dipoles and
>>> the inverted V antennas,but do not recall seeing any V shaped patterns
>>> in the books. That is a dipole that is supported on the ends, but sag
>>> in the middle. I know the sag is needed to some extent because of the
>>> weight of the wire and feedline, but what happens to the pattern if it
>>> is say 1/2 wavelength or 1/4 wavelengths at the ends and the sag in
>>> the middle is changed. Maybe drop it a few feet, then 10, 15 and 20
>>> feet for 80 meters.
>>>
>>> I know that for maximum distance you usually want the high current
>>> portions up high,but maybe it will be better as a close in or
>>> omnidirectional antenna if the center is lowered somewhat.
>>>
>>>
>>
>> In free space, there is not much difference in pattern between a dipole
>> that is perfectly horizontal and one that is drooped or sags (or for
>> that matter one that is bent horizontally). What changes is the
>> feedpoint impedance (72 ohms for perfectly flat, getting towards 50 ohms
>> with a 120 degree included angle).
>>
>>
>> The other thing that changes is the apparent height above ground. If you
>> model a drooped dipole and fiddle with the height to try and match the
>> vertical pattern for a perfectly flat dipole, you find that the
>> "effective center" of the drooped dipole is around 1/3 of the droop
>> distance. That is, if you had a dipole where the center were at 100ft,
>> and it drooped 30 feet on either end, the pattern is about the same as a
>> flat dipole at 90 ft.
>>
>> The height above ground has a HUGE effect on the dipole pattern
>> (especially at low elevation angles) and probably dominates any small
>> changes.
>>
>> After all, a perfect dipole has a gain of 2.15dBi and a infinitely short
>> dipole has a gain of 1.6dBi, and a drooped or sagging dipole pretty much
>> has to be somewhere in between.
>
> Jim,
>
> My simulations, and some practical experience, has found that an

> included angle closer to 90 degrees yields a 50 ohm feedpoint impedance.
> These are 'practical' designs, and not in free-space, of course. Is
> there a reference you can give me that derives the 120 degree 50 ohm
> result?
>
> Steve
> W1KF

you might be right.

Some NEC I did a few years ago showed about 57 ohms.

http://home.earthlink.net/~w6rmk/antenna/zdipolev.htm

Since Google is my friend... I found:
J. Earl Jones (probably not the actor) had a paper in IEEE Trans on Ant and Prop (May 1976) "Analysis of the Symmetric Center-Fed V-Dipole Antenna" shows, in Figure 6, numbers like you report.. At 90 degrees, somewhere between 40 and 50 ohms, and at 120, a bit below 60 ohms (for very thin wires.. h/a = 20,000

The same graph shows that the reactance (for a fixed length) also changes, which has the practical implication that the "resonant" length for a V will be different than a flat dipole.

The paper has analytical, models, and actual data in it. He compares the model data to approximations from King.

And here you go for some more data (although this is more like a half rhombic)

http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19670006193_1967006193.pdf

3028. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 21:30:16 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <g5gc36l0sjdtu3hh5e6d6ckdol3563nic0@4ax.com>
Source record: 8328

On Fri, 2 Jul 2010 15:00:03 -0700 (PDT), Gary <jgboyles@aol.com>
wrote:

>On Jul 2, 9:28ï¿½am, "Ralph Mowery" <rmowery28...@earthlink.net> wrote:
>> Is there a shortage in the supply of coax ? ï¿½A ham up the road has been
>> trying to get some rg8x from The Wireman for a couple of weeks. ï¿½They are
>> out and said they should have some in soon.
>>
>> There was also some mention of shortage of the open wire\twinlead type.
>>
>> Is it just this place or is there some shortage in the US of coax and antena
>> wire.
>> What about the other coax such as the rg8 size ?
>
>I ran in to the same thing last August at the Huntsville, Al. hamfest-
>no 450 ohm open wire line. The high cost of copper prohibits them
>from keeping too much inventory on hand. Apparently not much has
>changed since August.

The cost of Copper(World wide) hit an all time high about a year ago,
(maybe a bit more) by, IIRC more than rippling, but then dropped
substantially, although not to the original level. It has been working
its way back up slowly.

Another commodity that has skyrocketed is wood. My neighbor did a
remodeling job this spring and saw the price of plywood take a
tremendous jump. Again, this is world wide, not a local or country
wide problem.

The economies of the two most populous countries are taking off at
fantastic rates. In the next decade India will have more college
graduates entering the middle class than the entire population of the
US. China has an almost unbelievable housing boom.

Don't expect things to get much cheaper.

73

Roger (K8RI)
>
>Gary N4AST

3029. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-08 21:38:02 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <7ba51701-0b3a-4101-8a9c-f16f448026b2@j8g2000yqd.googlegroups.com>
Source record: 8329

On 8 jul, 04:44, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "lu6etj" <lu6...@gmail.com>
wrotenews:ba1ab27b-6f05-4612-bf66-0b12de1cd4fa@k39g2000yqd.googlegroups.com...
> On 7 jul, 16:55, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> This principle is used today to produce the light in the free electron
> > > laser:http://en.wikipedia.org/wiki/File:FEL_principle.png
> > >Yes, very interesting example (and device),
> > >Respect to DC current EM radiation, In that time Richard bring an
> >
> > interesting example of 20 kV electron rectilinear beam rendering a
> > frequency of 34.6 EHz, the calculus it was quite right, but that
> > frequency it is not EM waves radiated by electrons but a "matter wave'
> > frequency... (idem with car analogy => not charged and acelerated
> > cars :>) do not radiates EM waves, but may have a matter wave
> > asociated to them).
> >
> > Each waves are the matter waves. The speed is the particles mass dependent.
> > So in the wire the sound waves travel with the low speed (medium are ions),
> > and the electric waves (medium are the free electrons) with the extremally
> > high speed.
> >
> > >For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
> >
> > physics books are very useful to helping us to better understand and
> > enjoy our ham topics.
> >
> > For graduated is the field math only.
> > S*
> >
> > 73 - Miguel

Hello Szczepan, good day:

I do not know if I undestood quit right your sentences (we are both
out of our native lenaguage) correct me if I am wrong.

Today we do not conceive unverse as a material thing, then if you want
to say with "each waves are material waves" that all is mater you are
talking with century XIX words/concepts.
However matter waves are not neither mater nor energy waves, they are
"probabilty waves", probability it is not a "thing", it is a
mathematical concept, surely you know that.

73 - Miguel - LU6ETJ

3030. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 00:22:07 UTC
From: Keith Dysart <keith.dysart@gmail.com>
Message-ID: <afa707a9-5cfc-4013-9940-561b768337cb@z10g2000yqb.googlegroups.com>
Source record: 8330

On Jul 8, 10:15 am, Roy Lewallen <w...@eznec.com> wrote:
> Keith Dysart wrote:
>
> > Perhaps some examples will help.
>
> > Consider the output terminals of a generator to be junction. Then the
> > power delivered from the generator to the junction must exactly equal,
> > at all times, the power taken from the junction by the load, since
> > there is no storage in the junction.
>
> > It should be noted that the 'junctions' used for a power analysis
> > are not the same as the junctions used in Kirchoff's current
> > law. The concepts are analogous, not identical.
>
> > Another example. In the simple Thevenin generator, the power provided
> > by the voltage source must exactly equal, at all times, the power
> > taken by the resistor plus the power taken by the load. In this
> > example, it is difficult (impossible?) to identify a physical
> > 'junction' where the power must balance, yet the notion is still
> > applicable.
>
> > ...Keith
>
> It sounds like your "junction" for energy analysis is what's called a
> "port" in RF analysis. If so, it would be less confusing for you to use
> that term, since "junction" has a different established meaning in
> circuit analysis.

I prefer the term 'port' as well, but for this particular dialogue I
was
trying to emphasize the analogy between conservation of charge and
conservation of energy by continuing with the same terminology.

Unfortunately, it did not appear to help.

From now on, 'port' it is.

...Keith

3031. Re: Portable H FAntenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 01:00:57 UTC
From: nm5k@wt.net
Message-ID: <3204700b-92af-4e05-9595-7f8de53872e5@u26g2000yqu.googlegroups.com>
Source record: 8331

On Jul 8, 8:11 am, "Howard Kowall" <hkow...@shaw.ca> wrote:
> Good morning all
> I am going to France for a month in October.
> Going to take some HF gear with me (FT897D),But I need some sort of Balcony
> antenna for HF bands (prob 20mtrs would be ok)does anyone have any ideas
> what i can build or buy for an antenna,with a balcony mount.I am not sure
> what else we there for me to string up,all I know is that we have a
> balcony.I did look at the MFJ 1622 antenna,it look like what I am looking
> for,i need to be able to pack it in a suitcase some how
> Thanks to all who read and respond
> Howard
> VE4ISP

I'd just take some rg-58 coax, and some wire and make a dipole.
Then string it up best you can. IE: one leg could be horizontal
stretching into the building along the floor or ceiling, and the other
end could just hang loose vertical from the balcony.
It's only 16 ft a leg for 20m, so shouldn't be too hard to find a way
to
squeeze it in.
A small weight could hold the hanging end down.
Of course, if there is metal everywhere, coupling to the antenna
could be a problem, and effect tuning.

3032. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 02:56:29 UTC
From: tom <news4792@taring.org>
Message-ID: <4c368fda$0$50151$8046368a@newsreader.iphouse.net>
Source record: 8332

On 7/8/2010 2:44 AM, Szczepan Bialek wrote:
> "lu6etj"<lu6etj@gmail.com> wrote
> news:ba1ab27b-6f05-4612-bf66-0b12de1cd4fa@k39g2000yqd.googlegroups.com...
> On 7 jul, 16:55, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>
>>> This principle is used today to produce the light in the free electron
>> laser: http://en.wikipedia.org/wiki/File:FEL_principle.png
>
>> Yes, very interesting example (and device),
>
>> Respect to DC current EM radiation, In that time Richard bring an
> interesting example of 20 kV electron rectilinear beam rendering a
> frequency of 34.6 EHz, the calculus it was quite right, but that
> frequency it is not EM waves radiated by electrons but a "matter wave'
> frequency... (idem with car analogy => not charged and acelerated
> cars :>) do not radiates EM waves, but may have a matter wave
> asociated to them).
>
> Each waves are the matter waves. The speed is the particles mass dependent.
> So in the wire the sound waves travel with the low speed (medium are ions),
> and the electric waves (medium are the free electrons) with the extremally
> high speed.
>
>> For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
> physics books are very useful to helping us to better understand and
> enjoy our ham topics.
>
> For graduated is the field math only.
> S*
>
> 73 - Miguel
>
>

You guys are better than Monty Python.

tom
K0TAR

3033. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 03:00:09 UTC
From: tom <news4792@taring.org>
Message-ID: <4c3690b7$0$50151$8046368a@newsreader.iphouse.net>
Source record: 8333

On 7/7/2010 6:08 PM, Keith Dysart wrote:
> On Jul 7, 12:57 pm, Cecil Moore<w5...@hotmail.com> wrote:
>> On Jul 7, 6:04 am, Keith Dysart<keith.dys...@gmail.com> wrote:
>>
>>> At a junction, where charge can not be stored, this reduces to
>>
>> Sorry, your examples are irrelevant to the technical fact that there
>> is no conservation of current principle because charge can be stored.
>> Until you can prove a conservation of current principle, you are
>> wasting my time.
>
> This is toooooo amusing.
>
> You refuse to start to examine the proof because it has not yet been
> proved ... which can not happen until you examine the proof.
>
> You are truly amazing at developing mind stopping techniques that
> inhibit your ability to learn.
>
> ...Keith

Yup. Monty Python can't compete.

"My brain hurts!", "Mummy, I want more beans!", aren't even close to
these guys.

tom
K0TAR

3034. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 06:16:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c36bec8$0$2606$65785112@news.neostrada.pl>
Source record: 8334

"lu6etj" <lu6etj@gmail.com> wrote
news:7ba51701-0b3a-4101-8a9c-f16f448026b2@j8g2000yqd.googlegroups.com...
On 8 jul, 04:44, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Each waves are the matter waves. The speed is the particles mass
>> dependent.
>> So in the wire the sound waves travel with the low speed (medium are
>> ions),
>> and the electric waves (medium are the free electrons) with the
>> extremally
>> high speed.
>
>> >For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
>
>>> physics books are very useful to helping us to better understand and
> enjoy our ham topics.
>
>> For graduated is the field math only.

>Hello Szczepan, good day:

>I do not know if I undestood quit right your sentences (we are both
out of our native lenaguage) correct me if I am wrong.

Such as we have more troubles with writting than with understanding.

>Today we do not conceive unverse as a material thing, then if you want
to say with "each waves are material waves" that all is mater you are
talking with century XIX words/concepts.

Some things were discovered before XIX century. Many more after.

>However matter waves are not neither mater nor energy waves, they are
"probabilty waves", probability it is not a "thing", it is a
mathematical concept, surely you know that.

The new concepts are create every day. All must be verified by experiments.

All concepts on "inmaterial waves" was created by scientists who did not
know that in the space is matter.
Ludwig Lorenz know that because he had known what the sublimation is.
"surely you know that" also.

If you accept the matter in the space when you do not need the EM waves and
"probabilty waves".
S*

.

3035. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 12:16:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f25a8678-4858-437f-90b6-6f9c6042459f@j4g2000yqh.googlegroups.com>
Source record: 8335

On Jul 9, 6:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "lu6etj" <lu6...@gmail.com>
wrotenews:7ba51701-0b3a-4101-8a9c-f16f448026b2@j8g2000yqd.googlegroups.com...
> On 8 jul, 04:44, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> Each waves are the matter waves. The speed is the particles mass
> >> dependent.
> >> So in the wire the sound waves travel with the low speed (medium are
> >> ions),
> >> and the electric waves (medium are the free electrons) with the
> >> extremally
> >> high speed.
>
> >> >For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
>
> >>> physics books are very useful to helping us to better understand and
> > enjoy our ham topics.
>
> >> For graduated is the field math only.
> >Hello Szczepan, good day:
> >I do not know if I undestood quit right your sentences (we are both
>
> out of our native lenaguage) correct me if I am wrong.
>
> Such as we have more troubles with writting than with understanding.
>
> >Today we do not conceive unverse as a material thing, then if you want
>
> to say with "each waves are material waves" that all is mater you are
> talking with century XIX words/concepts.
>
> Some things were discovered before XIX century. Many more after.
>
> >However matter waves are not neither mater nor energy waves, they are
>
> "probabilty waves", probability it is not a "thing", it is a
> mathematical concept, surely you know that.
>
> The new concepts are create every day. All must be verified by experiments.
>

> All concepts on "inmaterial waves" was created by scientists who did not
> know that in the space is matter.
> Ludwig Lorenz know that because he had known what the sublimation is.
> "surely you know that" also.
>
> If you accept the matter in the space when you do not need the EM waves and
> "probabilty waves".
> S*
>
> .

don't worry about mr. b... he is stuck in the 19th century. some day
he may discover that some of the fun things they thought about back
then like magnetic vortices and aether were soundly debunked in the
20th century.

3036. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 12:50:07 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <06b27208-240c-40b1-acf6-0cff2635ebf6@c10g2000yqi.googlegroups.com>
Source record: 8336

On 9 jul, 09:16, K1TTT <k1...@arrl.net> wrote:
> On Jul 9, 6:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > "lu6etj" <lu6...@gmail.com>
wrotenews:7ba51701-0b3a-4101-8a9c-f16f448026b2@j8g2000yqd.googlegroups.com...
> > On 8 jul, 04:44, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > > Each waves are the matter waves. The speed is the particles mass
> > > > dependent.
> > > > So in the wire the sound waves travel with the low speed (medium are
> > > > ions),
> > > > and the electric waves (medium are the free electrons) with the
> > > > extremally
> > > > high speed.
>
> > > > >For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
>
> > > >> physics books are very useful to helping us to better understand and
> > > > enjoy our ham topics.
>
> > > > For graduated is the field math only.
> > > >Hello Szczepan, good day:
> > > >I do not know if I undestood quit right your sentences (we are both
>
> > out of our native lenaguage) correct me if I am wrong.
>
> > Such as we have more troubles with writting than with understanding.
>
> > >Today we do not conceive unverse as a material thing, then if you want
>
> > to say with "each waves are material waves" that all is mater you are
> > talking with century XIX words/concepts.
>
> > Some things were discovered before XIX century. Many more after.
>
> > >However matter waves are not neither mater nor energy waves, they are
>
> > "probabilty waves", probability it is not a "thing", it is a
> > mathematical concept, surely you know that.
>

> > The new concepts are create every day. All must be verified by experiments.
>
> > All concepts on "inmaterial waves" was created by scientists who did not
> > know that in the space is matter.
> > Ludwig Lorenz know that because he had known what the sublimation is.
> > "surely you know that" also.
>
> > If you accept the matter in the space when you do not need the EM waves and
> > "probabilty waves".
> > S*
>
> > .
>
> don't worry about mr. b... he is stuck in the 19th century. some day
> he may discover that some of the fun things they thought about back
> then like magnetic vortices and aether were soundly debunked in the
> 20th century.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

3037. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 13:42:50 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b7c8bc1b-1c0b-4816-a7e8-448b4a29afab@u7g2000yqm.googlegroups.com>
Source record: 8337

On 9 jul, 09:16, K1TTT <k1...@arrl.net> wrote:
> On Jul 9, 6:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > "lu6etj" <lu6...@gmail.com>
wrotenews:7ba51701-0b3a-4101-8a9c-f16f448026b2@j8g2000yqd.googlegroups.com...
> > On 8 jul, 04:44, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > > Each waves are the matter waves. The speed is the particles mass
> > > > dependent.
> > > > So in the wire the sound waves travel with the low speed (medium are
> > > > ions),
> > > > and the electric waves (medium are the free electrons) with the
> > > > extremally
> > > > high speed.
>
> > > > >For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
>
> > > >> physics books are very useful to helping us to better understand and
> > > > enjoy our ham topics.
>
> > > > For graduated is the field math only.
> > > >Hello Szczepan, good day:
> > > >I do not know if I undestood quit right your sentences (we are both
>
> > out of our native lenaguage) correct me if I am wrong.
>
> > Such as we have more troubles with writting than with understanding.
>
> > >Today we do not conceive unverse as a material thing, then if you want
>
> > to say with "each waves are material waves" that all is mater you are
> > talking with century XIX words/concepts.
>
> > Some things were discovered before XIX century. Many more after.
>
> > >However matter waves are not neither mater nor energy waves, they are
>
> > "probabilty waves", probability it is not a "thing", it is a
> > mathematical concept, surely you know that.
>

> > The new concepts are create every day. All must be verified by experiments.
>
> > All concepts on "inmaterial waves" was created by scientists who did not
> > know that in the space is matter.
> > Ludwig Lorenz know that because he had known what the sublimation is.
> > "surely you know that" also.
>
> > If you accept the matter in the space when you do not need the EM waves and
> > "probabilty waves".
> > S*
>
> > .
>
> don't worry about mr. b... he is stuck in the 19th century. some day
> he may discover that some of the fun things they thought about back
> then like magnetic vortices and aether were soundly debunked in the
> 20th century.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Well, then I will have to dust my book about caloric and
phlogyston... :>)

Miguel

3038. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 13:52:08 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <hi9e36p51of305fup7htlvoc6uo4th5lgv@4ax.com>
Source record: 8338

On Wed, 7 Jul 2010 14:56:59 -0400, "Ralph Mowery"
<rmowery28146@earthlink.net> wrote:

>Over the years I have seen many patterns for horizontal dipoles and the
>inverted V antennas,but do not recall seeing any V shaped patterns in the
>books. That is a dipole that is supported on the ends, but sag in the
>middle. I know the sag is needed to some extent because of the weight of
>the wire and feedline, but what happens to the pattern if it is say 1/2
>wavelength or 1/4 wavelengths at the ends and the sag in the middle is
>changed. Maybe drop it a few feet, then 10, 15 and 20 feet for 80 meters.
>
>I know that for maximum distance you usually want the high current portions
>up high,but maybe it will be better as a close in or omnidirectional antenna
>if the center is lowered somewhat.
>
My initial EZNEC models of this antenna have not encouraged me to
continue.

In addition to other issues, the pattern tends to be straight up.

I will make certain that any dipoles I put up in the future will have
the center at least as high as the ends.

OTH, I will put on my DO LIST to investigate the characteristics of
turning the antenna on its side. If the pattern merits, I will
consider the matching situation.

Very interesting!
John Ferrell W8CCW

3039. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 16:25:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c374d64$0$2596$65785112@news.neostrada.pl>
Source record: 8339

"K1TTT" <k1ttt@arrl.net> wrote
news:f25a8678-4858-437f-90b6-6f9c6042459f@j4g2000yqh.googlegroups.com...
On Jul 9, 6:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
> >> Each waves are the matter waves. The speed is the particles mass
> >> dependent.
> >> So in the wire the sound waves travel with the low speed (medium are
> >> ions),
> >> and the electric waves (medium are the free electrons) with the
> >> extremally
> >> high speed.
>
>
>> The new concepts are create every day. All must be verified by
>> experiments.
>
>> All concepts on "inmaterial waves" was created by scientists who did not
> know that in the space is matter.
> Ludwig Lorenz know that because he had known what the sublimation is.
> "surely you know that" also.
>
>> If you accept the matter in the space when you do not need the EM waves
>> and
> "probabilty waves".

>don't worry about mr. b... he is stuck in the 19th century.

I am in plasma physics. It is in XXI century. It is nothing wrong that I
know that Ludwig Lorenz discovered space plasma in XIX century.

> some day
he may discover that some of the fun things they thought about back
then like magnetic vortices and aether were soundly debunked in the
20th century.

They were debunked in XIX century.
I do not understand why you and some others use still "magnetic vortices and
aether".
Do not you know that the Heaviside equations describe them"
S*

3040. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 16:30:55 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i17is0jnq1@news.jpl.nasa.gov>
Source record: 8342

John Ferrell wrote:
> On Wed, 7 Jul 2010 14:56:59 -0400, "Ralph Mowery"
> <rmowery28146@earthlink.net> wrote:
>
>> Over the years I have seen many patterns for horizontal dipoles and the
>> inverted V antennas,but do not recall seeing any V shaped patterns in the
>> books. That is a dipole that is supported on the ends, but sag in the
>> middle. I know the sag is needed to some extent because of the weight of
>> the wire and feedline, but what happens to the pattern if it is say 1/2
>> wavelength or 1/4 wavelengths at the ends and the sag in the middle is
>> changed. Maybe drop it a few feet, then 10, 15 and 20 feet for 80 meters.
>>
>> I know that for maximum distance you usually want the high current portions
>> up high,but maybe it will be better as a close in or omnidirectional antenna
>> if the center is lowered somewhat.
>>
> My initial EZNEC models of this antenna have not encouraged me to
> continue.
>
> In addition to other issues, the pattern tends to be straight up.
>

That's likely because the effective height of the antenna is low. A
low antenna on 80m means cloud/worm warmer. (and low, in this context,
means <20m, which is still way up in the sky).

So the traditional single support inverted V has all sorts of advantages:
only one support needed
puts the important part of the antenna (the middle) up high

3041. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 16:54:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bb8877d8-5927-4d02-bd57-fef9fea528e6@i28g2000yqa.googlegroups.com>
Source record: 8340

On Jul 9, 1:42 pm, lu6etj <lu6...@gmail.com> wrote:
> On 9 jul, 09:16, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Jul 9, 6:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > "lu6etj" <lu6...@gmail.com>
wrotenews:7ba51701-0b3a-4101-8a9c-f16f448026b2@j8g2000yqd.googlegroups.com...
> > > On 8 jul, 04:44, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > >> Each waves are the matter waves. The speed is the particles mass
> > > >> dependent.
> > > >> So in the wire the sound waves travel with the low speed (medium are
> > > >> ions),
> > > >> and the electric waves (medium are the free electrons) with the
> > > >> extremally
> > > >> high speed.
>
> > > >> >For these reasons IMHO I think -as Cecil do-: basic (undergraduated?)
>
> > > >>> physics books are very useful to helping us to better understand and
> > > > enjoy our ham topics.
>
> > > >> For graduated is the field math only.
> > > >>Hello Szczepan, good day:
> > > >>I do not know if I undestood quit right your sentences (we are both
>
> > > out of our native lenaguage) correct me if I am wrong.
>
> > > Such as we have more troubles with writting than with understanding.
>
> > > >Today we do not conceive unverse as a material thing, then if you want
>
> > > to say with "each waves are material waves" that all is mater you are
> > > talking with century XIX words/concepts.
>
> > > Some things were discovered before XIX century. Many more after.
>
> > > >However matter waves are not neither mater nor energy waves, they are
>
> > > "probabilty waves", probability it is not a "thing", it is a
> > > mathematical concept, surely you know that.
>

> > > The new concepts are create every day. All must be verified by experiments.
>
> > > All concepts on "inmaterial waves" was created by scientists who did not
> > > know that in the space is matter.
> > > Ludwig Lorenz know that because he had known what the sublimation is.
> > > "surely you know that" also.
>
> > > If you accept the matter in the space when you do not need the EM waves and
> > > "probabilty waves".
> > > S*
>
> > > .
>
> > don't worry about mr. b... he is stuck in the 19th century. some day
> > he may discover that some of the fun things they thought about back
> > then like magnetic vortices and aether were soundly debunked in the
> > 20th century.- Ocultar texto de la cita -
>
> > - Mostrar texto de la cita -
>
> Well, then I will have to dust my book about caloric and
> phlogyston... :>)
>
> Miguel

to talk with mr.b those may be useful!

3042. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 16:55:24 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com>
Source record: 8341

On Jul 9, 4:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:f25a8678-4858-437f-90b6-6f9c6042459f@j4g2000yqh.googlegroups.com...
> On Jul 9, 6:16 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > > >> Each waves are the matter waves. The speed is the particles mass
> > > >> dependent.
> > > >> So in the wire the sound waves travel with the low speed (medium are
> > > >> ions),
> > > >> and the electric waves (medium are the free electrons) with the
> > > >> extremally
> > > >> high speed.
>
> >> The new concepts are create every day. All must be verified by
> >> experiments.
>
> >> All concepts on "inmaterial waves" was created by scientists who did not
> > know that in the space is matter.
> > Ludwig Lorenz know that because he had known what the sublimation is.
> > "surely you know that" also.
>
> >> If you accept the matter in the space when you do not need the EM waves
> >> and
> > > "probabilty waves".
> >don't worry about mr. b... he is stuck in the 19th century.
>
> I am in plasma physics. It is in XXI century. It is nothing wrong that I
> know that Ludwig Lorenz discovered space plasma in XIX century.
>
> > some day
>
> he may discover that some of the fun things they thought about back
> then like magnetic vortices and aether were soundly debunked in the
> 20th century.
>
> They were debunked in XIX century.
> I do not understand why you and some others use still "magnetic vortices and
> aether".
> Do not you know that the Heaviside equations describe them"
> S*

well, then the heaviside equations you are looking at are out of date and worthless... go study what is currently described as maxwell's equations instead.

3043. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 17:16:09 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c37595d$0$17088$65785112@news.neostrada.pl>
Source record: 8343

"K1TTT" <k1ttt@arrl.net> wrote
news:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
On Jul 9, 4:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> They were debunked in XIX century.
> >I do not understand why you and some others use still "magnetic vortices
> >and
> >aether".
> >Do not you know that the Heaviside equations describe them"

>well, then the heaviside equations you are looking at are out of date
and worthless... go study what is currently described as maxwell's
equations instead.

They were debunked by Royal Society. Some years after that Heaviside
reworked them. Royal Society did not accept Heaviside. Now people write what
they want. Why I should go "study what is currently described" about EM.

I prefer real physics.
S*

3044. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 17:35:57 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <13d7624e-bb87-4f77-bc2b-cfd8586b8cb8@i28g2000yqa.googlegroups.com>
Source record: 8344

On Jul 9, 5:16 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
> On Jul 9, 4:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> They were debunked in XIX century.
> > >I do not understand why you and some others use still "magnetic vortices
> > >and
> > >aether".
> > >Do not you know that the Heaviside equations describe them"
> >well, then the heaviside equations you are looking at are out of date
>
> and worthless... go study what is currently described as maxwell's
> equations instead.
>
> They were debunked by Royal Society. Some years after that Heaviside
> reworked them. Royal Society did not accept Heaviside. Now people write what
> they want. Why I should go "study what is currently described" about EM.
>
> I prefer real physics.
> S*

assuming that is the physics of your own little reality that is just
fine.

3045. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 17:47:43 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3bba1f7a-277c-4204-982c-9b8c2e1ebfc7@w31g2000yqb.googlegroups.com>
Source record: 8345

On Jul 9, 5:16 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
> On Jul 9, 4:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> They were debunked in XIX century.
> > >I do not understand why you and some others use still "magnetic vortices
> > >and
> > >aether".
> > >Do not you know that the Heaviside equations describe them"
> >well, then the heaviside equations you are looking at are out of date
>
> and worthless... go study what is currently described as maxwell's
> equations instead.
>
> They were debunked by Royal Society. Some years after that Heaviside
> reworked them. Royal Society did not accept Heaviside. Now people write what
> they want. Why I should go "study what is currently described" about EM.
>
> I prefer real physics.
> S*

assuming that is the physics of your own little reality that is just
fine.

3046. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 18:08:17 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <uKOdneh_FNS7-KrRnZ2dnUVZ_jCdnZ2d@earthlink.com>
Source record: 8346

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:i17is0jnq1@news.jpl.nasa.gov...
.
>>
>
> That's likely because the effective height of the antenna is low. A low
> antenna on 80m means cloud/worm warmer. (and low, in this context, means
> <20m, which is still way up in the sky).
>
> So the traditional single support inverted V has all sorts of advantages:
> only one support needed
> puts the important part of the antenna (the middle) up high

For many it is difficult to get an antenna up more than 60 feet. That is close to 1/4 wavelength or less. My back yard has trees on each side and it was easy to string a dipole close to 60 feet on the ends,but no way to support the antenna in the middle. That was why the question of should I string the dipole as tight as possiable with out breaking or adjust the drop in the middle to some optimum distance for what I want to do. I sort of thought the mort horizontal it is the beter the signal would be at a distance, but there may be an optimal angle to have a 200 to 300 mile antenna.

3047. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-09 18:13:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2cpe36dvem4t07tdaam0hu5h5agk2v1dkh@4ax.com>
Source record: 8347

On Fri, 9 Jul 2010 14:08:17 -0400, "Ralph Mowery"
<rmowery28146@earthlink.net> wrote:

>For many it is difficult to get an antenna up more than 60 feet. That is
>close to 1/4 wavelength or less. My back yard has trees on each side and
>it was easy to string a dipole close to 60 feet on the ends,but no way to
>support the antenna in the middle. That was why the question of should I
>string the dipole as tight as possiable with out breaking or adjust the drop
>in the middle to some optimum distance for what I want to do. I sort of
>thought the mort horizontal it is the beter the signal would be at a
>distance, but there may be an optimal angle to have a 200 to 300 mile
>antenna.

Hi Ralph,

John's suggestion of using EZNEC in its free version would easily
answer all the questions, test all the assertions, and find all the
unstated characteristics in one fell swoop. It would also let you
find the necessary attributes to obtain your goal.

EZNEC would do all this faster than the 12 blind men trying to
describe an elephant.

However, as for your several questions above. You are not going to
discover gold at the end of the rainbow by tightening the droop. In
fact, getting it to an optimal height (as has been hammered home
several times as a principle necessity) won't budge your distant
contact's S-Meter more than a couple dB (about the width of the
needle).

73's
Richard Clark, KB7QHC

3048. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 01:13:40 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrni3f0ni.2hro.knock_yourself_out@shell.config.com>
Source record: 8348

On Fri, 9 Jul 2010 10:35:57 -0700 (PDT), K1TTT wrote:
> On Jul 9, 5:16ï¿½pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> ï¿½"K1TTT" <k1...@arrl.net>
wrotenews:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
>> On Jul 9, 4:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>>
>>
>> >> They were debunked in XIX century.
>> > >I do not understand why you and some others use still "magnetic vortices
>> > >and
>> > >aether".
>> > >Do not you know that the Heaviside equations describe them"
>> >well, then the heaviside equations you are looking at are out of date
>>
>> and worthless... go study what is currently described as maxwell's
>> equations instead.
>>
>> They were debunked by Royal Society. Some years after that Heaviside
>> reworked them. Royal Society did not accept Heaviside. Now people write what
>> they want. Why I should go "study what is currently described" about EM.
>>
>> I prefer real physics.
>> S*
>
> assuming that is the physics of your own little reality that is just
> fine.

Please God, let this thread die!

3049. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 03:32:50 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <2b50b186-515f-472b-b454-1c1bde7025eb@u7g2000yqm.googlegroups.com>
Source record: 8349

On 9 jul, 22:13, Allodoxaphobia <knock_yourself_...@example.net>
wrote:
> On Fri, 9 Jul 2010 10:35:57 -0700 (PDT), K1TTT wrote:
> > On Jul 9, 5:16 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >> "K1TTT" <k1...@arrl.net>
wrotenews:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
> >> On Jul 9, 4:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> >> They were debunked in XIX century.
> >> > >I do not understand why you and some others use still "magnetic vortices
> >> > >and
> >> > >aether".
> >> > >Do not you know that the Heaviside equations describe them"
> >> >well, then the heaviside equations you are looking at are out of date
>
> >> and worthless... go study what is currently described as maxwell's
> >> equations instead.
>
> >> They were debunked by Royal Society. Some years after that Heaviside
> >> reworked them. Royal Society did not accept Heaviside. Now people write what
> >> they want. Why I should go "study what is currently described" about EM.
>
> >> I prefer real physics.
> >> S*
>
> > assuming that is the physics of your own little reality that is just
> > fine.
>
> Please God, let this thread die!- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

You have been forced to read it? Call the police ! (911)

3050. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 03:43:52 UTC
From: tom <news4792@taring.org>
Message-ID: <4c37ec75$0$633$8046368a@newsreader.iphouse.net>
Source record: 8350

On 7/9/2010 8:13 PM, Allodoxaphobia wrote:
> On Fri, 9 Jul 2010 10:35:57 -0700 (PDT), K1TTT wrote:
>> On Jul 9, 5:16 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>> "K1TTT"<k1...@arrl.net>
wrotenews:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
>>> On Jul 9, 4:25 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>
>>>
>>>
>>>>> They were debunked in XIX century.
>>>>> I do not understand why you and some others use still "magnetic vortices
>>>>> and
>>>>> aether".
>>>>> Do not you know that the Heaviside equations describe them"
>>>> well, then the heaviside equations you are looking at are out of date
>>>
>>> and worthless... go study what is currently described as maxwell's
>>> equations instead.
>>>
>>> They were debunked by Royal Society. Some years after that Heaviside
>>> reworked them. Royal Society did not accept Heaviside. Now people write what
>>> they want. Why I should go "study what is currently described" about EM.
>>>
>>> I prefer real physics.
>>> S*
>>
>> assuming that is the physics of your own little reality that is just
>> fine.
>
>
> Please God, let this thread die!

If it causes you pain I'd suggest filtering this thread out.

If you don't know how to do it I'm sure someone here would help you.
They are incredibly helpful. When they agree on something.

tom
K0TAR

3051. HOT N JOBS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 05:56:27 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <3a4b63f8-cb23-4302-8cc0-25b063bfd40f@u38g2000prh.googlegroups.com>
Source record: 8401

hot kiss
http://photoseefree.blogspot.com/2009/12/hot-kiss.html
hot lip kiss
http://photoseefree.blogspot.com/2009/12/hot-lip-kiss.html
hot navel kiss
http://photoseefree.blogspot.com/2009/12/hot-navel-kiss.html
hot lip to lip kiss
http://photoseefree.blogspot.com/2009/12/hot-lip-to-lip-kiss.html
super lip kiss
http://photoseefree.blogspot.com/2009/12/super-lip-kiss.html
lip kiss club
http://photoseefree.blogspot.com/2009/12/lip-kiss-club.html
kiss club
http://photoseefree.blogspot.com/2009/12/kiss-club.html

FOR JOBS

work from home
http://anyjobseehere.blogspot.com/2009/12/work-from-home.html
online jobs
http://anyjobseehere.blogspot.com/2009/12/online-jobs.html
java jobs
http://anyjobseehere.blogspot.com/2009/12/java-jobs.html
oracle jobs
http://anyjobseehere.blogspot.com/2009/12/oracle-jobs.html
web designing jobs
http://anyjobseehere.blogspot.com/2009/12/web-designing-jobs.html

3052. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 10:28:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ce6222f7-9878-4dee-82b3-f39a4f6af193@i28g2000yqa.googlegroups.com>
Source record: 8402

On Jul 10, 1:13 am, Allodoxaphobia <knock_yourself_...@example.net>
wrote:
> On Fri, 9 Jul 2010 10:35:57 -0700 (PDT), K1TTT wrote:
> > On Jul 9, 5:16 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >> "K1TTT" <k1...@arrl.net>
wrotenews:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
> >> On Jul 9, 4:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> >> They were debunked in XIX century.
> >> > >I do not understand why you and some others use still "magnetic vortices
> >> > >and
> >> > >aether".
> >> > >Do not you know that the Heaviside equations describe them"
> >> >well, then the heaviside equations you are looking at are out of date
>
> >> and worthless... go study what is currently described as maxwell's
> >> equations instead.
>
> >> They were debunked by Royal Society. Some years after that Heaviside
> >> reworked them. Royal Society did not accept Heaviside. Now people write what
> >> they want. Why I should go "study what is currently described" about EM.
>
> >> I prefer real physics.
> >> S*
>
> > assuming that is the physics of your own little reality that is just
> > fine.
>
> Please God, let this thread die!

NEVER!

3053. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 10:28:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5bc3375f-e08b-4f6d-9b3d-0b6fca0077b3@e5g2000yqn.googlegroups.com>
Source record: 8403

On Jul 10, 3:43 am, tom <news4...@taring.org> wrote:
> On 7/9/2010 8:13 PM, Allodoxaphobia wrote:
>
>
>
> > On Fri, 9 Jul 2010 10:35:57 -0700 (PDT), K1TTT wrote:
> >> On Jul 9, 5:16 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
> >>>   "K1TTT"<k1...@arrl.net>
 wrotenews:1bb50e96-af80-4538-96cd-a8ee72bd520f@a30g2000yqn.googlegroups.com...
> >>> On Jul 9, 4:25 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>
> >>>> They were debunked in XIX century.
> >>>> I do not understand why you and some others use still "magnetic vortices
> >>>> and
> >>>> aether".
> >>>> Do not you know that the Heaviside equations describe them"
> >>> well, then the heaviside equations you are looking at are out of date
>
> >>> and worthless... go study what is currently described as maxwell's
> >>> equations instead.
>
> >>> They were debunked by Royal Society. Some years after that Heaviside
> >>> reworked them. Royal Society did not accept Heaviside. Now people write what
> >>> they want. Why I should go "study what is currently described" about EM.
>
> >>> I prefer real physics.
> >>> S*
>
> >> assuming that is the physics of your own little reality that is just
> >> fine.
>
> > Please God, let this thread die!
>
> If it causes you pain I'd suggest filtering this thread out.
>
> If you don't know how to do it I'm sure someone here would help you.
> They are incredibly helpful. When they agree on something.
>
> tom
> K0TAR

but when has that ever happened?

3054. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 14:01:51 UTC
From: tom <news4792@taring.org>
Message-ID: <4c387d4b$0$633$8046368a@newsreader.iphouse.net>
Source record: 8404

On 7/10/2010 5:28 AM, K1TTT wrote:
> On Jul 10, 3:43 am, tom<news4...@taring.org> wrote:
>>>> fine.
>>
>>> Please God, let this thread die!
>>
>> If it causes you pain I'd suggest filtering this thread out.
>>
>> If you don't know how to do it I'm sure someone here would help you.
>> They are incredibly helpful. When they agree on something.
>>
>> tom
>> K0TAR
>
> but when has that ever happened?

Exactly. :)

tom
K0TAR

3055. Simple Hack To Get $2000 To Your PayPal Account

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 16:28:58 UTC
From: jolie <maaindia16@gmail.com>
Message-ID: <0dbb9f8b-7176-4e5e-afae-f85e21547750@i18g2000pro.googlegroups.com>
Source record: 8405

Simple Hack To Get $2000 To Your PayPal Account.
At http://clickandstart.co.cc

Due to high security risks, i have hidden the PayPal Form link in an
image. in that website On search box Top Side, click on image
and enter your PayPal id And Your name. please don,t tell to anyone.

3056. Re: what happens to reflected energy ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 16:51:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c38a509$0$17086$65785112@news.neostrada.pl>
Source record: 8406

"K1TTT" <k1ttt@arrl.net> wrote
news:ce6222f7-9878-4dee-82b3-f39a4f6af193@i28g2000yqa.googlegroups.com...
>
>> Please God, let this thread die!

>NEVER!

I know. You appreciate my free lectures.

Now is time for the solitons: http://en.wikipedia.org/wiki/Soliton

Real waves are not simetrical. They are the chain of solitons. Radio waves
also.
S*

3057. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 18:12:44 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <btbh361hrbcfbs6hgppirup23s5sh0rhbu@4ax.com>
Source record: 8407

On Thu, 17 Jun 2010 09:05:11 -0700 (PDT), "R.Scott" <w7psk@yahoo.com>
wrote:

>> The problem with holding a few parameters constant is that you have to
>> accept whatever gain, patterns and such that come with the deal.
>
>Well I did find plans for a 6 elem on a 17.5ft boom. The boom on the
>old A4S is 18Ft. If I use the parts off my old A3
>and my A4 I should be able to come up with all the parts for the 6
>element. And its direct connect.
I'm a bit late to the party, but...

To me that seems like a lot of elements on a short boom, (I use 7L on
a 29' boom) but properly adjusted they can give more band width rather
than gain as gain is more a function of boom length. Also, how do they
get 50 ohms at the feed point of a dipole driven element in a 6L
Yagi?

Direct connect can work, but how well is another question. It may
give a good match, it may transfer the power efficiently, but again
the question is, how well does it work.

Jim Brown's (K9YC), A Ham's Guide to RFI, Ferrites, Baluns, and Audio
Interfacing ...
www.audiosystemsgroup.com/RFI-Ham.pdf is well worth reading. when it
comes to using toroids and the old "coil of coax" as a rather
inefficient current balun (which I used for years).

I worked a station down in Central America (on six) who had his new
rig on the bench testing it with a short piece of wire stuck in the
coax connector...I'm in Michigan. He could have said, that short piece
of wire on the bench was a good antenna...at that moment.

But given you get a good match, the pattern is still going to be
distorted. You can take 4 2.4" OD toroid cores with 4 or 5 turns of
coax through them to make a very good current balun (bout 5,000 ohms
isolation) and center feed a split driven element, then the antenna
is not really "direct connect" as the "matching device" is between the
feed line and antenna even though it can be the end 5 to 8' of coax
wound on the cores.

BTW, run the coax through the toroids before installing the connector

>
>
>I wonder how far above the A4 the 6 meter needs to be. I only have a
>5ft mast.

Should be and what you can get away with are often quite different. A friend has a bunch of antennas on one tower that are all way closer than they *should* be, but he gets acceptable performance, at least to him and that's all that counts. Having said that, 5' would be considered very close and 10' would be much better. OTOH you will probably be satisfied with the performance over a simple antenna. All antennas are a series of compromises as are installations. IOW we use what we have and hope for the best. You only have a 5' mast, so I assume that a taller mast is out of the question which makes "how far apart do they need to be" a moot question. Then the real question is: Will they work with only 5' of spacing? The answer is ... Probably and they probably will work fairly well.

One element to keep in mind (no pun intended) is with the antennas only 5' apart they may tend to detune one or both a bit and also lower the feed point impedance. But it's what you have and you won't know until you try.

Getting things to work is half the fun, at least it is to me...as long as getting the project to work does not run into frustration. <:-))

73 & Good Luck.

Roger (K8RI)
>
>my DX800 rotor should handle it.
>

3058. Re: V antenna paterns

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-10 21:47:16 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <sfqh36pq1svlc2c5822s9ptrlu6lge6u71@4ax.com>
Source record: 8408

On Fri, 09 Jul 2010 09:30:55 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>John Ferrell wrote:
>> On Wed, 7 Jul 2010 14:56:59 -0400, "Ralph Mowery"
>> <rmowery28146@earthlink.net> wrote:
>>
>>> Over the years I have seen many patterns for horizontal dipoles and the
>>> inverted V antennas,but do not recall seeing any V shaped patterns in the
>>> books. That is a dipole that is supported on the ends, but sag in the
>>> middle. I know the sag is needed to some extent because of the weight of
>>> the wire and feedline, but what happens to the pattern if it is say 1/2
>>> wavelength or 1/4 wavelengths at the ends and the sag in the middle is
>>> changed. Maybe drop it a few feet, then 10, 15 and 20 feet for 80 meters.
>>>
>>> I know that for maximum distance you usually want the high current portions
>>> up high,but maybe it will be better as a close in or omnidirectional antenna
>>> if the center is lowered somewhat.
>>>
>> My initial EZNEC models of this antenna have not encouraged me to
>> continue.
>>
>> In addition to other issues, the pattern tends to be straight up.
>>
>
>That's likely because the effective height of the antenna is low. A
>low antenna on 80m means cloud/worm warmer. (and low, in this context,
>means <20m, which is still way up in the sky).
>
>So the traditional single support inverted V has all sorts of advantages:
>only one support needed
>puts the important part of the antenna (the middle) up high
The model I was working with was at 14 mhz with the feed point at
about four feet.
John Ferrell W8CCW

3059. HOT VIDEOS AND JOBS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-11 02:16:16 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <19baeeee-cb43-4bd5-b01b-002d1c6718a9@i18g2000pro.googlegroups.com>
Source record: 8409

HOT SEXY VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-sexy-videos.html
HOT KISS VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-kiss-videos.html
HOT ROMANTIC VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-romantic-videos.html
HOT LIP KISS BEST VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-lip-kiss-best-videos.html

jobs
java jobs
http://allfreshersjobsseehere.blogspot.com/2009/02/java-jobs.html
oracle jobs
http://allfreshersjobsseehere.blogspot.com/2009/02/oracle-jobs.html
work from home
http://allfreshersjobsseehere.blogspot.com/2009/02/work-from-home.html
make money from online
http://allfreshersjobsseehere.blogspot.com/2009/02/make-money-from-online.html
online work
http://allfreshersjobsseehere.blogspot.com/2009/02/online-work.html

3060. Re: coax short supply

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-11 15:35:09 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <i1cobfcta1@adenine.netfront.net>
Source record: 8410

On 07/08/2010 06:30 PM, Roger wrote:
> On Fri, 2 Jul 2010 15:00:03 -0700 (PDT), Gary<jgboyles@aol.com>
> wrote:
>
>> On Jul 2, 9:28 am, "Ralph Mowery"<rmowery28...@earthlink.net> wrote:
>>> Is there a shortage in the supply of coax ? A ham up the road has been
>>> trying to get some rg8x from The Wireman for a couple of weeks. They are
>>> out and said they should have some in soon.
>>>
>>> There was also some mention of shortage of the open wire\twinlead type.
>>>
>>> Is it just this place or is there some shortage in the US of coax and antena
>>> wire.
>>> What about the other coax such as the rg8 size ?
>>
>> I ran in to the same thing last August at the Huntsville, Al. hamfest-
>> no 450 ohm open wire line. The high cost of copper prohibits them
>>from keeping too much inventory on hand. Apparently not much has
>> changed since August.
>
> The cost of Copper(World wide) hit an all time high about a year ago,
> (maybe a bit more) by, IIRC more than rippling, but then dropped
> substantially, although not to the original level. It has been working
> its way back up slowly.
>
> Another commodity that has skyrocketed is wood. My neighbor did a
> remodeling job this spring and saw the price of plywood take a
> tremendous jump. Again, this is world wide, not a local or country
> wide problem.
>

A lot of plywood comes from Chile and Brasil. Now, all of it is used in
new buildings after the earthquake in Chile and Haiti

> The economies of the two most populous countries are taking off at
> fantastic rates. In the next decade India will have more college
> graduates entering the middle class than the entire population of the
> US. China has an almost unbelievable housing boom.
>
> Don't expect things to get much cheaper.
>
>
> 73
>
> Roger (K8RI)

>>
>> Gary N4AST

Alejandro Lieber
Rosario Argentina

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3061. Simple Hack To Get $2000 To Your PayPal Account

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-11 16:08:51 UTC
From: chantodu <chantikotyada3@gmail.com>
Message-ID: <c5cbfc3a-a89f-4324-a664-cff235677cb9@z34g2000pro.googlegroups.com>
Source record: 8411

Simple Hack To Get $2000 To Your PayPal Account.
At http://ukcollegegirls.co.cc

Due to high security risks, i have hidden the PayPal Form link in an
image. in that website On search box Top Side, click on image
and enter your PayPal id And Your name. please don,t tell to any
One.

3062. Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 01:30:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2dfn365u11taibqlig1u79i808072nivrh@4ax.com>
Source record: 8412

Re:
http://www.nytimes.com/2010/07/13/technology/13apple.html?hpw

"Consumer Reports, Americaï¿½s trusted source of product reviews, said it would not recommend the iPhone 4 because of a hardware flaw with its antenna that sometimes resulted in dropped calls.

"... its antenna, which is built into a steel band that encases the phone.

"After users reported problems with signal strength and dropped calls when they touched the lower-left portion of the phone, however, Apple suggested that consumers hold the phone differently or use one of many bumpers to insulate the antenna. It also said that all phones suffered from similar problems when they were cradled a certain way.

"These comments were widely laughed at in gadget blogs. "

Just thought I would submit this to the Laughing Academy.

73's
Richard Clark, KB7QHC

3063. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 02:19:06 UTC
From: tom <news4792@taring.org>
Message-ID: <4c3bcd1e$0$633$8046368a@newsreader.iphouse.net>
Source record: 8413

On 7/12/2010 8:30 PM, Richard Clark wrote:
> Re:
> http://www.nytimes.com/2010/07/13/technology/13apple.html?hpw
>
> "Consumer Reports, Americaï¿½s trusted source of product reviews, said
> it would not recommend the iPhone 4 because of a hardware flaw with
> its antenna that sometimes resulted in dropped calls.
>
> "... its antenna, which is built into a steel band that encases the
> phone.
>
> "After users reported problems with signal strength and dropped calls
> when they touched the lower-left portion of the phone, however, Apple
> suggested that consumers hold the phone differently or use one of many
> bumpers to insulate the antenna. It also said that all phones suffered
> from similar problems when they were cradled a certain way.
>
> "These comments were widely laughed at in gadget blogs."
>
> Just thought I would submit this to the Laughing Academy.
>
> 73's
> Richard Clark, KB7QHC

I can't tell from your comments if you think there is a problem with the phone or Consumer Reports.

From what I've heard there are repeatable problems, but I've heard no coherent explanation of what might be occurring.

The thing that seems to be consistent is that left handed users have more reported problems than right handed users.

tom
K0TAR

3064. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 02:46:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <31kn36hpskdfat1dr2oml6nh5ij93sb5l6@4ax.com>
Source record: 8414

On Mon, 12 Jul 2010 21:19:06 -0500, tom <news4792@taring.org> wrote:

>On 7/12/2010 8:30 PM, Richard Clark wrote:
>> Re:
>> http://www.nytimes.com/2010/07/13/technology/13apple.html?hpw
>>
>> "Consumer Reports, Americaï¿½s trusted source of product reviews, said
>> it would not recommend the iPhone 4 because of a hardware flaw with
>> its antenna that sometimes resulted in dropped calls.
>>
>> "... its antenna, which is built into a steel band that encases the
>> phone.
>>
>> "After users reported problems with signal strength and dropped calls
>> when they touched the lower-left portion of the phone, however, Apple
>> suggested that consumers hold the phone differently or use one of many
>> bumpers to insulate the antenna. It also said that all phones suffered
>> from similar problems when they were cradled a certain way.
>>
>> "These comments were widely laughed at in gadget blogs."
>>
>> Just thought I would submit this to the Laughing Academy.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>I can't tell from your comments if you think there is a problem with the
>phone or Consumer Reports.

Hi Tom,

By any account, there's a problem. Now, as the iPhone has had
demonstrable connection issues in the past, it was blamed on AT&T who
bore the brunt of that criticism.

Reports long following this past connection problem has borne out that
AT&T had adequate 3G capacity, and AT&T chose to take the bullet for
their customer (Apple, if anyone has lost track) who had a marginal
design in their protocol stack (poor through-put and high retry
traffic).

> From what I've heard there are repeatable problems, but I've heard no
>coherent explanation of what might be occurring.

The NYT article's symptomology bears out across many reports from a
variety of sources.

>The thing that seems to be consistent is that left handed users have
>more reported problems than right handed users.

That would be apocryphal, at best.

The short answer is that fashion trumps technology. The rising trend of using the iPhone as an eReader flies in the face of what was formerly a nebbish activity. Fashion forced the turnaround, not the technology (I've been reading books on my Palm Pilot for 6 years - I have not suddenly become an ï¿½ber-hip literary savant overnight by virtue of that trend as anyone here will quickly testify.)

The only thing that remains a mystery, for me if for no one else here, is the literal specification of the antenna. Google (gasp) fails me.

73's
Richard Clark, KB7QHC

3065. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 02:54:17 UTC
From: tom <news4792@taring.org>
Message-ID: <4c3bd559$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8415

On 7/12/2010 9:46 PM, Richard Clark wrote:
>
> The only thing that remains a mystery, for me if for no one else here,
> is the literal specification of the antenna. Google (gasp) fails me.
>
> 73's
> Richard Clark, KB7QHC

And that does seem to be the crux of the matter. What is the antenna?
And what does it interact with that's not, be it part of the phone or
part of the user?

tom
K0TAR

3066. Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 04:21:24 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <e802f6fa-b0e1-471b-bf31-8efd8015d1f9@5g2000yqz.googlegroups.com>
Source record: 8416

Can anyone make a recommendation, based on actual training and experience, as to what width and thickness of copper strap would be needed as the down conductor from the antenna mounts at the peak of my house roof, some twenty five feet above local terrain. I have a a mount for an antenna at one gable end and a mount for a weather station sensor array at the other. What thickness and width should I use in the earth between the two Grounding Electrode Systems. I will drive five eighths inch copper rods, each eight feet long as far out from the foundation as I can get them or eight feet were possible. On one end that will be only six feet due to the proximity of the property line. At all of the other rod locations I will be able to keep them at least eight feet from any underground obstructions. To compensate for the proximity to the foundation wall to the first rod I will use rod couplers and drive it to hard rock or sixteen feet whichever comes first. I'm guessing that in keeping the remaining rods at least eight feet out from the foundation and sixteen feet apart that I will only have four rods total in a ring around the back side of the house. What is the best way to attach the copper strap to the support masts and eve brackets themselves? Do you know of anything that will make a good connection to the one inch galvanized iron pipes that I'm using for support masts?

Can you recommend a technique for bonding the interior grounding buss at the operating position to the exterior vertical copper strap. I have no idea how that is usually done.
--
Tom Horne, W3TDH

3067. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 04:48:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1drn365rkqipaj033t4k37cb94i11s571k@4ax.com>
Source record: 8417

On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4792@taring.org> wrote:

>On 7/12/2010 9:46 PM, Richard Clark wrote:
>>
>> The only thing that remains a mystery, for me if for no one else here,
>> is the literal specification of the antenna. Google (gasp) fails me.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>And that does seem to be the crux of the matter. What is the antenna?
>And what does it interact with that's not, be it part of the phone or
>part of the user?

Hi Tom,

The antenna is reported as being the metal trim that surrounds the perimeter of the phone. As that is much too large for the frequencies involved to be taken literally, there is more to the story that remains clouded. Maybe I'm wrong....

If the loop (or dipole) is suitably matched, it doesn't give much polarization diversity. Perhaps no phone does anyway.

Insofar as being "part of the user," we well know the EM of HTs and the hand/body contribution. If such were the case, then this would be an agnostic problem that users of all mobile phones would complain of (which mildly refutes what the gadget blogs dismissed). On the other hand, the ï¿½ber-hip, whose complaints are more vocal for their "pain," would be outraged at the notion of their simply enjoying the identical experience of techno-trash. Amazing what a 10 fold cost differential brings to your perception of quality of service.

73's
Richard Clark, KB7QHC

3068. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 04:52:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <h1sn36tm99h8aou9892skgp6gag9eo7epj@4ax.com>
Source record: 8418

On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>Can anyone make a recommendation, based on actual training and
>experience, as to what width and thickness of copper strap would be
>needed as the down conductor from the antenna mounts at the peak of my
>house roof, some twenty five feet above local terrain.

Hi Tom,

Consult the NEC code for your area. I have never seen them specify
strap in any situation, and don't try your own interpretations of what
"continuous"or "direct" means.

73's
Richard Clark, KB7QHC

3069. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 06:18:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB4A5EC893F1nonenowhere@61.9.134.55>
Source record: 8419

Tom Horne <hornetd@gmail.com> wrote in news:e802f6fa-b0e1-471b-bf31-8efd8015d1f9@5g2000yqz.googlegroups.com:

> Can anyone make a recommendation, based on actual training and
> experience, as to what width and thickness of copper strap would be ...

In this part of the world, we have an Australian / New Zealand Standard (our version if you like of ANSI, BS etc) which explains the rationale behind lightning protection, a method of estimating the downcurrent for protection design purposes and a process for designing down conductors.

Broadly, the scheme is that downconductors are designed to withstand a few donwstrokes in quick succession without melting the down conductor. If you work from a peak current of 20kA, it would lead to a down conductor in copper of at least 25mm^2 which is about #2 to you folk.

I regularly see hams recommend much thinner down conductors, and can only assume that there is not regulatory guidance or requirement, and I wonder at the effectiveness of using #6 as often recommended, especially aluminium as is often the case. Note that reducing conductor size is a double whammy, you increase the resistance (so the power), and decrease the mass that has to be heated to melting point, and so the energy required.

But, firstly, you should determine if there are regulatory requirements, such as NEC etc.

The question of equipotential bonding conductors ought be dealt with in the same way, though that is not to imply that they will be the same size.

Owen

3070. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 14:52:14 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <lluo36h4rirkqnsjsebe2jds83k7c1ghj4@4ax.com>
Source record: 8420

I don't remember the sources but I have concluded that the Grounding
wire should be no smaller than #6.

More than 8 feet of ground rod is of little consequence.

All ground rods should be tied together. Don't put your house between
two electrodes!

The ground rods are better directly under the structure that they are
protecting.

The system does not absorb massive high energy strikes. It starts
bleeding off the energy before the strike builds and thus minmiizes
the effect.

Home improvement stores sell #6 wire, ground rods and connectors.

On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>Can anyone make a recommendation, based on actual training and
>experience, as to what width and thickness of copper strap would be
>needed as the down conductor from the antenna mounts at the peak of my
>house roof, some twenty five feet above local terrain. I have a a
>mount for an antenna at one gable end and a mount for a weather
>station sensor array at the other. What thickness and width should I
>use in the earth between the two Grounding Electrode Systems. I will
>drive five eighths inch copper rods, each eight feet long as far out
>from the foundation as I can get them or eight feet were possible. On
>one end that will be only six feet due to the proximity of the
>property line. At all of the other rod locations I will be able to
>keep them at least eight feet from any underground obstructions. To
>compensate for the proximity to the foundation wall to the first rod
>I will use rod couplers and drive it to hard rock or sixteen feet
>whichever comes first. I'm guessing that in keeping the remaining
>rods at least eight feet out from the foundation and sixteen feet
>apart that I will only have four rods total in a ring around the back
>side of the house. What is the best way to attach the copper strap to
>the support masts and eve brackets themselves? Do you know of
>anything that will make a good connection to the one inch galvanized
>iron pipes that I'm using for support masts?
>
>Can you recommend a technique for bonding the interior grounding buss
>at the operating position to the exterior vertical copper strap. I
>have no idea how that is usually done.
John Ferrell W8CCW

3071. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 15:30:04 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <e1d41a94-ceb6-4ac8-8784-1ac4c64b4e87@i31g2000yqm.googlegroups.com>
Source record: 8421

On Jul 13, 12:21 am, Tom Horne <horn...@gmail.com> wrote:
> Can anyone make a recommendation, based on actual training and
> experience, as to what width and thickness of copper strap would be
> needed as the down conductor from the antenna mounts at the peak of my
> house roof, some twenty five feet above local terrain. I have a a
> mount for an antenna at one gable end and a mount for a weather
> station sensor array at the other. What thickness and width should I
> use in the earth between the two Grounding Electrode Systems. I will
> drive five eighths inch copper rods, each eight feet long as far out
> from the foundation as I can get them or eight feet were possible. On
> one end that will be only six feet due to the proximity of the
> property line. At all of the other rod locations I will be able to
> keep them at least eight feet from any underground obstructions. To
> compensate for the proximity to the foundation wall to the first rod
> I will use rod couplers and drive it to hard rock or sixteen feet
> whichever comes first. I'm guessing that in keeping the remaining
> rods at least eight feet out from the foundation and sixteen feet
> apart that I will only have four rods total in a ring around the back
> side of the house. What is the best way to attach the copper strap to
> the support masts and eve brackets themselves? Do you know of
> anything that will make a good connection to the one inch galvanized
> iron pipes that I'm using for support masts?
>
> Can you recommend a technique for bonding the interior grounding buss
> at the operating position to the exterior vertical copper strap. I
> have no idea how that is usually done.
> --
> Tom Horne, W3TDH

If you are going to get crazy with a grounding system, ground rods
should be spaced their length. 3 rods can be placed to form an
equilateral triangle. Other geometric arrangements that build on the
triangle pattern are good. An example would be a hexagon representing
6 triangles with a rod at each node. Cant think of the name of the
company right now but they make a lot of lightning suppression and
grounding equipment and have free downloadable info. Im sure googling
lightning arrestor will get it for you.

Jimmie

3072. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 15:32:56 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <0ce66b66-6fa8-4c2e-a497-cf14928989db@y11g2000yqm.googlegroups.com>
Source record: 8422

On Jul 13, 11:30 am, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Jul 13, 12:21 am, Tom Horne <horn...@gmail.com> wrote:
>
>
>
> > Can anyone make a recommendation, based on actual training and
> > experience, as to what width and thickness of copper strap would be
> > needed as the down conductor from the antenna mounts at the peak of my
> > house roof, some twenty five feet above local terrain. I have a a
> > mount for an antenna at one gable end and a mount for a weather
> > station sensor array at the other. What thickness and width should I
> > use in the earth between the two Grounding Electrode Systems. I will
> > drive five eighths inch copper rods, each eight feet long as far out
> > from the foundation as I can get them or eight feet were possible. On
> > one end that will be only six feet due to the proximity of the
> > property line. At all of the other rod locations I will be able to
> > keep them at least eight feet from any underground obstructions. To
> > compensate for the proximity to the foundation wall to the first rod
> > I will use rod couplers and drive it to hard rock or sixteen feet
> > whichever comes first. I'm guessing that in keeping the remaining
> > rods at least eight feet out from the foundation and sixteen feet
> > apart that I will only have four rods total in a ring around the back
> > side of the house. What is the best way to attach the copper strap to
> > the support masts and eve brackets themselves? Do you know of
> > anything that will make a good connection to the one inch galvanized
> > iron pipes that I'm using for support masts?
>
> > Can you recommend a technique for bonding the interior grounding buss
> > at the operating position to the exterior vertical copper strap. I
> > have no idea how that is usually done.
> > --
> > Tom Horne, W3TDH
>
> If you are going to get crazy with a grounding system, ground rods
> should be spaced their length. 3 rods can be placed to form an
> equilateral triangle. Other geometric arrangements that build on the
> triangle pattern are good. An example would be a hexagon representing
> 6 triangles with a rod at each node. Cant think of the name of the
> company right now but they make a lot of lightning suppression and
> grounding equipment and have free downloadable info. Im sure googling
> lightning arrestor will get it for you.
>
> Jimmie

PolyPhazer could be PolyPhaser

Jimmie

3073. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 16:23:31 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <vq0%n.494080$Bs1.105495@en-nntp-01.dc1.easynews.com>
Source record: 8423

On 7/13/2010 9:52 AM, John Ferrell wrote:
> I don't remember the sources but I have concluded that the Grounding
> wire should be no smaller than #6.
>
> More than 8 feet of ground rod is of little consequence.
>
> All ground rods should be tied together. Don't put your house between
> two electrodes!
>
> The ground rods are better directly under the structure that they are
> protecting.
>
> The system does not absorb massive high energy strikes. It starts
> bleeding off the energy before the strike builds and thus minmiizes
> the effect.
>

Exactly! May often see during an electrical disturbance little spikes
off the top point of a lightning rod doing its job.

I've been through many 'lightning events' in my day with the closest
direct strike to a neighbor's tree. Also a former wife in my old house
that was hit after she and new husband had cut all the leads to my
ground rods from high TV antennas.

Marv
W5MTV

> Home improvement stores sell #6 wire, ground rods and connectors.
>
>
>

3074. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 17:52:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB5277B6263Bnonenowhere@61.9.134.55>
Source record: 8424

Owen Duffy <none@no.where> wrote in
news:Xns9DB4A5EC893F1nonenowhere@61.9.134.55:

...
> But, firstly, you should determine if there are regulatory
> requirements, such as NEC etc.

Is "NFPA 780: Standard for the Installation of Lightning Protection
Systems" a relevant standard in your jurisdiction?

Owen

3075. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 18:02:17 UTC
From: dplatt@radagast.org
Message-ID: <9amug7-hc3.ln1@radagast.org>
Source record: 8425

In article <4c3bcd1e$0$633$8046368a@newsreader.iphouse.net>,
tom <news4792@taring.org> wrote:

> From what I've heard there are repeatable problems, but I've heard no
>coherent explanation of what might be occurring.
>
>The thing that seems to be consistent is that left handed users have
>more reported problems than right handed users.

A drawing of the iPhone 4 I saw recently (I think it was in a recent
SJ Mercury News) indicates that there is a deliberate gap in the metal
rim of the iPhone 4 - the rim that serves as the antenna. This gap is
located near the lower left corner of the phone.

If I understand correctly, the iPhone 4 has a tendency to drop calls
if it's held in a way which allows the user's hand to bridge across
this gap... presumably "short-circuiting" the antenna in some way.
A left-handed grip on the phone would put the user's palm right across
the gap - this may be the worst-case situation.

Applying an insulation of some sort to the area of this gap (an iPhone
case, or duct tape), or holding it in a way which doesn't cause the
hand to bridge the gap, reduces or eliminates the problem.

It sounds as if this iPhone has some sort of dipole or loop antenna
design, which requires that a high RF impedance be maintained at this
point. The low RF impedance of human skin is apparently enough to
de-tune or load the antenna in some way which disrupts its function.

Has anyone run across a web site showing a "tear-down" of the iPhone
4, which might clarify its antenna design?

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3076. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 18:05:54 UTC
From: Bruce in alaska <fast@btpost.net>
Message-ID: <fast-D0F55E.10054313072010@unknown.hwng.net>
Source record: 8426

In article <4c3bd559$0$50146$8046368a@newsreader.iphouse.net>,
tom <news4792@taring.org> wrote:

> On 7/12/2010 9:46 PM, Richard Clark wrote:
> >
> > The only thing that remains a mystery, for me if for no one else here,
> > is the literal specification of the antenna. Google (gasp) fails me.
> >
> > 73's
> > Richard Clark, KB7QHC
>
> And that does seem to be the crux of the matter. What is the antenna?
> And what does it interact with that's not, be it part of the phone or
> part of the user?
>
> tom
> K0TAR

There are a number of issues here, that are Mutually Exclusive, but added together cause the iPhone4 to seem to have some problems.

Issue One. Apple has already admitted that the Signal Level algorithm, used in the IPhone4 was seriously flawed in how it displayed Signal Level. (Bars) When the Phone displayed 4 or 5 Bars, it may actually only be receiving at a 1-2 Bar Level. This they have corrected with a Software Patch.

Issue Two. The Multi-Band Antenna design in the iPhone4 is a Kludge Compromise at best, and burying it in the Metal Frame where Left Hand users put the flesh against it, seriously detunes it. Apple is in the process of hiring a small group of Engineers, with expertise in this area.

The combination of these two issues seems to cause, what appears to be a High Signal Level, to drop to "No Bars" when some users grasp the iPhone4 in a particular way. The "Simple Fix" is don't hold it that way. The more complex "Fix" is to redesign the Cellular Antenna, and move it to the Top of the iPhone4. This would require that the BlueTooth/Wifi antenna be redesigned as well. Apple is looking to do that in the 2nd Generation iPhone4.

Just remember that Apple isn't particularly adept in the RF Arena, and the iPhone/iTouch/iPad are their only small products that have RF Antennas, this small. Also remember that some of their Laptops, of past years, had some serious Wifi Antenna placement problems, and remember that Wifi at that time was only a Single Band, not a Three Band System,

like the iPhone4.

Just saying.

--
Bruce in alaska
add <path> after <fast> to reply

3077. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 18:12:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB52ACE76C9Bnonenowhere@61.9.134.55>
Source record: 8427

Owen Duffy <none@no.where> wrote in news:Xns9DB5277B6263Bnonenowhere@
61.9.134.55:

...
> Is "NFPA 780: Standard for the Installation of Lightning Protection
> Systems" a relevant standard in your jurisdiction?

If it is applicable, it seems that for a Class 1 structure (less than 75'
in height???), the requirement for the main down conductor is 57,400
circular mils CSA if copper, that is about 29mm^2 or #2 conductor.

By contrast, #6 is 26,000 circular mils, has approximately twice the
resistance per unit length, half the mass per unit length, and somewhere
just less than 25% of the stroke current withstand of #2.

Owen

3078. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 18:29:46 UTC
From: Bruce in alaska <fast@btpost.net>
Message-ID: <fast-D889CB.10294613072010@unknown.hwng.net>
Source record: 8428

In article
<e802f6fa-b0e1-471b-bf31-8efd8015d1f9@5g2000yqz.googlegroups.com>,
Tom Horne <hornetd@gmail.com> wrote:

> Can anyone make a recommendation, based on actual training and
> experience, as to what width and thickness of copper strap would be
> needed as the down conductor from the antenna mounts at the peak of my
> house roof, some twenty five feet above local terrain. I have a a
> mount for an antenna at one gable end and a mount for a weather
> station sensor array at the other. What thickness and width should I
> use in the earth between the two Grounding Electrode Systems. I will
> drive five eighths inch copper rods, each eight feet long as far out
> from the foundation as I can get them or eight feet were possible. On
> one end that will be only six feet due to the proximity of the
> property line. At all of the other rod locations I will be able to
> keep them at least eight feet from any underground obstructions. To
> compensate for the proximity to the foundation wall to the first rod
> I will use rod couplers and drive it to hard rock or sixteen feet
> whichever comes first. I'm guessing that in keeping the remaining
> rods at least eight feet out from the foundation and sixteen feet
> apart that I will only have four rods total in a ring around the back
> side of the house. What is the best way to attach the copper strap to
> the support masts and eve brackets themselves? Do you know of
> anything that will make a good connection to the one inch galvanized
> iron pipes that I'm using for support masts?
>
> Can you recommend a technique for bonding the interior grounding buss
> at the operating position to the exterior vertical copper strap. I
> have no idea how that is usually done.
> --
> Tom Horne, W3TDH

You seem to be confusing Lightning Ground, Electrical Ground, and RF
Ground, here, and they are basically three different things. If you
build a Lightning Ground, it may, or may not, be an effective Electrical
Ground. Neither of these will be of any use as an RF Ground, unless you
happen to live in a Salt Marsh. You see Copper Strap Grounds, mostly on
Wood, or Plastic Boats, (ships) used to extend the RF Ground, from the
SeaWater, to the Radio, or Antenna Tuner. Here the Strap becomes part of
the Antenna System, and they need to be engineered, so as to provide as
low of impedance connection, between the two as possible, over the
widest Frequency Range. Some work better than others. Some don't work at
all, and the only way the radio functions at all, is because of Good
Band Conditions.

--
Bruce in alaska
add <path> after <fast> to reply

3079. PL-259 on satellite TV coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 19:59:08 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <2c5579a9-50ee-4bf2-93da-14c08c629c8b@t10g2000yqg.googlegroups.com>
Source record: 8429

I must replace the 100+ ft. coax run in a receive-only antenna system that includes a Transi-Tap transient discharger and a Magnetic Longwire Balun impedance transformer, and both have SO-239's.

It used to be RG-58, but foam-dielectric 75-ohm sat-TV coax is everywhere, low-loss, well shielded, cheap etc.and I am sure I can live with the extra mismatch.

However, its shield is aluminum foil. It can't be soldered, so the plug has to be twist-on or maybe crimp-on type. The center conductor is copper or copperclad and therefore can be soldered.

Years ago I did use things that looked like screw-on PL-259's on the 300+ ft. sat-TV coax run that feeds my homemade T2FD. They work perfectly, but I'd be darned if I can find some anymore around here. So I have to buy online unseen, if I can find any. I located exactly one expensive supplier, in the UK, that lists "twist-on PL-259's for RG-58" and they don't look like mine.

QUESTIONS:

- Do twist-on / crimp-on PL259's for RG-58 still exist?
- Do they go by any special name I can't guess?
- Whatever they're actually called, do they fit sat-TV coax?
- Suggestions for suppliers? Or should they be available everywhere?

I hope I hadn't chanced on a nonstandard type!

Thank you in advance!

N1JPR/I2

3080. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 20:12:30 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i1ih9g$8g8$1@news.eternal-september.org>
Source record: 8430

Richard Clark Inscribed thus:

> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4792@taring.org> wrote:
>
>>On 7/12/2010 9:46 PM, Richard Clark wrote:
>>>
>>> The only thing that remains a mystery, for me if for no one else
>>> here,
>>> is the literal specification of the antenna. Google (gasp) fails
>>> me.
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>>And that does seem to be the crux of the matter. What is the antenna?
>>And what does it interact with that's not, be it part of the phone or
>>part of the user?
>
> Hi Tom,
>
> The antenna is reported as being the metal trim that surrounds the
> perimeter of the phone. As that is much too large for the frequencies
> involved to be taken literally, there is more to the story that
> remains clouded. Maybe I'm wrong....

I think you're right. "Design Flaw" Someone messed up testing big time.

> If the loop (or dipole) is suitably matched, it doesn't give much
> polarization diversity. Perhaps no phone does anyway.

Aren't cell stations vertically polarised. The one near me is, and one
of the IF's is smack on 144.005 Mhz.

> Insofar as being "part of the user," we well know the EM of HTs and
> the hand/body contribution. If such were the case, then this would be
> an agnostic problem that users of all mobile phones would complain of
> (which mildly refutes what the gadget blogs dismissed). On the other
> hand, the über-hip, whose complaints are more vocal for their "pain,"
> would be outraged at the notion of their simply enjoying the identical
> experience of techno-trash. Amazing what a 10 fold cost differential
> brings to your perception of quality of service.
>
> 73's
> Richard Clark, KB7QHC

From a casual look at the phone the metal band seems to be a continuous loop. Its unlikely that there is a physical coupling between it and the RX/TX, so any tuner or coupling is going to be affected by the hand grasping it. Since suggestions have been made to hold the phone in a different place, I would guess that the coupling method is suseptible to adsorbtion effects and that the hot parts are near the base of the phone.

FWIW Every mobile phone I've played with has the antenna and coupling circuitry near the top behind the display.

73's
--
Best Regards:
Baron.

3081. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 20:51:46 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i1ijl3$s0d$1@news.jpl.nasa.gov>
Source record: 8432

Baron wrote:
> Richard Clark Inscribed thus:
>
>> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4792@taring.org> wrote:
>>
>>> On 7/12/2010 9:46 PM, Richard Clark wrote:
>>>> The only thing that remains a mystery, for me if for no one else
>>>> here,
>>>> is the literal specification of the antenna. Google (gasp) fails
>>>> me.
>>>>
>>>> 73's
>>>> Richard Clark, KB7QHC
>>> And that does seem to be the crux of the matter. What is the antenna?
>>> And what does it interact with that's not, be it part of the phone or
>>> part of the user?
>> Hi Tom,
>>
>> The antenna is reported as being the metal trim that surrounds the
>> perimeter of the phone. As that is much too large for the frequencies
>> involved to be taken literally, there is more to the story that
>> remains clouded. Maybe I'm wrong....
>
> I think you're right. "Design Flaw" Someone messed up testing big time.
>
>> If the loop (or dipole) is suitably matched, it doesn't give much
>> polarization diversity. Perhaps no phone does anyway.
>
> Aren't cell stations vertically polarised. The one near me is, and one
> of the IF's is smack on 144.005 Mhz.
>
>> Insofar as being "part of the user," we well know the EM of HTs and
>> the hand/body contribution. If such were the case, then this would be
>> an agnostic problem that users of all mobile phones would complain of
>> (which mildly refutes what the gadget blogs dismissed). On the other
>> hand, the über-hip, whose complaints are more vocal for their "pain,"
>> would be outraged at the notion of their simply enjoying the identical
>> experience of techno-trash. Amazing what a 10 fold cost differential
>> brings to your perception of quality of service.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> From a casual look at the phone the metal band seems to be a continuous

> loop. Its unlikely that there is a physical coupling between it and the
> RX/TX, so any tuner or coupling is going to be affected by the hand
> grasping it. Since suggestions have been made to hold the phone in a
> different place, I would guess that the coupling method is suseptible
> to adsorbtion effects and that the hot parts are near the base of the
> phone.
>
> FWIW Every mobile phone I've played with has the antenna and coupling
> circuitry near the top behind the display.

Not any more.. recent phones (last several years) put the antenna at the
bottom to reduce the SAR number, since the top of the phone is next to
your head, and the bottom isn't. There's a really good explanation from
a guy who does, oddly, wireless device antenna design consulting..
http://www.antennasys.com/
specifically
http://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-antennas.html

http://www.anandtech.com/show/3794/the-iphone-4-review/2 has some
information

3082. Re: PL-259 on satellite TV coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 20:54:04 UTC
From: "Geoffrey S. Mendelson" <gsm@cable.mendelson.com>
Message-ID: <slrni3pkd7.te9.gsm@cable.mendelson.com>
Source record: 8431

spamhog wrote:
> I must replace the 100+ ft. coax run in a receive-only antenna system
> that includes a Transi-Tap transient discharger and a Magnetic
> Longwire Balun impedance transformer, and both have SO-239's.

We had a long discussion about this about a month ago.

The short of it is to buy the appropriate COMPRESSION connectors (not
crimp on or screw on) ones and use adaptors.

You have to make sure you get the right ones, the ones for RG-59, RG-6 and
RG-6QS are different. F connectors are easy to find and cheap, BNC ones are
harder to find and more expensive.

Geoff.

--
Geoffrey S. Mendelson, Jerusalem, Israel gsm@mendelson.com N3OWJ/4X1GM
To help restaurants, as part of the "stimulus package", everyone must order
dessert. As part of the socialized health plan, you are forbidden to eat it. :-)

3083. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 22:25:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6tpp36dj4fa2r6r9gd2cr5sabvn3v9adb1@4ax.com>
Source record: 8433

On Tue, 13 Jul 2010 13:51:46 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>
>http://www.anandtech.com/show/3794/the-iphone-4-review/2 has some
>information

Thanx Jim,

Everything Apple didn't want you to know (Antennas, and oddly enough,
a report giving it an A+++ for signal quality).

73's
Richard Clark, KB7QHC

3084. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 22:30:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t1qp36l7olg5ofubhrrrg06jmk5cu9njts@4ax.com>
Source record: 8434

On Tue, 13 Jul 2010 10:05:54 -0800, Bruce in alaska <fast@btpost.net>
wrote:

>Issue One. Apple has already admitted that the Signal Level algorithm,
>used in the IPhone4 was seriously flawed in how it displayed Signal
>Level. (Bars) When the Phone displayed 4 or 5 Bars, it may actually only
>be receiving at a 1-2 Bar Level. This they have corrected with a
>Software Patch.

Hi Bruce,

Jim's second link (which I quoted in my response to him) gives very
specific signal levels. Aside from that, and as is obvious by the
numbers, the "bars" are merely window (with apologies to M$) dressing
in any phone (except as a RF exposure risk indicator).

>Issue Two. The Multi-Band Antenna design in the iPhone4 is a Kludge
>Compromise at best, and burying it in the Metal Frame where Left Hand
>users put the flesh against it, seriously detunes it. Apple is in the
>process of hiring a small group of Engineers, with expertise in this
>area.

A bumper would seem to mitigate the risk. Conformal coating would to
some lesser extent. All-in-all, the amount of metal seems to be
consistent with best engineering practices (but, perhaps, not best
consumer packaging practices).

73's
Richard Clark, KB7QHC

3085. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 22:42:50 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <hdWdncgJ1OhwdqHRnZ2dnUVZ_radnZ2d@giganews.com>
Source record: 8435

If the phone is disturbed by touching with dry skin, a thin insulating layer won't help. At cell phone frequencies, the capacitive coupling will have less impedance than skin.

Roy Lewallen, W7EL

3086. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-13 23:44:25 UTC
From: tom <news4792@taring.org>
Message-ID: <4c3cfa57$0$633$8046368a@newsreader.iphouse.net>
Source record: 8436

On 7/13/2010 3:12 PM, Baron wrote:
>
> Aren't cell stations vertically polarised. The one near me is, and one
> of the IF's is smack on 144.005 Mhz.
>

EME'r?

tom
K0TAR

3087. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 00:27:34 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ce6b51c6-7902-4018-beff-22605be53065@q12g2000yqj.googlegroups.com>
Source record: 8437

On Jul 13, 3:51 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Baron wrote:
> > Richard Clark Inscribed thus:
>
> >> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4...@taring.org> wrote:
>
> >>> On 7/12/2010 9:46 PM, Richard Clark wrote:
> >>>> The only thing that remains a mystery, for me if for no one else
> >>>> here,
> >>>> is the literal specification of the antenna. Google (gasp) fails
> >>>> me.
>
> >>>> 73's
> >>>> Richard Clark, KB7QHC
> >>> And that does seem to be the crux of the matter. What is the antenna?
> >>> And what does it interact with that's not, be it part of the phone or
> >>> part of the user?
> >> Hi Tom,
>
> >> The antenna is reported as being the metal trim that surrounds the
> >> perimeter of the phone. As that is much too large for the frequencies
> >> involved to be taken literally, there is more to the story that
> >> remains clouded. Maybe I'm wrong....
>
> > I think you're right. "Design Flaw" Someone messed up testing big time.
>
> >> If the loop (or dipole) is suitably matched, it doesn't give much
> >> polarization diversity. Perhaps no phone does anyway.
>
> > Aren't cell stations vertically polarised. The one near me is, and one
> > of the IF's is smack on 144.005 Mhz.
>
> >> Insofar as being "part of the user," we well know the EM of HTs and
> >> the hand/body contribution. If such were the case, then this would be
> >> an agnostic problem that users of all mobile phones would complain of
> >> (which mildly refutes what the gadget blogs dismissed). On the other
> >> hand, the über-hip, whose complaints are more vocal for their "pain,"
> >> would be outraged at the notion of their simply enjoying the identical
> >> experience of techno-trash. Amazing what a 10 fold cost differential
> >> brings to your perception of quality of service.
>
> >> 73's
> >> Richard Clark, KB7QHC
>

> > From a casual look at the phone the metal band seems to be a continuous
> > loop. Its unlikely that there is a physical coupling between it and the
> > RX/TX, so any tuner or coupling is going to be affected by the hand
> > grasping it. Since suggestions have been made to hold the phone in a
> > different place, I would guess that the coupling method is suseptible
> > to adsorbtion effects and that the hot parts are near the base of the
> > phone.
>
> > FWIW Every mobile phone I've played with has the antenna and coupling
> > circuitry near the top behind the display.
>
> Not any more.. recent phones (last several years) put the antenna at the
> bottom to reduce the SAR number, since the top of the phone is next to
> your head, and the bottom isn't. There's a really good explanation from
> a guy who does, oddly, wireless device antenna design
consulting..http://www.antennasys.com/
> specificallyhttp://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-an...
>
> http://www.anandtech.com/show/3794/the-iphone-4-review/2has some
> information

My new antenna can easily handle this job.
You make it for the lowest frequency and it will handle all the
frequencies above at a constant impedance..... and with more gain and
the radiater smaller in size!

3088. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 02:42:59 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <040c5f32-be67-4f2b-abb9-97102d46c983@j8g2000yqd.googlegroups.com>
Source record: 8438

On Jul 13, 9:10 pm, Bill <k4...@arrl.net> wrote:
> On Jul 13, 8:27 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > My new antenna can easily handle this job.
> > You make it for the lowest frequency and it will handle all the
> > frequencies above at a constant impedance..... and with more gain and
> > the radiater smaller in size!
>
> Is it fractal?

No!
Total resistance = R1+ R2 The trick is to reduce
R2 in value so more current is being applied to radiation. Very simple
my dear Watson.

3089. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 02:46:51 UTC
From: tom <news4792@taring.org>
Message-ID: <4c3d2519$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8439

On 7/13/2010 9:42 PM, Art Unwin wrote:
> On Jul 13, 9:10 pm, Bill<k4...@arrl.net> wrote:
>> On Jul 13, 8:27 pm, Art Unwin<arthurun...@gmail.com> wrote:
>>
>>> My new antenna can easily handle this job.
>>> You make it for the lowest frequency and it will handle all the
>>> frequencies above at a constant impedance..... and with more gain and
>>> the radiater smaller in size!
>>
>> Is it fractal?
>
> No!
> Total resistance = R1+ R2 The trick is to reduce
> R2 in value so more current is being applied to radiation. Very simple
> my dear Watson.

And he tells you nothing. And he provides no proof.

The master of vaportennas.

tom
K0TAR

3090. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 11:23:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <271f8034-336c-4de8-9351-1cc3ac59d811@j4g2000yqh.googlegroups.com>
Source record: 8440

On Jul 12, 9:30 pm, Richard Clark <kb7...@comcast.net> wrote:
> Re:http://www.nytimes.com/2010/07/13/technology/13apple.html?hpw
>
> "Consumer Reports, America’s trusted source of product reviews, said
> it would not recommend the iPhone 4 because of a hardware flaw with
> its antenna that sometimes resulted in dropped calls.
>
> "... its antenna, which is built into a steel band that encases the
> phone.
>
> "After users reported problems with signal strength and dropped calls
> when they touched the lower-left portion of the phone, however, Apple
> suggested that consumers hold the phone differently or use one of many
> bumpers to insulate the antenna. It also said that all phones suffered
> from similar problems when they were cradled a certain way.
>
> "These comments were widely laughed at in gadget blogs. "
>
> Just thought I would submit this to the Laughing Academy.
>
> 73's
> Richard Clark, KB7QHC

The rumor I heard was that they tried to put in a "better" antenna to
cure problems with dropouts. While it does have more gain it is
sensitive to the way it's held. Basically they traded one problem for
another.
Any confirmation or rebutal would be appreciated

Jimmie

3091. Re: PL-259 on satellite TV coax?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 12:38:15 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <25484d00-3002-4c5e-bd7f-0b284c676a48@e5g2000yqn.googlegroups.com>
Source record: 8441

Thank you Geoff! I saw the F to PL-259 adaptors.

On Jul 13, 8:54 pm, "Geoffrey S. Mendelson"

> The short of it is to buy the appropriate COMPRESSION connectors (not
> crimp on or screw on) ones and use adaptors.
>
> You have to make sure you get the right ones, the ones for RG-59, RG-6 and
> RG-6QS are different. F connectors are easy to find and cheap, BNC ones are
> harder to find and more expensive.

3092. HOT&EXCLUSIVE

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 14:37:31 UTC
From: krishna <jumpjeelan@gmail.com>
Message-ID: <2141aeb2-ef37-4bc4-83ab-89545e119f88@i18g2000pro.googlegroups.com>
Source record: 8442

FOR HOT HEROINES PHOTOS

http://hotheroinesphoto.blogspot.com

AISHWARIYARAI HOT EXPOSING PHOTO

http://hotheroinesphoto.blogspot.com/2010/06/aishwariyarai-hot-photo.html

ANKITHA IN A TUB BATH

http://hotheroinesphoto.blogspot.com/2010/06/ankitha-in-tub-bath.html

NAMITHA SEXY PHOTO IN BEACH

http://hotheroinesphoto.blogspot.com/2010/06/namitha-in-beach.html

CHARMI IN A SEXY FEEL

http://hotheroinesphoto.blogspot.com/2010/06/sexy-charmi.html

CHENNAI HOT GIRLS WITH SWIM WEAR

http://hotheroinesphoto.blogspot.com/2010/06/chennai-hot-girls.html

KAJAL AGARWALHOT PHOTO

http://hotheroinesphoto.blogspot.com/2010/06/kajal-agarwal-hot.html

KATRINA KAIF IN A HOT SAREE

http://hotheroinesphoto.blogspot.com/2010/06/hot-katrina.html

3093. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 15:24:53 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <i1kks4vlg1@news.eternal-september.org>
Source record: 8443

"Art Unwin" <arthurunwin@gmail.com> wrote in message
news:ce6b51c6-7902-4018-beff-22605be53065@q12g2000yqj.googlegroups.com...
On Jul 13, 3:51 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Baron wrote:
> > Richard Clark Inscribed thus:
>
> >> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4...@taring.org> wrote:
>
> >>> On 7/12/2010 9:46 PM, Richard Clark wrote:
> >>>> The only thing that remains a mystery, for me if for no one else
> >>>> here,
> >>>> is the literal specification of the antenna. Google (gasp) fails
> >>>> me.
>
> >>>> 73's
> >>>> Richard Clark, KB7QHC
> >>> And that does seem to be the crux of the matter. What is the antenna?
> >>> And what does it interact with that's not, be it part of the phone or
> >>> part of the user?
> >> Hi Tom,
>
> >> The antenna is reported as being the metal trim that surrounds the
> >> perimeter of the phone. As that is much too large for the frequencies
> >> involved to be taken literally, there is more to the story that
> >> remains clouded. Maybe I'm wrong....
>
> > I think you're right. "Design Flaw" Someone messed up testing big time.
>
> >> If the loop (or dipole) is suitably matched, it doesn't give much
> >> polarization diversity. Perhaps no phone does anyway.
>
> > Aren't cell stations vertically polarised. The one near me is, and one
> > of the IF's is smack on 144.005 Mhz.
>
> >> Insofar as being "part of the user," we well know the EM of HTs and
> >> the hand/body contribution. If such were the case, then this would be
> >> an agnostic problem that users of all mobile phones would complain of
> >> (which mildly refutes what the gadget blogs dismissed). On the other
> >> hand, the &#65533;ber-hip, whose complaints are more vocal for their "pain,"
> >> would be outraged at the notion of their simply enjoying the identical
> >> experience of techno-trash. Amazing what a 10 fold cost differential
> >> brings to your perception of quality of service.
>

> >> 73's
> >> Richard Clark, KB7QHC
>
> > From a casual look at the phone the metal band seems to be a continuous
> > loop. Its unlikely that there is a physical coupling between it and the
> > RX/TX, so any tuner or coupling is going to be affected by the hand
> > grasping it. Since suggestions have been made to hold the phone in a
> > different place, I would guess that the coupling method is suseptible
> > to adsorbtion effects and that the hot parts are near the base of the
> > phone.
>
> > FWIW Every mobile phone I've played with has the antenna and coupling
> > circuitry near the top behind the display.
>
> Not any more.. recent phones (last several years) put the antenna at the
> bottom to reduce the SAR number, since the top of the phone is next to
> your head, and the bottom isn't. There's a really good explanation from
> a guy who does, oddly, wireless device antenna design
> consulting..http://www.antennasys.com/
> specificallyhttp://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-an...
>
> http://www.anandtech.com/show/3794/the-iphone-4-review/2has some
> information

My new antenna can easily handle this job.
You make it for the lowest frequency and it will handle all the
frequencies above at a constant impedance..... and with more gain and
the radiater smaller in size!
****
-
Sounds great. Where can we see the construction details?
--Wayne

3094. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 16:30:30 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b3408c4f-4c32-414b-ae97-d9eb19c2d369@j4g2000yqh.googlegroups.com>
Source record: 8444

On Jul 14, 10:24 am, "Wayne" <mygarbage...@verizon.net> wrote:
> "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> news:ce6b51c6-7902-4018-beff-22605be53065@q12g2000yqj.googlegroups.com...
> On Jul 13, 3:51 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
>
>
> > Baron wrote:
> > > Richard Clark Inscribed thus:
>
> > >> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4...@taring.org> wrote:
>
> > >>> On 7/12/2010 9:46 PM, Richard Clark wrote:
> > >>>> The only thing that remains a mystery, for me if for no one else
> > >>>> here,
> > >>>> is the literal specification of the antenna. Google (gasp) fails
> > >>>> me.
>
> > >>>> 73's
> > >>>> Richard Clark, KB7QHC
> > >>> And that does seem to be the crux of the matter. What is the antenna?
> > >>> And what does it interact with that's not, be it part of the phone or
> > >>> part of the user?
> > >> Hi Tom,
>
> > >> The antenna is reported as being the metal trim that surrounds the
> > >> perimeter of the phone. As that is much too large for the frequencies
> > >> involved to be taken literally, there is more to the story that
> > >> remains clouded. Maybe I'm wrong....
>
> > > I think you're right. "Design Flaw" Someone messed up testing big time.
>
> > >> If the loop (or dipole) is suitably matched, it doesn't give much
> > >> polarization diversity. Perhaps no phone does anyway.
>
> > > Aren't cell stations vertically polarised. The one near me is, and one
> > > of the IF's is smack on 144.005 Mhz.
>
> > >> Insofar as being "part of the user," we well know the EM of HTs and
> > >> the hand/body contribution. If such were the case, then this would be
> > >> an agnostic problem that users of all mobile phones would complain of
> > >> (which mildly refutes what the gadget blogs dismissed). On the other
> > >> hand, the über-hip, whose complaints are more vocal for their "pain,"

> > >> would be outraged at the notion of their simply enjoying the identical
> > >> experience of techno-trash. Amazing what a 10 fold cost differential
> > >> brings to your perception of quality of service.
>
> > >> 73's
> > >> Richard Clark, KB7QHC
>
> > > From a casual look at the phone the metal band seems to be a continuous
> > > loop. Its unlikely that there is a physical coupling between it and the
> > > RX/TX, so any tuner or coupling is going to be affected by the hand
> > > grasping it. Since suggestions have been made to hold the phone in a
> > > different place, I would guess that the coupling method is suseptible
> > > to adsorbtion effects and that the hot parts are near the base of the
> > > phone.
>
> > > FWIW Every mobile phone I've played with has the antenna and coupling
> > > circuitry near the top behind the display.
>
> > Not any more.. recent phones (last several years) put the antenna at the
> > bottom to reduce the SAR number, since the top of the phone is next to
> > your head, and the bottom isn't. There's a really good explanation from
> > a guy who does, oddly, wireless device antenna design
> > consulting..http://www.antennasys.com/
> > specificallyhttp://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-an...
>
> >http://www.anandtech.com/show/3794/the-iphone-4-review/2hassome
> > information
>
> My new antenna can easily handle this job.
> You make it for the lowest frequency and it will handle all the
> frequencies above at a constant impedance..... and with more gain and
> the radiater smaller in size!
> **************************
> -
> Sounds great. Where can we see the construction details?
> --Wayne

Waiting on patent issueance. I have put details out before but in
general hams believe every thing is known and then fire insults.
Frankly, history shows a lot of fraud in antenna new design such that
hams have given up on improvement so I am not to quick on providing
details up front any more.

3095. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 18:29:19 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i1kvlv$cn0$1@news.jpl.nasa.gov>
Source record: 8447

JIMMIE wrote:
>
> The rumor I heard was that they tried to put in a "better" antenna to
> cure problems with dropouts. While it does have more gain it is
> sensitive to the way it's held. Basically they traded one problem for
> another.
> Any confirmation or rebutal would be appreciated
>
> Jimmie

There's a whole raft of issues..

One is that cellphones aren't analog FM anymore, so they suffer from the "digital cliff" problem.. If the Eb/No is good enough that the FEC works, then it works great, but a dB or so worse, and it doesn't work at all.

This is so different from most people's practical experience with communications that it is disconcerting. E.g. if you walk away from me while talking, your voice gets fainter and the SNR gradually drops, but it's not like you've walked out of the "cone of silence" where it goes from fully intelligible to not at all intelligible in milliseconds.

And, the fact that this happens on a packet by packet basis means that at the threshold, it "stutters", which is also non-intuitive and non-physical.

And then, the cellphone companies have managed to convince us that really crummy sound is ok, even at the full bit rate of <8kpbs. The voice codecs are impressive, but face it, it still doesn't sound like 56kbps u-law or 25 kHz NBFM, what used to be called "toll-quality"

3096. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 18:37:55 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i1l044$t7f$1@news.eternal-september.org>
Source record: 8445

Jim Lux Inscribed thus:

> Baron wrote:
>> Richard Clark Inscribed thus:
>>
>>> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4792@taring.org> wrote:
>>>
>>>> On 7/12/2010 9:46 PM, Richard Clark wrote:
>>>>> The only thing that remains a mystery, for me if for no one else
>>>>> here,
>>>>> is the literal specification of the antenna. Google (gasp) fails
>>>>> me.
>>>>>
>>>>> 73's
>>>>> Richard Clark, KB7QHC
>>>> And that does seem to be the crux of the matter. What is the
>>>> antenna? And what does it interact with that's not, be it part of
>>>> the phone or part of the user?
>>> Hi Tom,
>>>
>>> The antenna is reported as being the metal trim that surrounds the
>>> perimeter of the phone. As that is much too large for the
>>> frequencies involved to be taken literally, there is more to the
>>> story that
>>> remains clouded. Maybe I'm wrong....
>>
>> I think you're right. "Design Flaw" Someone messed up testing big
>> time.
>>
>>> If the loop (or dipole) is suitably matched, it doesn't give much
>>> polarization diversity. Perhaps no phone does anyway.
>>
>> Aren't cell stations vertically polarised. The one near me is, and
>> one of the IF's is smack on 144.005 Mhz.
>>
>>> Insofar as being "part of the user," we well know the EM of HTs and
>>> the hand/body contribution. If such were the case, then this would
>>> be an agnostic problem that users of all mobile phones would
>>> complain of
>>> (which mildly refutes what the gadget blogs dismissed). On the
>>> other hand, the über-hip, whose complaints are more vocal for their
>>> "pain," would be outraged at the notion of their simply enjoying the
>>> identical
>>> experience of techno-trash. Amazing what a 10 fold cost

>>> differential brings to your perception of quality of service.
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>> From a casual look at the phone the metal band seems to be a
>> continuous loop. Its unlikely that there is a physical coupling
>> between it and the RX/TX, so any tuner or coupling is going to be
>> affected by the hand
>> grasping it. Since suggestions have been made to hold the phone in a
>> different place, I would guess that the coupling method is suseptible
>> to adsorbtion effects and that the hot parts are near the base of the
>> phone.
>>
>> FWIW Every mobile phone I've played with has the antenna and coupling
>> circuitry near the top behind the display.
>
>
> Not any more.. recent phones (last several years) put the antenna at
> the bottom to reduce the SAR number, since the top of the phone is
> next to
> your head, and the bottom isn't. There's a really good explanation
> from a guy who does, oddly, wireless device antenna design
> consulting.. http://www.antennasys.com/
> specifically
>
http://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-antennas.html
>
>
> http://www.anandtech.com/show/3794/the-iphone-4-review/2 has some
> information

Jim. Thanks for the above links. The Youtube vid was most interesting.
I certainly wasn't aware of the gaps in the metal banding nor of the SAR
requirements.

73s
--
Best Regards:
Baron.

3097. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 18:53:15 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i1l111$1pk$1@news.eternal-september.org>
Source record: 8446

tom Inscribed thus:

> On 7/13/2010 3:12 PM, Baron wrote:
>>
>> Aren't cell stations vertically polarised. The one near me is, and
>> one of the IF's is smack on 144.005 Mhz.
>>
>
> EME'r?
>
> tom
> K0TAR

Yep ! Totally drowns out any signals. A waste of time complaining.
Leakage signals are within spec, according to them.
Anyway I've now given up trying and taken the antenna array down.
To be honest its been some time since I was last active.

73's
--
Best Regards:
Baron.

3098. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-14 23:31:59 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f174b901-535f-4ad2-868a-cbf940ab82ff@i31g2000yqm.googlegroups.com>
Source record: 8448

On Jul 14, 4:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Jul 14, 10:24 am, "Wayne" <mygarbage...@verizon.net> wrote:
>
>
>
> > "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> >news:ce6b51c6-7902-4018-beff-22605be53065@q12g2000yqj.googlegroups.com...
> > On Jul 13, 3:51 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > > Baron wrote:
> > > > Richard Clark Inscribed thus:
>
> > > >> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4...@taring.org> wrote:
>
> > > >>> On 7/12/2010 9:46 PM, Richard Clark wrote:
> > > >>>> The only thing that remains a mystery, for me if for no one else
> > > >>>> here,
> > > >>>> is the literal specification of the antenna. Google (gasp) fails
> > > >>>> me.
>
> > > >>>> 73's
> > > >>>> Richard Clark, KB7QHC
> > > >>> And that does seem to be the crux of the matter. What is the antenna?
> > > >>> And what does it interact with that's not, be it part of the phone or
> > > >>> part of the user?
> > > >> Hi Tom,
>
> > > >> The antenna is reported as being the metal trim that surrounds the
> > > >> perimeter of the phone. As that is much too large for the frequencies
> > > >> involved to be taken literally, there is more to the story that
> > > >> remains clouded. Maybe I'm wrong....
>
> > > > I think you're right. "Design Flaw" Someone messed up testing big time.
>
> > > >> If the loop (or dipole) is suitably matched, it doesn't give much
> > > >> polarization diversity. Perhaps no phone does anyway.
>
> > > > Aren't cell stations vertically polarised. The one near me is, and one
> > > > of the IF's is smack on 144.005 Mhz.
>
> > > >> Insofar as being "part of the user," we well know the EM of HTs and
> > > >> the hand/body contribution. If such were the case, then this would be
> > > >> an agnostic problem that users of all mobile phones would complain of

> > > >> (which mildly refutes what the gadget blogs dismissed). On the other
> > > >> hand, the über-hip, whose complaints are more vocal for their "pain,"
> > > >> would be outraged at the notion of their simply enjoying the identical
> > > >> experience of techno-trash. Amazing what a 10 fold cost differential
> > > >> brings to your perception of quality of service.
>
> > > >> 73's
> > > >> Richard Clark, KB7QHC
>
> > > > From a casual look at the phone the metal band seems to be a continuous
> > > > loop. Its unlikely that there is a physical coupling between it and the
> > > > RX/TX, so any tuner or coupling is going to be affected by the hand
> > > > grasping it. Since suggestions have been made to hold the phone in a
> > > > different place, I would guess that the coupling method is suseptible
> > > > to adsorbtion effects and that the hot parts are near the base of the
> > > > phone.
>
> > > > FWIW Every mobile phone I've played with has the antenna and coupling
> > > > circuitry near the top behind the display.
>
> > > Not any more.. recent phones (last several years) put the antenna at the
> > > bottom to reduce the SAR number, since the top of the phone is next to
> > > your head, and the bottom isn't. There's a really good explanation from
> > > a guy who does, oddly, wireless device antenna design
> > > consulting..http://www.antennasys.com/
> > > specificallyhttp://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-an...
>
> > >http://www.anandtech.com/show/3794/the-iphone-4-review/2hassome
> > > information
>
> > My new antenna can easily handle this job.
> > You make it for the lowest frequency and it will handle all the
> > frequencies above at a constant impedance..... and with more gain and
> > the radiater smaller in size!
> > **************************
> > -
> > Sounds great. Where can we see the construction details?
> > --Wayne
>
> Waiting on patent issueance. I have put details out before but in
> general hams believe every thing is known and then fire insults.
> Frankly, history shows a lot of fraud in antenna new design such that
> hams have given up on improvement so I am not to quick on providing
> details up front any more.

i hope this is more interesting than your pick-up-sticks patent, i
still get a good laugh at that one when i read it... amazing what bull
the patent off will pass through.

3099. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 00:05:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <266e080f-56f5-4f16-9d3b-282f94b8a58f@g19g2000yqc.googlegroups.com>
Source record: 8449

```
On Jul 14, 6:31 pm, K1TTT <k1...@arrl.net> wrote:
> On Jul 14, 4:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Jul 14, 10:24 am, "Wayne" <mygarbage...@verizon.net> wrote:
>
> > > "Art Unwin" <arthurun...@gmail.com> wrote in message
>
> > >news:ce6b51c6-7902-4018-beff-22605be53065@q12g2000yqj.googlegroups.com...
> > > On Jul 13, 3:51 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > > > Baron wrote:
> > > > > Richard Clark Inscribed thus:
>
> > > > >> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4...@taring.org> wrote:
>
> > > > >>> On 7/12/2010 9:46 PM, Richard Clark wrote:
> > > > >>>> The only thing that remains a mystery, for me if for no one else
> > > > >>>> here,
> > > > >>>> is the literal specification of the antenna. Google (gasp) fails
> > > > >>>> me.
>
> > > > >>>> 73's
> > > > >>>> Richard Clark, KB7QHC
> > > > >>> And that does seem to be the crux of the matter. What is the antenna?
> > > > >>> And what does it interact with that's not, be it part of the phone or
> > > > >>> part of the user?
> > > > >> Hi Tom,
>
> > > > >> The antenna is reported as being the metal trim that surrounds the
> > > > >> perimeter of the phone. As that is much too large for the frequencies
> > > > >> involved to be taken literally, there is more to the story that
> > > > >> remains clouded. Maybe I'm wrong....
>
> > > > > I think you're right. "Design Flaw" Someone messed up testing big time.
>
> > > > >> If the loop (or dipole) is suitably matched, it doesn't give much
> > > > >> polarization diversity. Perhaps no phone does anyway.
>
> > > > > Aren't cell stations vertically polarised. The one near me is, and one
> > > > > of the IF's is smack on 144.005 Mhz.
>
> > > > >> Insofar as being "part of the user," we well know the EM of HTs and
```

> > > > >> the hand/body contribution. If such were the case, then this would be
> > > > >> an agnostic problem that users of all mobile phones would complain of
> > > > >> (which mildly refutes what the gadget blogs dismissed). On the other
> > > > >> hand, the über-hip, whose complaints are more vocal for their "pain,"
> > > > >> would be outraged at the notion of their simply enjoying the identical
> > > > >> experience of techno-trash. Amazing what a 10 fold cost differential
> > > > >> brings to your perception of quality of service.
>
> > > > >> 73's
> > > > >> Richard Clark, KB7QHC
>
> > > > > From a casual look at the phone the metal band seems to be a continuous
> > > > > loop. Its unlikely that there is a physical coupling between it and the
> > > > > RX/TX, so any tuner or coupling is going to be affected by the hand
> > > > > grasping it. Since suggestions have been made to hold the phone in a
> > > > > different place, I would guess that the coupling method is suseptible
> > > > > to adsorbtion effects and that the hot parts are near the base of the
> > > > > phone.
>
> > > > > FWIW Every mobile phone I've played with has the antenna and coupling
> > > > > circuitry near the top behind the display.
>
> > > > Not any more.. recent phones (last several years) put the antenna at the
> > > > bottom to reduce the SAR number, since the top of the phone is next to
> > > > your head, and the bottom isn't. There's a really good explanation from
> > > > a guy who does, oddly, wireless device antenna design
> > > > consulting..http://www.antennasys.com/
> > > >
specificallyhttp://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-an...
>
> > > >http://www.anandtech.com/show/3794/the-iphone-4-review/2hassome
> > > > information
>
> > > My new antenna can easily handle this job.
> > > You make it for the lowest frequency and it will handle all the
> > > frequencies above at a constant impedance..... and with more gain and
> > > the radiater smaller in size!
> > > **************************
> > > -
> > > Sounds great. Where can we see the construction details?
> > > --Wayne
>
> > Waiting on patent issueance. I have put details out before but in
> > general hams believe every thing is known and then fire insults.
> > Frankly, history shows a lot of fraud in antenna new design such that
> > hams have given up on improvement so I am not to quick on providing
> > details up front any more.
>
> i hope this is more interesting than your pick-up-sticks patent, i
> still get a good laugh at that one when i read it... amazing what bull

> the patent off will pass through.

He who laughs last laughs longest

3100. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 00:28:49 UTC
From: tom <news4792@taring.org>
Message-ID: <4c3e5643$0$636$8046368a@newsreader.iphouse.net>
Source record: 8450

On 7/14/2010 1:29 PM, Jim Lux wrote:
>
> There's a whole raft of issues..
>
> One is that cellphones aren't analog FM anymore, so they suffer from the
> "digital cliff" problem.. If the Eb/No is good enough that the FEC
> works, then it works great, but a dB or so worse, and it doesn't work at
> all.
>
> This is so different from most people's practical experience with
> communications that it is disconcerting. E.g. if you walk away from me
> while talking, your voice gets fainter and the SNR gradually drops, but
> it's not like you've walked out of the "cone of silence" where it goes
> from fully intelligible to not at all intelligible in milliseconds.
>
> And, the fact that this happens on a packet by packet basis means that
> at the threshold, it "stutters", which is also non-intuitive and
> non-physical.
>
>
> And then, the cellphone companies have managed to convince us that
> really crummy sound is ok, even at the full bit rate of <8kpbs. The
> voice codecs are impressive, but face it, it still doesn't sound like
> 56kbps u-law or 25 kHz NBFM, what used to be called "toll-quality"

And then there's the PSTN ala 2010. We have been discovering a lot of new things about that that we suspect even the carriers haven't noticed, or at least appreciated. And it's all started showing up in the last year. Like average LD call completion failure has been 4% for 10 years. Yup it's actually that high. Except this year it's 6%. And possibly still climbing. Can't tell you the test conditions (NDA needed), but it's millions of calls per year.

One of the first odd things we noticed was the occasional location code 3 from the supposed destination. That one is now obvious, but the first time you see it it's very perplexing.

And more things are showing up, mostly disturbing if you expect the PSTN to remain the relatively predictable thing that it's been during the SS7/TDM/ISDN era. So much is changing we are making a new training program for our analysts on how to recognize what's now going on versus what used to go on.

tom
K0TAR

3101. Discount 1:1 quality jordan,nike air max shoes(http://www.promptc.com) top

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 05:14:49 UTC
From: "www.promptc.com jordan shoes only $38" <peonyrsh@126.com>
Message-ID: <c36b29de-dddb-4d06-987e-2be2e3f3ac24@y21g2000pro.googlegroups.com>
Source record: 8351

Some links of nike air jordan:
1) http://www.promptc.com/index.php?main_page=index&cPath=224_232
2) http://www.promptc.com/index.php?main_page=index&cPath=224_444

Some links of nike air max:

1) http://www.promptc.com/index.php?main_page=index&cPath=201_543
2) http://www.promptc.com/index.php?main_page=index&cPath=201_220
3) http://www.promptc.com/index.php?main_page=index&cPath=201_220&sort=20a&page=2
4)http://www.promptc.com/index.php?
main_page=index&cPath=201_220&sort=20a&page=3
5)http://www.promptc.com/index.php?
main_page=index&cPath=201_220&sort=20a&page=4
6)http://www.promptc.com/index.php?
main_page=index&cPath=201_220&sort=20a&page=5
7)http://www.promptc.com/index.php?main_page=index&cPath=201_221
8)http://www.promptc.com/index.php?main_page=index&cPath=201_485
9)http://www.promptc.com/index.php?
main_page=index&cPath=201_485&sort=20a&page=2
10) http://www.promptc.com/index.php?main_page=index&cPath=201_488&sort=20a&page=2&zenid=9
d2f1656cb5c2772e7a09ae38c87b0c5
9)http://www.promptc.com/index.php?main_page=index&cPath=201_486

Basic information:
1)Delivery methods:DHL,TNT,EMS etc
2)Delivery time:3-7 days door to door safety delivery
3)Payment:Paypal,WU,TT etc
4)MOQ:6(mix) items,free shipping

top quality,low price,prompt delivery,good sale-after
service."Customer highest,Reputation first" is our principle.

Your business with us will be a pleasant experience for you.We are
dedicated to bring joy, safe and top-quality products for you. All the
products we offer come with fashion style, superior quality but
cheaper price all the time. When you place order, please do not
hesitate to leave more detailed requirements you want, and then we
will arrange the goods for you as soon as possible. First time, we do
business; next time, we become friends. Hope you enjoy the whole
process!

More order more discount ! ! !

Your sincerity
Jessica Chen
E-Mail:promptcy@hotmail.com

Promptc Co.,Ltd
Website:www.promptc.com

jersey www.promptc.com
nfl jersey www.promptc.com
nhl jersey www.promptc.com
mlb jersey www.promptc.com
replica youth jersey www.promptc.com
football jersey www.promptc.com
nike air max www.promptc.com
nike air max 2009 www.promptc.com
nike air max 90 www.promptc.com
nike air max 95 www.promptc.com
nike air max 2010 www.promptc.com
nike air max 2009 www.promptc.com
women air max www.promptc.com
men air max www.promptc.com
shoes www.promptc.com
coach handbag www.promptc.com
nike air max www.promptc.com
nike trainer www.promptc.com
nike shoes www.promptc.com
jordan shoes www.promptc.com
nike air jordan shoes www.promptc.com
nike air jordan shoes www.promptc.com

nike sneaker www.promptc.com
nike trainers www.promptc.com
handbag www.promptc.com
coach handbag www.promptc.com
designer handbag www.promptc.com
prada handbag www.promptc.com
gucci handbag www.promptc.com
chanel handbag www.promptc.com
nike trainer www.promptc.com
men shoes www.promptc.com
women shoes www.promptc.com
shoes www.promptc.com
men sneaker www.promptc.com
women sneaker www.promptc.com
1:1 quality airmax 24/7 www.promptc.com
1:1 quality air max 24/7 www.promptc.com
1:1 quality air max www.promptc.com
1:1 quality nike trainer www.promptc.com
1:1 quality handbag www.promptc.com
1:1 quality jersey www.promptc.com
1:1 quality nfl jersey www.promptc.com

3102. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 06:02:21 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <0m8t36dsg5p8s1iufnojqj2r5f0unfgid4@4ax.com>
Source record: 8352

On Tue, 13 Jul 2010 13:51:46 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Not any more.. recent phones (last several years) put the antenna at the
>bottom to reduce the SAR number, since the top of the phone is next to
>your head, and the bottom isn't. There's a really good explanation from
>a guy who does, oddly, wireless device antenna design consulting..
>http://www.antennasys.com/
>specifically
>http://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-antennas.html
>
>http://www.anandtech.com/show/3794/the-iphone-4-review/2 has some
>information

Here's my wild guess as to what's happening, borrowed from my posting
in ba.internet and alt.cellular.attws. Apple announced that there's
going to be a press conference on Friday, where they'll announce
something. Note that I goofed on the location of the wi-fi/BT
antenna, but I'll leave the mistake here for now.

On Wed, 14 Jul 2010 13:05:27 -0700, AES <siegman@stanford.edu> wrote:

>Is your assessment here that placing RF-lossy human flesh (with a high
>water content) close enough to the phone antenna loads down (or maybe
>just detunes?) the RF circuitry of the transmitter final stage to a
>point that the active transmitter circuitry in the phone no longer
>oscillates effectively? -- but just putting a dry and non-lossy
>dielectric there doesn't, and also moving the flesh even a short
>distance away reduces its loading on the circuitry enough that the
>active circuitry still works OK?

Nope. My wild guess(tm), based upon what little I can extract from
the FCC ID page and from the iFixit autopsy, is that something drastic
is happening in receive. The -30dB (that's 1000 times drop) in signal
appears in receive, when you're NOT making a call and the xmitter is
inactive. Well, the xmitter is sending keep alive bursts every few
minutes, but nothing more. Methinks it's a receive problem, not xmit.

I'll go out on a limb and suggest that the receiver front end
(probably a GASFET or HEMT) might be a bit regenerative (border line
oscillatory). This gives it lots of gain, but only if nothing else
changes. In effect, the antenna becomes part of an oscillator
circuit, where the oscillatory conditions are partly provided by the
antenna Q (i.e. antenna efficiency).
<http://en.wikipedia.org/wiki/Regenerative_circuit>

Touch the antenna, and you reduce the antenna Q. The front end stops acting regenerative (barely oscillating), and the sensitivity drops like a rock. It's the only explanation I can conjure the will cause a -30dB drop in received signal. It's been demonstrated (by me and others) that strangling the antenna of other cell phones drops the rx signal up to -10dBm (10 times drop). That's what I would normally expect to see from touching a cell phone antenna. However, the -30dB drop of the iPhone 4 requires some extra circuit design screwups. Unfortunately, detecting the regeneration is going to require internal probes, test fixturing, and plenty of expensive test equipment.

There's another related possibility. Most of the finger tests have been with the finger bridging the gap. That means they're touching BOTH the cellular and wi-fi/BT antennas. It's obviously the hot end of the cellular antenna, but I can't tell if it's the hot end or ground end of the wi-fi/BT antenna. If the hot end, another possibility it that coupling to the 2nd antenna causes this antenna to radiate into the case, thus causing the cellular front end to oscillate. If the oscillations are bad enough, the signal level will be high enough to induce blocking (overload) in the cellular front end. This can be easily detected with a spectrum analyzer probe in the vicinity. If touching/bridging the antennas causes a new signal to appear on the SA, that's the problem.

It would be very interesting to know if touching ONLY the cellular part of the antenna (the part that goes up the side of the phone), and not the wi-fi/BT antenna (bottom of phone), causes the same drop in signal. It would also be interesting to test the wi-fi signal strength to see if it's effected by touching its antenna.

I have a few other guesses, but these are the best I can currently conjure at this time.

>[I'm an EE, but with no RF circuitry experience, much less any cellphone
>experience. So, I can understand this happening with an active
>transmitting circuit -- though I have somewhat more trouble seeing how
>it would interfere in such a sensitive way with a passive receiving
>antenna.]

Think regeneration and borderline oscillation.

The bad news is that if Apple stabilizes the rx front end, and eliminates the oscillation or regeneration, my guess(tm) is that the resultant phone is going to have a serious rx sensitivity problem. If you look at the cellular antenna in the iPhone 3G and other internal antenna cell phones, they're not very simple looking devices. Lots of strange lumps, traces, pads, and oddities, all designed to optimize performance in the 800/900 and 1800/1900 MHz bands. Getting them to look like 50 ohms for minimum VSWR is also important. Lots of articles in the IEEE Antenna and Prop proceedings on the topic of cramming a dual band antenna in the smallest possible package.

On the other foot, the iPhone 4 antenna is crude. As far as I can tell from here, it's a crude monopole (single wire) antenna. There's no matching circuit for VSWR reduction, and no attempt to optimize performance in the desired bands. I might have missed something in the dissection, but all I can see is an end fed monopole, without a counterpoise or underlying ground. Such an antenna is going to have resonances at odd frequencies, and miserable antenna efficiency.

Disclaimer: I haven't found anyone willing to let me tear into their iPhone 4 yet, so all the above is guesswork.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3103. BEST HOT VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 07:05:21 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <4e441db1-65e3-4050-8297-8ad155dd9ca2@w37g2000prc.googlegroups.com>
Source record: 8353

HOT SEXY VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-sexy-videos.html
HOT KISS VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-kiss-videos.html
HOT ROMANTIC VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-romantic-videos.html
HOT LIP KISS BEST VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-lip-kiss-best-videos.html

jobs
java jobs
http://allfreshersjobsseehere.blogspot.com/2009/02/java-jobs.html
oracle jobs
http://allfreshersjobsseehere.blogspot.com/2009/02/oracle-jobs.html
work from home
http://allfreshersjobsseehere.blogspot.com/2009/02/work-from-home.html
make money from online
http://allfreshersjobsseehere.blogspot.com/2009/02/make-money-from-online.html
online work
http://allfreshersjobsseehere.blogspot.com/2009/02/online-work.html

3104. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 07:27:41 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <1bdt3618846a8j96fm3tohvsalqs3c6k7a@4ax.com>
Source record: 8354

On Tue, 13 Jul 2010 13:51:46 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Baron wrote:
>> Richard Clark Inscribed thus:
>>
>>> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4792@taring.org> wrote:
>>>
>>>> On 7/12/2010 9:46 PM, Richard Clark wrote:
>>>>> The only thing that remains a mystery, for me if for no one else
>>>>> here,
>>>>> is the literal specification of the antenna. Google (gasp) fails
>>>>> me.
>>>>>
>>>>> 73's
>>>>> Richard Clark, KB7QHC
>>>> And that does seem to be the crux of the matter. What is the antenna?
>>>> And what does it interact with that's not, be it part of the phone or
>>>> part of the user?
>>> Hi Tom,
>>>
>>> The antenna is reported as being the metal trim that surrounds the
>>> perimeter of the phone. As that is much too large for the frequencies
>>> involved to be taken literally, there is more to the story that
>>> remains clouded. Maybe I'm wrong....
>>
>> I think you're right. "Design Flaw" Someone messed up testing big time.
>>
>>> If the loop (or dipole) is suitably matched, it doesn't give much
>>> polarization diversity. Perhaps no phone does anyway.

In my older phone, razor(sp?)I think the antenna is a spiral.

>>
>> Aren't cell stations vertically polarised. The one near me is, and one
>> of the IF's is smack on 144.005 Mhz.

Time to go legal limit on CW with a big EME array<:-)) such as 4, or
6,8, or 12, 28-30 element long johns.

>>
>>> Insofar as being "part of the user," we well know the EM of HTs and
>>> the hand/body contribution. If such were the case, then this would be
>>> an agnostic problem that users of all mobile phones would complain of
>>> (which mildly refutes what the gadget blogs dismissed). On the other
>>> hand, the ï¿½ber-hip, whose complaints are more vocal for their "pain,"

>>> would be outraged at the notion of their simply enjoying the identical
>>> experience of techno-trash. Amazing what a 10 fold cost differential
>>> brings to your perception of quality of service.

Except for the eyes, those phones couldn't heat water with the power
they run.

>>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>> From a casual look at the phone the metal band seems to be a continuous
>> loop.

it's two segmented loops that appeared to be around the bottom left
corner, right where it fits in the palm of your left hand.

>> Its unlikely that there is a physical coupling between it and the
>> RX/TX, so any tuner or coupling is going to be affected by the hand
>> grasping it. Since suggestions have been made to hold the phone in a
>> different place, I would guess that the coupling method is suseptible

Yup, design flaw, and I hear there is now a recall coming up.

>> to adsorbtion effects and that the hot parts are near the base of the
>> phone.
>>
>> FWIW Every mobile phone I've played with has the antenna and coupling
>> circuitry near the top behind the display.
>
>
>Not any more.. recent phones (last several years) put the antenna at the
>bottom to reduce the SAR number, since the top of the phone is next to
>your head, and the bottom isn't. There's a really good explanation from

On mine the top is against your ear and the bottom against your cheek
or upper jaw bone and I'm keeping it until it dies, but those kind of
gadgets have a rather limited life around me. I just want a phone with
voice mail. I have a camera thank you, and it doesn't have a tiny
crappy lens that makes anything much over 1 megapixel nothing more
than bragging rights. I don't want texting, The only thing I need is
the ability to call and be called. I don't need a PDA either.

Even in the old days when we had to use the day planners and even go
to school on them, after the class I dumped everything out of it
including the calendar and picked up a new interior from the stock
room. Threw out every thing I didn't need and used it for a note book
at meetings. To me a day planner would be about as useless and my
profession was a computer systems project manager up until I retired.
It's also my degreed field.

73

Roger (K8RI)

>a guy who does, oddly, wireless device antenna design consulting..
>http://www.antennasys.com/
>specifically
>http://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-antennas.html
>
>
>http://www.anandtech.com/show/3794/the-iphone-4-review/2 has some
>information

3105. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 07:37:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <prdt36d9m7037bbdsdbl3ddo3d1j0b3lhb@4ax.com>
Source record: 8355

On Wed, 14 Jul 2010 23:02:21 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

>However, the -30dB
>drop of the iPhone 4 requires some extra circuit design screwups.
>Unfortunately, detecting the regeneration is going to require internal
>probes, test fixturing, and plenty of expensive test equipment.

Hi Jeff,

Regenerative designs inhabit the naked edge of
amplification/oscillation. You've already said as much. It has to
be, thus, a design feature and not a hack. Otherwise every third one
is going to break into oscillation and the FCC (or test lab) would
have certainly picked up on that. Further, if it is designed in, you
can observe that in the design. Special testing methods are too
elaborate to explain this. Regen is not a design feature left to the
vagaries of production variation in parasitic coupling.

If I'm wrong and Apple does use parasitics to encourage regenerative
feedback, then they may introduce a lanyard for hanging the phone
around the neck and call it the lavaliere option. No doubt they will
sell plenty of mirrors to see it, and someone will come out with an
image reversal app. Can a stylus be far behind? Whoops! It will
have to be chopstick for squeezing and expanding images.

73's
Richard Clark, KB7QHC

3106. The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 08:14:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB6B98B269BEnonenowhere@61.9.134.55>
Source record: 8356

I note some variation in the use of the term 'Radiation Resistance' (Rr) that suggests that it has different meanings to different folk.

One suggestion is that it is the resistance seen by a transmission line connected to an antenna that expresses its coupling to distant regions of space.

If that is the case, Rr would not capture energy that is lost in reflection from real ground. So, Rr would be the sum of power in the far field divided by RMS current squared.

If indeed it is the "resistance seen by a transmission line", then the current above would be the current at the end of the transmission line.

Does the term have an accepted single clear meaning? Is the above correct?

Some implications of the above are that:
- Rr of a horizontal half wave dipole with zero conductor loss, above real ground, would have Rr less than R at the feedpoint by virtue of some loss in waves reflected from real ground;
- Rr of a half wave folded dipole of equal conductor diameters would be around 300 ohms.

Thanks
Owen

3107. Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 09:23:15 UTC
From: Peter <pm@hotmail.com>
Message-ID: <pfadnYkS-5MXTqPRnZ2dnUVZ8rCdnZ2d@westnet.com.au>
Source record: 8357

Hi all

I have just modelled both the Slim Jim antenna and J Pole antenna using MMANA-GAL at the same frequency (145MHz) all other parameter equal and was some what surprised that they appear exhibit the same gain and radiation pattern. Based on an article I read in a English magazine many years ago I have always believed the Slim Jim had a slight edge over the J Pole. Wonder if others had a similar view and if my modelling is correct are there any advantages with the Slim Jim design?

--
Peter VK6YSF

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

3108. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 10:43:07 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <i1monr$2od$1@ra.nrl.navy.mil>
Source record: 8358

On 07/15/2010 04:14 AM, Owen Duffy wrote:
> I note some variation in the use of the term 'Radiation Resistance' (Rr)
> that suggests that it has different meanings to different folk.
>
<snip>
Hello, and I don't find any ambiguities in any of my various EM and antenna theory textbooks. FWIW, from the IEEE Standard Dictionary of Electrical and Electronics Terms:

"Radiation resistance (antenna). The radio of the power radiated by an antenna to the square of the rms antenna current referred to a specified point. Note: This term is of limited utility in lossy media."

So if we're looking at free (in vacuo) space the radiation resistance is simply a "load" resistance component that accounts for where the radiated power goes. The radiation resistance doesn't include any other resistive losses in the antenna structure/proximity operating environment that may also be dissipating source power introduced at the feedpoint of the antenna. An aerodynamic analogy would be the distinction between "induced" drag (the price paid for "lift") and "parasite" drag, which are both components of the total drag.
Sincerely, and 73s from N4GGO,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

3109. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 11:21:51 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <tef61qHP9uPMFw2V@g3ohx.demon.co.uk>
Source record: 8359

In message <pfadnYkS-5MXTqPRnZ2dnUVZ8rCdnZ2d@westnet.com.au>, Peter
<pm@hotmail.com> writes
>Hi all
>
>I have just modelled both the Slim Jim antenna and J Pole antenna using
>MMANA-GAL at the same frequency (145MHz) all other parameter equal and was
>some what surprised that they appear exhibit the same gain and radiation
>pattern. Based on an article I read in a English magazine many years ago I
>have always believed the Slim Jim had a slight edge over the J Pole.
>Wonder if others had a similar view and if my modelling is correct are there
>any advantages with the Slim Jim design?
>
Some websites indicate that the only significant difference is that the
Slim Jim has a somewhat wider bandwidth. Unfortunately, I can't
instantly find a good reference. Here's one, but not too good.
--
Ian

3110. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 13:10:04 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <8a4ba365-af4e-40fc-abaf-0ebfe272fcb1@q22g2000yqm.googlegroups.com>
Source record: 8360

Owen,

I like the IRE definition, which according to W8JI is: "The total power radiated in all directions divided by the square of the net current causing the radiation".

That definition draws a distinction between Rrad and the resistive component of the feedpoint impedance; it makes the Rrad of a folded dipole 75 ohms, not 300 ohms; and it avoids some of the errors folk make in assuming that "folding" a vertical can reduce ground losses.

73,
Steve G3TXQ

3111. Simple Hack To Get $2000 To Your PayPal Account

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 13:43:01 UTC
From: KAJAL AGARWAL <texaspeso26@gmail.com>
Message-ID: <3aae6521-eb3c-432d-b4ef-308fba562f06@w35g2000prd.googlegroups.com>
Source record: 8361

Simple Hack To Get $2000 To Your PayPal Account At http://easyhappydays.tk

Due to high security risks, i have hidden the PayPal Form link in an
image. in that website On Top Side Above search box , click on image
and enter your PayPal id And Your name. please don,t tell to any
One.

3112. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 14:19:17 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <1865a2cb-53ae-4830-bb19-d97c853448d2@u26g2000yqu.googlegroups.com>
Source record: 8362

On Jul 15, 3:14 am, Owen Duffy <n...@no.where> wrote:
> I note some variation in the use of the term 'Radiation Resistance' (Rr)
> that suggests that it has different meanings to different folk.
>
> One suggestion is that it is the resistance seen by a transmission line
> connected to an antenna that expresses its coupling to distant regions of
> space.
>
> If that is the case, Rr would not capture energy that is lost in
> reflection from real ground. So, Rr would be the sum of power in the far
> field divided by RMS current squared.
>
> If indeed it is the "resistance seen by a transmission line", then the
> current above would be the current at the end of the transmission line.
>
> Does the term have an accepted single clear meaning? Is the above
> correct?
>
> Some implications of the above are that:
> - Rr of a horizontal half wave dipole with zero conductor loss, above
> real ground, would have Rr less than R at the feedpoint by virtue of some
> loss in waves reflected from real ground;
> - Rr of a half wave folded dipole of equal conductor diameters would be
> around 300 ohms.
>
> Thanks
> Owen

Owen
Can I suggest that you look at things differently?
Radiation is created by the acceleration of charge
which effectively that which creates an acceleration of a particle
such as a bullet from a rifle. The reaction to the firing of the
bullet is the recoil
which is considered as the resistance to radiation.
If you expend energy in other places to get to the point of firing
they can only be referred to as losses.
Thus radiation is a point vector and should not be confused by
multiple vectors that create a plasma.
All radiation equations are formed by the use of boundary equations
which requires recognition
of vectors or point charge and NOT by acceptance of the term "waves."
As an illustration, a superconductive material has the minimum
resistance possible to ensure the credibility of Ohms law. This

resistance has nothing to do with "dc resistance" because current flow is at or near the surface because of the destruction of skin depth resistance phenomina, which also means the cancellation of magnetic fields.(Not destruction as the magnetic field is transformed into a energy bank)
Thus ejection of particles can be considered as purely that of the displacement current formed.
Expansion of static laws to those of dynamic form
establishes the use of particles with the use of boundary laws (vectors) together with conformety with Classical laws.
Regards
Art

3113. discount 1:1 handbag,2010 new style excellent quality handbag

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 14:24:31 UTC
From: promptc <peonysshh@163.com>
Message-ID: <33153939-b610-466e-bc9b-8f5fc160fbf8@x18g2000pro.googlegroups.com>
Source record: 8363

Excellent quality with low price.Since now our company have received high

reputation from worldwid.
Some links of the handbag:
1) http://www.promptc.com/index.php?

main_page=product_info&cPath=0&products_id=11723
2) http://www.promptc.com/index.php?main_page=index&cPath=101_431
3http://www.dhgate.com/wholesale/products/ff80808128ed975501290b224b

0445a6.html

Basic information:
1)Payment:Paypal,WU,TT etc
2)Delivery time:3-7 days door to door safety delivery
3)Delivery methods:DHL,TNT,EMS etc
4)MOQ:6(mix) items,free shipping,accept sample order

The features of our company are: 1:1 quality,lowest price,prompt

delivery,good sale-after service."Customer highest,Reputation first" is our

principle.
Your business with us will be a pleasant experience for you.We are

dedicated to bring joy, safe and top-quality products for you. All the products

we offer come with fashion style, superior quality but cheaper price all the

time.
When you place order, please do not hesitate to leave more detailed

requirements you want, and then we will arrange the goods for you as soon

as possible. First time, we do business; next time, we become friends. Hope

you enjoy the whole process!
More order more discount ! ! !

Your sincerity
Jessica Chen
Promptc Co.,Ltd

www.promptc.com
E-mail:promptcy@hotmail.com

handbag www.promptc.co
coach handbag www.promptc.com
lv handbag www.promptc.com
prada handbag www.promptc.com
chanel handbag www.promptc.com
burberry handbag www.promptc.com
lady handbag www.promptc.com
1:1 handbag www.promptc.com
1:1 coach handbag www.promptc.com
1:1 chanel handbag www.promptc.com

3114. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 14:39:56 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <i1n6jt$5so$1@ra.nrl.navy.mil>
Source record: 8364

On 7/15/2010 6:43 AM, J.B. Wood wrote:

> "Radiation resistance (antenna). The radio of the power radiated by an
> antenna to the square of the rms antenna current referred to a specified
> point. Note: This term is of limited utility in lossy media."
>

Whoops! I meant to say "ratio" vice "radio". Sincerely, and 73s from
N4GGO,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

3115. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 15:43:04 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i1naa8$4g1$1@news.jpl.nasa.gov>
Source record: 8365

Jeff Liebermann wrote:
>
>
> The bad news is that if Apple stabilizes the rx front end, and
> eliminates the oscillation or regeneration, my guess(tm) is that the
> resultant phone is going to have a serious rx sensitivity problem. If
> you look at the cellular antenna in the iPhone 3G and other internal
> antenna cell phones, they're not very simple looking devices. Lots of
> strange lumps, traces, pads, and oddities, all designed to optimize
> performance in the 800/900 and 1800/1900 MHz bands. Getting them to
> look like 50 ohms for minimum VSWR is also important. Lots of
> articles in the IEEE Antenna and Prop proceedings on the topic of
> cramming a dual band antenna in the smallest possible package.
>
> On the other foot, the iPhone 4 antenna is crude. As far as I can
> tell from here, it's a crude monopole (single wire) antenna. There's
> no matching circuit for VSWR reduction, and no attempt to optimize
> performance in the desired bands. I might have missed something in
> the dissection, but all I can see is an end fed monopole, without a
> counterpoise or underlying ground. Such an antenna is going to have
> resonances at odd frequencies, and miserable antenna efficiency.
>

I doubt they're using regeneration or some such similar scheme (too hard
to control for manufacturing variability)..

However,
the idea of self interference is interesting... (e.g. your finger
couples the WiFi to the cellular front end, which blocks)

It could even be as dumb as a dc bias shift thing (save a penny by
leaving out the capacitor, oops, that removed the DC block)

As far as match goes, in very compact systems, the idea of matching 50
ohms goes out the door unless one of your components happens to be 50
ohm impedance.. It's not like they're stringing together building blocks
with SMA connectors inside there. Lots of these RF circuits are
implemented with differential in and out these days, and the Z is
whatever it happens to be.

3116. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 16:37:38 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <s9au36hrssn4lj3f682qluv7fdc9ik4ojf@4ax.com>
Source record: 8366

On Thu, 15 Jul 2010 00:37:22 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Wed, 14 Jul 2010 23:02:21 -0700, Jeff Liebermann <jeffl@cruzio.com>
>wrote:
>
>>However, the -30dB
>>drop of the iPhone 4 requires some extra circuit design screwups.
>>Unfortunately, detecting the regeneration is going to require internal
>>probes, test fixturing, and plenty of expensive test equipment.

I goofed slightly. The Anandtech article shows -24dB maximum signal
loss.

>Regenerative designs inhabit the naked edge of
>amplification/oscillation.

Not designs. I don't think it was intentional. Someone else
mentioned that Apple was so much into security on the iPhone 4, that
prototypes were tested in a similar case made to look like an iPhone
3G. That implies that there was little field testing in the new case.

>You've already said as much. It has to
>be, thus, a design feature and not a hack.

I beg to differ. Nobody wants oscillatory effects in the front end of
their receiver. They're unstable, vary with temperature, are
difficult to control in manufacturing, and will probably make the
device fail Part 15 incidental radiation test. Designing a front end
that's unconditionally stable with any antenna load does not yield the
optimum sensitivity. If you want the best performance, amps that are
unstable at specific loads will give better NF and gain.

>Otherwise every third one
>is going to break into oscillation and the FCC (or test lab) would
>have certainly picked up on that.

Maybe. However, one would think that someone would have done a field
test with the final iPhone 4 and noticed that touching the antenna gap
produced a major signal drop. Also, FCC test are not preformed with
human hands wrapped around the phone due to the limited supply of
dismembered hands suitable for testing.

>Further, if it is designed in, you
>can observe that in the design. Special testing methods are too
>elaborate to explain this. Regen is not a design feature left to the
>vagaries of production variation in parasitic coupling.

That might partly explain why some users claim that there's no call drop effect when they touch the antenna gap. Of course, users in strong signal areas are not going to see a dropout, while weak signal areas are going to be much worse.

Incidentally, when Consumer Reports ran a test with the rubber ring thing, they slipped and didn't have the technician stand in front of the test equipment this time.
<http://blogs.consumerreports.org/electronics/2010/07/apple-iphone4-iphone-4-bumper-case-fixes-antenna-issue-problem-signal-loss-tested-verified-consumer-reports-labs-quick-fix.html>
<http://802.11junk.com/jeffl/crud/iPhone4-cmu200.jpg> (normal)
<http://802.11junk.com/jeffl/crud/iPhone4-cmu200-hand.jpg> (with hand)
It's a Rhodes and Schwarz CMU200.
<http://www2.rohde-schwarz.com/product/CMU200.html>
I'm not familiar with the operation. The "Reported Power" appears to be the signal generator output power (because it doesn't change when the antenna is touched). However, I can't devine what the "Avg" or "Peak Burst Power" means.

Also, note that the difference in (something) between the first photo (+16.4dBm) and the hand on antenna measurement (-11.7dB) indicates a -28dB drop in signal level. Ouch.

>If I'm wrong and Apple does use parasitics to encourage regenerative
>feedback, then they may introduce a lanyard for hanging the phone
>around the neck and call it the lavaliere option. No doubt they will
>sell plenty of mirrors to see it, and someone will come out with an
>image reversal app. Can a stylus be far behind? Whoops! It will
>have to be chopstick for squeezing and expanding images.

We'll find out after the press conference on Friday. My suggestion was to ship a rubber glove with the phone. I also suggested gluing a plastic thumb tack to warn against holding it improperly. Also, a low signal warning tone. Others have suggested tape, rubber prophylactic bump guards, duct tape, warning labels, rebates, bribes, and external antennas:
<http://gizmodo.com/5581253/there-fixed>
Unfortunately, that will require running the FCC type certification tests again.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3117. See Hot Sexy Star KAJOL Latest Sex Videos In All Angles.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 16:46:51 UTC
From: babu <avatarmeherbaba6@gmail.com>
Message-ID: <16c61c69-ffa3-4cfc-b1a1-09a2692ee907@s24g2000pri.googlegroups.com>
Source record: 8367

See Hot Sexy Star KAJOL Latest Sex Videos In All Angles At
http://beatifulcollegegirls.tk

Due to high sex content, i have hidden the videos in an image. in
that
website on Top Side search box Above click on image and watch
videos in all angles. please don,t tell to anyone.

3118. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 17:02:36 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <6deu36hvku9jm7t4mnsps1m9hrpkd061o9@4ax.com>
Source record: 8368

On Thu, 15 Jul 2010 08:43:04 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>I doubt they're using regeneration or some such similar scheme (too hard
>to control for manufacturing variability)..

I'm not suggesting they did it intentionally. I'm suggesting that the
front end is unstable and that nobody noticed.

>However,
>the idea of self interference is interesting... (e.g. your finger
>couples the WiFi to the cellular front end, which blocks)

I was looking at the FCC ID web site photos again. I can't even tell
which end of the antenna is hot or ground, much less where it's fed.
If the hot end of both antennas are facing each other, it's certainly
possible. However, if Apple did that, they wouldn't need two separate
pieces of metal for the two antennas. They could simply declare some
point along the frame as being the official ground point, and have the
cellular antenna go one direction, and the wi-fi/BT antenna go the
other. Because they didn't do that, my guess is that the hot end of
the cellular antenna is next to the ground end of the wi-fi/BT
antenna.

>It could even be as dumb as a dc bias shift thing (save a penny by
>leaving out the capacitor, oops, that removed the DC block)

Methinks not. The duct tape solution just reduces the effect, not
eliminates it. Assuming duct tape to be a good insulator, that would
also suggest that it's not a DC effect.

>As far as match goes, in very compact systems, the idea of matching 50
>ohms goes out the door unless one of your components happens to be 50
>ohm impedance.. It's not like they're stringing together building blocks
>with SMA connectors inside there. Lots of these RF circuits are
>implemented with differential in and out these days, and the Z is
>whatever it happens to be.

If you look at the inside photos of the BCG-E2380A on the FCC ID web
pile,
<http://www.fcc.gov/oet/ea/fccid/>
(don't forget to include the "-" as part of the product code), there's
a module labeled "Acoustic and Cellular Antenna Feed" on Pg 9 and 10.
<https://fjallfoss.fcc.gov/eas/GetApplicationAttachment.html?id=1300576>
There's a coax cable going across the module, which I assume is 50
ohms.
<http://802.11junk.com/jeffl/iPhone4/iPhone4-accoustic-and-cellular-ant-feed.jpg>

It doesn't appear to do any more than connect a tiny coax connector to the RF module on one end, and a gold screw lug to the frame antenna on the other. No matching in between. Due to the coax, someone must think the antenna is 50 ohms at 800/900 and 1800/1900.

I've never seen a differential RF amp in a cell phone. If so, I would expect either a balanced antenna feed, or possibly two antenna connectors.

Disclaimer: I'm doing quite a bit more guessing than usual. Please do not treat the above as authoritive.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3119. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 18:34:40 UTC
From: dplatt@radagast.org
Message-ID: <0v04h7-pqu.ln1@radagast.org>
Source record: 8369

In article <pfadnYkS-5MXTqPRnZ2dnUVZ8rCdnZ2d@westnet.com.au>,
Peter <pm@hotmail.com> wrote:

>Hi all
>
>I have just modelled both the Slim Jim antenna and J Pole antenna using
>MMANA-GAL at the same frequency (145MHz) all other parameter equal and was
>some what surprised that they appear exhibit the same gain and radiation
>pattern. Based on an article I read in a English magazine many years ago I
>have always believed the Slim Jim had a slight edge over the J Pole.
>Wonder if others had a similar view and if my modelling is correct are there
>any advantages with the Slim Jim design?

I recall reading though Cebik's excellent web pages on J-poles and
variants thereof, a few years ago, and his modeling results pretty
much corresponded to yours.

Compared to a simple J-pole with the radiating element consisting of a
single wire, the "Slim Jim" variant has two parallel radiators (e.g.
the two conductors in a twinlead or window-line). The two radiators
may or may not be shorted together at the top.

As far as I can tell, electrically, the addition of the second
radiator doesn't make much difference in how the antenna behaves. It
doesn't change the overall shape of the current distribution curve on
the radiator... just divides the current flow between the two wires.
Since the current curve shape is the same, and the vertical span of
the radiator doesn't change, the gain pattern will be the same.

It does seem to have the effect of making the radiator "fatter", which
can both lower its resonant frequency a bit, and make it a bit more
broad-banded.

I believe that for most purposes, the two antennas can be considered
equivalent - they're both end-fed half-wave radiators, and will have
the gain pattern you'd expect from a half-wave dipole. Both are
equally vulnerable to having their patterns disturbed by current flow
on the feedline or the mast, if you don't take some precautions to
isolate these (e.g. via chokes, a half-wave coax balun, etc.).

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3120. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 18:39:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qsku36tk5fjgvjcgi749v38b0fffIti5kg@4ax.com>
Source record: 8370

On Thu, 15 Jul 2010 09:37:38 -0700, Jeff Liebermann <jeffl@cruzio.com>
wrote:

><http://blogs.consumerreports.org/electronics/2010/07/apple-iphone4-iphone-4-bumper-case-fixes-antenna-issue-problem-signal-loss-tested-verified-consumer-reports-labs-quick-fix.html>

Consumer Reports to Apple: "You've been served!"

The long and short of it is that Apple treats its product design like
bulimic runway models. It's up to you to see they get as fat as
necessary to live a productive life.

In other words, there's no room left inside the iPhone for an antenna
and it ruins the esthetics for it too bulge. So, if you don't want to
be viewed as part of the pocket-protector crowd, suck up and hold your
phone like Lady Gaga.

Support our troops at:
http://www.youtube.com/watch?v=-fMP0zZRIF4

73's
Richard Clark, KB7QHC

3121. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 19:22:43 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i1nn44$ov4$1@news.eternal-september.org>
Source record: 8371

Roger Inscribed thus:

> On Tue, 13 Jul 2010 13:51:46 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>>Baron wrote:
>>> Richard Clark Inscribed thus:
>>>
>>>> On Mon, 12 Jul 2010 21:54:17 -0500, tom <news4792@taring.org>
>>>> wrote:
>>>>
>>>>> On 7/12/2010 9:46 PM, Richard Clark wrote:
>>>>>> The only thing that remains a mystery, for me if for no one else
>>>>>> here, is the literal specification of the antenna. Google (gasp)
>>>>>> fails me.

>>>>>> 73's
>>>>>> Richard Clark, KB7QHC
>>>>> And that does seem to be the crux of the matter. What is the
>>>>> antenna? And what does it interact with that's not, be it part of
>>>>> the phone or part of the user?
>>>> Hi Tom,
>>>>
>>>> The antenna is reported as being the metal trim that surrounds the
>>>> perimeter of the phone. As that is much too large for the
>>>> frequencies involved to be taken literally, there is more to the
>>>> story that remains clouded. Maybe I'm wrong....
>>>
>>> I think you're right. "Design Flaw" Someone messed up testing big
>>> time.
>>>
>>>> If the loop (or dipole) is suitably matched, it doesn't give much
>>>> polarization diversity. Perhaps no phone does anyway.
>
> In my older phone, razor(sp?)I think the antenna is a spiral.
>
>>>
>>> Aren't cell stations vertically polarised. The one near me is, and
>>> one of the IF's is smack on 144.005 Mhz.
>
> Time to go legal limit on CW with a big EME array<:-)) such as 4, or
> 6,8, or 12, 28-30 element long johns.
>

I had 16 x 19 element Tigers up there on a big H frame. I could run a
full gallon from a Tempo 2000. So yes I suppose I could have flattened
the cell station IF...

>>>
>>>> Insofar as being "part of the user," we well know the EM of HTs and
>>>> the hand/body contribution. If such were the case, then this would
>>>> be an agnostic problem that users of all mobile phones would
>>>> complain of
>>>> (which mildly refutes what the gadget blogs dismissed). On the
>>>> other hand, the über-hip, whose complaints are more vocal for their
>>>> "pain," would be outraged at the notion of their simply enjoying
>>>> the identical
>>>> experience of techno-trash. Amazing what a 10 fold cost
>>>> differential brings to your perception of quality of service.
>
> Except for the eyes, those phones couldn't heat water with the power
> they run.
>
>>>>
>>>> 73's
>>>> Richard Clark, KB7QHC
>>>
>>> From a casual look at the phone the metal band seems to be a
>>> continuous loop.
>
> it's two segmented loops that appeared to be around the bottom left
> corner, right where it fits in the palm of your left hand.
>
>>> Its unlikely that there is a physical coupling between it and the
>>> RX/TX, so any tuner or coupling is going to be affected by the hand
>>> grasping it. Since suggestions have been made to hold the phone in
>>> a different place, I would guess that the coupling method is
>>> suseptible
>
> Yup, design flaw, and I hear there is now a recall coming up.

After forking out the sort of money they want for the things, I'd be
asking for my brass back !

>>> to adsorbtion effects and that the hot parts are near the base of
>>> the phone.
>>>
>>> FWIW Every mobile phone I've played with has the antenna and
>>> coupling circuitry near the top behind the display.
>>
>>
>>Not any more.. recent phones (last several years) put the antenna at
>>the bottom to reduce the SAR number, since the top of the phone is
>>next to your head, and the bottom isn't. There's a really good
>>explanation from
>

> On mine the top is against your ear and the bottom against your cheek
> or upper jaw bone and I'm keeping it until it dies, but those kind of
> gadgets have a rather limited life around me. I just want a phone with
> voice mail. I have a camera thank you, and it doesn't have a tiny
> crappy lens that makes anything much over 1 megapixel nothing more
> than bragging rights. I don't want texting, The only thing I need is
> the ability to call and be called. I don't need a PDA either.

Agreed !

> Even in the old days when we had to use the day planners and even go
> to school on them, after the class I dumped everything out of it
> including the calendar and picked up a new interior from the stock
> room. Threw out every thing I didn't need and used it for a note book
> at meetings. To me a day planner would be about as useless and my
> profession was a computer systems project manager up until I retired.
> It's also my degreed field.
>
> 73
>
> Roger (K8RI)
>
>
>>a guy who does, oddly, wireless device antenna design consulting..
>>http://www.antennasys.com/
>>specifically
>>http://www.antennasys.com/antennasys-blog/2010/6/24/apple-iphone-4-antennas.html
>>
>>
>>http://www.anandtech.com/show/3794/the-iphone-4-review/2 has some
>>information

--
Best Regards:
Baron.

3122. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 19:33:04 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i1nnnircv1@news.eternal-september.org>
Source record: 8372

Peter Inscribed thus:

> Hi all
>
> I have just modelled both the Slim Jim antenna and J Pole antenna
> using MMANA-GAL at the same frequency (145MHz) all other parameter
> equal and was some what surprised that they appear exhibit the same
> gain and radiation pattern. Based on an article I read in a English
> magazine many years ago I have always believed the Slim Jim had a
> slight edge over the J Pole. Wonder if others had a similar view and
> if my modelling is correct are there any advantages with the Slim Jim
> design?

The difference is negligible. They both suffer from unbalanced feed
currents and thus feeder radiation. There is or was a commercial
design that attempted to reduce that.

73's
--
Best Regards:
Baron.

3123. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 20:01:57 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB73D5C4C7BAnonenowhere@61.9.134.55>
Source record: 8373

"J.B. Wood" <john.wood@nrl.navy.mil> wrote in news:i1monr$2od$1
@ra.nrl.navy.mil:

> On 07/15/2010 04:14 AM, Owen Duffy wrote:
>> I note some variation in the use of the term 'Radiation Resistance' (Rr)
>> that suggests that it has different meanings to different folk.
>>
> <snip>
> Hello, and I don't find any ambiguities in any of my various EM and
> antenna theory textbooks. FWIW, from the IEEE Standard Dictionary of
> Electrical and Electronics Terms:
>
> "Radiation resistance (antenna). The radio of the power radiated by an
> antenna to the square of the rms antenna current referred to a specified
> point. Note: This term is of limited utility in lossy media."
>

Hmmm. The last statement suggests that, as defined, it is not clear and
unambiguous in the real world because the real world involves "lossy
media".

The "reference to a specified point" suggests that if one gives a value for
Rr, it is necessary to also state the reference point. Is that what it
means?

This is exactly the lack of clarity that is troubling me.

> So if we're looking at free (in vacuo) space the radiation resistance is
> simply a "load" resistance component that accounts for where the
> radiated power goes. The radiation resistance doesn't include any other
> resistive losses in the antenna structure/proximity operating
> environment that may also be dissipating source power introduced at the
> feedpoint of the antenna.

This does not address the issue of ground reflection that I mentioned.

> An aerodynamic analogy would be the
> distinction between "induced" drag (the price paid for "lift") and
> "parasite" drag, which are both components of the total drag.
> Sincerely, and 73s from N4GGO,

I am not an aerodynamics type, so drawing that analolgy only helps to
confuse. You might as well use optics!

I know you are trying to be helpful John, but the IREE definition doesn't
seem to clarify the issue.

To put some numbers on my first example, if I have an NEC model of a centre fed half wave dipole with zero conductor losses, mounted over real (ie lossy) ground, and feedpoint R at resonance is say, 60 ohms, and total power in the *far field* divided by I^2 is say, 50 ohms, is Rr 50 ohms? Is the power "radiated" from such a dipole ONLY the power that makes it to 'distant space', or is radiated power input power less dipole conductor losses?

The IREE definition suggests that I need also to state that Rr is 50 ohms at the centre, and the term is is of "limited utility" (not unambiguously clear?) because of the lossy ground reflections.

If indeed the term Radiation Resistance is only applicable in lossless scenarios as suggested by the IREE dictionary, what it a clear and unambiguous language for the real world?

Cheers
Owen

3124. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 20:03:38 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <mPCdnanzMp4C9KLRnZ2dnUVZ_tqdnZ2d@giganews.com>
Source record: 8374

Baron wrote:
>
> The difference is negligible. They both suffer from unbalanced feed
> currents and thus feeder radiation. There is or was a commercial
> design that attempted to reduce that.
>
> 73's

Modeling of J-poles and ground plane verticals shows considerable mutual coupling to the feedline, and the Slim Jim almost certainly behaves the same in this regard. The amount of common mode current this induces and consequently the amount of pattern distortion it causes depends on the feedline length and its path to ground. When the current is significant, you'll probably need two current baluns (common mode chokes), one at the feed point and the other about a quarter wavelength down, to reduce it to a low value.

I theorize that the dependence of common mode current on feed line length is a possible cause for the widely varying reports on how well a J-pole radiates -- some people get lucky, some don't.

Roy Lewallen, W7EL

3125. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 20:36:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jtqu36thkv9qj760imj5oi3do57b9mgump@4ax.com>
Source record: 8375

On Thu, 15 Jul 2010 20:01:57 GMT, Owen Duffy <none@no.where> wrote:

>> "Radiation resistance (antenna). The radio of the power radiated by an
>> antenna to the square of the rms antenna current referred to a specified
>> point. Note: This term is of limited utility in lossy media."
>>
>
>Hmmm. The last statement suggests that, as defined, it is not clear and
>unambiguous in the real world because the real world involves "lossy
>media".

Hi Owen,

All of this neatly fits into Broadcast Band transmission where the
current pulse (we are now into the shadow zone of SWR) occurs at the
feedpoint of an antenna that is conventionally a quarter wave tall,
the current can be measured, and the far field power is known. The
matter of "lossy media" has been studied (BL&E) and that variable
reduced by good engineering practices (which brings us back to the
known far field power).

>The "reference to a specified point" suggests that if one gives a value for
>Rr, it is necessary to also state the reference point. Is that what it
>means?

The "reference" is typically the current node. It gets messier with
more complex antenna design.

>This is exactly the lack of clarity that is troubling me.

This implies the more complex designs following (or not following)
what you reject as "rules of thumb." Or at least their appearance.
I'm sure there are long and elaborate academic treatises that explain
the current node current measurement in relation to the known radiated
power. I haven't read any of them that I can glibly quote here.

>This does not address the issue of ground reflection that I mentioned.

I will return to your original and comment to that:
>>Some implications of the above are that:
>>- Rr of a horizontal half wave dipole with zero conductor loss, above
>>real ground, would have Rr less than R at the feedpoint by virtue of some
>>loss in waves reflected from real ground;

There are two mechanisms hiding in one description. The ground is
lossy - period. The ground is reflective - period. These are two
different issues in regard to radiation resistance. The Rr is not

ground loss although the measure of Rr may be corrupted by Rground. That is a problem of separating out the variables. Others have described that. The reflection from ground may upset the measure of Rr as well, but if that does not upset the total power, and the current node can be measured, then you still have a way to quantify Rr.

>>- Rr of a half wave folded dipole of equal conductor diameters would be
>>around 300 ohms.

I thought someone else preceded this discussion with Tom's explanation. Maybe it went unread, or unrealized. So, in other words: A folded dipole/monopole is a current transformer. That transformation ratio is driven, in large part, by the ratio of the diamters of the conductors. You have acknowledged as much in your own specification of equal sized conductors. Having said that, the transformer is also transforming the Z of the load (Rr + Rground) by a square law. The usual sense of current node has been lost in a more elaborate design, but the transformation of it returns us to the usual Rr.

73's
Richard Clark, KB7QHC

3126. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 20:41:55 UTC
From: Rob <nomail@example.com>
Message-ID: <slrni3uskj.e93.nomail@xs8.xs4all.nl>
Source record: 8376

Bruce in alaska <fast@btpost.net> wrote:
> Just remember that Apple isn't particularly adept in the RF Arena, and
> the iPhone/iTouch/iPad are their only small products that have RF
> Antennas, this small. Also remember that some of their Laptops, of past
> years, had some serious Wifi Antenna placement problems, and remember
> that Wifi at that time was only a Single Band, not a Three Band System,
> like the iPhone4.

Lesson: don't buy a cellphone from a company that doesn't know how to
build one (and wants to be in the business of cellphone design without
hiring the knowledge required).

3127. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 21:21:55 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i1nu5j$v1o$1@news.jpl.nasa.gov>
Source record: 8377

Jeff Liebermann wrote:

> I've never seen a differential RF amp in a cell phone. If so, I would
> expect either a balanced antenna feed, or possibly two antenna
> connectors.

Things like vector mods (RF2422) have differential in/out, for instance.
Parts like the MAX2510 are similar.

It's true by the time you get to PA stage, that single ended seems to be
more common.

3128. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 22:10:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB7531E0FC1Cnonenowhere@61.9.134.55>
Source record: 8378

Hi Steve,

steveeh131047 <google@karinya.net> wrote in news:8a4ba365-af4e-40fc-abaf-0ebfe272fcb1@q22g2000yqm.googlegroups.com:

> Owen,
>
> I like the IRE definition, which according to W8JI is: "The total
> power radiated in all directions divided by the square of the net
> current causing the radiation".
>
> That definition draws a distinction between Rrad and the resistive
> component of the feedpoint impedance; it makes the Rrad of a folded
> dipole 75 ohms, not 300 ohms; and it avoids some of the errors folk
> make in assuming that "folding" a vertical can reduce ground losses.

If I take a half wave folded dipole immersed in some environment where the ambient noise temperature is T, and attach a load directly to the feedpoint, the load power will be maximum when it is about 300 ohms rather than about 75 ohms, and the noise power density due to ambient noise would be K*T*300 W/Hz rather than K*T*75 W/Hz. If Rr is the (virtual) resistance due to coupling of the antenna with distant space, then surely this example suggests that Rr is 300 rather than 75 ohms.

(If I performed the same experiment with a plain half wave dipole, the load power will be maximum when it is about 75 ohms, and the noise power density due to ambient noise would be K*T*75 W/Hz.)

To some extent, my question comes to is Rr at a 'defined' point, and is that point the interface between non-radiating feed line and the radiating structure.

Yes, you could argue as Richard states that a folded dipole includes an integral transformer, but then, the generalised outcome of that argument is that all antennas are impedance transformers, Rr could be some agreed fixed quantity located at a great distance in space, or even more confusing, an non-shared arbitrary value, and that key to it all is some new concept of the antenna impedance transformation ratio.

The notion that Rr is defined at a virtual point that is between any deemed integral impedance transformation and the rest of the radiator, rather than defined at the physical feedline / radiator interface doesn't seem too sensible.

Owen

3129. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 22:37:20 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <PZ6dnTrgP_g5EKLRnZ2dnUVZ_uydnZ2d@giganews.com>
Source record: 8379

Radiation resistance is pretty much what the writer wants it to be. Consequently, it has to be explicitly each time it's used whenever an ambiguity might arise. It's simply a resistance whose "dissipation" (absorbed power) is the amount radiated. Most writers would probably argue that power lost from the near field to nearby lossy objects such as ground never got radiated, and therefore the corresponding resistance should be considered loss rather than radiation resistance. The presence of nearby ground, however, can also change the value of the remaining resistance due to mutual coupling and alteration of the current distribution, so a particular antenna doesn't have a single inherent value of radiation resistance independent of environment.

As for the location where radiation resistance is defined, I believe it's common in AM broadcasting, for example, to refer the radiation resistance of a monopole to a current loop (maximum). If this is a different location than the feed point, the resistance (neglecting loss) at the base will be different from the loop radiation resistance. The ratio of base radiation resistance to loop radiation resistance will in fact equal the square of the ratio of loop current to base current. So radiation resistance measured at the base can be "referred" to the loop by scaling by this ratio. (The power "dissipated" by radiation resistance referred to a loop or any other point has to equal the "dissipation" of the radiation resistance seen at the base or any other point. So Rr has to differ to keep I^2 * Rr constant as Rr is referred to points having different values of I.) The radiation resistance can be referred to any point on the antenna, so the writer has to specify what point is used. But one point is as acceptable as another. It's vital, though, when using radiation resistance, that the current at the defined point is used for calculations. And loss resistance must also be referred to the same point if efficiency calculations are to be made.

Some authors, for example Kraus, consistently refer the radiation resistance to the feed point. But Kraus doesn't explicitly apply the term "radiation resistance" to a folded dipole. There's nothing at all wrong, however, with declaring the radiation resistance of a folded dipole to be ~300 ohms. The power radiated is the current measured at the feed point, squared, times that resistance. It's equally legitimate to declare the radiation resistance of a folded dipole to be that of an unfolded equivalent, or ~75 ohms. If you do, though, you also have to work with the current of the unfolded dipole to make the power come out correct.

A common mistake when dealing with folded unipoles, made by at least several prominent people who should have known better (and marketing people who probably do know better but find it advantageous to be

incorrect), is to refer the radiation resistance to the feed point but the loss resistance to the unfolded equivalent. This results in an erroneous efficiency calculation that incorrectly attributes an improvement due to folding. As I said, you can refer the radiation resistance to either, but if you want to calculate efficiency, you have to refer the loss resistance to the same point and having undergone the same transformation. And when you do, you find that folding fails to produce the often-claimed efficiency improvement.

Roy Lewallen, W7EL

3130. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 23:15:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB75E2FB761Bnonenowhere@61.9.134.55>
Source record: 8380

Thanks Roy.

I note you observe similar variation in usage as I note.

Yes, consistency in an application is more important than a common meaning of the term, but a common meaning of the term assists simpler communication.

Regarding say, a base fed folded monopole and efficiency calculations, if the connection to ground is though of as having some actual value Rg, since the current flowing in Rg is twice the feedpoint current, consistent development of the circuit model will reveal the correct efficiency as:

Rr/(Rr+2Rg)

where Rr is the sum of power in the far field divided by feed point current squared. You don't need to fudge Rr to get the result, proper allowance of the power due to the actual current in Rg provides the correct result.

Kraus (Annennas for All Applications) effectively defines Rr as part of his development of the concept of a pair of conductors transitioning from a non-radiating transmission line to an antenna to free space radiation.

He does say "... the radiation resistance Rr, may be thought of as a "virtual" resistance that does not exist physically but is a quantity coupling the antenna to distant regions of space via a "virtual" transmission line."

It is his use of "distant regions of space" that suggests in the case of ground reflection, it is the remaining total power in distant free space after lossy reflection that is used to calculate Rr. The power lost in reflection would be a component of feed point R, but not Rr.

He also states a little earlier "... the antenna appears to the transmission line as a resistance, Rr, called the *radiation resistance*. It is not related to any in the antenna itself, but a resistance coupled to the from space to the antenna terminals." This seems fairly clear to me that he defines radiation resistance to be at the transmission line / antenna interface.

Both of these statements by Kraus are simple, but would seem to be capable of application to real antenna systems. I can't immediately think of exceptions (game on???).

In Kraus's language, ground reflections might reasonable be considered part of the 'antenna' since they influence its pattern and loss, and loss in the ground reflections is due to resistance "in the 'antenna' itself" and so excluded from Rr.

Is there anything in Kraus's statements that is wrong, or my interpretiohn of them.

Owen

3131. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-15 23:26:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB760143F999nonenowhere@61.9.134.55>
Source record: 8381

Owen Duffy <none@no.where> wrote in
news:Xns9DB7531E0FC1Cnonenowhere@61.9.134.55:

...
>
> If I take a half wave folded dipole immersed in some environment where
> the ambient noise temperature is T, and attach a load directly to the
> feedpoint, the load power will be maximum when it is about 300 ohms
> rather than about 75 ohms, and the noise power density due to ambient
> noise would be K*T*300 W/Hz rather than K*T*75 W/Hz. If Rr is the
> (virtual) resistance due to coupling of the antenna with distant
> space, then surely this example suggests that Rr is 300 rather than 75
> ohms.
>
> (If I performed the same experiment with a plain half wave dipole, the
> load power will be maximum when it is about 75 ohms, and the noise
> power density due to ambient noise would be K*T*75 W/Hz.)

Sorry, that is plainly wrong. Clarity struck whilst having breakfast, the
received power of a matched system should be independent of R.

Noise power density is simply K*T W/Hz. There is no R term.

The text should read...

If I take a half wave folded dipole immersed in some environment where
the ambient noise temperature is T, and attach a load directly to the
feedpoint, the load power (due to ambient noise) will be maximum when it
is about 300 ohms rather than about 75 ohms. If Rr is the (virtual)
resistance due to coupling of the antenna with distant space, then surely
this example suggests that Rr is 300 rather than 75 ohms.

My apologies.

Owen

3132. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 00:16:39 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <037efba8-f472-4808-81ad-8e94396358d0@x21g2000yqa.googlegroups.com>
Source record: 8382

On Jul 15, 3:01 pm, Owen Duffy <n...@no.where> wrote:
> "J.B. Wood" <john.w...@nrl.navy.mil> wrote in news:i1monr$2od$1
> @ra.nrl.navy.mil:
>
> > On 07/15/2010 04:14 AM, Owen Duffy wrote:
> >> I note some variation in the use of the term 'Radiation Resistance' (Rr)
> >> that suggests that it has different meanings to different folk.
>
> > <snip>
> > Hello, and I don't find any ambiguities in any of my various EM and
> > antenna theory textbooks. FWIW, from the IEEE Standard Dictionary of
> > Electrical and Electronics Terms:
>
> > "Radiation resistance (antenna). The radio of the power radiated by an
> > antenna to the square of the rms antenna current referred to a specified
> > point. Note: This term is of limited utility in lossy media."
>
> Hmmm. The last statement suggests that, as defined, it is not clear and
> unambiguous in the real world because the real world involves "lossy
> media".
>
> The "reference to a specified point" suggests that if one gives a value for
> Rr, it is necessary to also state the reference point. Is that what it
> means?
>
> This is exactly the lack of clarity that is troubling me.
>
> > So if we're looking at free (in vacuo) space the radiation resistance is
> > simply a "load" resistance component that accounts for where the
> > radiated power goes. The radiation resistance doesn't include any other
> > resistive losses in the antenna structure/proximity operating
> > environment that may also be dissipating source power introduced at the
> > feedpoint of the antenna.
>
> This does not address the issue of ground reflection that I mentioned.
>
> > An aerodynamic analogy would be the
> > distinction between "induced" drag (the price paid for "lift") and
> > "parasite" drag, which are both components of the total drag.
> > Sincerely, and 73s from N4GGO,
>
> I am not an aerodynamics type, so drawing that analolgy only helps to
> confuse. You might as well use optics!
>

> I know you are trying to be helpful John, but the IREE definition doesn't
> seem to clarify the issue.
>
> To put some numbers on my first example, if I have an NEC model of a centre
> fed half wave dipole with zero conductor losses, mounted over real (ie
> lossy) ground, and feedpoint R at resonance is say, 60 ohms, and total
> power in the *far field* divided by I^2 is say, 50 ohms, is Rr 50 ohms? Is
> the power "radiated" from such a dipole ONLY the power that makes it to
> 'distant space', or is radiated power input power less dipole conductor
> losses?
>
> The IREE definition suggests that I need also to state that Rr is 50 ohms
> at the centre, and the term is is of "limited utility" (not unambiguously
> clear?) because of the lossy ground reflections.
>
> If indeed the term Radiation Resistance is only applicable in lossless
> scenarios as suggested by the IREE dictionary, what it a clear and
> unambiguous language for the real world?
>
> Cheers
> Owen

In real world terms radiation resistance is measured by the vector
that overcomes radiation resistance or the conveyance of
communication. This compels the measurement of that which is
accelerated as it is an action and reaction type vector. If one
doesn't have a measurement of the mass that is being accelerated then
radiation resistance itself cannot be supplied. What happens
to the accellerated mass has no connection what so ever to the
accelleration vector.To find the accelerating vector one must first
determine the efficiency of the apparatus used and this will vary
dependent on the method used to produce the accelerating vector so
that one can determine the losses. So if we cannot identify that
vector which creates acceleration of charge where the charge is the
measurement of radiation one must first determine what creates
radiation so that the radiation unit can be measured. The bottom line
is
that one must use a superconductor where only the accelerating vector
comprises of the impedance
seen by the time varying current and where the
resistance of the radiating member is divorced from the equation as is
coupling losses in the absence of a magnetic field.
Art

3133. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 00:23:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <VbGdnS6bgcgZO6LRnZ2dnUVZ_qKdnZ2d@giganews.com>
Source record: 8383

Owen Duffy wrote:
> Thanks Roy.
>
> I note you observe similar variation in usage as I note.
>
> Yes, consistency in an application is more important than a common meaning
> of the term, but a common meaning of the term assists simpler
> communication.

True. But we can't force consistency of a term that's already ubiquitous in the literature with a variety of meanings. Saying it's so doesn't make it so.

> Regarding say, a base fed folded monopole and efficiency calculations, if
> the connection to ground is though of as having some actual value Rg, since
> the current flowing in Rg is twice the feedpoint current, consistent
> development of the circuit model will reveal the correct efficiency as:
>
> Rr/(Rr+2Rg)
>
> where Rr is the sum of power in the far field divided by feed point current
> squared. You don't need to fudge Rr to get the result, proper allowance of
> the power due to the actual current in Rg provides the correct result.

Ok, here we go. Remember that efficiency is really a power ratio, not a resistance ratio. It reduces to the familiar resistance formula only when the currents in both radiation and loss resistances are the same.

Let's talk about Rg. An unfolded monopole has a single connection to ground, and we can call this resistance Rg. If Rr is the base radiation resistance, then the same current flows through Rr and Rg, so efficiency = Pr/(Pr + Pg) = Rr/(Rr + Rg) and everything's fine. But when we fold it, there are two connections to ground -- the "cold" side of the feedline and the non-feed monopole conductor. Each has half the original current. The "hot" side of the feedline carries the same current as the "cold" side so its current is half the original value also. You have your choice for Rg -- you can consider it to be the original ground system resistance but with twice the current flowing through it as through the feedpoint resistance; or you can split the original into two equal parallel resistances of twice the value, each with the same current as at the feedpoint. In the first case, you get the equation you posted. In the second, you get Rr/(Rr + Rg). We've basically referred the ground resistance to the transformed feedpoint.

The surest way to stay out of trouble is to always calculate efficiency as a ratio of powers. If you use I^2 * R for radiation power and loss

power, you can't go wrong, regardless of where you choose either R to
be, as long as the I is at the same point.

> Kraus (Annennas for All Applications) effectively defines Rr as part of his
> development of the concept of a pair of conductors transitioning from a
> non-radiating transmission line to an antenna to free space radiation.
>
> He does say "... the radiation resistance Rr, may be thought of as a
> "virtual" resistance that does not exist physically but is a quantity
> coupling the antenna to distant regions of space via a "virtual"
> transmission line."
>
> It is his use of "distant regions of space" that suggests in the case of
> ground reflection, it is the remaining total power in distant free space
> after lossy reflection that is used to calculate Rr. The power lost in
> reflection would be a component of feed point R, but not Rr.

Well, we can get carried away with this, too. Nearby ground sucks power
from the near field and that power is never radiated. The longer
distance ground reflection primarily responsible for elevation pattern
development uses power which has been radiated from the antenna
conductor(s). Is that reflection "distant"? When you calculate an
antenna's efficiency, do you include the power radiated from the
conductor before or after the ground reflection? What about power that's
lost by radiation to space? It's just as surely lost for terrestrial
communication as power warming the ground. Answer: It's entirely up to
you. You could even consider all energy which doesn't strike your
receiving antenna as "loss". All you have to do is clearly state what
you're including and what you're not.

> He also states a little earlier "... the antenna appears to the
> transmission line as a resistance, Rr, called the *radiation resistance*.
> It is not related to any in the antenna itself, but a resistance coupled to
> the from space to the antenna terminals." This seems fairly clear to me
> that he defines radiation resistance to be at the transmission line /
> antenna interface.

Kraus is consistent with this, but other respected authors use the term
radiation resistance differently. The few who use the term radiation
resistance when lossy ground is present, though, seem to regard
near-field coupling loss to ground as loss, and not consider far field
reflection in efficiency calculations at all.

> Both of these statements by Kraus are simple, but would seem to be capable
> of application to real antenna systems. I can't immediately think of
> exceptions (game on???).

As I said above, how distant?

> In Kraus's language, ground reflections might reasonable be considered part
> of the 'antenna' since they influence its pattern and loss, and loss in the
> ground reflections is due to resistance "in the 'antenna' itself" and so

> excluded from Rr.
>
> Is there anything in Kraus's statements that is wrong, or my
> interpretatiohn of them.
>
> Owen

Kraus isn't wrong. Neither are the other respected authors who use the term differently. I'm sorry, but you're looking for something that doesn't exist, and I don't see the point in trying to invent a strict definition just for your own use.

Roy Lewallen, W7EL

3134. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 01:32:02 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <84aaf4a2-fc2d-408f-b690-e30b3eaa4039@g19g2000yqc.googlegroups.com>
Source record: 8384

On Jul 13, 12:52 am, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
>
> <horn...@gmail.com> wrote:
> >Can anyone make a recommendation, based on actual training and
> >experience, as to what width and thickness of copper strap would be
> >needed as the down conductor from the antenna mounts at the peak of my
> >house roof, some twenty five feet above local terrain.
>
> Hi Tom,
>
> Consult the NEC code for your area. I have never seen them specify
> strap in any situation, and don't try your own interpretations of what
> "continuous"or "direct" means.
>
> 73's
> Richard Clark, KB7QHC

Richard
I will certainly make the installation code compliant. What I was looking for help on was how to make it effective in avoiding damage from lightning. I have read all of the applicable material from the Polyphaser, NIST, and several other sites but what I was hoping to elicit was specific guidance on what size strap to use for the down conductors and what size to use for the ground ring so that they might actually work rather than just comply with the code. I can certainly add any regular wire conductor that would keep the electrical inspectors happy since I already have 2/0 bare copper for the ground ring; were only #2 is required and, the ridiculously undersized, number ten that the code requires for down conductors in hand.

810.58 Grounding Conductors — Amateur Transmitting and Receiving Stations.
Grounding conductors shall comply with 810.58(A) through (C).
(A) Other Sections. All grounding conductors for amateur transmitting and receiving stations shall comply with 810.21(A) through (J).
(B) Size of Protective Grounding Conductor. The protective grounding conductor for transmitting stations shall be as large as the lead-in but not smaller than 10 AWG copper, bronze, or copper-clad steel.
(C) Size of Operating Grounding Conductor. The operating grounding conductor for transmitting stations shall not be less than 14 AWG copper or its equivalent.

810.21 Grounding Conductors — Receiving Stations.
Grounding conductors shall comply with 810.21(A) through (J).

(A) Material. The grounding conductor shall be of copper, aluminum, copper-clad steel, bronze, or similar corrosion-resistant material. Aluminum or copper-clad aluminum grounding conductors shall not be used where in direct contact with masonry or the earth or where subject to corrosive conditions. Where used outside, aluminum or copper-clad aluminum shall not be installed within 450 mm (18 in.) of the earth.
(B) Insulation. Insulation on grounding conductors shall not be required.
(C) Supports. The grounding conductors shall be securely fastened in place and shall be permitted to be directly attached to the surface wired over without the use of insulating supports.
Exception: Where proper support cannot be provided, the size of the grounding conductors shall be increased proportionately.
(D) Mechanical Protection. The grounding conductor shall be protected where exposed to physical damage, or the size of the grounding conductors shall be increased proportionately to compensate for the lack of protection. Where the grounding conductor is run in a metal raceway, both ends of the raceway shall be bonded to the grounding conductor or to the same terminal or electrode to which the grounding conductor is connected.
If metal enclosures such as steel conduit are used to enclose the grounding conductor, bonding must be provided at both ends to ensure an adequate low-impedance current path.
(E) Run in Straight Line. The grounding conductor for an antenna mast or antenna discharge unit shall be run in as straight a line as practicable from the mast or discharge unit to the grounding electrode.
(F) Electrode. The grounding conductor shall be connected as follows:
(1) To the nearest accessible location on the following:
a. The building or structure grounding electrode system as covered in 250.50
b. The grounded interior metal water piping systems, within 1.52 m (5 ft) from its point of entrance to the building, as covered in 250.52
See the commentary following 250.52(A)(1).
c. The power service accessible means external to the building, as covered in 250.94
d. The metallic power service raceway
e. The service equipment enclosure, or
f. The grounding electrode conductor or the grounding electrode conductor metal enclosures; or
(2) If the building or structure served has no grounding means, as described in 810.21(F)(1), to any one of the individual electrodes described in 250.52; or
(3) If the building or structure served has no grounding means, as described in 810.21(F)(1) or (F)(2), to an effectively grounded metal structure or to any of the individual electrodes described in 250.52.
(G) Inside or Outside Building. The grounding conductor shall be permitted to be run either inside or outside the building.

(H) Size. The grounding conductor shall not be smaller than 10 AWG copper, 8 AWG aluminum, or 17 AWG copper-clad steel or bronze.
(I) Common Ground. A single grounding conductor shall be permitted for both protective and operating purposes.
(J) Bonding of Electrodes. A bonding jumper not smaller than 6 AWG copper or equivalent shall be connected between the radio and television equipment grounding electrode and the power grounding electrode system at the building or structure served where separate electrodes are used.

--
Tom Horne, W3TDH

3135. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 01:51:32 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <226afe1e-f6c4-446f-9204-7f1e383ebda0@q12g2000yqj.googlegroups.com>
Source record: 8385

On Jul 13, 2:18 am, Owen Duffy <n...@no.where> wrote:
> Tom Horne <horn...@gmail.com> wrote in news:e802f6fa-b0e1-471b-bf31-
> 8efd8015d...@5g2000yqz.googlegroups.com:
>
> > Can anyone make a recommendation, based on actual training and
> > experience, as to what width and thickness of copper strap would be ...
>
> In this part of the world, we have an Australian / New Zealand Standard
> (our version if you like of ANSI, BS etc) which explains the rationale
> behind lightning protection, a method of estimating the downcurrent for
> protection design purposes and a process for designing down conductors.
>
> Broadly, the scheme is that downconductors are designed to withstand a
> few donwstrokes in quick succession without melting the down conductor.
> If you work from a peak current of 20kA, it would lead to a down
> conductor in copper of at least 25mm^2 which is about #2 to you folk.
>
> I regularly see hams recommend much thinner down conductors, and can only
> assume that there is not regulatory guidance or requirement, and I wonder
> at the effectiveness of using #6 as often recommended, especially
> aluminium as is often the case. Note that reducing conductor size is a
> double whammy, you increase the resistance (so the power), and decrease
> the mass that has to be heated to melting point, and so the energy
> required.
>
> But, firstly, you should determine if there are regulatory requirements,
> such as NEC etc.
>
> The question of equipotential bonding conductors ought be dealt with in
> the same way, though that is not to imply that they will be the same
> size.
>
> Owen

Owen
Believe it or not the NEC only calls for number ten American Wire Gage
(AWG) or 5.261 (mm)2 for protective grounding conductors. Bonding
conductors between electrodes are only required to be number six AWG
or 13.30 (mm)2. So leaving aside the bad joke that is the NEC
requirements I'm trying to get some idea of what best practice might
be.
--
Tom Horne, W3TDH

3136. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 01:54:08 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <78375c1e-ac48-4813-9122-fd3e3f912a67@d16g2000yqb.googlegroups.com>
Source record: 8386

On Jul 13, 10:52 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> I don't remember the sources but I have concluded that the Grounding
> wire should be no smaller than #6.
>
> More than 8 feet of ground rod is of little consequence.
>
> All ground rods should be tied together. Don't put your house between
> two electrodes!
>
> The ground rods are better directly under the structure that they are
> protecting.
>
> The system does not absorb massive high energy strikes. It starts
> bleeding off the energy before the strike builds and thus minmiizes
> the effect.
>
> Home improvement stores sell #6 wire, ground rods and connectors.
>
> On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
>
>
>
> <horn...@gmail.com> wrote:
> >Can anyone make a recommendation, based on actual training and
> >experience, as to what width and thickness of copper strap would be
> >needed as the down conductor from the antenna mounts at the peak of my
> >house roof, some twenty five feet above local terrain. I have a a
> >mount for an antenna at one gable end and a mount for a weather
> >station sensor array at the other. What thickness and width should I
> >use in the earth between the two Grounding Electrode Systems. I will
> >drive five eighths inch copper rods, each eight feet long as far out
> >from the foundation as I can get them or eight feet were possible. On
> >one end that will be only six feet due to the proximity of the
> >property line. At all of the other rod locations I will be able to
> >keep them at least eight feet from any underground obstructions. To
> >compensate for the proximity to the foundation wall to the first rod
> >I will use rod couplers and drive it to hard rock or sixteen feet
> >whichever comes first. I'm guessing that in keeping the remaining
> >rods at least eight feet out from the foundation and sixteen feet
> >apart that I will only have four rods total in a ring around the back
> >side of the house. What is the best way to attach the copper strap to
> >the support masts and eve brackets themselves? Do you know of
> >anything that will make a good connection to the one inch galvanized
> >iron pipes that I'm using for support masts?

>
> >Can you recommend a technique for bonding the interior grounding buss
> >at the operating position to the exterior vertical copper strap. I
> >have no idea how that is usually done.
>
> John Ferrell W8CCW

John
Would you mind sharing what you base that advise on? Much of it
appears contrary to NIST guidance on protective grounding and current
industry practice.
--
Tom Horne, W3TDH

3137. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 01:57:12 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <ffaf9269-e8c2-4381-8afe-e1b4a336f52c@c10g2000yqi.googlegroups.com>
Source record: 8387

On Jul 13, 1:52 pm, Owen Duffy <n...@no.where> wrote:
> Owen Duffy <n...@no.where> wrote innews:Xns9DB4A5EC893F1nonenowhere@61.9.134.55:
>
> ...
>
> > But, firstly, you should determine if there are regulatory
> > requirements, such as NEC etc.
>
> Is "NFPA 780: Standard for the Installation of Lightning Protection
> Systems" a relevant standard in your jurisdiction?
>
> Owen

Owen
It is relevant as a consensus standard but it is not adopted as local
or State law. Do you have a link to a copy that can be read online?
--
Tom Horne, W3TDH

3138. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 02:06:26 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <84e15ac8-a626-4416-a988-32e12ea469e6@b35g2000yqi.googlegroups.com>
Source record: 8388

On Jul 13, 2:29 pm, Bruce in alaska <f...@btpost.net> wrote:
> In article
> <e802f6fa-b0e1-471b-bf31-8efd8015d...@5g2000yqz.googlegroups.com>,
> Tom Horne <horn...@gmail.com> wrote:
>
>
>
> > Can anyone make a recommendation, based on actual training and
> > experience, as to what width and thickness of copper strap would be
> > needed as the down conductor from the antenna mounts at the peak of my
> > house roof, some twenty five feet above local terrain. I have a a
> > mount for an antenna at one gable end and a mount for a weather
> > station sensor array at the other. What thickness and width should I
> > use in the earth between the two Grounding Electrode Systems. I will
> > drive five eighths inch copper rods, each eight feet long as far out
> > from the foundation as I can get them or eight feet were possible. On
> > one end that will be only six feet due to the proximity of the
> > property line. At all of the other rod locations I will be able to
> > keep them at least eight feet from any underground obstructions. To
> > compensate for the proximity to the foundation wall to the first rod
> > I will use rod couplers and drive it to hard rock or sixteen feet
> > whichever comes first. I'm guessing that in keeping the remaining
> > rods at least eight feet out from the foundation and sixteen feet
> > apart that I will only have four rods total in a ring around the back
> > side of the house. What is the best way to attach the copper strap to
> > the support masts and eve brackets themselves? Do you know of
> > anything that will make a good connection to the one inch galvanized
> > iron pipes that I'm using for support masts?
>
> > Can you recommend a technique for bonding the interior grounding buss
> > at the operating position to the exterior vertical copper strap. I
> > have no idea how that is usually done.
> > --
> > Tom Horne, W3TDH
>
> You seem to be confusing Lightning Ground, Electrical Ground, and RF
> Ground, here, and they are basically three different things. If you
> build a Lightning Ground, it may, or may not, be an effective Electrical
> Ground. Neither of these will be of any use as an RF Ground, unless you
> happen to live in a Salt Marsh. You see Copper Strap Grounds, mostly on
> Wood, or Plastic Boats, (ships) used to extend the RF Ground, from the
> SeaWater, to the Radio, or Antenna Tuner. Here the Strap becomes part of
> the Antenna System, and they need to be engineered, so as to provide as
> low of impedance connection, between the two as possible, over the

> widest Frequency Range. Some work better than others. Some don't work at
> all, and the only way the radio functions at all, is because of Good
> Band Conditions.
>
> --
> Bruce in alaska
> add <path> after <fast> to reply

Bruce
I don't know were your getting the idea that I'm confusing the purpose of the grounding when I specifically asked about lightning protective down conductors. The other places that I have seen copper strap grounds is on the Polyphaser web site. Polyphaser is one of the most respected names in lightning protection for radio installations in the United States. Let me be clear that since I'm using balanced antennas I have no pressing need for an RF ground. Lightning grounding is what I'm interested in and I'm looking for someone with actual field experience of best practice.
--
Tom Horne, W3TDH

3139. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 02:18:30 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <a4653780-6d5b-4f44-8c93-cf3e567646e1@r27g2000yqb.googlegroups.com>
Source record: 8389

On Jul 13, 2:18 am, Owen Duffy <n...@no.where> wrote:
> Tom Horne <horn...@gmail.com> wrote in news:e802f6fa-b0e1-471b-bf31-
> 8efd8015d...@5g2000yqz.googlegroups.com:
>
> > Can anyone make a recommendation, based on actual training and
> > experience, as to what width and thickness of copper strap would be ...
>
> In this part of the world, we have an Australian / New Zealand Standard
> (our version if you like of ANSI, BS etc) which explains the rationale
> behind lightning protection, a method of estimating the downcurrent for
> protection design purposes and a process for designing down conductors.
>
> Broadly, the scheme is that downconductors are designed to withstand a
> few donwstrokes in quick succession without melting the down conductor.
> If you work from a peak current of 20kA, it would lead to a down
> conductor in copper of at least 25mm^2 which is about #2 to you folk.
>
> I regularly see hams recommend much thinner down conductors, and can only
> assume that there is not regulatory guidance or requirement, and I wonder
> at the effectiveness of using #6 as often recommended, especially
> aluminium as is often the case. Note that reducing conductor size is a
> double whammy, you increase the resistance (so the power), and decrease
> the mass that has to be heated to melting point, and so the energy
> required.
>
> But, firstly, you should determine if there are regulatory requirements,
> such as NEC etc.
>
> The question of equipotential bonding conductors ought be dealt with in
> the same way, though that is not to imply that they will be the same
> size.
>
> Owen

Owen
The NEC only requires 5.261 (mm)2 for the protective down conductor
and 13.30 (mm)2 for the bonding conductor between electrodes. Since
those sizes are at best a bad joke I was hoping to elicit best
practice advise on what size the conductors should actually be as well
as advise on how to accomplish the bonding of the interior single
point grounding buss bar to the exterior grounding conductors and
Grounding Electrode System.
--
Tom Horne, W3TDH

3140. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 02:40:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB780EA6C3E8nonenowhere@61.9.134.55>
Source record: 8390

Owen Duffy <none@no.where> wrote in
news:Xns9DB75E2FB761Bnonenowhere@61.9.134.55:

> Rr/(Rr+2Rg)

That should have an exponent in there:

Rr/(Rr+2^2Rg)

3141. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 02:46:58 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB782049EA41nonenowhere@61.9.134.55>
Source record: 8391

Tom Horne <hornetd@gmail.com> wrote in
news:ffaf9269-e8c2-4381-8afe-e1b4a336f52c@c10g2000yqi.googlegroups.com:

...
>> Is "NFPA 780: Standard for the Installation of Lightning Protection
>> Systems" a relevant standard in your jurisdiction?
>>
>> Owen
>
> Owen
> It is relevant as a consensus standard but it is not adopted as local
> or State law. Do you have a link to a copy that can be read online?

Ok, well the question is whether you give it importance, or stay with NEC.
I think it turns out that you have a copy, read it and make you own mind
up.

If it was me, I wouldn't waste the money on an inadequate protection
scheme.

Owen

3142. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 02:52:26 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <d11b2b33-5800-4abe-8296-c4c05a7bf4a6@l25g2000prn.googlegroups.com>
Source record: 8392

On Jul 15, 12:33 pm, Baron <baron.nos...@linuxmaniac.nospam.net>
wrote:
> Peter Inscribed thus:
>
> > Hi all
>
> > I have just modelled both the Slim Jim antenna and J Pole antenna
> > using MMANA-GAL at the same frequency (145MHz) all other parameter
> > equal and was some what surprised that they appear exhibit the same
> > gain and radiation pattern. Based on an article I read in a English
> > magazine many years ago I have always believed the Slim Jim had a
> > slight edge over the J Pole. Wonder if others had a similar view and
> > if my modelling is correct are there any advantages with the Slim Jim
> > design?
>
> The difference is negligible. They both suffer from unbalanced feed
> currents and thus feeder radiation. There is or was a commercial
> design that attempted to reduce that.
>
> 73's
> --
> Best Regards:
>   Baron.

I only did it once but the j-pole design papers often call for the
feedline to be coiled tightly -- a few turns -- just below the feed
point. I have made and used several of these "choke baluns" for HF
because failure to use a balun seems to screw up my VSWR readings.
Does this strictly apply to 2m j-poles, too? I don't know.

"Sal"
(KD6VKW)

3143. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 03:35:24 UTC
From: tom <news4792@taring.org>
Message-ID: <4c3fd379$0$640$8046368a@newsreader.iphouse.net>
Source record: 8393

On 7/15/2010 9:52 PM, Sal M. Onella wrote:
> On Jul 15, 12:33 pm, Baron<baron.nos...@linuxmaniac.nospam.net>
> wrote:
>> Peter Inscribed thus:
>>
>>> Hi all
>>
>>> I have just modelled both the Slim Jim antenna and J Pole antenna
>>> using MMANA-GAL at the same frequency (145MHz) all other parameter
>>> equal and was some what surprised that they appear exhibit the same
>>> gain and radiation pattern. Based on an article I read in a English
>>> magazine many years ago I have always believed the Slim Jim had a
>>> slight edge over the J Pole. Wonder if others had a similar view and
>>> if my modelling is correct are there any advantages with the Slim Jim
>>> design?
>>
>> The difference is negligible. They both suffer from unbalanced feed
>> currents and thus feeder radiation. There is or was a commercial
>> design that attempted to reduce that.
>>
>> 73's
>> --
>> Best Regards:
>> Baron.
>
> I only did it once but the j-pole design papers often call for the
> feedline to be coiled tightly -- a few turns -- just below the feed
> point. I have made and used several of these "choke baluns" for HF
> because failure to use a balun seems to screw up my VSWR readings.
> Does this strictly apply to 2m j-poles, too? I don't know.
>
> "Sal"
> (KD6VKW)

I have used 7 turns on 1 inch PVC about an inch below the feedpoint on the Arrow style J Poles I have built. I see no significant change in the SWR when coupling my hand to the feedline over the first 2 meters below the feedpoint on the 2 meter band. Per my version of "significant".

For best results, follow Roy's advice.

tom
K0TAR

3144. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 05:58:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cisv365c9tbsgeno0mqgilm419tjv7demh@4ax.com>
Source record: 8394

On Thu, 15 Jul 2010 18:32:02 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>Richard
>I will certainly make the installation code compliant. What I was
>looking for help on was how to make it effective in avoiding damage
>from lightning.

Hi Tom,

Then that is the end of it. ...but I see more writing below....

> I have read all of the applicable material from the
>Polyphaser, NIST, and several other sites but what I was hoping to
>elicit was specific guidance on what size strap to use for the down
>conductors and what size to use for the ground ring so that they might
>actually work rather than just comply with the code.

This borders on regret - for what, I haven't a clue.

> I can certainly
>add any regular wire conductor that would keep the electrical
>inspectors happy since I already have 2/0 bare copper for the ground
>ring; were only #2 is required and, the ridiculously undersized,
>number ten that the code requires for down conductors in hand.

This is not a beauty contest for the diversion of inspectors.

Forgive my not continuing to quote you further as I see that it
NOWHERE employs strap in its description of conductors.

Here is a clue. Call up your insurance agent that provides coverage
for your house against lightning strike. Ask him if your policy would
be honored if your home did not conform to code. Ask him how many
claims had been made for lightning damage to homes that did conform to
code.

73's
Richard Clark, KB7QHC

3145. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 06:37:18 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <1uqv369ca746ig5hlemc9gilc84g8ft582@4ax.com>
Source record: 8395

On Tue, 13 Jul 2010 10:52:14 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>I don't remember the sources but I have concluded that the Grounding
>wire should be no smaller than #6.

#6 is a minimum required by code here in the Midland MI area. As it's
a minimum, I would not use anything less than #2 Copper.
>
> More than 8 feet of ground rod is of little consequence.
>
That depends on your soil conditions. Here I'd probably agree as the
soil is usually quite moist and just a couple feet down is just plain
wet.

However a string of ground rods tied together can be quite effective.

>All ground rods should be tied together. Don't put your house between
>two electrodes!

I'd put a circle of them around the house, all tied together every
16', but due to the garage and driveway, that is not possible.
>
>The ground rods are better directly under the structure that they are
>protecting.

I have a 100' 45G 10' from the NW corner of the garage. Tied into it
is a grounding system consisting of 32 or 33 8' ground rods connected
together with over 600 feet of bare #2.

This system consists of a ground rod about a foot outside the concrete
bare in like with each tower leg. The cable is clamped to each tower
leg and comes off in a curve to the ground rod and is extended out in
a straight line at least 80' with additional ground rods every 16'
(give or take a tad) This system also ties into the house electrical
ground. There is an additional run that goes directly from the ground
rod at the base of the 45G to the 25G on the West end of the shop.
From there it goes on around the shop to the mast holding the 144/440
vertical and around the south side to enter the shop to provide
grounding for the station and computers. This also ties the shop
ground (which is on a different electrical feed) to the house ground.

>
>The system does not absorb massive high energy strikes. It starts
>bleeding off the energy before the strike builds and thus minmiizes
>the effect.

Mine has taken at least 17 direct hits that have been visually
verified. All that energy had to go some where.

The bleeding off theory has been pretty well discussed and discarded
on the tower talk reflector. Read up on the Polyphaser site. They have
some good information. Those lightning balls or porcupines have
proven ineffective. The major work for lightning rods and ground
systems is to divert the lightning away from the interior of buildings
and process control systems in Industry.

>
>Home improvement stores sell #6 wire, ground rods and connectors.

Read the new NEC code for tower and antenna grounding. There is a
reason I went with #2.
>
>
>On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
><hornetd@gmail.com> wrote:
>
>>Can anyone make a recommendation, based on actual training and
>>experience, as to what width and thickness of copper strap would be
>>needed as the down conductor from the antenna mounts at the peak of my
>>house roof, some twenty five feet above local terrain.

I agree with the #2 recommendation. OTOH there is nothing that will
protect an installation from the big atypical Positive lightning, or
super strikes. That's the stuff that blows holes in airplanes.

>>I have a a
>>mount for an antenna at one gable end and a mount for a weather
>>station sensor array at the other. What thickness and width should I
>>use in the earth between the two Grounding Electrode Systems. I will
>>drive five eighths inch copper rods, each eight feet long as far out
>>from the foundation as I can get them or eight feet were possible. On
>>one end that will be only six feet due to the proximity of the
>>property line. At all of the other rod locations I will be able to
>>keep them at least eight feet from any underground obstructions. To
>>compensate for the proximity to the foundation wall to the first rod
>>I will use rod couplers and drive it to hard rock or sixteen feet
>>whichever comes first. I'm guessing that in keeping the remaining
>>rods at least eight feet out from the foundation and sixteen feet
>>apart that I will only have four rods total in a ring around the back
>>side of the house. What is the best way to attach the copper strap to
>>the support masts and eve brackets themselves? Do you know of
>>anything that will make a good connection to the one inch galvanized
>>iron pipes that I'm using for support masts?
>>
>>Can you recommend a technique for bonding the interior grounding buss
>>at the operating position to the exterior vertical copper strap. I
>>have no idea how that is usually done.

The Polyphaser site has a tutorial on grounding tower legs and coax
shields. this would be applicable to connecting to the 1" pipe.
Use lots on NoAlox between the strap and pipe.

73

Roger (K8RI)

>John Ferrell W8CCW

3146. Re: The meaning of 'Radiation Resistance'

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 11:13:50 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <i1petf$m55$1@ra.nrl.navy.mil>
Source record: 8396

On 07/15/2010 04:01 PM, Owen Duffy wrote:

>> "Radiation resistance (antenna). The radio of the power radiated by an
>> antenna to the square of the rms antenna current referred to a specified
>> point. Note: This term is of limited utility in lossy media."
>>
>
> Hmmm. The last statement suggests that, as defined, it is not clear and
> unambiguous in the real world because the real world involves "lossy
> media".
>

Lossy media is that which absorbs radiation passing through it. IOW it
heats up. This is different than say the outside air being warmed
through conduction from the earth's surface being in turn heated up by
radiation from the sun.

> The "reference to a specified point" suggests that if one gives a value for
> Rr, it is necessary to also state the reference point. Is that what it
> means?

Hello, and yes, you would have to specify where the quantity applies. Rr
is being calculated as I^2 * Rr = Power radiated. The usual reference
point is the feedpoint of the antenna. Note that the antenna feedpoint
could also be defined to include matching networks and even transmission
line. Of course if these other components also radiate they contribute
to the antenna's radiated power.

>
> This is exactly the lack of clarity that is troubling me.
>
>> So if we're looking at free (in vacuo) space the radiation resistance is
>> simply a "load" resistance component that accounts for where the
>> radiated power goes. The radiation resistance doesn't include any other
>> resistive losses in the antenna structure/proximity operating
>> environment that may also be dissipating source power introduced at the
>> feedpoint of the antenna.
>
> This does not address the issue of ground reflection that I mentioned.
>

It doesn't matter to the definition of Rr what other agencies may modify
an antenna's characteristics. For example, we measure (at a particular
frequency) the real (resistive) part of its feedpoint impedance. A
portion of that resistance is due to ohmic losses in the earth, antenna
structure, and any other items forward of the feedpoint. The remainder

of the resistance is Rr. In this example the "antenna" consists of the
monopole and its near-field operating environment.

>> An aerodynamic analogy would be the
>> distinction between "induced" drag (the price paid for "lift") and
>> "parasite" drag, which are both components of the total drag.
>> Sincerely, and 73s from N4GGO,
>
> I am not an aerodynamics type, so drawing that analolgy only helps to
> confuse. You might as well use optics!
>
> I know you are trying to be helpful John, but the IREE definition doesn't
> seem to clarify the issue.
>
Well, I've spent a great deal my professional career as an EE dealing
with USN shipboard antennas and just happen to have ham radio as an
"office" related hobby. As I said in my previous post I don't have a
problem with what Rr means. It seems like a rather straightforward and
simple concept. I think you're trying to read more into it then is there.

> To put some numbers on my first example, if I have an NEC model of a centre
> fed half wave dipole with zero conductor losses, mounted over real (ie
> lossy) ground, and feedpoint R at resonance is say, 60 ohms, and total
> power in the *far field* divided by I^2 is say, 50 ohms, is Rr 50 ohms? Is
> the power "radiated" from such a dipole ONLY the power that makes it to
> 'distant space', or is radiated power input power less dipole conductor
> losses?
>

The radiated (far field) power is what is relevant to Rr. The radiated
power is the power accepted by the antenna designated feedpoint less the
other ohmic (items that are dissipating heat) losses forward of the
antenna feed and in its (near field) vicinity. Also, by "accepted"
power I mean the actual power into the antenna terminals (incident power
less reflected power).

> The IREE definition suggests that I need also to state that Rr is 50 ohms
> at the centre, and the term is is of "limited utility" (not unambiguously
> clear?) because of the lossy ground reflections.
>

No it doesn't.

> If indeed the term Radiation Resistance is only applicable in lossless
> scenarios as suggested by the IREE dictionary, what it a clear and
> unambiguous language for the real world?
>
> Cheers
> Owen

The definition doesn't say that (cf the word "limited"). Again I think
you're trying to read items, that while possibility contributing to the

measured/calculated Rr value are irrelevant to the basic definition. IOW those other items such as earth grounds if present really ARE part of the antenna. The power radiated by the antenna could propagate as ground wave, sky wave or in combination - it doesn't matter. Sincerely, and 73s from N4GGO,

--

John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

3147. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 12:33:36 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <tug046h0cni80d972tvqut89e5qp4vfubq@4ax.com>
Source record: 8397

On Thu, 15 Jul 2010 18:54:08 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>On Jul 13, 10:52ï¿½am, John Ferrell <jferrel...@triad.rr.com> wrote:
>> I don't remember the sources but I have concluded that the Grounding
>> wire should be no smaller than #6.
>>
>> ï¿½More than 8 feet of ground rod is of little consequence.
>>
>> All ground rods should be tied together. Don't put your house between
>> two electrodes!
>>
>> The ground rods are better directly under the structure that they are
>> protecting.
>>
>> The system does not absorb massive high energy strikes. It starts
>> bleeding off the energy before the strike builds and thus minmiizes
>> the effect.
>>
>> Home improvement stores sell #6 wire, ground rods and connectors.
>>
>>
>> John Ferrell W8CCW
>
>John
>Would you mind sharing what you base that advise on? Much of it
>appears contrary to NIST guidance on protective grounding and current
>industry practice.

Parts come from the code books,
some from experience and
some from observation.

The #6 wire is out of the code book. Reason and observation leads to
the conclusion that whatever you use there is the possibility of a
lightning strike that can vaporize it. That also supports the notion
that the charge must be bled off over time (seconds?) rather than
shunted to ground instantaneously. In a moment of lapsed judgment I
installed a ground rod for an invisible dog fence on the opposite side
of the house from the electric service ground. I also allowed the
TV-Internet cable ground a few feet away. Lightning strikes carbonize
cable coax connectors. Dog fence controller factory repair is $40 per
event. After much consideration I ran a #6 wire between the power
service ground and the rods for the dog fence and cable ground rods.
Much thought was given to this because that route involved putting a

conductive path along the floor joists just beneath my bed! I considered the fact that copper plumbing is routinely routed without concern wherever it is needed. No more service calls to the cable company, no more repairs needed for the dog fence controller!

I have concluded that if more than 8 foot ground rods were required for effect or code, the supply houses would be selling them. I cannot argue with redundancy though. THERE IS A POTENTIAL PROBLEM WITH GROUND RODS THAT ARE NOT BONDED WITH AT LEAST #6 WIRE! Common sense dictates that protective system be continuously bled to a common level rather than allowed to build up a differential charge.

My observations have led me to the notion that the frail little #6 wire does not provide the path for a direct strike. It only suggest a route for the strike. A straight direct route is more likely to be followed to ground than a longer twisted route. Lightning is a "boss force". It can and will ionize its own path in a seemingly whimsical manner. A spin-off cable loop has been popular for antenna entry points for many years. This is one of those considerations that may not do anything but it cannot hurt either!

Whatever you do it must:
Meet code, follow the law
Satisfy the Insurance company, don't give them room to wiggle out of a claim!
Enhance safety
Protect your property.

In spite of all the precautions and preparations that you take you can only reduce your exposure to the natural forces in life! My dog Shadow (a black Labrador Retriever) endorses this by retreating to the Master Bathroom during storm conditions. Midnight, (Shadows Cat) concurs by hiding in the basement workshop under those same conditions. I disconnect all ham radio antennas.

At this time I seem to have my problems at bay... but I also have professionally installed lightning rods on the house.

John Ferrell W8CCW

3148. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 12:45:12 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <glk046lqodpas5eajindt9suvd2igtj5s3@4ax.com>
Source record: 8398

On Fri, 16 Jul 2010 02:37:18 -0400, Roger <Invalid@rogerhalstead.com>
wrote:

>On Tue, 13 Jul 2010 10:52:14 -0400, John Ferrell
><jferrell13@triad.rr.com> wrote:
>
>>I don't remember the sources but I have concluded that the Grounding
>>wire should be no smaller than #6.
>
>#6 is a minimum required by code here in the Midland MI area. As it's
>a minimum, I would not use anything less than #2 Copper.
>>
>> More than 8 feet of ground rod is of little consequence.
>>
>That depends on your soil conditions. Here I'd probably agree as the
>soil is usually quite moist and just a couple feet down is just plain
>wet.
>
>However a string of ground rods tied together can be quite effective.
>
>>All ground rods should be tied together. Don't put your house between
>>two electrodes!
>
>I'd put a circle of them around the house, all tied together every
>16', but due to the garage and driveway, that is not possible.
>>
>>The ground rods are better directly under the structure that they are
>>protecting.
>
>I have a 100' 45G 10' from the NW corner of the garage. Tied into it
>is a grounding system consisting of 32 or 33 8' ground rods connected
>together with over 600 feet of bare #2.
>
>This system consists of a ground rod about a foot outside the concrete
>bare in like with each tower leg. The cable is clamped to each tower
>leg and comes off in a curve to the ground rod and is extended out in
>a straight line at least 80' with additional ground rods every 16'
>(give or take a tad) This system also ties into the house electrical
>ground. There is an additional run that goes directly from the ground
>rod at the base of the 45G to the 25G on the West end of the shop.
>From there it goes on around the shop to the mast holding the 144/440
>vertical and around the south side to enter the shop to provide
>grounding for the station and computers. This also ties the shop
>ground (which is on a different electrical feed) to the house ground.

>
>>
>>The system does not absorb massive high energy strikes. It starts
>>bleeding off the energy before the strike builds and thus minmiizes
>>the effect.
>
>Mine has taken at least 17 direct hits that have been visually
>verified. All that energy had to go some where.
>
>The bleeding off theory has been pretty well discussed and discarded
>on the tower talk reflector. Read up on the Polyphaser site. They have
>some good information. Those lightning balls or porcupines have
>proven ineffective. The major work for lightning rods and ground
>systems is to divert the lightning away from the interior of buildings
>and process control systems in Industry.
>
>>
>>Home improvement stores sell #6 wire, ground rods and connectors.
>
>Read the new NEC code for tower and antenna grounding. There is a
>reason I went with #2.
>>
>>
>>On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
>><hornetd@gmail.com> wrote:
>>
>>>Can anyone make a recommendation, based on actual training and
>>>experience, as to what width and thickness of copper strap would be
>>>needed as the down conductor from the antenna mounts at the peak of my
>>>house roof, some twenty five feet above local terrain.
>
>I agree with the #2 recommendation. OTOH there is nothing that will
>protect an installation from the big atypical Positive lightning, or
>super strikes. That's the stuff that blows holes in airplanes.
>
>>>I have a a
>>>mount for an antenna at one gable end and a mount for a weather
>>>station sensor array at the other. What thickness and width should I
>>>use in the earth between the two Grounding Electrode Systems. I will
>>>drive five eighths inch copper rods, each eight feet long as far out
>>>from the foundation as I can get them or eight feet were possible. On
>>>one end that will be only six feet due to the proximity of the
>>>property line. At all of the other rod locations I will be able to
>>>keep them at least eight feet from any underground obstructions. To
>>>compensate for the proximity to the foundation wall to the first rod
>>>I will use rod couplers and drive it to hard rock or sixteen feet
>>>whichever comes first. I'm guessing that in keeping the remaining
>>>rods at least eight feet out from the foundation and sixteen feet
>>>apart that I will only have four rods total in a ring around the back
>>>side of the house. What is the best way to attach the copper strap to

>>>the support masts and eve brackets themselves? Do you know of
>>>anything that will make a good connection to the one inch galvanized
>>>iron pipes that I'm using for support masts?
>>>
>>>Can you recommend a technique for bonding the interior grounding buss
>>>at the operating position to the exterior vertical copper strap. I
>>>have no idea how that is usually done.
>
>The Polyphaser site has a tutorial on grounding tower legs and coax
>shields. this would be applicable to connecting to the 1" pipe.
>Use lots on NoAlox between the strap and pipe.
>
>73
>
>Roger (K8RI)
>
>>John Ferrell W8CCW

Roger, I like your response better than mine.

It sounds to me like you have the ultimate solution. I arrived at my operating point one step at a time and I quit working on the problem when I quit having problems!

I have a non-Ham friend that lives a couple of miles down the ridge from me that continues to have lightning related problems that may benefit from your advice. I will pass along the Wisdom.

Thank you!
John Ferrell W8CCW

3149. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 21:38:36 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i1qjer$l8f$1@news.eternal-september.org>
Source record: 8399

Sal M. Onella Inscribed thus:

> On Jul 15, 12:33 pm, Baron <baron.nos...@linuxmaniac.nospam.net>
> wrote:
>> Peter Inscribed thus:
>>
>> > Hi all
>>
>> > I have just modelled both the Slim Jim antenna and J Pole antenna
>> > using MMANA-GAL at the same frequency (145MHz) all other parameter
>> > equal and was some what surprised that they appear exhibit the same
>> > gain and radiation pattern. Based on an article I read in a English
>> > magazine many years ago I have always believed the Slim Jim had a
>> > slight edge over the J Pole. Wonder if others had a similar view
>> > and if my modelling is correct are there any advantages with the
>> > Slim Jim design?
>>
>> The difference is negligible. They both suffer from unbalanced feed
>> currents and thus feeder radiation. There is or was a commercial
>> design that attempted to reduce that.
>>
>> 73's
>> --
>> Best Regards:
>> Baron.
>
> I only did it once but the j-pole design papers often call for the
> feedline to be coiled tightly -- a few turns -- just below the feed
> point. I have made and used several of these "choke baluns" for HF
> because failure to use a balun seems to screw up my VSWR readings.
> Does this strictly apply to 2m j-poles, too? I don't know.
>
> "Sal"
> (KD6VKW)

A few (2 - 4) ferrite beads, the sort used on the glass computer monitor
video lead, works very well slipped over the co-ax just below the
bottom of the J. Best of all you can get them for free...

--
Best Regards:
Baron.

3150. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-16 23:09:24 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <-4adnVzZtcw4e93RnZ2dnUVZ_qSdnZ2d@giganews.com>
Source record: 8400

I've seen a couple of postings so far recommending a single balun at the feedpoint. While this takes care of conducted common mode current, it doesn't eliminate current induced on the feedline from mutual coupling. All the single balun does is to insure that the current is near zero at the single point where the balun is inserted. Current is still induced on the feedline, and you end up with a current maximum a quarter wavelength down the line -- the distribution looks just like it does on an antenna (which the feedline has actually become), with the balun location being the end of the "antenna". The balun can even make the induced current worse if the effective common mode open circuit at the balun insertion point results in a more nearly resonant feedline length. The only way to really effectively reduce the induced current to a low level is to break up the resonance of the feedline by inserting a second balun about a quarter wavelength below the feedpoint as I recommended earlier.

Roy Lewallen, W7EL

3151. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 05:09:02 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <cc6de1f9-fa1d-4a1c-bf7f-54d3c8e1b2fc@i19g2000pro.googlegroups.com>
Source record: 8251

On Jul 16, 4:09 pm, Roy Lewallen <w...@eznec.com> wrote:
> I've seen a couple of postings so far recommending a single balun at the
> feedpoint. While this takes care of conducted common mode current, it
> doesn't eliminate current induced on the feedline from mutual coupling.
> All the single balun does is to insure that the current is near zero at
> the single point where the balun is inserted. Current is still induced
> on the feedline, and you end up with a current maximum a quarter
> wavelength down the line -- the distribution looks just like it does on
> an antenna (which the feedline has actually become), with the balun
> location being the end of the "antenna". The balun can even make the
> induced current worse if the effective common mode open circuit at the
> balun insertion point results in a more nearly resonant feedline length.
> The only way to really effectively reduce the induced current to a low
> level is to break up the resonance of the feedline by inserting a second
> balun about a quarter wavelength below the feedpoint as I recommended
> earlier.
>
> Roy Lewallen, W7EL

Does the velocity factor of the coax come into play when locating the
second
choke or does the outer shield behave like an open wire, VF ~ 1.0?

Perhaps I am slicing the baloney too thin for an average sandwich ;-)

"Sal"

3152. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 05:56:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DB8A236579EFnonenowhere@61.9.134.55>
Source record: 8252

"Sal M. Onella" <sobars@cox.net> wrote in news:cc6de1f9-fa1d-4a1c-bf7f-54d3c8e1b2fc@i19g2000pro.googlegroups.com:

>
> Does the velocity factor of the coax come into play when locating the
> second
> choke or does the outer shield behave like an open wire, VF ~ 1.0?
>
> Perhaps I am slicing the baloney too thin for an average sandwich ;-)

You will often see emphatic advice as to which side of the thing to attach the shield, and which the centre conductor.

In fact, the antenna structure lends itself to an effective integral balun. If you take the feed coax through the bottom wall of the U section, bonding the shield to the tube, and up one side (doesn't matter), exiting at the appropriate point. At this exit, trim the shield and bond it to the tube, and take the inner horizontally across to the other tube and connect it.

If physical symmetry is very good, the balun will be very good.

Nevertheless, as Roy observes, the feedline and supporting structure below the U section is coupled and there is still potential for some level of common mode current.

(To preempt Roy, the velocity factor of the outside surface of the shield clad with a thin layer of vinyl will be close to 1, close enough for the purpose at hand.)

Owen

3153. What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 07:07:53 UTC
From: "Helmut Wabnig"
Message-ID: <j6l2465nvs1r36ksahturo5sv6e2bad6d8@4ax.com>
Source record: 8253

The news have it:
Apple's new I phone cuts connections frequently due to bad reception.
That happenes when holding the I-phone in a certain way.

http://tinyurl.com/32lp96x

cit:

(01.07.2010)

Antenna engineers, Apple wants you to help with iPhone reception
Are you an unemployed antenna engineer who specializes in wireless
mobile devices?
Are you an unemployed antenna engineer who specializes in wireless
mobile devices? Apple Inc. might have a job for you. The company,
which is under fire for reception problems with its newest iPhone
model and its iPad tablet computer, has posted three openings on its
website for jobs described as "Antenna Engineer-iPad/iPhone." ï¿½ Don't
miss a thing. Get breaking news alerts delivered to your inbox. The
posts are dated June 23, the day before the launch of the iPhone 4,
which customers have been complaining loses signal when held in
certain ways that seem to interfere with the device's antenna. Apple
responded to complaints last week in a statement that said some loss
of reception is common when gripping any wireless device. The
Cupertino, Calif.-based company suggested users avoid gripping the
phone "in the lower left corner in a way that covers both sides of the
black strip in the metal band." Or, the statement suggested, owners of
the phone could purchase one of several cases being marketed for the
device. One iPhone 4 user who e-mailed Apple Chief Executive Steve
Jobs directly about the issue got a response that said, in entirety,
"There are no reception issues. Stay tuned," according to the popular
MacRumors website. Analysts at ISuppli Corp. said similar issues
weren't that common among other smart phones because the antenna is
usually packed inside. The iPhone 4's antenna is a steel frame that
wraps around the device to boost cellular coverage, Jobs said at the
phone's unveiling June 7 in San Francisco. The Apple job description
says candidates "should be able to design antennas suitable for
wireless handheld devices with excellent radiation performance." The
company did not return phone calls or e-mails on Wednesday requesting
comment on the ads. Despite complaints about iPhone 4 reception that
popped up widely on the Internet soon after the phone was released,
Apple sold 1.7 million of them -- a record for the company -- in the
first three days the device was on the market. The iPhone 4 starts at
$199 with a commitment to a two-year AT&T cellphone plan. Apple says
it expects to be selling the phone in 88 countries by September

end cit.

Other sources mention a 100 mio dollar research budget
to fix that Ipod antenna.

Ever heard about diversity antennas, 3dB coupling of
antennas using directional couplers, switchable antenna arrays?

100 mio dollars are out there waiting for you!

w.

3154. HOT&EXCLUSIVE PHOTOS&VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 07:29:19 UTC
From: krishna <jumpjeelan@gmail.com>
Message-ID: <c1bec84a-9e65-4a48-8fd8-a5e603fdf445@x1g2000prc.googlegroups.com>
Source record: 8254

FOR HOT HEROINES PHOTOS

http://hotheroinesphoto.blogspot.com

AISHWARIYARAI HOT EXPOSING PHOTO

http://hotheroinesphoto.blogspot.com/2010/06/aishwariyarai-hot-photo.html

ANKITHA IN A TUB BATH

http://hotheroinesphoto.blogspot.com/2010/06/ankitha-in-tub-bath.html

NAMITHA SEXY PHOTO IN BEACH

http://hotheroinesphoto.blogspot.com/2010/06/namitha-in-beach.html

CHARMI IN A SEXY FEEL

http://hotheroinesphoto.blogspot.com/2010/06/sexy-charmi.html

CHENNAI HOT GIRLS WITH SWIM WEAR

http://hotheroinesphoto.blogspot.com/2010/06/chennai-hot-girls.html

KAJAL AGARWALHOT PHOTO

http://hotheroinesphoto.blogspot.com/2010/06/kajal-agarwal-hot.html

KATRINA KAIF IN A HOT SAREE

http://hotheroinesphoto.blogspot.com/2010/06/hot-katrina.html

3155. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 16:05:04 UTC
From: nm5k@wt.net
Message-ID: <dde1527e-fe1d-4168-b7fa-437ba0dd5a92@q12g2000yqj.googlegroups.com>
Source record: 8255

On Jul 15, 9:18 pm, Tom Horne <horn...@gmail.com> wrote:

>
> Owen
> The NEC only requires 5.261 (mm)2 for the protective down conductor
> and 13.30 (mm)2 for the bonding conductor between electrodes. Since
> those sizes are at best a bad joke I was hoping to elicit best
> practice advise on what size the conductors should actually be as well
> as advise on how to accomplish the bonding of the interior single
> point grounding buss bar to the exterior grounding conductors and
> Grounding Electrode System.
> --
> Tom Horne, W3TDH

It's not that bad a joke.. If the ground connection is good, #10
is plenty thick enough. In fact, it would barely get warm if it
took a strike. Of course, if the connection to ground is bad,
it will be toast. But so would a lot of heavier gauges also..
The connection to ground is the critical factor in such a case.
But I would still follow what the local code says.
The main reason I'm making this post is only to clarify that
under proper conditions, #10 is plenty thick enough to safely
route the strike to ground with no damage to the wire.

3156. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 16:08:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q5l346pcq40e8rdbtiefg4225eij7mam6b@4ax.com>
Source record: 8256

On 1 Jul 2010 09:07:53 +0200, Apple Chief Executive Steve Jobs ...
said, in entirety:
>"T__re are no rece____n issues. Sta_ _uned,"

3157. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 16:12:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <28792572-52ca-4a77-bc74-245def2d8e0d@u26g2000yqu.googlegroups.com>
Source record: 8257

On Jul 17, 4:08 pm, Richard Clark <kb7...@comcast.net> wrote:
> On 1 Jul 2010 09:07:53 +0200, Apple Chief Executive Steve Jobs ...
> said, in entirety:
>
> >"T__re are no rece____n issues. Sta_ _uned,"

can you hear me now?

3158. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 17:03:13 UTC
From: dplatt@radagast.org
Message-ID: <hb49h7-oeq.ln1@radagast.org>
Source record: 8258

In article <Xns9DB8A236579EFnonenowhere@61.9.134.55>,
Owen Duffy <none@no.where> wrote:

>In fact, the antenna structure lends itself to an effective integral
>balun. If you take the feed coax through the bottom wall of the U
>section, bonding the shield to the tube, and up one side (doesn't
>matter), exiting at the appropriate point. At this exit, trim the shield
>and bond it to the tube, and take the inner horizontally across to the
>other tube and connect it.

... and take *real* care to waterproof the point at which the cable
exits from the tube and the shield is bonded! Buy a tube of
non-acid-containing (metal-safe, "neutral cure") silicone sealant, and
apply it very thoroughly here... squeeze and press plenty of it into
the braid and then form a layer which completely seals the exit point.

If you don't do this, and leave even a small amount of braid exposed
to the air, it will tend to "wick up" moisture into the braid every
time it rains.. The water can even wick its way down to the bottom of
the cable and you can find water dripping out of (or filling up) the
connector at the bottom! Trust me, it really does happen... I found
my lower N connector full of water, and what I swear appeared to be
algae!

--
Dave Platt <dplatt@radagast.org> AE6EO
Friends of Jade Warrior home page: http://www.radagast.org/jade-warrior
I do _not_ wish to receive unsolicited commercial email, and I will
boycott any company which has the gall to send me such ads!

3159. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 18:06:12 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i1srenfci1@news.eternal-september.org>
Source record: 8259

On 07/17/2010 09:12 AM, K1TTT wrote:
> On Jul 17, 4:08 pm, Richard Clark<kb7...@comcast.net> wrote:
>> On 1 Jul 2010 09:07:53 +0200, Apple Chief Executive Steve Jobs ...
>> said, in entirety:
>>
>>> "T__re are no rece____n issues. Sta_ _uned,"
>
> can you hear me now?

I've been watching this unfold over the last week or so and I think Apple has hit the point where you can't have your cake and eat it too. New gadgets are fine, but there is a limit on cell phone reception. It isn't magic but people tend to think it is. I have cell phones all over the place since my wife is a cell phone addict where I could care less. There are dead zones depending on who you have signed up with. I found this painfully true when I was on a bicycle ride in the mountains and two women were talking with a tower in plain sight. My phone would not connect since it was a propriety kind of thing. I think you can dial 911 and force a connection, but that is about it.
Bill Baka

3160. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 18:21:32 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i1ss9abjo1@news.eternal-september.org>
Source record: 8260

Dave Platt Inscribed thus:

> In article <Xns9DB8A236579EFnonenowhere@61.9.134.55>,
> Owen Duffy <none@no.where> wrote:
>
>>In fact, the antenna structure lends itself to an effective integral
>>balun. If you take the feed coax through the bottom wall of the U
>>section, bonding the shield to the tube, and up one side (doesn't
>>matter), exiting at the appropriate point. At this exit, trim the
>>shield and bond it to the tube, and take the inner horizontally across
>>to the other tube and connect it.
>
> ... and take *real* care to waterproof the point at which the cable
> exits from the tube and the shield is bonded! Buy a tube of
> non-acid-containing (metal-safe, "neutral cure") silicone sealant, and
> apply it very thoroughly here... squeeze and press plenty of it into
> the braid and then form a layer which completely seals the exit point.
>
> If you don't do this, and leave even a small amount of braid exposed
> to the air, it will tend to "wick up" moisture into the braid every
> time it rains.. The water can even wick its way down to the bottom of
> the cable and you can find water dripping out of (or filling up) the
> connector at the bottom! Trust me, it really does happen... I found
> my lower N connector full of water, and what I swear appeared to be
> algae!
>
I'll second that ! Having seen TV's and set top boxes damaged by
ingress of water.

--
Best Regards:
Baron.

3161. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 18:43:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k9u346567737k2bj0ljkii94itnnuucr1b@4ax.com>
Source record: 8261

On Sat, 17 Jul 2010 11:06:12 -0700, Bill Baka <bbaka@comcast.net>
wrote:

>I think you can dial
>911 and force a connection, but that is about it.

But the iPhone 4 doesn't have -gasp!- a dial.

What WERE they thinking?

3162. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 18:46:19 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i1stps$p57$1@news.eternal-september.org>
Source record: 8262

On 07/17/2010 11:43 AM, Richard Clark wrote:
> On Sat, 17 Jul 2010 11:06:12 -0700, Bill Baka<bbaka@comcast.net>
> wrote:
>
>> I think you can dial
>> 911 and force a connection, but that is about it.
>
> But the iPhone 4 doesn't have -gasp!- a dial.
>
> What WERE they thinking?

Picky, aren't we?

3163. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-17 19:03:07 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <2su3469a9v9qbja5u5rdr46ddsgv6f54k4@4ax.com>
Source record: 8263

On Sat, 17 Jul 2010 11:43:11 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Sat, 17 Jul 2010 11:06:12 -0700, Bill Baka <bbaka@comcast.net>
>wrote:
>
>>I think you can dial
>>911 and force a connection, but that is about it.
>
>But the iPhone 4 doesn't have -gasp!- a dial.

There's an app for that:
<http://www.youtube.com/watch?v=fr2APizuXZg>
<http://itunes.apple.com/app/iretrophone-rotary-dialer/id284700702>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3164. OOMMMGHNNAAHRRGG!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 07:21:36 UTC
From: "Helmut Wabnig"
Message-ID: <vpa546pkpor3f3nr20f7qs08ivqt49ccf1@4ax.com>
Source record: 8264

http://techcrunch.com/2010/07/17/insider-apples-antenna-testing-facility/

3165. how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 17:58:14 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <VsednRfMq7Up3d7RnZ2dnUVZ_uadnZ2d@posted.localnet>
Source record: 8265
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

I need to "trim" the steel whip of a two meter antenna, and have not been sucessful in finding an easy way to cut. Tried a vise-grip with its close-in pinchers, and also tried a heavy duty pair of wire cutters, but no go.

What common tool can be used to do this ? This steel whip sure is tough !!

Thanks !!

73 de Jim K4PYT

3166. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 18:27:21 UTC
From: Leon Whyte <leon.whyte@shaw.ca>
Message-ID: <AHH0o.19914$lS1.1683@newsfe12.iad>
Source record: 8266
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

James wrote:
> I need to "trim" the steel whip of a two meter antenna, and have not been
> sucessful in finding an easy way to cut. Tried a vise-grip with its
> close-in pinchers, and also tried a heavy duty pair of wire cutters, but no
> go.
>
> What common tool can be used to do this ? This steel whip sure is tough
> !!
>
>
> Thanks !!
>
>
> 73 de Jim K4PYT
>
>
I use a small rotary grinder to cut a line around the whip and snap it apart in a vice.

--
Leon
A computer without Microsoft is like a chocolate cake without mustard.
< running Linux > http://www.okv.ca/

3167. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 18:42:40 UTC
From: 1hogrider <nitespark@cox.net>
Message-ID: <i1vhvb$6cl$1@news.eternal-september.org>
Source record: 8267
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

On 7/18/2010 1:58 PM, James wrote:
> I need to "trim" the steel whip of a two meter antenna, and have not been
> sucessful in finding an easy way to cut. Tried a vise-grip with its
> close-in pinchers, and also tried a heavy duty pair of wire cutters, but no
> go.
>
> What common tool can be used to do this ? This steel whip sure is tough
> !!
>
>
> Thanks !!
>
>
> 73 de Jim K4PYT
>
>
Dremel tools are your friend. Use a small abrasive disc wheel.

Andy
W4KDN

3168. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 19:03:54 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <O4idnY8uQ-WEzd7RnZ2dnUVZ_s6dnZ2d@posted.localnet>
Source record: 8268
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Good ideas, thanks to Andy and Leon.

I will try to borrow a dremel.

james

3169. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 19:12:47 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <n_OdnaflrrlZzN7RnZ2dnUVZ_rKdnZ2d@earthlink.com>
Source record: 8269
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:VsednRfMq7Up3d7RnZ2dnUVZ_uadnZ2d@posted.localnet...
>I need to "trim" the steel whip of a two meter antenna, and have not been
> sucessful in finding an easy way to cut. Tried a vise-grip with its
> close-in pinchers, and also tried a heavy duty pair of wire cutters, but
> no
> go.
>
> What common tool can be used to do this ? This steel whip sure is tough
> !!

I usually use the side of a grinder wheel to cut it off. If I do not have one handy, then I use a triangle shaped file. I often cut it part of the way and then snap it off with the pliers. It usually takes bolt cutters to cut the antenna and then the cut off piece goes out like a bullet.

3170. Re: OOMMMGHNNAAHRRGG!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 19:44:11 UTC
From: You <you@shadow.orgs>
Message-ID: <you-5D5AFD.11440418072010@news.starband.net>
Source record: 8270

In article <vpa546pkpor3f3nr20f7qs08ivqt49ccf1@4ax.com>,
Helmut Wabnig <hwabnig@ .- --- -. dotat> wrote:

> http://techcrunch.com/2010/07/17/insider-apples-antenna-testing-facility/

Most folks just use a Hacksaw....

3171. Need HyGain TH-3jrs info

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 21:18:18 UTC
From: w5kcm <w5kcm@hotmail.com>
Message-ID: <386fd7af-96b8-4ec8-8bbb-85783cb00882@d37g2000yqm.googlegroups.com>
Source record: 8271

Need element length measurements. I have the pdf file from the MFJ/ HyGain web site but some of the measurements are difficult to read. Fuzzy scan and vision. It is page 5 in the manual, where it shows the complete layout of the antenna. If someone can make a clear hi-res scan of this one page and email it to me that would be great. It will be most appreciated, 73, Randy, w5kcm

3172. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 21:54:01 UTC
From: w5kcm <w5kcm@hotmail.com>
Message-ID: <d7e3088c-5049-49b0-9286-fe14be57740e@d16g2000yqb.googlegroups.com>
Source record: 8272
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

The bench grinder is the best tool for this.

3173. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 22:13:25 UTC
From: walt <walt@w2du.com>
Message-ID: <ee0dc1a7-3cbb-4766-a9b7-486ab2990362@z10g2000yqb.googlegroups.com>
Source record: 8273
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Leon, I'd prefer using a 'vise' rather than a 'vice'.

Walt, W2DU

3174. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-18 23:21:23 UTC
From: Leon Whyte <leon.whyte@shaw.ca>
Message-ID: <d%L0o.7465$o27.6606@newsfe08.iad>
Source record: 8274
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

walt wrote:
> Leon, I'd prefer using a 'vise' rather than a 'vice'.
>
> Walt, W2DU
That was my spell checker. It never heard of a vise.
Even now it is marking vise in red.

--
Leon
A computer without Microsoft is like a chocolate cake without mustard.
< running Linux > http://www.okv.ca/

3175. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 00:22:33 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <ic67465qha1bcgsa1bgeus7fq8psq8autl@4ax.com>
Source record: 8275

On Sun, 18 Jul 2010 13:58:14 -0400, "James" <jnipperxxx@nospamfdn.com>
wrote:

>I need to "trim" the steel whip of a two meter antenna, and have not been
>sucessful in finding an easy way to cut. Tried a vise-grip with its
>close-in pinchers, and also tried a heavy duty pair of wire cutters, but no
>go.
>
>What common tool can be used to do this ? This steel whip sure is tough
>!!
>
>
>Thanks !!
>
>
>73 de Jim K4PYT
>

To trim my dual-bander, way back when, I recall using a metal file
with a fine edge.

bob
k5qwg

3176. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 00:23:18 UTC
From: Alan WA4SCA <WA4SCA@YAHOO.COM>
Message-ID: <hd6746psaf72boq1rt0052bamunvjv66ae@4ax.com>
Source record: 8276

Jim,

It cuts a lot like glass rod. A Dremel is probably the most
civilized way to do it, but I use a small file to cut a shallow notch.
Then, I use a vise or other hard surface to support the long section,
placing the nick right at the edge. A smart blow with a small hammer
will break it off. Use the file to remove the burrs, and off you go.
It requires a bit of practice to get it right, but it works perfectly,
at gets you some appropriate street creds with newer hams.

--
Alan
WA4SCA

3177. Re: Need HyGain TH-3jrs info

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 03:08:47 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <ebg746ld2v7mr8dr7n577edbkkr58di7dr@4ax.com>
Source record: 8277

On Sun, 18 Jul 2010 14:18:18 -0700 (PDT), w5kcm <w5kcm@hotmail.com>
wrote:

>Need element length measurements. I have the pdf file from the MFJ/
>HyGain web site but some of the measurements are difficult to read.
>Fuzzy scan and vision. It is page 5 in the manual, where it shows the
>complete layout of the antenna. If someone can make a clear hi-res
>scan of this one page and email it to me that would be great. It will
>be most appreciated, 73, Randy, w5kcm

There are a number of TH-3 versions.(Jr, MK3, MK-IV) Here's a link to
the TH3-MK-IV
py5sg.homeip.net:2000/manuais_e_esquemas/hygain/TH-3MK4.pdf
with a clear page 5.

73

Roger (K8RI)

3178. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 03:15:37 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <hlg746lfgn7uc6cig6gi1a1a1q6gprmm1b@4ax.com>
Source record: 8278
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

On Sun, 18 Jul 2010 16:21:23 -0700, Leon Whyte <leon.whyte@shaw.ca>
wrote:

>walt wrote:
>> Leon, I'd prefer using a 'vise' rather than a 'vice'.
>>
>> Walt, W2DU
>That was my spell checker. It never heard of a vise.
>Even now it is marking vise in red.

There's also something wrong with using a "bench grinder". Why would
you want to grind down the bench?

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3179. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 03:40:07 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <ec3f4991-604a-4a82-a8db-878568461991@z15g2000prn.googlegroups.com>
Source record: 8279
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

On Jul 18, 12:03 pm, "James" <jnipper...@nospamfdn.com> wrote:
> Good ideas, thanks to Andy and Leon.
>
> I will try to borrow a dremel.
>
> james

Please ... treat yourself to your own Dremel. You'll always be glad
you did.

I bought my first Dremel under the Wards Powercraft name in the
1970s. I retrofitted
it with an Allied Radio Motor Speed Control and used it for decades.
A few years ago,
when the bearings began to sound funny, I bought a replacement. I
will NEVER be
without a working Dremel.

I have the additional collets (like the chuck on a drill) that allow
me to use tools
with smaller shafts (like surplus dental drills) and drill bits of any
size, down to a
80 drill bit. I have many dozens of attachments and even a little
Dremel drill
press.

"Sal"

3180. Re: Slim Jim v J Pole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 03:41:54 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <65ydnUjzzNAZVN7RnZ2dnUVZ_sGdnZ2d@giganews.com>
Source record: 8280

Owen Duffy wrote:
> . . .
> (To preempt Roy, the velocity factor of the outside surface of the shield
> clad with a thin layer of vinyl will be close to 1, close enough for the
> purpose at hand.)

I'll just add the reason -- the common mode current, which is what causes feedline radiation and what we're trying to suppress, is on the outside of the coax. The commonly specified velocity factor (around 0.66 for solid dielectric coax, a bit higher for foamed dielectric) applies to the field inside the coax where the differential mode current flows, not to the outside where the common mode current is. So you use a value near one as Owen says. And it's not at all critical for this purpose.

A standing wave is present on an antenna or radiating feedline -- every half wavelength there's a current null, and offset a quarter wavelength from these are current maxima. For example, there are current nulls at the ends of a half wavelength dipole (or, an even better example, a Yagi parasitic element) and a maximum at the middle. When you insert a balun in a transmission line, it causes a current null at that location, so there'll be a maximum a quarter wavelength down and another minimum a quarter wavelength below that if current is induced by coupling and the length to ground supports that distribution. We want to make that distribution impossible, and inserting the second balun does that.

This is easily observed by modeling, but you have to keep in mind that the actual path the current takes to the Earth along the outside of the coax can be considerably more complicated than most simple models represent. So models can tell you what *can* happen although maybe not necessarily what *is* happening in a given installation.

Roy Lewallen, W7EL

3181. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 03:48:56 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <06cfc2aa-a78a-4416-b97b-49d37a5ea8b4@w37g2000prc.googlegroups.com>
Source record: 8281

On Jul 17, 11:43 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 17 Jul 2010 11:06:12 -0700, Bill Baka <bb...@comcast.net>
> wrote:
>
> >I think you can dial
> >911 and force a connection, but that is about it.
>
> But the iPhone 4 doesn't have -gasp!- a dial.
>
> What WERE they thinking?

It does now!

http://www.telovation.com/photos/retro-iphone-rotary-dial-app.jpg

You don't even have to go there; you know what you're
going to see! hi hi

3182. hot x videos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 06:50:33 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <35e6ef9f-c997-485b-8825-6fff5058df0b@q16g2000prf.googlegroups.com>
Source record: 8282

HOT SEXY VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-sexy-videos.html
HOT KISS VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-kiss-videos.html
HOT ROMANTIC VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-romantic-videos.html
HOT LIP KISS BEST VIDEOS
http://hotvideosonlyforyouth.blogspot.com/2010/07/hot-lip-kiss-best-videos.html

jobs
java jobs
http://allfreshersjobsseehere.blogspot.com/2009/02/java-jobs.html
oracle jobs
http://allfreshersjobsseehere.blogspot.com/2009/02/oracle-jobs.html
work from home
http://allfreshersjobsseehere.blogspot.com/2009/02/work-from-home.html
make money from online
http://allfreshersjobsseehere.blogspot.com/2009/02/make-money-from-online.html
online work
http://allfreshersjobsseehere.blogspot.com/2009/02/online-work.html

3183. Lacoste T-shirts (men) (www.nike-black.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 08:27:26 UTC
From: wholesale watches <huhai102@gmail.com>
Message-ID: <07474933-f146-4a04-8a92-3a40756aa512@u26g2000yqu.googlegroups.com>
Source record: 8283

(www.nike-black.com) ----cheap wholesale t-shirts, shirts, jeans ,
shorts, swimsuits, hoodies, coats, jackets, trousers.
Christan Audigier-Ts(men) (www.nike-black.com)
affliction T-shirts (men) (www.nike-black.com)
aff long sleeved-Ts(men) (www.nike-black.com)
BURBERRY T-shirts (men) (www.nike-black.com)
Christan Audigier long sleeve (www.nike-black.com)
Christan Audigier Ts(women) (www.nike-black.com)
COOGI T-shirts (men) (www.nike-black.com)
COOGI long sleeve (www.nike-black.com)
D&G T-shirts (men) (www.nike-black.com)
D&G T-shirts (women) (www.nike-black.com)
Ed hardy T-shirts (men) (www.nike-black.com)
Ed hardy T-shirts (women) (www.nike-black.com)
Gucci T-shirts (men) (www.nike-black.com)
Gucci T-shirts (women) (www.nike-black.com)
Lacoste T-shirts (women) (www.nike-black.com)
LV T-shirts (men) (www.nike-black.com)
Michael Joseph Jackson-Ts (www.nike-black.com)
Paco Chicano T-shirts (men) (www.nike-black.com)
Paco Chicano-Ts (women) (www.nike-black.com)
POLO T-shirts (women) (www.nike-black.com)
POLO T-shirts (kid) (www.nike-black.com)
PRADA T-shirts (men) (www.nike-black.com)
Prada T-shirts (women) (www.nike-black.com)
Lacoste T-shirts (men) (www.nike-black.com)
POLO T-shirts (men) (www.nike-black.com)
AF T-shirts (men) (www.nike-black.com)
Hollister T-shirts (women) (www.nike-black.com)
A&F T-shirts (women) (www.nike-black.com)
ED sportswear (men) (www.nike-black.com)

Website: http://www.nike-black.com
http://nikesoso.51.com

3184. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 10:46:29 UTC
From: Tom <GMan@Invalid.com>
Message-ID: <YqmdnYn2GZGYsNnRnZ2dnUVZ_jidnZ2d@giganews.com>
Source record: 8284
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

I've always found that a small set of Bolt Cutters works great....
such as Kobalt 8" or 14" Bolt Cutters $9.98 and $14.98 at Lowe's.

Just one tool to do the job right then and there after checking SWR...

Tom

On 7/18/2010 1:58 PM, James wrote:
> I need to "trim" the steel whip of a two meter antenna, and have not been
> sucessful in finding an easy way to cut. Tried a vise-grip with its
> close-in pinchers, and also tried a heavy duty pair of wire cutters, but no
> go.
>
> What common tool can be used to do this ? This steel whip sure is tough
> !!
>
>
> Thanks !!
>
>
> 73 de Jim K4PYT
>
>

3185. nike shox NZ running shoes (http://www.cntrade09.com)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 12:07:45 UTC
From: xaingmei chen <chenxaing85@gmail.com>
Message-ID: <4b28f78c-5c9b-4e4c-80b3-11f97055db71@p11g2000prf.googlegroups.com>
Source record: 8286
Cross-posted to: rec.backcountry,rec.radio.amateur.antenna,rec.travel.usa-canada

nike shoes,jordan shoes(http://www.cntrade09.com)
Air Force 1 shoes(http://www.cntrade09.com)
kids shoes(http://www.cntrade09.com)
nike air max TN shoes(http://www.cntrade09.com)
nike MAX LTD shoes (http://www.cntrade09.com)
nike air MAX 180 sports shoes(http://www.cntrade09.com)
nike air max 360 basketball shoes discount paypal (http://
www.cntrade09.com)
nike air max 2003 running shoes discount paypal (http://
www.cntrade09.com)
nike air max 97 sport shoes discount paypal (http://
www.cntrade09.com)
nike air max 95 basketball shoes(http://www.cntrade09.com)
nike air max 90 running shoes discount paypal (http://
www.cntrade09.com)
nike air max 87 fashion shoes discount paypal (http://
www.cntrade09.com)
nike Shox TL1 men shoes discount paypal (http://
www.cntrade09.com)
nike shox TL3 sports shoes discount paypal (http://
www.cntrade09.com)
nike shox NZ running shoes (http://www.cntrade09.com)
nike shox OZ basketball shoes discount paypal (http://
www.cntrade09.com)
nike shox R3 sport shoes discount paypal (http://
www.cntrade09.com)
nike shox R4 fashion shoes discount paypal (http://
www.cntrade09.com)
nike shox R5 running shoes discount paypal (http://
www.cntrade09.com)
puma shoes discount paypal
Get Nike Shoes at Super Cheap Prices
Discount Ed hardy tshirt (http://www.cntrade09.com)
Discount Ed hardy jean (http://www.cntrade09.com)
Discount Ed hardy shoes (http://www.cntrade09.com)
Discount Ed hardy handbag (http://www.cntrade09.com)
Discount Ed hardy other porduct (http://www.cntrade09.com)
Discount Nike air jordans (http://www.cntrade09.com)
Discount Nike Air Max 90 Sneakers (http://www.cntrade09.com)
Discount Nike Air Max 91 Supplier (http://www.cntrade09.com)
Discount Nike Air Max 95 Shoes Supplier (http://
www.cntrade09.com)
Discount Nike Air Max 97 Trainers (http://www.cntrade09.com)

Discount Nike Air Max 2003 (http://www.cntrade09.com)
Discount Nike Air Max 2004 Shoes
(http://www.cntrade09.com)
Discount Nike Air Max 2005 Shop (http://www.cntrade09.com)
Discount Nike Air Max 2006 Shoes Shop (http://www.cntrade09.com)
Discount Nike Air Max 360 Catalogs (http://www.cntrade09.com)
Discount Nike Air Max Ltd Shoes Catalogs (http://
www.cntrade09.com)
Discount Nike Air Max Tn Men's Shoes (http://www.cntrade09.com)

3186. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 12:42:08 UTC
From: dave <dave@dave.dave>
Message-ID: <4c443977$0$5490$bd467cd0@news.dslextreme.com>
Source record: 8285
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Tom wrote:

>> What common tool can be used to do this ? This steel whip sure is tough
>> !!
>>
>>
>> Thanks !!
>>
>>
>> 73 de Jim K4PYT
>>
>>

Hack saw

3187. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 15:14:09 UTC
From: Panzer240 <panzer240@hotmail.com>
Message-ID: <Xns9DBA7C770952fw190a8@199.185.223.74>
Source record: 8287
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

"James" <jnipperxxx@nospamfdn.com> wrote in
news:VsednRfMq7Up3d7RnZ2dnUVZ_uadnZ2d@posted.localnet:

>
>
>

When I worked in the Mobile radio business as a tech, we used to use a small
triangular file. Score the whip with it and then take a pair of lineman's
pliers and just snap it off. Quick and simple.

--
Panzer

3188. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 15:54:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i21sf7$5lu$1@news.jpl.nasa.gov>
Source record: 8288

Tom Horne wrote:
> On Jul 13, 12:52 am, Richard Clark <kb7...@comcast.net> wrote:
>> On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
>>
>> <horn...@gmail.com> wrote:
>>> Can anyone make a recommendation, based on actual training and
>>> experience, as to what width and thickness of copper strap would be
>>> needed as the down conductor from the antenna mounts at the peak of my
>>> house roof, some twenty five feet above local terrain.
>> Hi Tom,
>>
>> Consult the NEC code for your area. I have never seen them specify
>> strap in any situation, and don't try your own interpretations of what
>> "continuous"or "direct" means.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> Richard
> I will certainly make the installation code compliant. What I was
> looking for help on was how to make it effective in avoiding damage
> from lightning. I have read all of the applicable material from the
> Polyphaser, NIST, and several other sites but what I was hoping to
> elicit was specific guidance on what size strap to use for the down
> conductors and what size to use for the ground ring so that they might
> actually work rather than just comply with the code. I can certainly
> add any regular wire conductor that would keep the electrical
> inspectors happy since I already have 2/0 bare copper for the ground
> ring; were only #2 is required and, the ridiculously undersized,
> number ten that the code requires for down conductors in hand.

Hmmm you say "ridicuously undersized"..

Why?

have you studied the fusing current of AWG 10?
Have you compared the inductance of various sizes?

Do you know *why* the code only requires AWG 10?

The code requirements are based on actual science, engineering, and test
data, so if the code requires AWG 10, it's probably for a fairly good
reason.

Note that they allow bronze and copper clad steel as well as solid
copper, so clearly, DC resistance isn't what they're worried about.

(hint.. think of mechanical reasons)

Note, especially, that the NEC (NFPA 70) grounding/bonding requirements are NOT for lightning protection. (that's in NFPA 780, not NFPA 70)

3189. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 16:06:42 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i21t6i$ii4$1@news.jpl.nasa.gov>
Source record: 8292

Tom Horne wrote:

> Owen
> Believe it or not the NEC only calls for number ten American Wire Gage
> (AWG) or 5.261 (mm)2 for protective grounding conductors. Bonding
> conductors between electrodes are only required to be number six AWG
> or 13.30 (mm)2. So leaving aside the bad joke that is the NEC
> requirements I'm trying to get some idea of what best practice might
> be.

Tom is a bit confused here about the purpose of NEC vs NFPA 780..

The bonding requirements in the NEC are designed to keep the building from burning down in the event of an accidental fault to an energized conductor. The basic requirement is that it carry enough fault current for long enough to trip the overcurrent protection device on the energized conductor.

It's not for lightning protection, per se. (although NEC bonding will, incidentally, provide some degree of protection against induced transients)

I'd also note that AWG 10 wire is more than sufficient to carry a 50kA pulse for the 20 microseconds or so that a lightning stroke lasts without melting.
Using the Onderdonk equation, you can calculate that a AWG16 copper wire will carry about 90kA for a 20 microsecond pulse. AWG10 should be able to carry 4 times that much. AWG6, 10 times, because it scales with cross sectional area.

Having only really paid attention to this recently, I noticed that in Rome (a place with a fair number of thunderstorms), they use fairly small down conductors (AWG 10 or 6, just by eye), and similar for 7 story tall wooden pagodas in Nara, Japan (another place with lots of thunderstorms).

I'm not quite sure where the fashion for 2/0 grounding conductors comes from (maybe Phelps-Dodge has a representative on the NFPA 780 review committee?<grin>)

3190. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 16:22:02 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i21u3a$26b$1@news.jpl.nasa.gov>
Source record: 8294

Tom Horne wrote:
> On Jul 13, 1:52 pm, Owen Duffy <n...@no.where> wrote:
>> Owen Duffy <n...@no.where> wrote innews:Xns9DB4A5EC893F1nonenowhere@61.9.134.55:
>>
>> ...
>>
>>> But, firstly, you should determine if there are regulatory
>>> requirements, such as NEC etc.
>> Is "NFPA 780: Standard for the Installation of Lightning Protection
>> Systems" a relevant standard in your jurisdiction?
>>
>> Owen
>
> Owen
> It is relevant as a consensus standard but it is not adopted as local
> or State law. Do you have a link to a copy that can be read online?

NFPA 780, like NFPA 70, is a copyrighted document *sold* by NFPA.
However, there *are* online copies of various provenance and age around.
http://www.atmo.arizona.edu/students/courselinks/spring07/atmo589/articles/NFPA_780_2004.pdf

Unfortunately, the bare code doesn't tell you much about the "why" for
various code provisions, so if you're thinking of going "off code" for
one reason or another, you don't have a lot of information to tell you
whether it's a good idea.

There's also some interesting seeming inconsistencies.. NFPA 780
requires a minimum length of a ground rod of 8 feet (4.13.2.1) but also
requires that they extend vertically not less than 10 feet into the
earth (4.13.2.3(A))) The figure makes it clear.. the top of an 8 foot
rod is 2 feet below the surface of the soil.

NFPA 780 says 29 square millimeters for main conductors (6 mm in
diameter or a strip that is 1.3mm thick x 22.3 mm wide).. That's AWG 6
roughly.

There's also a great site by Carl Malamud: publicresource.org that has
all the California Building Codes (including an older rev of the NEC)
although it doesn't have NFPA 780 on it, as far as I know.

3191. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 16:23:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i21u6p$26b$2@news.jpl.nasa.gov>
Source record: 8295

Tom Horne wrote:

>
> Owen
> The NEC only requires 5.261 (mm)2 for the protective down conductor
> and 13.30 (mm)2 for the bonding conductor between electrodes. Since
> those sizes are at best a bad joke

Perhaps you could explain why you think it's a bad joke? Do you think a 13 square mm conductor couldn't carry the strike current? (it can)

Or, perhaps, you're thinking that there are some other design criteria that might push one towards a larger conductor (mechanical strength in the face of icing and storms might be one).

3192. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 16:30:10 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <x4%0o.326040$ot7.50557@en-nntp-16.dc1.easynews.com>
Source record: 8289

On 7/19/2010 10:54 AM, Jim Lux wrote:
> Tom Horne wrote:
>> On Jul 13, 12:52 am, Richard Clark <kb7...@comcast.net> wrote:
>>> On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
>>>
>>> <horn...@gmail.com> wrote:
>>>> Can anyone make a recommendation, based on actual training and
>>>> experience, as to what width and thickness of copper strap would be
>>>> needed as the down conductor from the antenna mounts at the peak of my
>>>> house roof, some twenty five feet above local terrain.
>>> Hi Tom,
>>>
>>> Consult the NEC code for your area. I have never seen them specify
>>> strap in any situation, and don't try your own interpretations of what
>>> "continuous"or "direct" means.
>>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>> Richard
>> I will certainly make the installation code compliant. What I was
>> looking for help on was how to make it effective in avoiding damage
>> from lightning. I have read all of the applicable material from the
>> Polyphaser, NIST, and several other sites but what I was hoping to
>> elicit was specific guidance on what size strap to use for the down
>> conductors and what size to use for the ground ring so that they might
>> actually work rather than just comply with the code. I can certainly
>> add any regular wire conductor that would keep the electrical
>> inspectors happy since I already have 2/0 bare copper for the ground
>> ring; were only #2 is required and, the ridiculously undersized,
>> number ten that the code requires for down conductors in hand.
>
>
> Hmmm you say "ridicuously undersized"..
>
> Why?
>
> have you studied the fusing current of AWG 10?
> Have you compared the inductance of various sizes?
>
> Do you know *why* the code only requires AWG 10?
>
> The code requirements are based on actual science, engineering, and test
> data, so if the code requires AWG 10, it's probably for a fairly good

> reason.
>
> Note that they allow bronze and copper clad steel as well as solid
> copper, so clearly, DC resistance isn't what they're worried about.
>
> (hint.. think of mechanical reasons)
>
> Note, especially, that the NEC (NFPA 70) grounding/bonding requirements
> are NOT for lightning protection. (that's in NFPA 780, not NFPA 70)
>

IIRC the purpose is to primarily drain off the static charges so the
gnd-cloud potential difference is minimized. A direct strike will
usually just melt whole house wiring, etc. etc.

Marv

3193. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 16:31:07 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i21ukbbkj1@news.jpl.nasa.gov>
Source record: 8293

> I have concluded that if more than 8 foot ground rods were required
> for effect or code, the supply houses would be selling them. I cannot
> argue with redundancy though. THERE IS A POTENTIAL PROBLEM WITH GROUND
> RODS THAT ARE NOT BONDED WITH AT LEAST #6 WIRE! Common sense dictates
> that protective system be continuously bled to a common level rather
> than allowed to build up a differential charge.

This is actually a big problem.. counterfeit rods with UL markings on them, and rods that are too small in diameter or too short to meet NEC requirements.

Electrical Supply places (not the home improvement stores) have had 10 foot rods for a long time.

The NEC has required 8 feet *in the ground* for years and years (at least 20, I think), so the only way to do that with an 8 foot rod is to do your exothermic bond to the rod and completely bury it.

The home improvement stores don't like to stock longer rods because most of the buyers are not "code-aware" and buy on price (hey, an 8 foot rod is cheaper than a 10 foot rod, I'll use that). Besides, for new construction in a lot of places, a rod isn't an acceptable primary grounding means anyway.

And we won't even get into the grounding/bonding practices of satellite dish and Cable TV installers. There's a great website out there with pictures of truly lame installations.

3194. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 16:37:24 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i21v04bkj3@news.jpl.nasa.gov>
Source record: 8291

>>
>
> IIRC the purpose is to primarily drain off the static charges so the
> gnd-cloud potential difference is minimized. A direct strike will
> usually just melt whole house wiring, etc. etc.

Not true.

The cloud has SO MUCH charge you don't stand a chance of bleeding it off.

Direct strikes are typically around 20 kA, and can be as high as 100kA.
Both can be adequately carried by the usual AWG6 wire, because the
current pulse only lasts a few microseconds.

3195. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 16:47:18 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <3e6fabd9-f538-417a-903f-aa7e8d7434af@q12g2000yqj.googlegroups.com>
Source record: 8290

On Jul 13, 12:21 am, Tom Horne <horn...@gmail.com> wrote:
> Can anyone make a recommendation, based on actual training and
> experience, as to what width and thickness of copper strap would be
> needed as the down conductor from the antenna mounts at the peak of my
> house roof, some twenty five feet above local terrain. I have a a
> mount for an antenna at one gable end and a mount for a weather
> station sensor array at the other. What thickness and width should I
> use in the earth between the two Grounding Electrode Systems. I will
> drive five eighths inch copper rods, each eight feet long as far out
> from the foundation as I can get them or eight feet were possible. On
> one end that will be only six feet due to the proximity of the
> property line. At all of the other rod locations I will be able to
> keep them at least eight feet from any underground obstructions. To
> compensate for the proximity to the foundation wall to the first rod
> I will use rod couplers and drive it to hard rock or sixteen feet
> whichever comes first. I'm guessing that in keeping the remaining
> rods at least eight feet out from the foundation and sixteen feet
> apart that I will only have four rods total in a ring around the back
> side of the house. What is the best way to attach the copper strap to
> the support masts and eve brackets themselves? Do you know of
> anything that will make a good connection to the one inch galvanized
> iron pipes that I'm using for support masts?
>
> Can you recommend a technique for bonding the interior grounding buss
> at the operating position to the exterior vertical copper strap. I
> have no idea how that is usually done.
> --
> Tom Horne, W3TDH

If you want something beyond code typically we use 00 braided copper
at work for lightning protection on towers. NEC and Polyphaser
recommendations usually work pretty good

Jimmie

3196. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 18:36:02 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4C449B12.60000@jpl.nasa.gov>
Source record: 8297

Jim Higgins wrote:
> On Mon, 19 Jul 2010 09:23:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> Tom Horne wrote:
>>
>>> Owen
>>> The NEC only requires 5.261 (mm)2 for the protective down conductor
>>> and 13.30 (mm)2 for the bonding conductor between electrodes. Since
>>> those sizes are at best a bad joke
>> Perhaps you could explain why you think it's a bad joke? Do you think a
>> 13 square mm conductor couldn't carry the strike current? (it can)
>>
>> Or, perhaps, you're thinking that there are some other design criteria
>> that might push one towards a larger conductor (mechanical strength in
>> the face of icing and storms might be one).
>
> Maybe E=IR has something to do with wanting a larger conductor. The
> voltage between the strike point and true ground is going to be the 20
> - 100 kA of the strike times the resistance of the down conductor from
> the strike point to true ground. With a smaller conductor,
> fewer/shorter ground rods, or other conditions that raise the
> resistance of the path to ground that voltage will be higher and if
> high enough the strike will seek additional paths to ground by arcing
> to nearby objects closer to ground potential.
>

Resistance isn't actually a big deal here. It's all about inductance on
that microsecond rise time pulse. And there's not much difference in
inductance between a AWG 6 and 2/0 (it's very weakly dependent on
diameter and strongly dependent on length.. 1 microhenry/meter is a good
estimate, pretty much independent of diameter)

The other problem is that for fast transients, skin effect means that
the AC resistance goes more as the diameter than as the cross sectional
area (hollow tubes work just as well as solid conductors).

So, the net effect is that you need to design for several things:
1) the wire not melting..
2) The wire not breaking from mechanical impact (ladders hitting it,
lawnmowers, etc.
3) The wire not breaking under electromagnetic forces (this is why you
don't want loops and why NFPA 780 says 8" bend radius.. while a 1
microsecond pulse at 10kA won't melt a AWG 10 wire, if it's in a loop,
it will destroy it from EM forces)

You'll see heavier conductors where they have to be able to move (say on a gate or actuated device), not only for mechanical life, but also because the flexible wire is more subject to destruction by EM forces.

Side flash is a consideration, but usually accommodated by making sure your downleads are far from potential victim circuits.

3197. Vertical antenna site tradeoff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 18:58:02 UTC
From: Gsat <gsantin@mclink.it>
Message-ID: <4901bc86-683d-4e80-b2e4-29ef2367d4a8@g35g2000yqa.googlegroups.com>
Source record: 8296

On the yard around my house I have two possible spots where to erect a multiband vertical, an HF6V.
On the first spot it is possible to lay down a symmetrical net of radials as long as the antenna is tall, but the antenna will be close to buildings on tree sides, at a distance about two to four times the antenna height. Buildings in Italy are built by rinforced concrete with a lot of steel inside, so I expect there will be some effect to the antenna efficiency and radiation pattern.
On the second spot, the antenna can be more clear of buildings, but the radials pattern is not symmetrical because il is limited to a strip of land wide half the antenna height.
So now is my question: if a tradeoff must be made, what is more important, to have an antenna on the clear or to have the best ground radials system ?
A second question: is it possible to estimate the effect of ground symmetry and of buildings presence on the antenna radiation pattern using antenna simulation software like eznec ?

Thanks to all
Giovanni
IZ0SQZ

3198. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 19:12:21 UTC
From: nm5k@wt.net
Message-ID: <211c101c-501f-442d-8017-2999ad386032@d8g2000yqf.googlegroups.com>
Source record: 8298

On Jul 19, 1:03 pm, Jim Higgins <inva...@invalid.invalid> wrote:
> On Mon, 19 Jul 2010 09:23:53 -0700, Jim Lux <james.p....@jpl.nasa.gov>
> wrote:
>
> >Tom Horne wrote:
>
> >> Owen
> >> The NEC only requires 5.261 (mm)2 for the protective down conductor
> >> and 13.30 (mm)2 for the bonding conductor between electrodes. Since
> >> those sizes are at best a bad joke
>
> >Perhaps you could explain why you think it's a bad joke? Do you think a
> >13 square mm conductor couldn't carry the strike current? (it can)
>
> >Or, perhaps, you're thinking that there are some other design criteria
> >that might push one towards a larger conductor (mechanical strength in
> >the face of icing and storms might be one).
>
> Maybe E=IR has something to do with wanting a larger conductor. The
> voltage between the strike point and true ground is going to be the 20
> - 100 kA of the strike times the resistance of the down conductor from
> the strike point to true ground. With a smaller conductor,
> fewer/shorter ground rods, or other conditions that raise the
> resistance of the path to ground that voltage will be higher and if
> high enough the strike will seek additional paths to ground by arcing
> to nearby objects closer to ground potential.

That's why I tie everything together. In my case, the ground rods
are minimal.. Just a few copper tubes pounded into the ground
around the base of the mast. None are too deep. But I consider
the ground adequate for the purpose, and it seems to be, being
as I've taken strikes on that mast with no damage to anything.
But I tie that ground into the electrical ground, and also the
plumbing, which I clamp to just a few feet away from the base
of the mast. If all grounds are at the same appx potential, and
the connection to ground is up to par as far as resistance, you
shouldn't see flashing over to other objects. I've never had that
problem here so far. In fact, the connection to ground seems
good enough that strikes to that mast are fairly silent and
only make an electrical arc sound which sounds like throwing
a light bulb onto the ground.
On the other hand, a strike to a poorly grounded object with
high resistance is hugely loud.. Say when it strikes the tree
in the front yard.. It's like a 12 gauge going off. And this

sound is separate from the sonic boom of the strike as
it travels through the air. The sonic boom will come from
overhead and is not local like the actual strike noise at the
object being struck.

3199. Re: Vertical antenna site tradeoff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 20:54:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i22e1nltv1@news.jpl.nasa.gov>
Source record: 8299

> So now is my question: if a tradeoff must be made, what is more
> important, to have an antenna on the clear or to have the best ground
> radials system ?

better to have the radiating part of the antenna clear. The ground
radials, as long as they are numerous, are less critical

> A second question: is it possible to estimate the effect of ground
> symmetry and of buildings presence on the antenna radiation pattern
> using antenna simulation software like eznec ?
>

Yes.. to a certain degree

What you can do is put in wires where the building is (like a wireframe
drawing), and then see if there's very much current in those wires, when
the antenna is excited. Small current = little effect.

You can get fancier and try and model the building as a grid of wires
which are very resistive, but I'd start with the simple wireframe and
see what it gives you.

What you're really getting isn't a precise model, but more of a
qualitative assessment of whether there is a problem.

3200. Re: Vertical antenna site tradeoff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 21:43:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t1h946pcr0j8lkvrkvcgu1q5ji6qqs7562@4ax.com>
Source record: 8300

On Mon, 19 Jul 2010 11:58:02 -0700 (PDT), Gsat <gsantin@mclink.it>
wrote:

>So now is my question: if a tradeoff must be made, what is more
>important, to have an antenna on the clear or to have the best ground
>radials system ?

Hi Giovanni,

The best solution is both - in the clear with a lot of radials. The
next best is to raise your antenna, if you can. After that, and
assuming the antenna is ground mounted; then use as many radials as
you can (12 or more); as long as you can make them (usually as long as
the antenna is tall is enough); filling as much area as you can.

Multiband verticals are usually designed to be up at least 3 meters.
Multiband verticals are usually poor performers on their lowest band.

>A second question: is it possible to estimate the effect of ground
>symmetry and of buildings presence on the antenna radiation pattern
>using antenna simulation software like eznec ?

Yes. Do it one band at a time to keep it simple. You will be able to
see the effect, but it won't really amount to much UNLESS you are
comparing very few radials (2,3 or 4) to 12 or more; or to 120. The
change from 2 to 12 will be more significant than changing from 12 to
120.

You will also see the change in shape of the antenna pattern's
azimuth. It may seem significant, but in reality, it will be
overshadowed by other effects like the proximity of buildings.

Modeling the effect of buildings takes a lot of time and experience.
Antenna modelers are an extension of your design capability, not a
substitute.

73's
Richard Clark, KB7QHC

3201. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 23:51:24 UTC
From: Mike Y <joe@user.com>
Message-ID: <lx51o.39446$YX3.39402@newsfe18.iad>
Source record: 8201
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Dremels are great for this, but if you use it, get the coated fiberglass cutoff wheel. The other will shatter if the whip shakes at all.

But even simpler... Just file a notch on the whip on either side with a small file. Once you have a notch, use two pairs of vice grips to grab either side of the notch and it should snap easily. Or use a vice and pliers. The trick is to grap the whip as close to the notch as possible and bend quickly. Then file to clean up the break.

With the notch methond, you can snap 1/8" 17-7 stainless fairly easily. You won't snap big stuff, like 1/4" whips, but you're not likely to run into them.

17-7 is common for whips, and by now you've probably discovered how tough it is, and how quickly it ruins cutters and nips!

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:VsednRfMq7Up3d7RnZ2dnUVZ_uadnZ2d@posted.localnet...
>I need to "trim" the steel whip of a two meter antenna, and have not been
> sucessful in finding an easy way to cut. Tried a vise-grip with its
> close-in pinchers, and also tried a heavy duty pair of wire cutters, but
> no
> go.
>
> What common tool can be used to do this ? This steel whip sure is tough
> !!
>
>
> Thanks !!
>
>
> 73 de Jim K4PYT
>
>

3202. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-19 23:54:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DBB64C4D98FAnonenowhere@61.9.134.55>
Source record: 8202

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:4C449B12.60000@jpl.nasa.gov:
...
> The other problem is that for fast transients, skin effect means that
> the AC resistance goes more as the diameter than as the cross
> sectional area (hollow tubes work just as well as solid conductors).

The problem is that while we might characterise the raw excitation caused by lightning, and use assumptions about the shape, rise and fall times and peak field strength, the response of circuits (such as those that include the down conductor) is quite different, and it is unsafe to assume in the general case that skin effect is fully effective for all or even most of the energy spectrum.

Perhaps that is why some of these standards tend to treat the conductor as having a resistance equal to that implied by just the conductivity (or resistivity) and CSA. It might be conservative, but then standards tend to be so.

Having seen the results of fairly detailed EM modelling of EMP and lightning excitation of major infrastructure, and the effects of some small changes to the model, I wonder a bit about the effectiveness of some measures... but over engineering probably saves the day in a lot of cases.

The real danger with lightning protection is that a half baked approach my give the implementor some comfort, but actually increase the risk of adverse outcome.

The most thorough and consistent practice I have seen is that employed here in mobile phone base stations. Sure, they are occasionally damaged by lightning, but the vast majority of lightning incidents do not cause permanent damage.

Owen

3203. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 01:06:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4c44f68c$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8203

On 7/19/2010 6:54 PM, Owen Duffy wrote:
> The real danger with lightning protection is that a half baked approach
> my give the implementor some comfort, but actually increase the risk of
> adverse outcome.
>
> The most thorough and consistent practice I have seen is that employed
> here in mobile phone base stations. Sure, they are occasionally damaged
> by lightning, but the vast majority of lightning incidents do not cause
> permanent damage.
>
> Owen

The biggest problem with lightning protection in my area is that the local power company leaves the ground lines coiled up at the bottom of the poles. On about half the poles I've checked.

When they put the new transformer in across the street from my house the crew said they would be back to put in the ground rod. Nope. So I called a friend that si a troubleshooter for the power company about 2 months later and told him about it. "Yup, I'll get somebody right over." No joy 4 years later.

I lost $1500 dollars worth of gear last year because the only decent ground was connected to my radio. And every bit of current that came into the house on the power line exited that direction.

The power companies are likely the worst culprits from my perspective. I have installed more grounds at my house than the rest of the street has. Probably not all to spec, but safer than what wasn't here before.

I also discovered the dictionary definition of replacement cost is not the same one the insurance industry uses. Big surprise.

tom
K0TAR

3204. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 02:12:36 UTC
From: James <jnipperxxx@nospamfdn.com>
Message-ID: <6-adnfaiOf2smtjRnZ2dnUVZ_hmdnZ2d@posted.localnet>
Source record: 8204
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

thanks for all these great responses !! I think the Kobalt bolt cutters from Lowe's is the most simple and quick idea..... thanks Tom, and all others !!

73 de Jim K4PYT

3205. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 02:31:52 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <DU71o.556468$rq1.186059@en-nntp-02.dc1.easynews.com>
Source record: 8205

On 7/19/2010 8:06 PM, tom wrote:
> On 7/19/2010 6:54 PM, Owen Duffy wrote:
>> The real danger with lightning protection is that a half baked approach
>> my give the implementor some comfort, but actually increase the risk of
>> adverse outcome.
>>
>> The most thorough and consistent practice I have seen is that employed
>> here in mobile phone base stations. Sure, they are occasionally damaged
>> by lightning, but the vast majority of lightning incidents do not cause
>> permanent damage.
>>
>> Owen
>
> The biggest problem with lightning protection in my area is that the
> local power company leaves the ground lines coiled up at the bottom of
> the poles. On about half the poles I've checked.
>
> When they put the new transformer in across the street from my house the
> crew said they would be back to put in the ground rod. Nope. So I called
> a friend that si a troubleshooter for the power company about 2 months
> later and told him about it. "Yup, I'll get somebody right over." No joy
> 4 years later.
>
> I lost $1500 dollars worth of gear last year because the only decent
> ground was connected to my radio. And every bit of current that came
> into the house on the power line exited that direction.
>
> The power companies are likely the worst culprits from my perspective. I
> have installed more grounds at my house than the rest of the street has.
> Probably not all to spec, but safer than what wasn't here before.
>
> I also discovered the dictionary definition of replacement cost is not
> the same one the insurance industry uses. Big surprise.
>
> tom
> K0TAR

Methinks you need a professional engineer and good lawyer?

Marv
W5MTV

3206. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 02:40:04 UTC
From: tom <news4792@taring.org>
Message-ID: <4c450c83$0$50147$8046368a@newsreader.iphouse.net>
Source record: 8206

On 7/19/2010 9:31 PM, MTV wrote:
> On 7/19/2010 8:06 PM, tom wrote:
>> On 7/19/2010 6:54 PM, Owen Duffy wrote:
>>> The real danger with lightning protection is that a half baked approach
>>> my give the implementor some comfort, but actually increase the risk of
>>> adverse outcome.
>>>
>>> The most thorough and consistent practice I have seen is that employed
>>> here in mobile phone base stations. Sure, they are occasionally damaged
>>> by lightning, but the vast majority of lightning incidents do not cause
>>> permanent damage.
>>>
>>> Owen
>>
>> The biggest problem with lightning protection in my area is that the
>> local power company leaves the ground lines coiled up at the bottom of
>> the poles. On about half the poles I've checked.
>>
>> When they put the new transformer in across the street from my house the
>> crew said they would be back to put in the ground rod. Nope. So I called
>> a friend that si a troubleshooter for the power company about 2 months
>> later and told him about it. "Yup, I'll get somebody right over." No joy
>> 4 years later.
>>
>> I lost $1500 dollars worth of gear last year because the only decent
>> ground was connected to my radio. And every bit of current that came
>> into the house on the power line exited that direction.
>>
>> The power companies are likely the worst culprits from my perspective. I
>> have installed more grounds at my house than the rest of the street has.
>> Probably not all to spec, but safer than what wasn't here before.
>>
>> I also discovered the dictionary definition of replacement cost is not
>> the same one the insurance industry uses. Big surprise.
>>
>> tom
>> K0TAR
>
> Methinks you need a professional engineer and good lawyer?
>
> Marv
> W5MTV

To deal with a monopoly? Approved by federal, state and local
government? Of both corrupt colors?

You are a comedian.

tom
K0TAR

3207. Re: Vertical antenna site tradeoff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 06:34:40 UTC
From: nm5k@wt.net
Message-ID: <88033db9-2372-47a6-bee7-8d6f2bbca75b@t10g2000yqg.googlegroups.com>
Source record: 8207

On Jul 19, 1:58 pm, Gsat <gsan...@mclink.it> wrote:
> On the yard around my house I have two possible spots where to erect a
> multiband vertical, an HF6V.
> On the first spot it is possible to lay down a symmetrical net of
> radials as long as the antenna is tall, but the antenna will be close
> to buildings on tree sides, at a distance about two to four times the
> antenna height. Buildings in Italy are built by rinforced concrete
> with a lot of steel inside, so I expect there will be some effect to
> the antenna efficiency and radiation pattern.
> On the second spot, the antenna can be more clear of buildings, but
> the radials pattern is not symmetrical because il is limited to a
> strip of land wide half the antenna height.
> So now is my question: if a tradeoff must be made, what is more
> important, to have an antenna on the clear or to have the best ground
> radials system ?
> A second question: is it possible to estimate the effect of ground
> symmetry and of buildings presence on the antenna radiation pattern
> using antenna simulation software like eznec ?
>
> Thanks to all
> Giovanni
> IZ0SQZ

I think I'd rather have the one in the clear. What you can do is
use shorter radials in the directions with less room along
with the longer ones in the better directions. Most of the
ground loss with a monopole is at the immediate base of
the radiator. So the shorter radials should help more than
one might think. But I think it would be worth it to get away
from the wire laden buildings.
Actually, I would prefer to elevate the antenna on a mast,
but I don't know if that is an option.
Elevating gives a much better line of sight, but also greatly
reduces the number of radials needed to reduce ground loss.
If the vertical is high enough in wavelength, one radial is all
you really need for an efficient antenna. Two is the minimum
number needed to have a good omnidirectional pattern if you
run them out ground plane style 180 degrees apart.
One with a single radial acts more like a dipole than a vertical.
If the radial can drop down, you have a half wave vertical with
an omnidirectional pattern, but most will be using metal masts
to support the elevated vertical, and will have to fan it out
ground plane style. And that will skew the pattern a tad, but
not hugely so.

Of course, if you elevated a HF6V, you would need at least
one tuned radial for each band to use it on all bands.

3208. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 12:13:02 UTC
From: Topaz305rk <navajomt@nemont.net>
Message-ID: <XomdnZ1rXeBTD9jRnZ2dnUVZ_hidnZ2d@vnet-inc.com>
Source record: 8208
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:VsednRfMq7Up3d7RnZ2dnUVZ_uadnZ2d@posted.localnet...
>I need to "trim" the steel whip of a two meter antenna, and have not been
> sucessful in finding an easy way to cut. Tried a vise-grip with its
> close-in pinchers, and also tried a heavy duty pair of wire cutters, but
> no
> go.
>
> What common tool can be used to do this ? This steel whip sure is tough
> !!
>
>
> Thanks !!
>
>
> 73 de Jim K4PYT
>
>

A 4" grinder works fine, but is really over kill.
A Dremel tool is just dandy, cut and round the end easily.
In the field, use a set of linemen pliers.
Put the antenna in the cutting portion, hit the top of the pliers on the
flat surface with a hammer.
Do it smartly and the cut is neat and clean.

K7SAM

3209. Re: Vertical antenna site tradeoff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 13:10:49 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <l87b46ph7om6293l48b952eqr2kr51qhe8@4ax.com>
Source record: 8209

On Mon, 19 Jul 2010 11:58:02 -0700 (PDT), Gsat <gsantin@mclink.it>
wrote:

>On the yard around my house I have two possible spots where to erect a
>multiband vertical, an HF6V.
>On the first spot it is possible to lay down a symmetrical net of
>radials as long as the antenna is tall, but the antenna will be close
>to buildings on tree sides, at a distance about two to four times the
>antenna height. Buildings in Italy are built by rinforced concrete
>with a lot of steel inside, so I expect there will be some effect to
>the antenna efficiency and radiation pattern.
>On the second spot, the antenna can be more clear of buildings, but
>the radials pattern is not symmetrical because il is limited to a
>strip of land wide half the antenna height.
>So now is my question: if a tradeoff must be made, what is more
>important, to have an antenna on the clear or to have the best ground
>radials system ?
>A second question: is it possible to estimate the effect of ground
>symmetry and of buildings presence on the antenna radiation pattern
>using antenna simulation software like eznec ?
>
>Thanks to all
>Giovanni
>IZ0SQZ

As usual, I cannot recall the source, but I read somewhere that the
symmetry and general layout of the radial field (buried radials) has
little effect on the radiation pattern. I do recall that I considered
the source credible.

I think there is a release of the NEC engine that supports ground
models but I don't know if that will answer this question.
Unfortunately it is priced beyond this hobbyist's budget.

There may be more than two choices. Don't overlook placing the antenna
between these two extremes.

John Ferrell W8CCW

3210. MFJ-1622 antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 13:51:49 UTC
From: Sapeur Camembert <Bordeau@free.fr>
Message-ID: <4c45a9f3$0$2948$ba4acef3@reader.news.orange.fr>
Source record: 8210

Hello,

I bought a MFJ1622 antenna at a flee market, but it lacks some parts : wip
and wiring.
I have replaced the wip by a TR-PP-13 collapsible (military antenna) but I
don't have any idea of how was the original wiring of this antenna.
I tried several kind of wiring and they work , rather well, but I would like
to know and use the original wiring...

Could someone explain to me, how it is made ?

Thanks a lot.

SC

3211. Re: MFJ-1622 antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 14:01:16 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9DBB5BC4779D6VeebleFetzer@216.250.188.141>
Source record: 8211

In news:4c45a9f3$0$2948$ba4acef3@reader.news.orange.fr "Sapeur Camembert" <Bordeau@free.fr> wrote:

> Could someone explain to me, how it is made ?

http://www.mfjenterprises.com/man/pdf/MFJ-1622.pdf

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

3212. Re: MFJ-1622 antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-20 15:58:55 UTC
From: Sapeur Camembert <Bordeau@free.fr>
Message-ID: <4c45c7bd$0$27572$ba4acef3@reader.news.orange.fr>
Source record: 8212

> http://www.mfjenterprises.com/man/pdf/MFJ-1622.pdf
> Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

OK Bert, thanks a lot for your answer.

I have already found that manual, but it don't explain the wiring with a schema.

I had found this link : http://www.pbase.com/vr2ham/image/84202109
But I wonder whether it is the good manner, to connect the coax at the bottom of the coil , because I'm afraid that the wire between the alligator clip and the bottom of the coil makes a short circuit which could decrease the quality of the active part of the coil.
I wonder whether the original wiring, wouldn't be not isolated from the bottom of the coil...
Another idea would be that the wiring would be the same that the wiring of the "miracle antenna" which ran nicely at my last tests ?

3213. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-21 00:48:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4c4643df$0$50146$8046368a@newsreader.iphouse.net>
Source record: 8213

On 7/20/2010 11:24 AM, Jim Higgins wrote:
> On Mon, 19 Jul 2010 21:40:04 -0500, tom<news4792@taring.org> wrote:
>
>> On 7/19/2010 9:31 PM, MTV wrote:
>>> On 7/19/2010 8:06 PM, tom wrote:
>
>>>> I lost $1500 dollars worth of gear last year because the only decent
>>>> ground was connected to my radio. And every bit of current that came
>>>> into the house on the power line exited that direction.
>>>>
>>> Methinks you need a professional engineer and good lawyer?
>>>
>>> Marv
>>> W5MTV
>>
>> To deal with a monopoly? Approved by federal, state and local
>> government? Of both corrupt colors?
>>
>> You are a comedian.
>>
>> tom
>> K0TAR
>
>
> The value to the consumer of his state Public Utilities Commission
> varies by state, but in those states where the PUC is good, the
> utilities crap themselves when the PUC contacts them about something
> like this. Maybe give it a try.
>

Minnesota is very similar to Illinois, and seems to be about as corrupt in the way that only long entrenched Democrat machines can be. They're just much nicer and friendlier about it. Which is a great disguise in most cases, and helps the news crews put a positive spin on all the nonsense that happens here.

I think I'll forego the pleasure of dealing with any state level bureaucracies, thanks.

But thanks for the advice, I do appreciate it.

tom
K0TAR

3214. Simple Hack To Get $2500 To Your PayPal Account.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-21 06:37:35 UTC
From: Chantodu <chantikotyada1@gmail.com>
Message-ID: <5c419750-21a0-4e63-b4cd-db96625fbc23@z15g2000prn.googlegroups.com>
Source record: 8214

Simple Hack To Get $2500 To Your PayPal Account At http://100bestvideos.co.cc

Due to high security risks, i have hidden the PayPal Form link in an image. in that website On Top Side Above search box , click on image and enter your PayPal id And Your name. please don,t tell to any One.

3215. Madonna, Britney spear,kamastra videos only for adults pls

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-21 07:41:15 UTC
From: rocky <badravathi4work@gmail.com>
Message-ID: <47e144a8-eea1-4a47-ab9d-418e539d9ec0@i19g2000pro.googlegroups.com>
Source record: 8215

Madonna, Britney spear,kamastra all type of sex videos available on
my blog. if you want to see, click ""IMAGE"" at the TOP or RIGHT SIDE
of my BLOG. .then immediately open all video tapes. see and enjoy.
my blog is
http://forexandsomethingforfriendss.blogspot.com

3216. Re: Vertical antenna site tradeoff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-21 18:22:06 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <266d776c-7c81-4c3d-9064-28e4a3260333@w30g2000yqw.googlegroups.com>
Source record: 8216

On 19 jul, 20:58, Gsat <gsan...@mclink.it> wrote:
> On the yard around my house I have two possible spots where to erect a
> multiband vertical, an HF6V.
> On the first spot it is possible to lay down a symmetrical net of
> radials as long as the antenna is tall, but the antenna will be close
> to buildings on tree sides, at a distance about two to four times the
> antenna height. Buildings in Italy are built by rinforced concrete
> with a lot of steel inside, so I expect there will be some effect to
> the antenna efficiency and radiation pattern.
> On the second spot, the antenna can be more clear of buildings, but
> the radials pattern is not symmetrical because il is limited to a
> strip of land wide half the antenna height.
> So now is my question: if a tradeoff must be made, what is more
> important, to have an antenna on the clear or to have the best ground
> radials system ?
> A second question: is it possible to estimate the effect of ground
> symmetry and of buildings presence on the antenna radiation pattern
> using antenna simulation software like eznec ?
>
> Thanks to all
> Giovanni
> IZ0SQZ

Hello Giovanni,

My first impression is for 80m go for the good ground site and for the upper bands go for the clear area. From a man made noise perspective, I would go for the clear area, but of course this one you can check via S/N ratio of received stations. The clear area may result in less interference from your signal in user equipment.

Regarding the buildings, are they very large in horizontal size and height or do I have to think of just three isolated buildings without any other buildings behind it (seen from the antenna)? If there were many buildings, I would go for the clear area in both cases.

Regarding radiation pattern, I would not worry about this. If you can put the antenna such that you have most of the long radials in two opposite direction only, the effect on radiation pattern is negligible.

For the DX case, you will rely on the vertical component only as the horizontal component will vanish more rapidly under decreasing elevation angle. Your radiation pattern (elevation pattern under varying azimuth) depends heavily on ground properties several wavelengths away from the antenna and you have no influence on that.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely.

3217. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-22 02:55:34 UTC
From: Pete <pjetson@yahoo.com>
Message-ID: <4C47B326.7060307@yahoo.com>
Source record: 8217
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

Topaz305rk wrote:

>> What common tool can be used to do this ? This steel whip sure is tough

> In the field, use a set of linemen pliers.

When I worked for a two-way radio company, we used to use a pair of
small bolt-cutters to trim antennas.

VK3ZMB

3218. UN BELIVABLE HOT PHOTOS&VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-22 09:19:29 UTC
From: krishna <jumpjeelan@gmail.com>
Message-ID: <8f5a376b-05d8-43ba-ba57-b67f77a6a551@v35g2000prn.googlegroups.com>
Source record: 8218

KATRINA KAIF BATH ROOM VIDEO

http://hotvideosee.blogspot.com/2010/07/katrina-in-bath.html

MUMAITH KHAN HOT SEXY PHOTO

http://hotvideosee.blogspot.com/2010/03/hot-photo-5_27.html

PRIYAMANI SEXY PHOTO

http://hotvideosee.blogspot.com/2010/03/hot-photo-6.html

HOT&SEXY AUNTY IN A ROMANTIC FEEL

http://hotvideosee.blogspot.com/2010/03/hot-photo-3.html

FOR HOT HEROINES PHOTOS

http://hotheroinesphoto.blogspot.com

AISHWARIYARAI HOT EXPOSING PHOTO

http://hotheroinesphoto.blogspot.com/2010/06/aishwariyarai-hot-photo.html

ANKITHA IN A TUB BATH

http://hotheroinesphoto.blogspot.com/2010/06/ankitha-in-tub-bath.html

TO SEE 100 HOT PHOTO GALLERIES

http://hotheroinesphoto.blogspot.com

3219. Simple hack to get $2000 to your home.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-22 11:53:14 UTC
From: SUKANYA <bangarayya123@gmail.com>
Message-ID: <8c7a7ffd-99cc-47a8-9a50-3139ed7cd824@z30g2000prg.googlegroups.com>
Source record: 8219

Simple hack to get $2000 to your home At http://1023setvideos.co.cc

Due to high security risks, i have hidden the cheque link in an image. in that website on Top side Above search box, click on image and enter your name and address where you want to receive your cheque. please don,t tell to anyone.

3220. See Hot Sexy Star-Aishwarya Nude Bathing Videos In All Angles

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-22 13:02:11 UTC
From: SUKANYA <magguri.ramarao@gmail.com>
Message-ID: <ccdfa83e-68d1-43f0-8176-cf2e89cd5cd3@h40g2000pro.googlegroups.com>
Source record: 8220

See Hot Sexy Star Aishwarya Nude Bathing Videos In All Angles At
http://5001topvideos.co.cc

Due to high sex content, i have hidden the videos in an image. in
that
website on Top Side search box Above click on image and watch
videos in all angles. please don,t tell to anyone.

3221. REAL HOT VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-22 14:09:20 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <d791a35c-d33d-471c-abfd-fc7d91c89d7b@g6g2000pro.googlegroups.com>
Source record: 8221

hot kisses
http://hotvidos.blogspot.com/2010/07/hot-kisses.html
hot lip kiss
http://hotvidos.blogspot.com/2010/07/hot-lip-kiss.html
katrina kaif hot videos
http://hotvidos.blogspot.com/2010/07/katrina-kaif-hot-videos.html
bollywood hot vieos
http://hotvidos.blogspot.com/2010/07/bollywood-hot-vieos.html
tollywood hot vieos
http://hotvidos.blogspot.com/2010/07/tollywood-hot-vieos.html
tamil hot videos
http://hotvidos.blogspot.com/2010/07/tamil-hot-videos.html
mallu hot videos
http://hotvidos.blogspot.com/2010/07/mallu-hot-videos.html
real hot videos
http://hotvidos.blogspot.com/2010/07/real-hot-videos.html
hollywood hot videos
http://hotvidos.blogspot.com/2010/07/hollywood-hot-videos.html

3222. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-22 23:36:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e4012f38-2e89-4d54-aa2d-2fefe05af5e5@j8g2000yqd.googlegroups.com>
Source record: 8222

On Jul 17, 7:07 am, Helmut Wabnig <hwabnig@ .- --- -. dotat> wrote:
> The news have it:
> Apple's new I phone cuts connections frequently due to bad reception.
> That happenes when holding the I-phone in a certain way.
>
> http://tinyurl.com/32lp96x
>
> cit:
>
> (01.07.2010)
>
> Antenna engineers, Apple wants you to help with iPhone reception
> Are you an unemployed antenna engineer who specializes in wireless
> mobile devices?

come on, we can't let this group be taken over by just the spammers!
ART! you must have an opinion on this, why aren't they using your
gaussian design to get their magic levitating neutrinos to fly off
their antenna??? or is their antenna not diamagnetic so it suffers
from a shortage of neutrinos??

3223. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 02:44:35 UTC
From: tom <news4792@taring.org>
Message-ID: <4c490212$0$50151$8046368a@newsreader.iphouse.net>
Source record: 8223

On 7/22/2010 6:36 PM, K1TTT wrote:
> On Jul 17, 7:07 am, Helmut Wabnig<hwabnig@ .- --- -. dotat> wrote:
>> The news have it:
>> Apple's new I phone cuts connections frequently due to bad reception.
>> That happenes when holding the I-phone in a certain way.
>>
>> http://tinyurl.com/32lp96x
>>
>> cit:
>>
>> (01.07.2010)
>>
>> Antenna engineers, Apple wants you to help with iPhone reception
>> Are you an unemployed antenna engineer who specializes in wireless
>> mobile devices?
>
> come on, we can't let this group be taken over by just the spammers!
> ART! you must have an opinion on this, why aren't they using your
> gaussian design to get their magic levitating neutrinos to fly off
> their antenna??? or is their antenna not diamagnetic so it suffers
> from a shortage of neutrinos??

That's what wrong with you kids nowadays, you give things away. Back "when men were men, and women were women, and fuzzy green alien ..." a smart guy would have taken all you mentioned and turned it into a consulting job.

tom
K0TAR

3224. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 02:53:28 UTC
From: tom <news4792@taring.org>
Message-ID: <4c490424$0$50159$8046368a@newsreader.iphouse.net>
Source record: 8224

On 7/22/2010 9:44 PM, tom wrote:
> On 7/22/2010 6:36 PM, K1TTT wrote:
>> On Jul 17, 7:07 am, Helmut Wabnig<hwabnig@ .- --- -. dotat> wrote:
>>> The news have it:
>>> Apple's new I phone cuts connections frequently due to bad reception.
>>> That happenes when holding the I-phone in a certain way.
>>>
>>> http://tinyurl.com/32lp96x
>>>
>>> cit:
>>>
>>> (01.07.2010)
>>>
>>> Antenna engineers, Apple wants you to help with iPhone reception
>>> Are you an unemployed antenna engineer who specializes in wireless
>>> mobile devices?
>>
>> come on, we can't let this group be taken over by just the spammers!
>> ART! you must have an opinion on this, why aren't they using your
>> gaussian design to get their magic levitating neutrinos to fly off
>> their antenna??? or is their antenna not diamagnetic so it suffers
>> from a shortage of neutrinos??
>
> That's what wrong with you kids nowadays, you give things away. Back
> "when men were men, and women were women, and fuzzy green alien ..." a
> smart guy would have taken all you mentioned and turned it into a
> consulting job.
>
> tom
> K0TAR

"That's what's"

3225. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 08:48:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c49577b$0$2583$65785112@news.neostrada.pl>
Source record: 8225

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote
news:i21v04bkj3@news.jpl.nasa.gov...
>>>
>>
>> IIRC the purpose is to primarily drain off the static charges so the
>> gnd-cloud potential difference is minimized. A direct strike will usually
>> just melt whole house wiring, etc. etc.
>
> Not true.
>
> The cloud has SO MUCH charge you don't stand a chance of bleeding it off.

Each cloud has a charge and the all is flowing to the ground. But only 20%
as the direct stroke.

The rule is simple. A mast with the polished ball on the tip attract the
direct stroke (polished ball do not dissipate).
A mast with many sharp spikes dissipate the static charge and eliminate the
direct strike.

> Direct strikes are typically around 20 kA, and can be as high as 100kA.
> Both can be adequately carried by the usual AWG6 wire, because the current
> pulse only lasts a few microseconds.

It is the oscillating current which has a canal in the air. It is not
obliged to flow only in the wire.
S*

3226. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 11:27:41 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5f9f6816-95e0-4fe0-830e-cd0e1089fa03@k19g2000yqc.googlegroups.com>
Source record: 8226

On Jul 23, 8:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Jim Lux" <james.p....@jpl.nasa.gov> wrotenews:i21v04bkj3@news.jpl.nasa.gov...
>
>
>
> >> IIRC the purpose is to primarily drain off the static charges so the
> >> gnd-cloud potential difference is minimized. A direct strike will usually
> >> just melt whole house wiring, etc. etc.
>
> > Not true.
>
> > The cloud has SO MUCH charge you don't stand a chance of bleeding it off.
>
> Each cloud has a charge and the all is flowing to the ground. But only 20%
> as the direct stroke.
>
> The rule is simple. A mast with the polished ball on the tip attract the
> direct stroke (polished ball do not dissipate).
> A mast with many sharp spikes dissipate the static charge and eliminate the
> direct strike.

wrong, sharp spikes are designed to start an upward streamer that
connects the downward leader to the lightning rod. that is why they
have a sharp point, to reach the breakdown field gradient before
anything else around them.

>
> > Direct strikes are typically around 20 kA, and can be as high as 100kA.
> > Both can be adequately carried by the usual AWG6 wire, because the current
> > pulse only lasts a few microseconds.
>
> It is the oscillating current which has a canal in the air. It is not
> obliged to flow only in the wire.
> S*

normally they don't oscillate, it is a mono-polarity pulse.

3227. Re: What did they do wrong?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 18:27:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ff4cc76d-20dd-4d3f-ab80-b2030f143502@w30g2000yqw.googlegroups.com>
Source record: 8227

On Jul 23, 2:44 am, tom <news4...@taring.org> wrote:
> On 7/22/2010 6:36 PM, K1TTT wrote:
>
>
>
> > On Jul 17, 7:07 am, Helmut Wabnig<hwabnig@ .- --- -. dotat> wrote:
> >> The news have it:
> >>   Apple's new I phone cuts connections frequently due to bad reception.
> >> That happenes when holding the I-phone in a certain way.
>
> >>http://tinyurl.com/32lp96x
>
> >> cit:
>
> >>   (01.07.2010)
>
> >> Antenna engineers, Apple wants you to help with iPhone reception
> >> Are you an unemployed antenna engineer who specializes in wireless
> >> mobile devices?
>
> > come on, we can't let this group be taken over by just the spammers!
> > ART! you must have an opinion on this, why aren't they using your
> > gaussian design to get their magic levitating neutrinos to fly off
> > their antenna??? or is their antenna not diamagnetic so it suffers
> > from a shortage of neutrinos??
>
> That's what wrong with you kids nowadays, you give things away. Back
> "when men were men, and women were women, and fuzzy green alien ..." a
> smart guy would have taken all you mentioned and turned it into a
> consulting job.
>
> tom
> K0TAR

i've been there, consulting ain't as much fun as dogbert and ratbert
make it.

3228. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 18:55:27 UTC
From: nm5k@wt.net
Message-ID: <4ab6d1f9-c37d-4566-87c4-97a8f251e415@i31g2000yqm.googlegroups.com>
Source record: 8228

On Jul 23, 3:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

>
> The rule is simple. A mast with the polished ball on the tip attract the
> direct stroke (polished ball do not dissipate).
> A mast with many sharp spikes dissipate the static charge and eliminate the
> direct strike.

A mast with a ball is less likely to attract a strike. That is why
they are
used on flag poles, etc.. They don't stream near as well as a sharp
point. They can still be struck though if nothing more attractive
is around as far as streamers.
A pointed mast streams much easier and will be much more
effective as a lightning rod.
A mast with a lot of spikes is wishful thinking. You can not bleed
off the charge fast enough to eliminate strikes. It's like whizzing
in a whirlwind.
You can not eliminate a direct strike by bleeding off the charge.
You can only offer it a better and easier streaming target than
whatever you do not want struck. And the sharper and more
pointy an object, the better it streams. When is the last time
you saw a lightning rod with a polished ball on top?
They don't sell them, as they would be fairly useless.

3229. Re: Vertical antenna site tradeoff

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 18:56:33 UTC
From: Gsat <gsantin@mclink.it>
Message-ID: <b0a60b07-488b-4b36-80fc-5fdcfe67203e@d17g2000yqb.googlegroups.com>
Source record: 8229

Thanks to all for the good advice. You all agree that the priority is to have the antenna on the clear.
To summarize , I would exclude the option to elevate the antenna because I do not like to walk on roofs or climb towers any more, a ground level antenna is much more safe.
About the ground radials, my understanding is that the RF current flowing in to the antenna from one terminal of the feed line, must return to the second terminal of the feed line that is grounded at the antenna base, and it will do so flowing through the soil in the vicinity of the antenna. If I provide a more conductive path on the soil by laying radials, the electrons will find it, regardless of the simmetry of the system and avoid to dissipate energy heating up the ground.
On the other hand, a building near the antenna is not connected to the second terminal of my feed line and so the RF current captured by the building metallic structures can only be dissipated and playing funny games with the electronics gadgets inside the building.
Now that I decided to put up a new antenna, let's just hope the solar cycle 24 will behave.

Thanks to all
Giovanni
IZ0SQZ

3230. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-23 21:23:36 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i2d18o$9n$1@news.jpl.nasa.gov>
Source record: 8230

nm5k@wt.net wrote:
> On Jul 23, 3:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

> You can not eliminate a direct strike by bleeding off the charge.
> You can only offer it a better and easier streaming target than
> whatever you do not want struck. And the sharper and more
> pointy an object, the better it streams. When is the last time
> you saw a lightning rod with a polished ball on top?

Actually, air terminals with blunt ends and sphere ends have been tested by Erico, and they work about the same as the traditional "Franklin" style with the pointy end.

> They don't sell them, as they would be fairly useless.

That's not because they work or don't work, it's because fashion dictates pointy end. You'd have to have a substantial performance improvement to justify something different (i.e. to be unfashionable, it had better give you something else).

At the fields in play here, whether you have a 1/10" radius or a 1/2" radius or 3" radius, it doesn't make much difference.

the breakdown voltage for a curved surface is roughly 3MV/meter or 70kV/inch.

So a 1/2" diameter rod (1/4" radius at largest) will breakdown at about 17-18 kV. A 6" diameter ball breaks down at 200kV or so (assuming it's perfectly smooth, etc.)

The "free air" electric field without a storm around is on the order of 100 V/meter, rising to 10-20 kv/m under a storm. So, get 10-15 meters up, and you've got your 200kV needed to start corona on even a pretty big diameter thing.

If the ball is wet, especially with distinct droplets, then you can get corona forming much earlier. The electrostatic forces tend to make the droplets fly off.

3231. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-24 01:36:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4c4a43ab$0$633$8046368a@newsreader.iphouse.net>
Source record: 8231

On 7/23/2010 4:23 PM, Jim Lux wrote:
>
> If the ball is wet, especially with distinct droplets, then you can get
> corona forming much earlier. The electrostatic forces tend to make the
> droplets fly off.
>

Non-rhetorical question(s).

I must be missing something then. Why don't I see corona on the tips of leaves at the tops of my trees? Trees are pretty conductive when hundreds of kilovolts are involved.

Or my antenna masts for that matter, 'cause they are grounded, too.

tom
K0TAR

3232. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-24 07:35:51 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4a97df$0$2589$65785112@news.neostrada.pl>
Source record: 8232

"K1TTT" <k1ttt@arrl.net> wrote
news:5f9f6816-95e0-4fe0-830e-cd0e1089fa03@k19g2000yqc.googlegroups.com...
On Jul 23, 8:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Jim Lux" <james.p....@jpl.nasa.gov>
> wrotenews:i21v04bkj3@news.jpl.nasa.gov...
>
>
>
>> >> IIRC the purpose is to primarily drain off the static charges so the
> >> gnd-cloud potential difference is minimized. A direct strike will
> >> usually
> >> just melt whole house wiring, etc. etc.
>
>> > Not true.
>
>> > The cloud has SO MUCH charge you don't stand a chance of bleeding it
>> > off.
>
>> Each cloud has a charge and the all is flowing to the ground. But only
>> 20%
> as the direct stroke.
>
>> The rule is simple. A mast with the polished ball on the tip attract the
> direct stroke (polished ball do not dissipate).
>> A mast with many sharp spikes dissipate the static charge and eliminate
>> the
> direct strike.

>wrong, sharp spikes are designed to start an upward streamer that
connects the downward leader to the lightning rod. that is why they
have a sharp point, to reach the breakdown field gradient before
anything else around them.

But before the steamer is the dissipating: ">> IIRC the purpose is to
primarily drain off the static charges so the
> >> gnd-cloud potential difference is minimized"
>
>> > Direct strikes are typically around 20 kA, and can be as high as 100kA.
> > Both can be adequately carried by the usual AWG6 wire, because the
> > current
> > pulse only lasts a few microseconds.
>
>> It is the oscillating current which has a canal in the air. It is not
> obliged to flow only in the wire.
> S*

>normally they don't oscillate, it is a mono-polarity pulse.

Normally in ALL sparks current oscillates: " The storm detector is a radio receiver .
"The device was invented in 1894 by Alexander Stepanovich Popov. It also was the first radio receiver in the world.
Ground-based and mobile detectors calculate the direction and severity of lightning from the current location using radio direction-finding techniques together with an analysis of the characteristic frequencies emitted by lightning"

S*

3233. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-24 07:43:47 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4a99bb$0$2594$65785112@news.neostrada.pl>
Source record: 8233

"tom" <news4792@taring.org> wrote
news:4c4a43ab$0$633$8046368a@newsreader.iphouse.net...
> On 7/23/2010 4:23 PM, Jim Lux wrote:
>>
>> If the ball is wet, especially with distinct droplets, then you can get
>> corona forming much earlier. The electrostatic forces tend to make the
>> droplets fly off.
>>
>
> Non-rhetorical question(s).
>
> I must be missing something then. Why don't I see corona on the tips of
> leaves at the tops of my trees? Trees are pretty conductive when hundreds
> of kilovolts are involved.

You have missed that: "Physically, St. Elmo's fire is a bright blue or
violet glow, appearing like fire in some circumstances, from tall, sharply
pointed structures such as lightning rods, masts, spires and chimneys, and
on aircraft wings. St. Elmo's fire can also appear on leaves, grass, and
even at the tips of cattle horns.[3] Often accompanying the glow is a
distinct hissing or buzzing sound."

> Or my antenna masts for that matter, 'cause they are grounded, too.

Your ground wire is broken. Check it.
S*

3234. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-24 08:25:40 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4aa38e$0$17103$65785112@news.neostrada.pl>
Source record: 8234

<nm5k@wt.net> wrote
news:4ab6d1f9-c37d-4566-87c4-97a8f251e415@i31g2000yqm.googlegroups.com...
On Jul 23, 3:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:

>
>> The rule is simple. A mast with the polished ball on the tip attract the
> direct stroke (polished ball do not dissipate).
>> A mast with many sharp spikes dissipate the static charge and eliminate
>> the
> direct strike.

>A mast with a ball is less likely to attract a strike. That is why
they are
used on flag poles, etc.. They don't stream near as well as a sharp
point. They can still be struck though if nothing more attractive
is around as far as streamers.
>A pointed mast streams much easier and will be much more
effective as a lightning rod.
>A mast with a lot of spikes is wishful thinking. You can not bleed
off the charge fast enough to eliminate strikes. It's like whizzing
in a whirlwind.

For Franklin it was obvious: "This grew into his idea for the lightning rod.
Franklin described an iron rod about 8 or 10 feet long that was sharpened to
a point at the end. He wrote, "the electrical fire would, I think, be drawn
out of a cloud silently, before it could come near enough to strike..."
From: http://www.fi.edu/pieces/hongell/

>You can not eliminate a direct strike by bleeding off the charge.
>You can only offer it a better and easier streaming target than
whatever you do not want struck. And the sharper and more
pointy an object, the better it streams. When is the last time
you saw a lightning rod with a polished ball on top?
>They don't sell them, as they would be fairly useless.

But somebody want to catch strong lightnings:
"Blunt-tipped lightning rods are intended to intercept rather than to
prevent lightning strikes. They are intentionally located at the point of
maximum dielectric stress. (See Figure 2). " From:
http://www.nottltd.com/article.html
S*

3235. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-24 11:54:26 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <50315d41-d9eb-4ec6-8de4-fd9093fef4d6@i28g2000yqa.googlegroups.com>
Source record: 8235

On Jul 24, 7:35 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:5f9f6816-95e0-4fe0-830e-cd0e1089fa03@k19g2000yqc.googlegroups.com...
> On Jul 23, 8:48 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "Jim Lux" <james.p....@jpl.nasa.gov>
> > wrotenews:i21v04bkj3@news.jpl.nasa.gov...
>
> >> >> IIRC the purpose is to primarily drain off the static charges so the
> > >> gnd-cloud potential difference is minimized. A direct strike will
> > >> usually
> > >> just melt whole house wiring, etc. etc.
>
> >> > Not true.
>
> >> > The cloud has SO MUCH charge you don't stand a chance of bleeding it
> >> > off.
>
> >> Each cloud has a charge and the all is flowing to the ground. But only
> >> 20%
> > as the direct stroke.
>
> >> The rule is simple. A mast with the polished ball on the tip attract the
> > direct stroke (polished ball do not dissipate).
> >> A mast with many sharp spikes dissipate the static charge and eliminate
> >> the
> > direct strike.
> >wrong, sharp spikes are designed to start an upward streamer that
>
> connects the downward leader to the lightning rod. that is why they
> have a sharp point, to reach the breakdown field gradient before
> anything else around them.
>
> But before the steamer is the dissipating: ">> IIRC the purpose is to
> primarily drain off the static charges so the
>
> > >> gnd-cloud potential difference is minimized"
>
> >> > Direct strikes are typically around 20 kA, and can be as high as 100kA.
> > > Both can be adequately carried by the usual AWG6 wire, because the
> > > current
> > > pulse only lasts a few microseconds.

>
> >> It is the oscillating current which has a canal in the air. It is not
> > obliged to flow only in the wire.
> > S*
> >normally they don't oscillate, it is a mono-polarity pulse.
>
> Normally in ALL sparks current oscillates: " The storm detector is a radio
> receiver .
> "The device was invented in 1894 by Alexander Stepanovich Popov. It also was
> the first radio receiver in the world.
> Ground-based and mobile detectors calculate the direction and severity of
> lightning from the current location using radio direction-finding techniques
> together with an analysis of the characteristic frequencies emitted by
> lightning"
>
> S*

you like quoting stuff off the web don't you... too bad you don't
understand the basic physics behind it. no, the spark current doesn't
have to oscillate to be picked up by a radio receiver. The short
pulse, yes even one that doesn't oscillate itself, is made up of a
large number of sine waves added together, it is those that can be
picked up by radio receivers. it is also possible at a large distance
to determine the polarity of the lightning stroke as they can be
either positive or negative strokes, that type of distinction wouldn't
be needed if they oscillated.

3236. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-24 16:30:44 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4b153f$0$19181$65785112@news.neostrada.pl>
Source record: 8236

"K1TTT" <k1ttt@arrl.net> wrote
news:50315d41-d9eb-4ec6-8de4-fd9093fef4d6@i28g2000yqa.googlegroups.com...
On Jul 24, 7:35 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Normally in ALL sparks current oscillates: " The storm detector is a
>> radio
> receiver .
>> "The device was invented in 1894 by Alexander Stepanovich Popov. It also
>> was
> the first radio receiver in the world.
>> Ground-based and mobile detectors calculate the direction and severity of
> lightning from the current location using radio direction-finding
> techniques
> together with an analysis of the characteristic frequencies emitted by
> lightning"
>

>you like quoting stuff off the web don't you... too bad you don't
understand the basic physics behind it. no, the spark current doesn't
have to oscillate to be picked up by a radio receiver. The short
pulse, yes even one that doesn't oscillate itself, is made up of a
large number of sine waves added together, it is those that can be
picked up by radio receivers. it is also possible at a large distance
to determine the polarity of the lightning stroke as they can be
either positive or negative strokes, that type of distinction wouldn't
be needed if they oscillated.

Electrons like oscillate. The natural oscillations go up and next decay.
Each next jump is stronger at the beginning and weaker at the end.

Lightning jumps from the higher voltage area to the lower. It means that
netto electrons flow always from cloud to earth. But before such are many
lightnings cloud to cloud. Sometimes (5%) are cloud-earth-cloud.

In the all cases the current oscillate.
S*

3237. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-25 00:23:19 UTC
From: tom <news4792@taring.org>
Message-ID: <4c4b83f2$0$50152$8046368a@newsreader.iphouse.net>
Source record: 8237

On 7/24/2010 2:43 AM, Szczepan Bialek wrote:
>
> You have missed that: "Physically, St. Elmo's fire is a bright blue or
> violet glow, appearing like fire in some circumstances, from tall, sharply
> pointed structures such as lightning rods, masts, spires and chimneys, and
> on aircraft wings. St. Elmo's fire can also appear on leaves, grass, and
> even at the tips of cattle horns.[3] Often accompanying the glow is a
> distinct hissing or buzzing sound."

Wow, you can type "google"!

>
>> Or my antenna masts for that matter, 'cause they are grounded, too.
>
> Your ground wire is broken. Check it.

Your brain is broken, check it.

> S*
>
>

3238. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-25 11:34:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0bfdcc06-80d4-4bc0-b1a2-dd6b43a68db1@w31g2000yqb.googlegroups.com>
Source record: 8238

On Jul 24, 4:30 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:50315d41-d9eb-4ec6-8de4-fd9093fef4d6@i28g2000yqa.googlegroups.com...
> On Jul 24, 7:35 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Normally in ALL sparks current oscillates: " The storm detector is a
> >> radio
> > receiver .
> >> "The device was invented in 1894 by Alexander Stepanovich Popov. It also
> >> was
> > the first radio receiver in the world.
> >> Ground-based and mobile detectors calculate the direction and severity of
> > lightning from the current location using radio direction-finding
> > techniques
> > together with an analysis of the characteristic frequencies emitted by
> > lightning"
>
> >you like quoting stuff off the web don't you... too bad you don't
>
> understand the basic physics behind it. no, the spark current doesn't
> have to oscillate to be picked up by a radio receiver. The short
> pulse, yes even one that doesn't oscillate itself, is made up of a
> large number of sine waves added together, it is those that can be
> picked up by radio receivers. it is also possible at a large distance
> to determine the polarity of the lightning stroke as they can be
> either positive or negative strokes, that type of distinction wouldn't
> be needed if they oscillated.
>
> Electrons like oscillate. The natural oscillations go up and next decay.
> Each next jump is stronger at the beginning and weaker at the end.
>
> Lightning jumps from the higher voltage area to the lower. It means that
> netto electrons flow always from cloud to earth. But before such are many
> lightnings cloud to cloud. Sometimes (5%) are cloud-earth-cloud.
>
> In the all cases the current oscillate.
> S*

i agree with tom, your brain is broken.. check it.

3239. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-25 17:08:58 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4c6fb3$0$19182$65785112@news.neostrada.pl>
Source record: 8239

"K1TTT" <k1ttt@arrl.net> wrote
news:0bfdcc06-80d4-4bc0-b1a2-dd6b43a68db1@w31g2000yqb.googlegroups.com...
On Jul 24, 4:30 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> In the all cases the current oscillate.
> S*

>i agree with tom, your brain is broken.. check it.

Yes. I mix the oscillating with pulsating: "Years later, Lodge realized that lightning is not an oscillatory discharge but is actually a rapidly pulsating unidirectional (dc) discharge.[2] However, the effects of the inductive reactance on the flow of these pulsating lightning currents is the same as Lodge predicted for oscillatory currents" From:
http://www.antiquewireless.org/otb/lodge1102.htm
S*

3240. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-25 17:14:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4c710a$0$2604$65785112@news.neostrada.pl>
Source record: 8240

"tom" <news4792@taring.org> wrote
news:4c4b83f2$0$50152$8046368a@newsreader.iphouse.net...
> On 7/24/2010 2:43 AM, Szczepan Bialek wrote:
>>
>> Your ground wire is broken. Check it.
>
> Your brain is broken, check it.

Have you ever seen the glow: "In addition, the scientist was able to
demonstrate that standing waves existed along the wires. In a darkened room,
he observed a visible glow along the wires at one-half wavelength intervals
corresponding to the voltage peaks. He also performed a number of other
experiments concerning the characteristics of discharging Leyden jars during
that spring and summer of 1888."
From: http://www.antiquewireless.org/otb/lodge1102.htm
S*

3241. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-25 17:56:16 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c91f443b-48ec-481d-aca1-9a5b422528e1@y11g2000yqm.googlegroups.com>
Source record: 8241

On Jul 25, 5:08 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:0bfdcc06-80d4-4bc0-b1a2-dd6b43a68db1@w31g2000yqb.googlegroups.com...
> On Jul 24, 4:30 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In the all cases the current oscillate.
> > S*
> >i agree with tom, your brain is broken.. check it.
>
> Yes. I mix the oscillating with pulsating: "Years later, Lodge realized that
> lightning is not an oscillatory discharge but is actually a rapidly
> pulsating unidirectional (dc) discharge.[2] However, the effects of the
> inductive reactance on the flow of these pulsating lightning currents is the
> same as Lodge predicted for oscillatory currents"
From:http://www.antiquewireless.org/otb/lodge1102.htm
> S*

and i suppose you have a coherer in your receiver also?

3242. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-25 19:09:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gt2p46567eevh40cvr90kmtg3acbndhogm@4ax.com>
Source record: 8242

On Sun, 25 Jul 2010 10:56:16 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>and i suppose you have a coherer in your receiver also?

Is this in the same sense of coherence as to Art's babble of
equilibrium?

73's
Richard Clark, KB7QHC

3243. BEST HOT VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 01:52:36 UTC
From: 866434 <iashjbbxdhvv@gmail.com>
Message-ID: <28c51228-c83a-478a-a19c-dd24cee39afe@x18g2000pro.googlegroups.com>
Source record: 8243

FOR BETS HOT VIDEOS
http://verysexyhotvideos.blogspot.com/

super hot lip kiss
http://hotvideosfreesee.blogspot.com/2010/06/super-hot-lip-kiss.html
hot lip kiss 12
http://hotvideosfreesee.blogspot.com/2010/06/hot-lip-kiss-12.html
super lip kiss 567
http://hotvideosfreesee.blogspot.com/2010/06/super-lip-kiss-567.html
super supr lip kiss232
http://hotvideosfreesee.blogspot.com/2010/06/super-supr-lip-kiss232.html
sexy lip kiss 7890
http://hotvideosfreesee.blogspot.com/2010/06/sexy-lip-kiss-7890.html
supe r hot kiss op
http://hotvideosfreesee.blogspot.com/2010/06/supe-r-hot-kiss-op.html

3244. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 08:26:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4d46d7$0$2589$65785112@news.neostrada.pl>
Source record: 8244

Uzytkownik "Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:gt2p46567eevh40cvr90kmtg3acbndhogm@4ax.com...
> On Sun, 25 Jul 2010 10:56:16 -0700 (PDT), K1TTT <k1ttt@arrl.net>
> wrote:
>
>>and i suppose you have a coherer in your receiver also?
>
> Is this in the same sense of coherence as to Art's babble of
> equilibrium?

In Art's equilibrium and Michael's "truds" are more sense than in yours
"magnetic whirls".
All radio history apply to the longitudinal electric waves (Tesla waves) in
wires and in the space.

Lodge made the long wire antennas (see Fig 2):
http://www.antiquewireless.org/otb/lodge1102.htm

The sparks are rather harmfull for transmitting. The better is a field
emission of electrons ("truds" or the "time dependent Gauss law").

You are an expert.
Does antenna radiate if it is coated with the thick good insulation?
S*

3245. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 08:37:29 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4d4954$0$2583$65785112@news.neostrada.pl>
Source record: 8245

"K1TTT" <k1ttt@arrl.net> wrote
news:c91f443b-48ec-481d-aca1-9a5b422528e1@y11g2000yqm.googlegroups.com...
>
>and i suppose you have a coherer in your receiver also?

Unfortunatly the coherer do not work nowdays. To much electric waves in the
rare plasma.

But the Lodge's "electrical radiation" ("time dependent Gauss Law") works.
"Lodge then added a postscript to his own paper acknowledging Hertz's work
in an extremely positive way. He concluded the postscript by saying: "The
whole subject of electrical radiation seems working itself out splendidly".
S*

3246. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 16:09:03 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4C4DB31F.5020403@jpl.nasa.gov>
Source record: 8247

tom wrote:
> On 7/23/2010 4:23 PM, Jim Lux wrote:
>>
>> If the ball is wet, especially with distinct droplets, then you can get
>> corona forming much earlier. The electrostatic forces tend to make the
>> droplets fly off.
>>
>
> Non-rhetorical question(s).
>
> I must be missing something then. Why don't I see corona on the tips of
> leaves at the tops of my trees? Trees are pretty conductive when
> hundreds of kilovolts are involved.

In the clear air field (the 100V/meter sort of thing), you're not going to see corona, because the voltages aren't high enough.

In thunderstorm type fields, you would see corona, if you look closely. There's an interesting paper (which I can't find right now, but I'll look) where someone measured the current from a field of wheat.

Not all breakdown will produce visible corona.

If you have a resistive thing (i.e. a tree), covered with sharp points, then the object tends to adopt the overall voltage profile surrounding it, so there's not much net difference in voltage between the leaf/needle and the surrounding, so the field isn't locally high, so there isn't any breakdown.

>
> Or my antenna masts for that matter, 'cause they are grounded, too.

You probably DO have corona breakdown, it's just not noticeable. It's kind of a challenge to measure microamp currents in a 100 foot tower. And if that milliamp or microamp is spread over a large area (i.e. your tower isn't a smooth machined surface with only the one point having small radius of curvature) then it would be less noticeable.

3247. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 16:14:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <82dr46d9vfrp4do0ped31rn2aq3od5prna@4ax.com>
Source record: 8246

On Mon, 26 Jul 2010 10:26:52 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>Does antenna radiate if it is coated with the thick good insulation?

Radiate what?

73's
Richard Clark, KB7QHC

3248. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 16:21:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i2kclr$v0g$1@news.jpl.nasa.gov>
Source record: 8248

Szczepan Bialek wrote:
> "tom" <news4792@taring.org> wrote
> news:4c4a43ab$0$633$8046368a@newsreader.iphouse.net...
>> On 7/23/2010 4:23 PM, Jim Lux wrote:
>>> If the ball is wet, especially with distinct droplets, then you can get
>>> corona forming much earlier. The electrostatic forces tend to make the
>>> droplets fly off.
>>>
>> Non-rhetorical question(s).
>>
>> I must be missing something then. Why don't I see corona on the tips of
>> leaves at the tops of my trees? Trees are pretty conductive when hundreds
>> of kilovolts are involved.
>
> You have missed that: "Physically, St. Elmo's fire is a bright blue or
> violet glow, appearing like fire in some circumstances, from tall, sharply
> pointed structures such as lightning rods, masts, spires and chimneys, and
> on aircraft wings. St. Elmo's fire can also appear on leaves, grass, and
> even at the tips of cattle horns.[3] Often accompanying the glow is a
> distinct hissing or buzzing sound."
>

St. Elmo's fire and corona discharge are distinctly different, although
St. Elmo's is often described as corona, it actually isn't.

Yes, corona in high fields does sound like hissing or buzzing. Anyone
who has been on a high mountain in a thunderstorm has probably
experienced this, and even more exciting is when you get corona
discharge off your hair standing on end.

St Elmo's is a bit different. It has a distinctly different appearance:
a sort of bluish glow that extends some distance surrounding the object,
as opposed to corona, which seems to be "stuck" to the surface. And then
a high field streamer discharge is still different. If you've seen both,
it's noticeably different, but hard to describe.

As best can be determined, St Elmo's arises when the surface of an
object is wet and in a field. The water sprays off the surface (much
like is done in electrospraying), and the droplets carry charge away.
Several different things then happen: 1) The charge causes the droplet
to break apart into smaller droplets from electrostatic forces; 2) the
field at the surface of the droplet is now too high and the air
breaksdown at the surface of the droplet, discharging it, and 3) the
droplet starts to shrink from evaporation, getting smaller, so the field
at the surface grows, etc.

So St. Elmos is not really corona off the object, but corona/breakdown on the droplets being electrosprayed off the surface.

It is possible to generate St. Elmo's in the lab on the surface of an object with fairly large radius of curvature (i.e. that would NOT be subject to surface corona) in a moderate field. If someone wants to try an experiment, put a wet cork or dowel of wood in a shallow tray or puddle of water with a large flat electrode suspended over it to create the overall field. A field of 10kV/cm will work quite nicely. I used two baking pans separated by cut down styrofoam cups driven by a small modular HV supply (50kV@ a few mA) driven by a variac. Make sure you have a resistor in series with your HV supply, because occasionally you'll get a flashover, and you want to limit the current.

3249. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 17:26:04 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4dc533$0$19166$65785112@news.neostrada.pl>
Source record: 8249

"Richard Clark" <kb7qhc@comcast.net> wrote
news:82dr46d9vfrp4do0ped31rn2aq3od5prna@4ax.com...
> On Mon, 26 Jul 2010 10:26:52 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>Does antenna radiate if it is coated with the thick good insulation?
>
> Radiate what?

What is better: bare metal or insulated metal?
S*

3250. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 18:24:05 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <5f01i7-f2k.ln1@mail.specsol.com>
Source record: 8250

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Richard Clark" <kb7qhc@comcast.net> wrote
> news:82dr46d9vfrp4do0ped31rn2aq3od5prna@4ax.com...
>> On Mon, 26 Jul 2010 10:26:52 +0200, "Szczepan Bialek"
>> <sz.bialek@wp.pl> wrote:
>>
>>>Does antenna radiate if it is coated with the thick good insulation?
>>
>> Radiate what?
>
> What is better: bare metal or insulated metal?
> S*

For what?

Insulated antennas work just fine.

--
Jim Pennino

Remove .spam.sux to reply.

3251. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 20:42:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9nsr461l42re0tdl2clif8tckp2gb8ka2p@4ax.com>
Source record: 8101

On Mon, 26 Jul 2010 19:26:04 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>> Radiate what?
>
>What is better: bare metal or insulated metal?

To radiate what?

73's
Richard Clark, KB7QHC

3252. Re: Need HyGain TH-3jrs info

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-26 21:22:31 UTC
From: w5kcm <w5kcm@hotmail.com>
Message-ID: <f94c4006-2000-426a-a855-39896a0f3199@w12g2000yqj.googlegroups.com>
Source record: 8102

On Jul 18, 10:08 pm, Roger <Inva...@rogerhalstead.com> wrote:
> On Sun, 18 Jul 2010 14:18:18 -0700 (PDT), w5kcm <w5...@hotmail.com>
> wrote:
>
> >Need element length measurements. I have the pdf file from the MFJ/
> >HyGain web site but some of the measurements are difficult to read.
> >Fuzzy scan and vision. It is page 5 in the manual, where it shows the
> >complete layout of the antenna. If someone can make a clear hi-res
> >scan of this one page and email it to me that would be great. It will
> >be most appreciated, 73, Randy, w5kcm
>
> There are a number of TH-3 versions.(Jr, MK3, MK-IV) Here's a link to
> the TH3-MK-IV
> py5sg.homeip.net:2000/manuais_e_esquemas/hygain/TH-3MK4.pdf
> with a clear page 5.
>
> 73
>
> Roger (K8RI)

Hi Roger, I received a nice hi-res scan of the antenna in my email. It
is much easier to read than the pdf file. This one that I have is the
jr model. It is now called the TH3jrs. Thanks for the info and 73,
Randy, w5kcm

3253. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 02:52:44 UTC
From: tom <news4792@taring.org>
Message-ID: <4c4e49fa$0$50145$8046368a@newsreader.iphouse.net>
Source record: 8103

On 7/25/2010 12:14 PM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> wrote
> news:4c4b83f2$0$50152$8046368a@newsreader.iphouse.net...
>> On 7/24/2010 2:43 AM, Szczepan Bialek wrote:
>>>
>>> Your ground wire is broken. Check it.
>>
>> Your brain is broken, check it.
>
> Have you ever seen the glow: "In addition, the scientist was able to
> demonstrate that standing waves existed along the wires. In a darkened room,
> he observed a visible glow along the wires at one-half wavelength intervals
> corresponding to the voltage peaks. He also performed a number of other
> experiments concerning the characteristics of discharging Leyden jars during
> that spring and summer of 1888."
> From: http://www.antiquewireless.org/otb/lodge1102.htm
> S*
>
>

Yup broken. Stuck in "post Google search results" mode. Definitely not
Bing.

tom
K0TAR

3254. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 07:28:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4e8abc$0$17097$65785112@news.neostrada.pl>
Source record: 8104

"Richard Clark" <kb7qhc@comcast.net> wrote
news:9nsr461l42re0tdl2clif8tckp2gb8ka2p@4ax.com...
> On Mon, 26 Jul 2010 19:26:04 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>> Radiate what?
>>
>>What is better: bare metal or insulated metal?
>
> To radiate what?

The radio waves.
Do you agree with Jim: "Insulated antennas work just fine."?

"Just fine" may means enough.
But I am interesting in: "What is better: bare metal or insulated metal?"
S*

3255. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 08:43:40 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4e9c46$0$19182$65785112@news.neostrada.pl>
Source record: 8105

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote
news:i2kclr$v0g$1@news.jpl.nasa.gov...
> Szczepan Bialek wrote:
>> "tom" <news4792@taring.org> wrote
>> news:4c4a43ab$0$633$8046368a@newsreader.iphouse.net...
>>> On 7/23/2010 4:23 PM, Jim Lux wrote:
>>>> If the ball is wet, especially with distinct droplets, then you can get
>>>> corona forming much earlier. The electrostatic forces tend to make the
>>>> droplets fly off.
>>>>
>>> Non-rhetorical question(s).
>>>
>>> I must be missing something then. Why don't I see corona on the tips of
>>> leaves at the tops of my trees? Trees are pretty conductive when
>>> hundreds of kilovolts are involved.
>>
>> You have missed that: "Physically, St. Elmo's fire is a bright blue or
>> violet glow, appearing like fire in some circumstances, from tall,
>> sharply pointed structures such as lightning rods, masts, spires and
>> chimneys, and on aircraft wings. St. Elmo's fire can also appear on
>> leaves, grass, and even at the tips of cattle horns.[3] Often
>> accompanying the glow is a distinct hissing or buzzing sound."
>>
>
>
> St. Elmo's fire and corona discharge are distinctly different, although
> St. Elmo's is often described as corona, it actually isn't.
>
> Yes, corona in high fields does sound like hissing or buzzing. Anyone who
> has been on a high mountain in a thunderstorm has probably experienced
> this, and even more exciting is when you get corona discharge off your
> hair standing on end.
>
> St Elmo's is a bit different. It has a distinctly different appearance: a
> sort of bluish glow that extends some , as opposed to corona, which seems
> to be "stuck" to the surface. And then a high field streamer discharge is
> still different. If you've seen both, it's noticeably different, but hard
> to describe.
>
> As best can be determined, St Elmo's arises when the surface of an object
> is wet and in a field. The water sprays off the surface (much like is
> done in electrospraying), and the droplets carry charge away. Several
> different things then happen: 1) The charge causes the droplet to break
> apart into smaller droplets from electrostatic forces; 2) the field at the

> surface of the droplet is now too high and the air breaksdown at the
> surface of the droplet, discharging it, and 3) the droplet starts to
> shrink from evaporation, getting smaller, so the field at the surface
> grows, etc.
>
> So St. Elmos is not really corona off the object, but corona/breakdown on
> the droplets being electrosprayed off the surface.

May be that more water bigger "distance surrounding the object".

> It is possible to generate St. Elmo's in the lab on the surface of an
> object with fairly large radius of curvature (i.e. that would NOT be
> subject to surface corona) in a moderate field. If someone wants to try
> an experiment, put a wet cork or dowel of wood in a shallow tray or puddle
> of water with a large flat electrode suspended over it to create the
> overall field. A field of 10kV/cm will work quite nicely. I used two
> baking pans separated by cut down styrofoam cups driven by a small modular
> HV supply (50kV@ a few mA) driven by a variac. Make sure you have a
> resistor in series with your HV supply, because occasionally you'll get a
> flashover, and you want to limit the current.

All this is fascinating, especially with presence of water.

All this phenomenon occur at higher voltages. In normal transmissing no such
spectacular glows but only simple field emission.

In textbooks is wrote that the electron emission is more effective than the
absorption and that the glow is different.

Do you know how is the netto flow (field emission/absorbtion) of electrons
during transmitting?
S*

.

3256. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 10:42:36 UTC
From: Jeff <j@jsystems.com>
Message-ID: <i2md6s$c7o$2@speranza.aioe.org>
Source record: 8106

Szczepan Bialek wrote:
> "Richard Clark" <kb7qhc@comcast.net> wrote
> news:9nsr461l42re0tdl2clif8tckp2gb8ka2p@4ax.com...
>> On Mon, 26 Jul 2010 19:26:04 +0200, "Szczepan Bialek"
>> <sz.bialek@wp.pl> wrote:
>>
>>>> Radiate what?
>>> What is better: bare metal or insulated metal?
>> To radiate what?
>
> The radio waves.
> Do you agree with Jim: "Insulated antennas work just fine."?
>
> "Just fine" may means enough.
> But I am interesting in: "What is better: bare metal or insulated metal?"
> S*
>
>

Depends entirely on what the insulation is composed of!!

Jeff

3257. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 14:53:26 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <6g83i7-26d.ln1@mail.specsol.com>
Source record: 8107

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Richard Clark" <kb7qhc@comcast.net> wrote
> news:9nsr461l42re0tdl2clif8tckp2gb8ka2p@4ax.com...
>> On Mon, 26 Jul 2010 19:26:04 +0200, "Szczepan Bialek"
>> <sz.bialek@wp.pl> wrote:
>>
>>>> Radiate what?
>>>
>>>What is better: bare metal or insulated metal?
>>
>> To radiate what?
>
> The radio waves.
> Do you agree with Jim: "Insulated antennas work just fine."?
>
> "Just fine" may means enough.
> But I am interesting in: "What is better: bare metal or insulated metal?"
> S*

In regards to radiating RF energy, the only difference insulation makes
is the elements are slightly shorter due to the change in velocity factor.

Insulation makes an antenna heavier, can reduce corrosion, and can allow
you to have whatever color antenna you want.

So define "better".

If you mean work as an antenna, there is no difference.

You are a babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.

3258. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 16:37:37 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4f0b5b$0$2589$65785112@news.neostrada.pl>
Source record: 8108

"Jeff" <j@jsystems.com> wrote news:i2md6s$c7o$2@speranza.aioe.org...
> Szczepan Bialek wrote:
>> >> But I am interesting in: "What is better: bare metal or insulated
>> >> metal?"
>
> Depends entirely on what the insulation is composed of!!

Is it possible to stop radiation?
S*

3259. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 19:02:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ohau4698e0bmr1i9psdvanc270ecutkikn@4ax.com>
Source record: 8109

On Tue, 27 Jul 2010 09:28:53 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>
> "Richard Clark" <kb7qhc@comcast.net> wrote
>news:9nsr461l42re0tdl2clif8tckp2gb8ka2p@4ax.com...
>> On Mon, 26 Jul 2010 19:26:04 +0200, "Szczepan Bialek"
>> <sz.bialek@wp.pl> wrote:
>>
>>>> Radiate what?
>>>
>>>What is better: bare metal or insulated metal?
>>
>> To radiate what?
>
>The radio waves.

Depends. Does "radio waves" mean NOT TV, NOT FM, NOT Cell Phone, NOT
Radar....?

To radiate what?

73's
Richard Clark, KB7QHC

3260. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 21:50:33 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <9u04i7-euf.ln1@mail.specsol.com>
Source record: 8110

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Jeff" <j@jsystems.com> wrote news:i2md6s$c7o$2@speranza.aioe.org...
>> Szczepan Bialek wrote:
>>> >> But I am interesting in: "What is better: bare metal or insulated
>>> >> metal?"
>>
>> Depends entirely on what the insulation is composed of!!
>
> Is it possible to stop radiation?
> S*

Only if the insulation is infinitly lossy or infinitly thick.

--
Jim Pennino

Remove .spam.sux to reply.
```

3261. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 22:14:30 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e25a2e4e-a11a-42ed-b0be-72b0d66121bd@o12g2000vbc.googlegroups.com>
Source record: 8111

On Jul 27, 9:50 pm, j...@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> > "Jeff" <j...@jsystems.com> wrotenews:i2md6s$c7o$2@speranza.aioe.org...
> >> Szczepan Bialek wrote:
> >>> >> But I am interesting in: "What is better: bare metal or insulated
> >>> >> metal?"
>
> >> Depends entirely on what the insulation is composed of!!
>
> > Is it possible to stop radiation?
> > S*
>
> Only if the insulation is infinitly lossy or infinitly thick.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

even infinitely thick insulation allows radiation.

3262. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-27 22:38:10 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <in34i7-i9g.ln1@mail.specsol.com>
Source record: 8112

K1TTT <k1ttt@arrl.net> wrote:
> On Jul 27, 9:50 pm, j...@specsol.spam.sux.com wrote:
>> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>>
>> > "Jeff" <j...@jsystems.com> wrotenews:i2md6s$c7o$2@speranza.aioe.org...
>> >> Szczepan Bialek wrote:
>> >>> >> But I am interesting in: "What is better: bare metal or insulated
>> >>> >> metal?"
>>
>> >> Depends entirely on what the insulation is composed of!!
>>
>> > Is it possible to stop radiation?
>> > S*
>>
>> Only if the insulation is infinitly lossy or infinitly thick.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> even infinitely thick insulation allows radiation.

If the insulation is infinitely thick, there is no outside of the insulation
where radiation can occur.

But, yes, there will be radiation inside the insulation.

--
Jim Pennino

Remove .spam.sux to reply.

3263. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 00:33:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4muu46hvu7ft150fa5gfcakdgcbv3kvuav@4ax.com>
Source record: 8113

On Tue, 27 Jul 2010 22:38:10 -0000, jimp@specsol.spam.sux.com wrote:

>If the insulation is infinitely thick, there is no outside of the insulation
>where radiation can occur.
>
>But, yes, there will be radiation inside the insulation.

Air is an insulator.....

73's
Richard Clark, KB7QHC

3264. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 01:02:26 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <26c4i7-a9h.ln1@mail.specsol.com>
Source record: 8114

Richard Clark <kb7qhc@comcast.net> wrote:
> On Tue, 27 Jul 2010 22:38:10 -0000, jimp@specsol.spam.sux.com wrote:
>
>>If the insulation is infinitely thick, there is no outside of the insulation
>>where radiation can occur.
>>
>>But, yes, there will be radiation inside the insulation.
>
> Air is an insulator.....
>

And yes there is radiation in the air as I said above but the air is not
infinitely thick.

--
Jim Pennino

Remove .spam.sux to reply.

3265. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 07:03:44 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4fd65b$0$17089$65785112@news.neostrada.pl>
Source record: 8115

"Richard Clark" <kb7qhc@comcast.net> wrote
news:4muu46hvu7ft150fa5gfcakdgcbv3kvuav@4ax.com...
> On Tue, 27 Jul 2010 22:38:10 -0000, jimp@specsol.spam.sux.com wrote:
>
>>If the insulation is infinitely thick, there is no outside of the
>>insulation
>>where radiation can occur.
>>
>>But, yes, there will be radiation inside the insulation.
>
> Air is an insulator.....

Like vacuum. But there are ions and free electrons.
In solid and liquid insulators no free electrons.

Does solid insulation makes the radiation weaker or stop it?
S*

3266. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 07:05:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c4fd6c5$0$19180$65785112@news.neostrada.pl>
Source record: 8116

"Richard Clark" <kb7qhc@comcast.net> wrote
news:ohau4698e0bmr1i9psdvanc270ecutkikn@4ax.com...
> On Tue, 27 Jul 2010 09:28:53 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>>
>>>>> Radiate what?
>>>>
>>>>What is better: bare metal or insulated metal?
>>>
>>> To radiate what?
>>
>>The radio waves.
>
> Depends. Does "radio waves" mean NOT TV, NOT FM, NOT Cell Phone, NOT
> Radar....?
>
> To radiate what?

Your radio waves.
S*

3267. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 15:20:44 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iki0561632r7d25ggo8adrg5dgp3qa94sa@4ax.com>
Source record: 8117

On Wed, 28 Jul 2010 09:05:34 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:
>> To radiate what?
>
>Your radio waves.

To radiate what?

73's
Richard Clark, KB7QHC

3268. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 15:52:47 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <fb06i7-n5n.ln1@mail.specsol.com>
Source record: 8118

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Richard Clark" <kb7qhc@comcast.net> wrote
> news:4muu46hvu7ft150fa5gfcakdgcbv3kvuav@4ax.com...
>> On Tue, 27 Jul 2010 22:38:10 -0000, jimp@specsol.spam.sux.com wrote:
>>
>>>If the insulation is infinitely thick, there is no outside of the
>>>insulation
>>>where radiation can occur.
>>>
>>>But, yes, there will be radiation inside the insulation.
>>
>> Air is an insulator.....
>
> Like vacuum. But there are ions and free electrons.
> In solid and liquid insulators no free electrons.
>
> Does solid insulation makes the radiation weaker or stop it?
> S*

No.

The question has been answered.

You are a babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.

3269. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 17:01:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kjo056l1oua8oq1ffambaogsi6jdoka6eu@4ax.com>
Source record: 8119

On Wed, 28 Jul 2010 09:03:44 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>> Air is an insulator.....
>
>Like vacuum. But there are ions and free electrons.
>In solid and liquid insulators no free electrons.

So, how can you tell?

73's
Richard Clark, KB7QHC

3270. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 17:21:54 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c50673a$0$19163$65785112@news.neostrada.pl>
Source record: 8120

"Richard Clark" <kb7qhc@comcast.net> wrote
news:iki0561632r7d25ggo8adrg5dgp3qa94sa@4ax.com...
> On Wed, 28 Jul 2010 09:05:34 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>>> To radiate what?
>>
>>Your radio waves.
>
> To radiate what?

Jeff wrote: " Depends entirely on what the insulation is composed of!!"

Glass is an insulator but it is transparent for the light frequencies.

Does exist an insulation (reasonably thick) which is not transparent for the
radio-amateur frequencies?
S*

3271. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 18:39:40 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <c4a6i7-0co.ln1@mail.specsol.com>
Source record: 8121

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Richard Clark" <kb7qhc@comcast.net> wrote
> news:iki0561632r7d25ggo8adrg5dgp3qa94sa@4ax.com...
>> On Wed, 28 Jul 2010 09:05:34 +0200, "Szczepan Bialek"
>> <sz.bialek@wp.pl> wrote:
>>>> To radiate what?
>>>
>>>Your radio waves.
>>
>> To radiate what?
>
> Jeff wrote: " Depends entirely on what the insulation is composed of!!"
>
> Glass is an insulator but it is transparent for the light frequencies.
>
> Does exist an insulation (reasonably thick) which is not transparent for the
> radio-amateur frequencies?
> S*

You obviously do not know that the amateur frequencies start at 1.8 MHz
and include everything above 300 GHz.

Within that range of frequencies, there are lots of materials that are
"insulators" that have large dielectric losses.

See:

http://en.wikipedia.org/wiki/Permittivity

and in particular:

http://en.wikipedia.org/wiki/Permittivity#Lossy_medium

You are a babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.

3272. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 20:11:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <aj3156lk89f4nnu61o3nufvqag9lr096nk@4ax.com>
Source record: 8122

On Wed, 28 Jul 2010 19:21:54 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

> "Richard Clark" <kb7qhc@comcast.net> wrote
>> To radiate what?
>
>Jeff wrote:

I'm perfectly aware of what Jeff wrote.
What are you going to write? It is a very simple question:

To radiate what?

73's
Richard Clark, KB7QHC

3273. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-28 23:59:16 UTC
From: tom <news4792@taring.org>
Message-ID: <4c50c452$0$638$8046368a@newsreader.iphouse.net>
Source record: 8123

On 7/28/2010 12:01 PM, Richard Clark wrote:
> On Wed, 28 Jul 2010 09:03:44 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>> Air is an insulator.....
>>
>> Like vacuum. But there are ions and free electrons.
>> In solid and liquid insulators no free electrons.
>
> So, how can you tell?
>
> 73's
> Richard Clark, KB7QHC

I think I see where you're going with this Richard, but you must realize
by now that you're talking to a rock.

To put it another way, he wouldn't pass the Turing Test.

tom
K0TAR

3274. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 00:45:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gti1565b4a4iudteciff1ld77aofjdoup4@4ax.com>
Source record: 8124

On Wed, 28 Jul 2010 18:59:16 -0500, tom <news4792@taring.org> wrote:

>I think I see where you're going with this Richard, but you must realize
>by now that you're talking to a rock.
>
>To put it another way, he wouldn't pass the Turing Test.

Actually, I am testing the chinese room argument. The operator's
manual appears to be missing some pages.

73's
Richard Clark, KB7QHC

3275. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 01:37:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4c50db64$0$636$8046368a@newsreader.iphouse.net>
Source record: 8125

On 7/28/2010 7:45 PM, Richard Clark wrote:
> On Wed, 28 Jul 2010 18:59:16 -0500, tom<news4792@taring.org> wrote:
>
>> I think I see where you're going with this Richard, but you must realize
>> by now that you're talking to a rock.
>>
>> To put it another way, he wouldn't pass the Turing Test.
>
> Actually, I am testing the chinese room argument. The operator's
> manual appears to be missing some pages.
>
> 73's
> Richard Clark, KB7QHC

Interesting, thanks.

That is similar to some of the new systems that let you store encrypted
data and perform operations on them without decrypting them or knowing
what you've done.

tom
K0TAR

3276. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 03:02:35 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <h1r156tpdipnc72u8g5ecpkeetf238r4tv@4ax.com>
Source record: 8126

On Fri, 16 Jul 2010 08:45:12 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>On Fri, 16 Jul 2010 02:37:18 -0400, Roger <Invalid@rogerhalstead.com>
>wrote:
>
>>On Tue, 13 Jul 2010 10:52:14 -0400, John Ferrell
>><jferrell13@triad.rr.com> wrote:
>>
>>>I don't remember the sources but I have concluded that the Grounding
>>>wire should be no smaller than #6.
>>
>>#6 is a minimum required by code here in the Midland MI area. As it's
>>a minimum, I would not use anything less than #2 Copper.
>>>
>>> More than 8 feet of ground rod is of little consequence.
>>>
>>That depends on your soil conditions. Here I'd probably agree as the
>>soil is usually quite moist and just a couple feet down is just plain
>>wet.
>>
>>However a string of ground rods tied together can be quite effective.
>>
>>>All ground rods should be tied together. Don't put your house between
>>>two electrodes!
>>
>>I'd put a circle of them around the house, all tied together every
>>16', but due to the garage and driveway, that is not possible.
>>>
>>>The ground rods are better directly under the structure that they are
>>>protecting.
>>
>>I have a 100' 45G 10' from the NW corner of the garage. Tied into it
>>is a grounding system consisting of 32 or 33 8' ground rods connected
>>together with over 600 feet of bare #2.
>>
>>This system consists of a ground rod about a foot outside the concrete
>>bare in like with each tower leg. The cable is clamped to each tower
>>leg and comes off in a curve to the ground rod and is extended out in
>>a straight line at least 80' with additional ground rods every 16'
>>(give or take a tad) This system also ties into the house electrical
>>ground. There is an additional run that goes directly from the ground
>>rod at the base of the 45G to the 25G on the West end of the shop.
>>From there it goes on around the shop to the mast holding the 144/440

>>vertical and around the south side to enter the shop to provide
>>grounding for the station and computers. This also ties the shop
>>ground (which is on a different electrical feed) to the house ground.
>>
>>>
>>>The system does not absorb massive high energy strikes. It starts
>>>bleeding off the energy before the strike builds and thus minmiizes
>>>the effect.
>>
>>Mine has taken at least 17 direct hits that have been visually
>>verified. All that energy had to go some where.
>>
>>The bleeding off theory has been pretty well discussed and discarded
>>on the tower talk reflector. Read up on the Polyphaser site. They have
>>some good information. Those lightning balls or porcupines have
>>proven ineffective. The major work for lightning rods and ground
>>systems is to divert the lightning away from the interior of buildings
>>and process control systems in Industry.
>>
>>>
>>>Home improvement stores sell #6 wire, ground rods and connectors.
>>
>>Read the new NEC code for tower and antenna grounding. There is a
>>reason I went with #2.
>>>
>>>
>>>On Mon, 12 Jul 2010 21:21:24 -0700 (PDT), Tom Horne
>>><hornetd@gmail.com> wrote:
>>>
>>>>Can anyone make a recommendation, based on actual training and
>>>>experience, as to what width and thickness of copper strap would be
>>>>needed as the down conductor from the antenna mounts at the peak of my
>>>>house roof, some twenty five feet above local terrain.
>>
>>I agree with the #2 recommendation. OTOH there is nothing that will
>>protect an installation from the big atypical Positive lightning, or
>>super strikes. That's the stuff that blows holes in airplanes.
>>
>>>>I have a a
>>>>mount for an antenna at one gable end and a mount for a weather
>>>>station sensor array at the other. What thickness and width should I
>>>>use in the earth between the two Grounding Electrode Systems. I will
>>>>drive five eighths inch copper rods, each eight feet long as far out
>>>>from the foundation as I can get them or eight feet were possible. On
>>>>one end that will be only six feet due to the proximity of the
>>>>property line. At all of the other rod locations I will be able to
>>>>keep them at least eight feet from any underground obstructions. To
>>>>compensate for the proximity to the foundation wall to the first rod
>>>>I will use rod couplers and drive it to hard rock or sixteen feet
>>>>whichever comes first. I'm guessing that in keeping the remaining

>>>>rods at least eight feet out from the foundation and sixteen feet
>>>>apart that I will only have four rods total in a ring around the back
>>>>side of the house. What is the best way to attach the copper strap to
>>>>the support masts and eve brackets themselves? Do you know of
>>>>anything that will make a good connection to the one inch galvanized
>>>>iron pipes that I'm using for support masts?
>>>>
>>>>Can you recommend a technique for bonding the interior grounding buss
>>>>at the operating position to the exterior vertical copper strap. I
>>>>have no idea how that is usually done.
>>
>>The Polyphaser site has a tutorial on grounding tower legs and coax
>>shields. this would be applicable to connecting to the 1" pipe.
>>Use lots on NoAlox between the strap and pipe.
>>
>>73
>>
>>Roger (K8RI)
>>
>>>John Ferrell W8CCW
>
>Roger, I like your response better than mine.

Thanks, but just maybe I've been lucky since I finished up the
system?

>
>It sounds to me like you have the ultimate solution. I arrived at my

I'm not so sure about the "ultimate" part.

>operating point one step at a time and I quit working on the problem
>when I quit having problems!

That's pretty much the approach I took...well that and you reach a
point where any more gains become cost prohibitive.<:-)) I bought all
that copper before the price went up.

>
>I have a non-Ham friend that lives a couple of miles down the ridge
>from me that continues to have lightning related problems that may
>benefit from your advice. I will pass along the Wisdom.
>
A couple years back, (after I had the system pretty well finished) we
had one of those multiple strikes. It hit the power line out front,
but neither I nor my neighbor directly across the road had any
problems. However the neighbor to the North of him lost a lot of
equipment. To that South of that neighbor across the road is a vacant
lot that *had* a pine tree at the back of the lot. That tree
literally exploded. All that was left of a 50 foot tree was a a 4'
stump and a LOT of splinters. Well there was one piece about 4' long
(give or take) stuck into the ground about 60 feet out. Thing is,

only a little of it was sticking out of the ground. That thing must
have had a LOT of force behind it.

73

Roger (K8RI)

>Thank you!
>John Ferrell W8CCW

3277. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 07:37:21 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c512fbf$0$2591$65785112@news.neostrada.pl>
Source record: 8127

<jimp@specsol.spam.sux.com> wrote news:c4a6i7-0co.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>

>> Does exist an insulation (reasonably thick) which is not transparent for
>> the
>> radio-amateur frequencies?
>> S*
>
> You obviously do not know that the amateur frequencies start at 1.8 MHz
> and include everything above 300 GHz.
>
> Within that range of frequencies, there are lots of materials that are
> "insulators" that have large dielectric losses.
>
> See:
>
> http://en.wikipedia.org/wiki/Permittivity
>
> and in particular:
>
> http://en.wikipedia.org/wiki/Permittivity#Lossy_medium

" For frequencies at which dipole orientations cannot follow the applied
field due to the viscosity of the medium, absorption of the field's energy
leads to energy dissipation"

> You are a babbling idiot.

I am collecting evidences. Thanks for your input.

So, next question:

The "energy dissipation" means heat.

In case of the bare wire the air is heated. For isolated the insulation.
Is it possible to burn off an insulation which have large dielectric losses?
S*

3278. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 08:26:26 UTC
From: Jeff <j@jsystems.com>
Message-ID: <i2rdvl$2la$1@speranza.aioe.org>
Source record: 8128

>
> So, next question:
>
> The "energy dissipation" means heat.
>
> In case of the bare wire the air is heated. For isolated the insulation.
> Is it possible to burn off an insulation which have large dielectric losses?
> S*
>
>

I suppose yes, if the loss is high enough, and the applied power is high enough. However, a dielectric that lossy would greatly effect the electrical length of the antenna element, and removing it would change the characteristics and impedance of the antenna, so it may totally change the way your antenna behaves.

Jeff

3279. Antenna Question: VHF or UHF, and a few general TV questions, please

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 12:16:42 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i2rrfi$u0h$1@news.eternal-september.org>
Source record: 8129

ello,

Am in my 70's now, and frankly not all that sharp with antennas.
I figured someone here might be able to help me out.

Live about 25 miles due west of Boston.

Have an old fashioned analog TV in the kitchen (not on cable)
that this question relates to.

Some time ago, as you know, all the TV stations required one to get
a Converter box. Did so, and am using it with an old fashioned,
el-cheapo indoor antenna; the one with the rabbit ears, and a loop.

The Converter box feeds my analog TV.

Works "fairly well," but lots and lots of dropped signals.
Makes listening very unpleasant.

It has been recommended that I purchase a:
DB-2 antenna for about $ 35.00

This is shown in (please take a look):

HDTV Antennas

http://www.antennasdirect.com/store/DB2_antenna.html?pconf=55&slot=68

http://www.antennasdirect.com/store/pconf.php?productid=55DB2

Questions:

a. Are these new, converted, stations now transmitting in the vhf or
uhf ?

e.g., am I after a new, better, vhf or a uhf antenna ?

b. Do you think that this DB-2 would be worth trying ?

Any thoughts would be most appreciated.

Thanks,
Bob

3280. Re: Antenna Question: VHF or UHF, and a few general TV questions, please

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 14:09:31 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <zYf4o.363302$iG7.194595@en-nntp-12.dc1.easynews.com>
Source record: 8130

Bob,

Except for a few low power or educational stations you just need a UHF
antenna, and the DB-2 looks like a good choice.

Marv

On 7/29/2010 7:16 AM, Bob wrote:
> ello,
>
> Am in my 70's now, and frankly not all that sharp with antennas.
> I figured someone here might be able to help me out.
>
> Live about 25 miles due west of Boston.
>
> Have an old fashioned analog TV in the kitchen (not on cable)
> that this question relates to.
>
> Some time ago, as you know, all the TV stations required one to get
> a Converter box. Did so, and am using it with an old fashioned,
> el-cheapo indoor antenna; the one with the rabbit ears, and a loop.
>
> The Converter box feeds my analog TV.
>
> Works "fairly well," but lots and lots of dropped signals.
> Makes listening very unpleasant.
>
> It has been recommended that I purchase a:
> DB-2 antenna for about $ 35.00
>
> This is shown in (please take a look):
>
> HDTV Antennas
>
> http://www.antennasdirect.com/store/DB2_antenna.html?pconf=55&slot=68
>
> http://www.antennasdirect.com/store/pconf.php?productid=55DB2
>
> Questions:
>
> a. Are these new, converted, stations now transmitting in the vhf or uhf ?
>
> e.g., am I after a new, better, vhf or a uhf antenna ?
>
> b. Do you think that this DB-2 would be worth trying ?

>
> Any thoughts would be most appreciated.
>
> Thanks,
> Bob
>

3281. Re: Antenna Question: VHF or UHF, and a few general TV questions, please

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 14:52:52 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <044356l339ki8gpfds2qgptoj5sis959m5@4ax.com>
Source record: 8131

Hello Bob,
I understand the age reference, I turned 70 in April.

The antenna you are looking at is a tried and true UHF Bow Tie. It is definitely better than rabbit ears. However, it is pretty bulky for indoor use. Since you are getting a poor picture now, I would guess that it is likely that this would do the job. The twin lead wire that they offer is lower loss than the coax cable. The twin lead also allows a old fashioned tuning trick: Wrap a small piece of aluminum foil around the twin lead and slide it around for the best signal. That might help your existing Rabbit ears as well!

A better Bow tie can be fashioned from hardware cloth (tighter mesh) and wire. The dimensions are not very critical and if it is to be used inside weather proofing is not a concern. Think in terms of tape, foil any kind of wire. Clothes hanger wire is usually handy.

Thanks for the reminder, I need to try a couple of long dormant ideas!

On Thu, 29 Jul 2010 08:16:42 -0400, Bob <rgsros@notme.invalid> wrote:

>ello,
>
>Am in my 70's now, and frankly not all that sharp with antennas.
>I figured someone here might be able to help me out.
>
>Live about 25 miles due west of Boston.
>
>Have an old fashioned analog TV in the kitchen (not on cable)
>that this question relates to.
>
>Some time ago, as you know, all the TV stations required one to get
>a Converter box. Did so, and am using it with an old fashioned,
>el-cheapo indoor antenna; the one with the rabbit ears, and a loop.
>
>The Converter box feeds my analog TV.
>
>Works "fairly well," but lots and lots of dropped signals.
>Makes listening very unpleasant.
>
>It has been recommended that I purchase a:
>DB-2 antenna for about $ 35.00
>
>This is shown in (please take a look):
>
>HDTV Antennas

>
>http://www.antennasdirect.com/store/DB2_antenna.html?pconf=55&slot=68
>
>http://www.antennasdirect.com/store/pconf.php?productid=55DB2
>
>Questions:
>
>a. Are these new, converted, stations now transmitting in the vhf or
>uhf ?
>
>e.g., am I after a new, better, vhf or a uhf antenna ?
>
>b. Do you think that this DB-2 would be worth trying ?
>
>Any thoughts would be most appreciated.
>
>Thanks,
>Bob
John Ferrell W8CCW

3282. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 16:40:58 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <qhn8i7-2n3.ln1@mail.specsol.com>
Source record: 8132

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:c4a6i7-0co.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>
>>> Does exist an insulation (reasonably thick) which is not transparent for
>>> the
>>> radio-amateur frequencies?
>>> S*
>>
>> You obviously do not know that the amateur frequencies start at 1.8 MHz
>> and include everything above 300 GHz.
>>
>> Within that range of frequencies, there are lots of materials that are
>> "insulators" that have large dielectric losses.
>>
>> See:
>>
>> http://en.wikipedia.org/wiki/Permittivity
>>
>> and in particular:
>>
>> http://en.wikipedia.org/wiki/Permittivity#Lossy_medium
>
> " For frequencies at which dipole orientations cannot follow the applied
> field due to the viscosity of the medium, absorption of the field's energy
> leads to energy dissipation"

Yeah, so what?

You do understand that they are referring to the molecular dipoles in the
insulator, don't you?

>> You are a babbling idiot.
>
> I am collecting evidences. Thanks for your input.

Evidences (sic) of what, that you are a babbling idiot?

> So, next question:
>
> The "energy dissipation" means heat.

Of course.

> In case of the bare wire the air is heated.

Nope.

This just shows you have no idea what permittivity and conductivity mean and you haven't a clue what you are babbing about.

> For isolated the insulation.
> Is it possible to burn off an insulation which have large dielectric losses?
> S*

If you had the slightest understanding of the very first equation of the referenced link and the text that follows, you would know the answer is yes.

Since you apparently read the link and still asked the question, I can only conclude you are an idiot.

--
Jim Pennino

Remove .spam.sux to reply.

3283. Re: Antenna Question: VHF or UHF, and a few general TV questions, please

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 17:33:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <h2e356d35j2gsmd3r872srpiv4p5djck5i@4ax.com>
Source record: 8133

On Thu, 29 Jul 2010 08:16:42 -0400, Bob <rgsros@notme.invalid> wrote:

>Have an old fashioned analog TV in the kitchen (not on cable)
>that this question relates to.

Hi Bob,

Good starting point.

>Works "fairly well," but lots and lots of dropped signals.
>Makes listening very unpleasant.

Only means you need to move your existing antenna HIGHER.

>It has been recommended that I purchase a:
>DB-2 antenna for about $ 35.00

If you want to spend $35 and mount it HIGHER, you can do that too.
[The implication here is you will probably need an external set-up any
way you look at it.]

If your rabbit ears need to be turned to capture the best signal, then
you may need to do this second option. Don't forget the expense of a
mast and cable/wire to go between things. If you still need to turn
the antenna, then you need a proper rotor and mast (with a bolt to the
side-of-the-house kit). Somehow, given your location I would suspect
all the major broadcasters would be on the same general beam heading.

Getting the antenna (whatever you choose) higher recovers from a lot
of ills.

73's
Richard Clark, KB7QHC

3284. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 17:51:35 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c51bfb2$0$2590$65785112@news.neostrada.pl>
Source record: 8134

<jimp@specsol.spam.sux.com> wrote news:qhn8i7-2n3.ln1@mail.specsol.com...
> "Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>>
>>> See:
>>>
>>> http://en.wikipedia.org/wiki/Permittivity
>>>
>>> and in particular:
>>>
>>> http://en.wikipedia.org/wiki/Permittivity#Lossy_medium
>>
>> " For frequencies at which dipole orientations cannot follow the applied
>> field due to the viscosity of the medium, absorption of the field's
>> energy
>> leads to energy dissipation"
>
> Yeah, so what?
>
> You do understand that they are referring to the molecular dipoles in the
> insulator, don't you?

I do.
>
> This just shows you have no idea what permittivity and conductivity mean
> and
> you haven't a clue what you are babbing about.

As you know I do not understand why in XXI century most scientists use the
hydraulic analogy.
Permittivity and polarisation are from the hydraulic analogy.
Now conductivity and electrostriction should be used.
S*

3285. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 18:14:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2ug356hjbs6898rsivldp674nr5ih21v0t@4ax.com>
Source record: 8135

On Wed, 28 Jul 2010 20:37:43 -0500, tom <news4792@taring.org> wrote:

>> Actually, I am testing the chinese room argument. The operator's
>> manual appears to be missing some pages.

>Interesting, thanks.
>
>That is similar to some of the new systems that let you store encrypted
>data and perform operations on them without decrypting them or knowing
>what you've done.
something like a Secure Multiparty Computation.

Hi Tom,

Well, I let this free-wheel to see if our troll could rummage up the
lost pages for his script. Apparently not. To extend the metaphor, I
could also speculate that I was also testing a Zero-Knowledge proof
(only so that I could enjoy the irony of the comment).

73's
Richard Clark, KB7QHC

3286. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 18:25:50 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <emt8i7-ag4.ln1@mail.specsol.com>
Source record: 8136

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:qhn8i7-2n3.ln1@mail.specsol.com...
>> "Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>>>
>>>> See:
>>>>
>>>> http://en.wikipedia.org/wiki/Permittivity
>>>>
>>>> and in particular:
>>>>
>>>> http://en.wikipedia.org/wiki/Permittivity#Lossy_medium
>>>
>>> " For frequencies at which dipole orientations cannot follow the applied
>>> field due to the viscosity of the medium, absorption of the field's
>>> energy
>>> leads to energy dissipation"
>>
>> Yeah, so what?
>>
>> You do understand that they are referring to the molecular dipoles in the
>> insulator, don't you?
>
> I do.

Obviously not or you wouldn't have posted anything you have posted.

>> This just shows you have no idea what permittivity and conductivity mean
>> and
>> you haven't a clue what you are babbing about.
>
> As you know I do not understand why in XXI century most scientists use the
> hydraulic analogy.

The hydraulic analogy is use to teach basics to children.

> Permittivity and polarisation are from the hydraulic analogy.

Nope, you haven't a clue what permittivity and polarization are.

> Now conductivity and electrostriction should be used.

Babbling, word salad, nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

3287. Re: Antenna Question: VHF or UHF, and a few general TV questions, please

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 19:02:49 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-28A88C.15024829072010@5ad64b5e.bb.sky.com>
Source record: 8137

In article <i2rrfi$u0h$1@news.eternal-september.org>,
Bob <rgsros@notme.invalid> wrote:

> a. Are these new, converted, stations now transmitting in the vhf or
> uhf ?

Bob-

It depends on where you are. There is a web site that has that information, along with pointing information from your location. I just can't recall the URL due to Old Age!

I think we all are experiencing the same problem with HDTV, regardless of whether we have a converter box or an HD set. Unless you happen to be close to the transmitter site(s), you probably need an outdoor antenna, as others have suggested. I'm using a simple attic-mounted VHF/UHF antenna with an amplifier, but still have dropouts when a low-flying airplane passes.

I just found the URL listed on the plot for my local TV stations as: <http://www.tvfool.com>.

Fred

3288. From OP Re TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 20:05:38 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i2smup$7f3$1@news.eternal-september.org>
Source record: 8138

Hi Guys,

Just a quick thanks for all the really good info.
Nice of you all to take the time; appreciate it.

BTW: That DB-2 I mentioned is really large for anywhere but an attic.
Didn't realize the dimensions of the thing.

The rabbit ears we now have are on the top of our fridge, and not too
obvious. Running a wire from the attic may not be practical, for now.

Any suggestions on anything possibly worthwhile to try, smaller than the
DB-2 ?

Thanks again,
Bob

3289. help with antenna grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 22:55:41 UTC
From: jfisher864@comcast.net
Message-ID: <ra14569fcjtojo58cis1hq691c3c4uofg2@4ax.com>
Source record: 8139

For a variety of reasons I have to place a roof tv antenna smack in the middle of my roof and the ground wire has to run the most direct course straight of the roof and straight down to the grounding rod. the coax however has to run across the roof in a different direction to the service entrance where it will be run through a grounding block. So there will be 2 separate grounding rods sparated by about 60 feet. Will this cause anything like a ground loop??? Does anyone know if this is code to have 2 different ground rods?? thanks for any help. jk

3290. Re: From OP Re TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-29 23:42:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <is3456te93nsimoija3dka4qb9tqiemrh5@4ax.com>
Source record: 8140

On Thu, 29 Jul 2010 16:05:38 -0400, Bob <rgsros@notme.invalid> wrote:

>Any suggestions on anything possibly worthwhile to try, smaller than the
>DB-2 ?

Hi Bob,

FIRST, your objective should be height, the ability to "see" the city (or, more specifically, the transmit towers: consult the other posters on how to locate them).

SECONDLY, you select the antenna that does the job. As your rabbit ears nearly work, they might fully work up on high.

THIRDLY, how high is a matter of many practical issues. Hence the suggestions for attic locations by others. This is an easy first test that costs no more than the length of cable/wire necessary to go there. You will need the cable/wire anyway.

FOURTHLY, if your antenna at the desired height doesn't work (which, in effect, is your original complaint), then throw money at it in the form of amplifier, antenna, mast, mounting hardware, and rotator (you never revealed how up to speed you are in knowing where your broadcasters are).

It will cost more doing it in the expensive order (buying the antenna first, and possibly a second one when the first doesn't work, etc.).

73's
Richard Clark, KB7QHC

3291. Re: help with antenna grounding

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 00:10:35 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <i2t59r$n04o$1@tr22n12.aset.psu.edu>
Source record: 8141

On 7/29/2010 6:55 PM, jfisher864@comcast.net wrote:
> For a variety of reasons I have to place a roof tv antenna smack in
> the middle of my roof and the ground wire has to run the most direct
> course straight of the roof and straight down to the grounding rod.
> the coax however has to run across the roof in a different direction
> to the service entrance where it will be run through a grounding
> block. So there will be 2 separate grounding rods sparated by about
> 60 feet. Will this cause anything like a ground loop??? Does anyone
> know if this is code to have 2 different ground rods?? thanks for any
> help. jk

I don't know what the code in your area would require, but the two grounds in my area are required to be connected together and to the house ground and to the cold water pipes. The idea is not to have anything at a different potential when struck by lighting. If everything is at the potential, nothing will be damaged or that is what is supposed to happen. In my case my tower is 65 feet from my ham shack. The tower is grounded with a ground rod to each tower leg. The feed-lines run into the shack in a buried 4" plastic conduit. Along the outside of it is a #6 copper wire connected to the tower which is ground along it's length with 4 more ground rods. The #6 wire comes into the house and crosses across the house to the entranced panel were it connects to the entrance panel ground and along the way connects to the copper panel were the lighting arrestors for the coax are located. The code inspectors loved it. I would think that a wire from the ground rod that is connected to mast to the entrance panel and to the house electrical panel ground would be the thing for you to do. And no there is no problem with ground loops. This ground is for lighting protection only and is of no use for RF ground an it has too high of an impedance for RF.

John W3JXP

3292. For Dick: Re: From OP Re TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 11:29:04 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i2ud2btdp1@news.eternal-september.org>
Source record: 8142

Hi Dick,

Really good suggestions.
Thanks.

BTW: Re the rabbit ears and the loop on my present antenna:

Which is for vhf and which for the uhf channels ?

Thanks again, and for all the past help,
(and everyone's else)

Bob

On 7/29/2010 7:42 PM, Richard Clark wrote:
> On Thu, 29 Jul 2010 16:05:38 -0400, Bob<rgsros@notme.invalid> wrote:
>
>> Any suggestions on anything possibly worthwhile to try, smaller than the
>> DB-2 ?
>
> Hi Bob,
>
> FIRST, your objective should be height, the ability to "see" the city
> (or, more specifically, the transmit towers: consult the other posters
> on how to locate them).
>
> SECONDLY, you select the antenna that does the job. As your rabbit
> ears nearly work, they might fully work up on high.
>
> THIRDLY, how high is a matter of many practical issues. Hence the
> suggestions for attic locations by others. This is an easy first test
> that costs no more than the length of cable/wire necessary to go
> there. You will need the cable/wire anyway.
>
> FOURTHLY, if your antenna at the desired height doesn't work (which,
> in effect, is your original complaint), then throw money at it in the
> form of amplifier, antenna, mast, mounting hardware, and rotator (you
> never revealed how up to speed you are in knowing where your
> broadcasters are).
>
> It will cost more doing it in the expensive order (buying the antenna
> first, and possibly a second one when the first doesn't work, etc.).
>
> 73's
> Richard Clark, KB7QHC

3293. Re: For Dick: Re: From OP Re TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 17:13:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <sa1656pir0ai1ug8tgjscu9jlboifeilsg@4ax.com>
Source record: 8143

On Fri, 30 Jul 2010 07:29:04 -0400, Bob <rgsros@notme.invalid> wrote:

>BTW: Re the rabbit ears and the loop on my present antenna:
>
>Which is for vhf and which for the uhf channels ?

Hi Bob,

The ears are for VHF, the loop is for UHF. Neither are critically adjusted - aside from your effort on the ears; and even there, few choose or find "classic" lengths. If I am to guess correctly (by inference of your old TV/antenna), then I would say you were reasonably served by the Boston channels in the past. This suggests that you are probably just on the fringe of the newer technology's lower power transmission.

The antenna you have now is not suited for outdoor environment (you could probably guess this). However, if you first invest in a suitably long enough cable/wire and go outside with it mounted on a broom stick and climb a ladder to do a survey around and about, then this will give you a first-pass guesstimate of how much effort you will need to put into this project. This test will lack in stability of position, and the ability to trim the lengths of the rabbit ears, but I bet it will give you enough information.

73's
Richard Clark, KB7QHC

3294. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 17:24:52 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c530aec$0$19180$65785112@news.neostrada.pl>
Source record: 8144

<jimp@specsol.spam.sux.com> wrote news:emt8i7-ag4.ln1@mail.specsol.com...
> "Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>>
>> As you know I do not understand why in XXI century most scientists use
>> the
>> hydraulic analogy.
>
> The hydraulic analogy is use to teach basics to children.

The fluxes are for students. The divrotH = 0 also.

>> Permittivity and polarisation are from the hydraulic analogy.
>
> Nope, you haven't a clue what permittivity and polarization are.
>
>> Now conductivity and electrostriction should be used.
>
> Babbling, word salad, nonsense.

Electrostriction is a new. The "" For frequencies at which dipole
orientations cannot follow the applied field "
is rather old.
Do not stay in Heaviside water.
S*

3295. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 17:43:45 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <hjfbi7-udd.ln1@mail.specsol.com>
Source record: 8145

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:emt8i7-ag4.ln1@mail.specsol.com...
>> "Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>>>
>>> As you know I do not understand why in XXI century most scientists use
>>> the
>>> hydraulic analogy.
>>
>> The hydraulic analogy is use to teach basics to children.
>
> The fluxes are for students. The divrotH = 0 also.

Gibberish.

>>> Permittivity and polarisation are from the hydraulic analogy.
>>
>> Nope, you haven't a clue what permittivity and polarization are.
>>
>>> Now conductivity and electrostriction should be used.
>>
>> Babbling, word salad, nonsense.
>
> Electrostriction is a new. The "" For frequencies at which dipole
> orientations cannot follow the applied field "
> is rather old.
> Do not stay in Heaviside water.
> S*

More gibberish.

--
Jim Pennino

Remove .spam.sux to reply.

3296. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 18:01:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fdfd0d43-a854-4568-9554-b486d7f1a064@u26g2000yqu.googlegroups.com>
Source record: 8146

On Jul 30, 5:43 pm, j...@specsol.spam.sux.com wrote:
> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> > <j...@specsol.spam.sux.com> wrotenews:emt8i7-ag4.ln1@mail.specsol.com...
> >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> >>> As you know I do not understand why in XXI century most scientists use
> >>> the
> >>> hydraulic analogy.
>
> >> The hydraulic analogy is use to teach basics to children.
>
> > The fluxes are for students. The divrotH = 0 also.
>
> Gibberish.
>
> >>> Permittivity and polarisation are from the hydraulic analogy.
>
> >> Nope, you haven't a clue what permittivity and polarization are.
>
> >>> Now conductivity and electrostriction should be used.
>
> >> Babbling, word salad, nonsense.
>
> > Electrostriction is a new. The "" For frequencies at which dipole
> > orientations cannot follow the applied field "
> > is rather old.
> > Do not stay in Heaviside water.
> > S*
>
> More gibberish.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

i kind of like the idea of heaviside water... he must be carrying the
water for heaviside. i wonder if he even knows what electrostriction
really is?

3297. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 18:14:33 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <9dhbi7-bkd.ln1@mail.specsol.com>
Source record: 8147

K1TTT <k1ttt@arrl.net> wrote:
> On Jul 30, 5:43 pm, j...@specsol.spam.sux.com wrote:
>> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>>
>> > <j...@specsol.spam.sux.com> wrotenews:emt8i7-ag4.ln1@mail.specsol.com...
>> >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>>
>> >>> As you know I do not understand why in XXI century most scientists use
>> >>> the
>> >>> hydraulic analogy.
>>
>> >> The hydraulic analogy is use to teach basics to children.
>>
>> > The fluxes are for students. The divrotH = 0 also.
>>
>> Gibberish.
>>
>> >>> Permittivity and polarisation are from the hydraulic analogy.
>>
>> >> Nope, you haven't a clue what permittivity and polarization are.
>>
>> >>> Now conductivity and electrostriction should be used.
>>
>> >> Babbling, word salad, nonsense.
>>
>> > Electrostriction is a new. The "" For frequencies at which dipole
>> > orientations cannot follow the applied field "
>> > is rather old.
>> > Do not stay in Heaviside water.
>> > S*
>>
>> More gibberish.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> i kind of like the idea of heaviside water... he must be carrying the
> water for heaviside. i wonder if he even knows what electrostriction
> really is?

That babbling idiot hasn't a clue what ANYTHING really is.

If you read sci.physics.electromag you will find lots of his gibberish.

--
Jim Pennino

Remove .spam.sux to reply.

3298. Survey

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 19:33:42 UTC
From: M0WYM <nospammers@radiowymsey.org>
Message-ID: <i2v9ep$n4g$1@news.eternal-september.org>
Source record: 8148

Twenty average members of the public were asked what they thought of
radio amateurs:

9 said amateurs were the cause of interference.
3 thought amateurs were nut cases.
5 said amateurs were odd but harmless.
3 had never heard of radio amateurs.

Five top people in the electronics world were asked their opinion:

3 would not employ radio amateurs in their organisation.
1 had heard amateurs on air and opined that they spoke a load of tripe.
1 said that most technical blokes talked a load of tripe anyway.
1 said he would employ an amateur if qualified for the job.

That was in 1965, so not much changes or does it?

Charlie.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

3299. Re: Survey

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 19:47:56 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i2va9c$lg1g$1@tr22n12.aset.psu.edu>
Source record: 8149

M0WYM wrote:
> Twenty average members of the public were asked what they thought of
> radio amateurs:
>
> 9 said amateurs were the cause of interference.
> 3 thought amateurs were nut cases.
> 5 said amateurs were odd but harmless.
> 3 had never heard of radio amateurs.
>
> Five top people in the electronics world were asked their opinion:
>
> 3 would not employ radio amateurs in their organisation.
> 1 had heard amateurs on air and opined that they spoke a load of tripe.
> 1 said that most technical blokes talked a load of tripe anyway.
> 1 said he would employ an amateur if qualified for the job.
>
> That was in 1965, so not much changes or does it?

If you think that's bad, you should see what they say about people who
cite bogus surveys on the newsgroups!

- Mike -

3300. Re: Survey

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 20:22:25 UTC
From: M0WYM <nospammers@radiowymsey.org>
Message-ID: <i2vca3$1sn$1@news.eternal-september.org>
Source record: 8150

On 30/07/10 20:47, Michael Coslo wrote:

>
> If you think that's bad, you should see what they say about people who
> cite bogus surveys on the newsgroups!
>
> - Mike -

Ha ha,

Not bogus thought but from the April 1965 edition of the Short Wave
Magazine but I did post it to the wrong group!

Charlie.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

3301. Re: For Dick: Re: From OP Re TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-30 20:45:03 UTC
From: "R.Scott" <w7psk@yahoo.com>
Message-ID: <e6845352-d250-4d18-97e0-634dfae88294@m35g2000prn.googlegroups.com>
Source record: 8151

Here Bob, try these articles

http://uhfhdtvantenna.blogspot.com/

http://www.ehow.com/how_5945812_make-uhf-bowtie-antenna.html

http://www.tvantennaplans.com/

3302. Re: For Dick: Re: From OP Re TV Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 06:46:35 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9DC5F1DEFEEB0greederxprtnet@94.75.214.90>
Source record: 8152

"R.Scott" <w7psk@yahoo.com> wrote in news:e6845352-d250-4d18-97e0-634dfae88294@m35g2000prn.googlegroups.com:

> Here Bob, try these articles
>
> http://uhfhdtvantenna.blogspot.com/
>
> http://www.ehow.com/how_5945812_make-uhf-bowtie-antenna.html
>
> http://www.tvantennaplans.com/
>

Can I blow my own horn and add another link?

http://mysite.ncnetwork.net/resr92x4/Content/DTV_antenna.html

3303. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 07:10:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c53cc6b$0$2601$65785112@news.neostrada.pl>
Source record: 8153

"K1TTT" <k1ttt@arrl.net> wrote
news:fdfd0d43-a854-4568-9554-b486d7f1a064@u26g2000yqu.googlegroups.com...
On Jul 30, 5:43 pm, j...@specsol.spam.sux.com wrote:
> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> > Electrostriction is a new. The "" For frequencies at which dipole
> > orientations cannot follow the applied field "
> > is rather old.
> > Do not stay in Heaviside water.
> > S*
>

>i kind of like the idea of heaviside water... he must be carrying the
water for heaviside. i wonder if he even knows what electrostriction
really is?

It is not the dipole orientation (rotation). It is the deformation of the
dielectric.

"In fact, most dipolar solids exhibit extremely small dielectric losses
since W tends to be extremely large. Water-free ice, for example does not
heat significantly under microwave irradiation." From:
http://www.tan-delta.com/mw_heating.html

Water droplets are strongly deformed in a weak electric field.
Do not stay in the Heaviside water. There the two electric fluids were
displaced. No deformation of shape.

Now many scientists analise the electrostriction.
S*

3304. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 16:45:32 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ci0ei7-a2m.ln1@mail.specsol.com>
Source record: 8154

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:fdfd0d43-a854-4568-9554-b486d7f1a064@u26g2000yqu.googlegroups.com...
> On Jul 30, 5:43 pm, j...@specsol.spam.sux.com wrote:
>> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>>
>> > Electrostriction is a new. The "" For frequencies at which dipole
>> > orientations cannot follow the applied field "
>> > is rather old.
>> > Do not stay in Heaviside water.
>> > S*
>>
>
>>i kind of like the idea of heaviside water... he must be carrying the
> water for heaviside. i wonder if he even knows what electrostriction
> really is?
>
> It is not the dipole orientation (rotation). It is the deformation of the
> dielectric.
>
> "In fact, most dipolar solids exhibit extremely small dielectric losses
> since W tends to be extremely large. Water-free ice, for example does not
> heat significantly under microwave irradiation." From:
> http://www.tan-delta.com/mw_heating.html
>
> Water droplets are strongly deformed in a weak electric field.
> Do not stay in the Heaviside water. There the two electric fluids were
> displaced. No deformation of shape.
>
> Now many scientists analise the electrostriction.
> S*

Babbling gibberish, word salad.

--
Jim Pennino

Remove .spam.sux to reply.

3305. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 17:27:43 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c545d17$0$17086$65785112@news.neostrada.pl>
Source record: 8155

<jimp@specsol.spam.sux.com> wrote news:ci0ei7-a2m.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>> "In fact, most dipolar solids exhibit extremely small dielectric losses
>> since W tends to be extremely large. Water-free ice, for example does not
>> heat significantly under microwave irradiation." From:
>> http://www.tan-delta.com/mw_heating.html
>>
> Babbling gibberish, word salad.

"Quartz glass has a very high dielectric strength but a very low electric
conductivity, even at high temperature, high voltage and high frequency,
nearly without electric loss in the range of the frequencies applied.
Therefore quartz glass is an excellent high temperature dielectric
material."

What is the cause: polarisation or electrostriction or the both?
S*

3306. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 17:34:10 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <id3ei7-cfm.ln1@mail.specsol.com>
Source record: 8156

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:ci0ei7-a2m.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>> "In fact, most dipolar solids exhibit extremely small dielectric losses
>>> since W tends to be extremely large. Water-free ice, for example does not
>>> heat significantly under microwave irradiation." From:
>>> http://www.tan-delta.com/mw_heating.html
>>>
>> Babbling gibberish, word salad.
>
> "Quartz glass has a very high dielectric strength but a very low electric
> conductivity, even at high temperature, high voltage and high frequency,
> nearly without electric loss in the range of the frequencies applied.
> Therefore quartz glass is an excellent high temperature dielectric
> material."

Being able to cut and paste from a web page doesn't mean you are not a
babbling idiot.

> What is the cause: polarisation or electrostriction or the both?
> S*

Point proven.

--
Jim Pennino

Remove .spam.sux to reply.

3307. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 18:08:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f778ad89-15bf-4554-8929-e7f9b49d8b67@s9g2000yqd.googlegroups.com>
Source record: 8157

On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> > <j...@specsol.spam.sux.com> wrotenews:ci0ei7-a2m.ln1@mail.specsol.com...
> >> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> >>> "In fact, most dipolar solids exhibit extremely small dielectric losses
> >>> since W tends to be extremely large. Water-free ice, for example does not
> >>> heat significantly under microwave irradiation." From:
> >>>http://www.tan-delta.com/mw_heating.html
>
> >> Babbling gibberish, word salad.
>
> > "Quartz glass has a very high dielectric strength but a very low electric
> > conductivity, even at high temperature, high voltage and high frequency,
> > nearly without electric loss in the range of the frequencies applied.
> > Therefore quartz glass is an excellent high temperature dielectric
> > material."
>
> Being able to cut and paste from a web page doesn't mean you are not a
> babbling idiot.
>
> > What is the cause: polarisation or electrostriction or the both?
> > S*
>
> Point proven.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

I wish he would talk to art more, the two of them are more fun when
they are combining their gibberish. i guess they just don't realize
that the technobabble they have come up with doesn't really mean
anything useful, and little pieces of knowledge taken out of context
just can't be strung back together in any order to prove something
they think is right.

3308. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 21:14:05 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <t9gei7-unn.ln1@mail.specsol.com>
Source record: 8158

K1TTT <k1ttt@arrl.net> wrote:
> On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
>> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>>
>> > <j...@specsol.spam.sux.com> wrotenews:ci0ei7-a2m.ln1@mail.specsol.com...
>> >> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>>
>> >>> "In fact, most dipolar solids exhibit extremely small dielectric losses
>> >>> since W tends to be extremely large. Water-free ice, for example does not
>> >>> heat significantly under microwave irradiation." From:
>> >>>http://www.tan-delta.com/mw_heating.html
>>
>> >> Babbling gibberish, word salad.
>>
>> > "Quartz glass has a very high dielectric strength but a very low electric
>> > conductivity, even at high temperature, high voltage and high frequency,
>> > nearly without electric loss in the range of the frequencies applied.
>> > Therefore quartz glass is an excellent high temperature dielectric
>> > material."
>>
>> Being able to cut and paste from a web page doesn't mean you are not a
>> babbling idiot.
>>
>> > What is the cause: polarisation or electrostriction or the both?
>> > S*
>>
>> Point proven.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> I wish he would talk to art more, the two of them are more fun when
> they are combining their gibberish. i guess they just don't realize
> that the technobabble they have come up with doesn't really mean
> anything useful, and little pieces of knowledge taken out of context
> just can't be strung back together in any order to prove something
> they think is right.

See: http://en.wikipedia.org/wiki/Word_salad

--
Jim Pennino

Remove .spam.sux to reply.

3309. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 21:54:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <99639cf9-6661-4425-ae79-0a3f7da2632b@q35g2000yqn.googlegroups.com>
Source record: 8159

```
On Jul 31, 9:14 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
> >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> >> > <j...@specsol.spam.sux.com> wrotenews:ci0ei7-a2m.ln1@mail.specsol.com...
> >> >> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> >> >>> "In fact, most dipolar solids exhibit extremely small dielectric losses
> >> >>> since W tends to be extremely large. Water-free ice, for example does not
> >> >>> heat significantly under microwave irradiation." From:
> >> >>>http://www.tan-delta.com/mw_heating.html
>
> >> >> Babbling gibberish, word salad.
>
> >> > "Quartz glass has a very high dielectric strength but a very low electric
> >> > conductivity, even at high temperature, high voltage and high frequency,
> >> > nearly without electric loss in the range of the frequencies applied.
> >> > Therefore quartz glass is an excellent high temperature dielectric
> >> > material."
>
> >> Being able to cut and paste from a web page doesn't mean you are not a
> >> babbling idiot.
>
> >> > What is the cause: polarisation or electrostriction or the both?
> >> > S*
>
> >> Point proven.
>
> >> --
> >> Jim Pennino
>
> >> Remove .spam.sux to reply.
>
> > I wish he would talk to art more, the two of them are more fun when
> > they are combining their gibberish.  i guess they just don't realize
> > that the technobabble they have come up with doesn't really mean
> > anything useful, and little pieces of knowledge taken out of context
> > just can't be strung back together in any order to prove something
> > they think is right.
>
> See:http://en.wikipedia.org/wiki/Word_salad
>
> --
```

> Jim Pennino
>
> Remove .spam.sux to reply.

so which of these do you think may apply to Mr. B or Art? Could be just about any of them i guess, though art seems to alternate between Logorrhea and silence, maybe he's bipolar? Mr. B seems to be solidly Schizophasiac, just continual nonsensical babbling.

Wernicke's aphasia
Schizophasia, a mental condition characterized by incoherent babbling (compulsive or intentional, but nonsensical)
Logorrhea (psychology), a mental condition characterized by excessive talking (coherent or otherwise, but compulsive)

3310. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-07-31 22:19:19 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <74kei7-l5o.ln1@mail.specsol.com>
Source record: 8160

K1TTT <k1ttt@arrl.net> wrote:
> On Jul 31, 9:14 pm, j...@specsol.spam.sux.com wrote:
>> K1TTT <k1...@arrl.net> wrote:
>> > On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
>> >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>>
>> >> > <j...@specsol.spam.sux.com> wrotenews:ci0ei7-a2m.ln1@mail.specsol.com...
>> >> >> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>>
>> >> >>> "In fact, most dipolar solids exhibit extremely small dielectric losses
>> >> >>> since W tends to be extremely large. Water-free ice, for example does not
>> >> >>> heat significantly under microwave irradiation." From:
>> >> >>>http://www.tan-delta.com/mw_heating.html
>>
>> >> >> Babbling gibberish, word salad.
>>
>> >> > "Quartz glass has a very high dielectric strength but a very low electric
>> >> > conductivity, even at high temperature, high voltage and high frequency,
>> >> > nearly without electric loss in the range of the frequencies applied.
>> >> > Therefore quartz glass is an excellent high temperature dielectric
>> >> > material."
>>
>> >> Being able to cut and paste from a web page doesn't mean you are not a
>> >> babbling idiot.
>>
>> >> > What is the cause: polarisation or electrostriction or the both?
>> >> > S*
>>
>> >> Point proven.
>>
>> >> --
>> >> Jim Pennino
>>
>> >> Remove .spam.sux to reply.
>>
>> > I wish he would talk to art more, the two of them are more fun when
>> > they are combining their gibberish. i guess they just don't realize
>> > that the technobabble they have come up with doesn't really mean
>> > anything useful, and little pieces of knowledge taken out of context
>> > just can't be strung back together in any order to prove something
>> > they think is right.
>>
>> See:http://en.wikipedia.org/wiki/Word_salad
>>

>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> so which of these do you think may apply to Mr. B or Art? Could be
> just about any of them i guess, though art seems to alternate between
> Logorrhea and silence, maybe he's bipolar? Mr. B seems to be solidly
> Schizophasiac, just continual nonsensical babbling.
>
> # Wernicke's aphasia
> # Schizophasia, a mental condition characterized by incoherent
> babbling (compulsive or intentional, but nonsensical)
> # Logorrhea (psychology), a mental condition characterized by
> excessive talking (coherent or otherwise, but compulsive)

I believe Art has early onset alzheimer's disease, which I find very sad,
while the other guy is just plain bat shit crazy.

--
Jim Pennino

Remove .spam.sux to reply.

3311. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 06:00:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1280642401@panix.com>
Source record: 8161
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

3312. What is the low end of a band?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 08:59:34 UTC
From: barett <barett@blueyonder.co.uk>
Message-ID: <LHa5o.5855$7Z3.5790@hurricane>
Source record: 8162

I am thinking of making a new antenna but in the info it talks about, if the SWR is high on the low part of the band.

In the 20 meter band are they referring to 14.000Mhz end or the 14.350Mhz end of the band as being the low part of the band?

Any help please.

Thank you

3313. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 09:02:42 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c55383b$0$19161$65785112@news.neostrada.pl>
Source record: 8163

"K1TTT" <k1ttt@arrl.net> wrote
news:99639cf9-6661-4425-ae79-0a3f7da2632b@q35g2000yqn.googlegroups.com...
> > On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
> >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> >> >>> "In fact, most dipolar solids exhibit extremely small dielectric
> >> >>> losses
> >> >>> since W tends to be extremely large. Water-free ice, for example
> >> >>> does not
> >> >>> heat significantly under microwave irradiation." From:
> >> >>>http://www.tan-delta.com/mw_heating.html
>
> >> > "Quartz glass has a very high dielectric strength but a very low
> >> > electric
> >> > conductivity, even at high temperature, high voltage and high
> >> > frequency,
> >> > nearly without electric loss in the range of the frequencies applied.
> >> > Therefore quartz glass is an excellent high temperature dielectric
> >> > material."
>
>
> > I wish he would talk to art more, the two of them are more fun when
> > they are combining their gibberish. i guess they just don't realize
> > that the technobabble they have come up with doesn't really mean
> > anything useful, and little pieces of knowledge taken out of context
> > just can't be strung back together in any order to prove something
> > they think is right.

The question was: "Does solid insulation makes the radiation weaker or stop
it?"

Instead the answer you serve me the word salad.
S*

3314. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 11:03:59 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f3cee7dd-631d-4b3e-a4fe-cba724c8e895@x24g2000pro.googlegroups.com>
Source record: 8164

On Aug 1, 9:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:99639cf9-6661-4425-ae79-0a3f7da2632b@q35g2000yqn.googlegroups.com...
>
>
>
> > > On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
> > >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> > >> >>> "In fact, most dipolar solids exhibit extremely small dielectric
> > >> >>> losses
> > >> >>> since W tends to be extremely large. Water-free ice, for example
> > >> >>> does not
> > >> >>> heat significantly under microwave irradiation." From:
> > >> >>>http://www.tan-delta.com/mw_heating.html
>
> > >> > "Quartz glass has a very high dielectric strength but a very low
> > >> > electric
> > >> > conductivity, even at high temperature, high voltage and high
> > >> > frequency,
> > >> > nearly without electric loss in the range of the frequencies applied.
> > >> > Therefore quartz glass is an excellent high temperature dielectric
> > >> > material."
>
> > > I wish he would talk to art more, the two of them are more fun when
> > > they are combining their gibberish. i guess they just don't realize
> > > that the technobabble they have come up with doesn't really mean
> > > anything useful, and little pieces of knowledge taken out of context
> > > just can't be strung back together in any order to prove something
> > > they think is right.
>
> The question was: "Does solid insulation makes the radiation weaker or stop
> it?"
>
> Instead the answer you serve me the word salad.
> S*

it will not stop it, it might make it stronger or weaker depending on
the loss characteristics and what you measure as the strength.

3315. Re: What is the low end of a band?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 13:22:39 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <wc2dnR8pt58y6cjRnZ2dnUVZ_t6dnZ2d@earthlink.com>
Source record: 8165

"barett" <barett@blueyonder.co.uk> wrote in message
news:LHa5o.5855$7Z3.5790@hurricane...
>I am thinking of making a new antenna but in the info it talks about, if
>the SWR is high on the low part of the band.
>
> In the 20 meter band are they referring to 14.000Mhz end or the 14.350Mhz
> end of the band as being the low part of the band?
>
> Any help please.
>
> Thank you

When talking about the swr and low end of the band, that is the lower frequency part of the band. In your example it would be the frequencies near 14.000. Frequencies near 14.350 would be the upper or high end of the band.

It can be confusing as when you hear 'top band' referred to that is usually the 160 meter ham band. Guess that it got that way because the 160 meter is the highest ham band in meters even though it is the lowest in frequency.

3316. Re: What is the low end of a band?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 13:44:54 UTC
From: barett <barett@blueyonder.co.uk>
Message-ID: <qTe5o.26576$pj7.5543@hurricane>
Source record: 8166

Thank you for the explanation. It is confusing.

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in message
news:wc2dnR8pt58y6cjRnZ2dnUVZ_t6dnZ2d@earthlink.com...
>
> "barett" <barett@blueyonder.co.uk> wrote in message
> news:LHa5o.5855$7Z3.5790@hurricane...
>>I am thinking of making a new antenna but in the info it talks about, if
>>the SWR is high on the low part of the band.
>>
>> In the 20 meter band are they referring to 14.000Mhz end or the 14.350Mhz
>> end of the band as being the low part of the band?
>>
>> Any help please.
>>
>> Thank you
>
> When talking about the swr and low end of the band, that is the lower
> frequency part of the band. In your example it would be the frequencies
> near 14.000. Frequencies near 14.350 would be the upper or high end of
> the band.
>
> It can be confusing as when you hear 'top band' referred to that is
> usually the 160 meter ham band. Guess that it got that way because the
> 160 meter is the highest ham band in meters even though it is the lowest
> in frequency.
>
>
>

3317. Re: What is the low end of a band?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 15:20:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <728e8ca1-aa32-4dc7-a8f7-4b2d85324356@p11g2000prf.googlegroups.com>
Source record: 8167

On Aug 1, 8:44 am, "barett" <bar...@blueyonder.co.uk> wrote:
> Thank you for the explanation. It is confusing.

What is really confusing is what is meant by a statement like: "This
antenna only works well above 40m."

It literally means that the antenna only works well at frequencies
below 300/40 = 7.5 MHz, but that is not what most hams mean when they
say it.
--
73, Cecil, w5dxp.com

3318. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 16:12:04 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c559cdd$0$17083$65785112@news.neostrada.pl>
Source record: 8168

"K1TTT" <k1ttt@arrl.net> wrote
news:f3cee7dd-631d-4b3e-a4fe-cba724c8e895@x24g2000pro.googlegroups.com...
On Aug 1, 9:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
> > >> >>> "In fact, most dipolar solids exhibit extremely small dielectric
> > >> >>> losses
> > >> >>> since W tends to be extremely large. Water-free ice, for example
> > >> >>> does not
> > >> >>> heat significantly under microwave irradiation." From:
> > >> >>> http://www.tan-delta.com/mw_heating.html
>
>
>> The question was: "Does solid insulation makes the radiation weaker or
>> stop
> it?"
>
>it will not stop it, it might make it stronger or weaker depending on
the loss characteristics and what you measure as the strength.

And what with the "natural" insulations: the ice and the wet?

Sometimes are on your dipoles an ice or water.
They should melt/evaporate in the places where are picks of the voltage.
Is it observed?

Lodge observed the glows. So there should be the heating also.
Burn off an insulation needs more heat than melting/evaporating of
ice/water.
S*

3319. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 16:52:50 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <2clgi7-862.ln1@mail.specsol.com>
Source record: 8169

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:99639cf9-6661-4425-ae79-0a3f7da2632b@q35g2000yqn.googlegroups.com...
>> > On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
>> >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>>
>> >> >>> "In fact, most dipolar solids exhibit extremely small dielectric
>> >> >>> losses
>> >> >>> since W tends to be extremely large. Water-free ice, for example
>> >> >>> does not
>> >> >>> heat significantly under microwave irradiation." From:
>> >> >>>http://www.tan-delta.com/mw_heating.html
>>
>> >> > "Quartz glass has a very high dielectric strength but a very low
>> >> > electric
>> >> > conductivity, even at high temperature, high voltage and high
>> >> > frequency,
>> >> > nearly without electric loss in the range of the frequencies applied.
>> >> > Therefore quartz glass is an excellent high temperature dielectric
>> >> > material."
>>
>>
>> > I wish he would talk to art more, the two of them are more fun when
>> > they are combining their gibberish. i guess they just don't realize
>> > that the technobabble they have come up with doesn't really mean
>> > anything useful, and little pieces of knowledge taken out of context
>> > just can't be strung back together in any order to prove something
>> > they think is right.
>
> The question was: "Does solid insulation makes the radiation weaker or stop
> it?"

And the question has been answered many times now by several people.

In the real and practical world, no, insulation will not stop the radiation
from an RF antenna and depending on the frequency and material of the
insulation some of the radiation will be aborbed as heat by the insulation.

> Instead the answer you serve me the word salad.
> S*

What you post is word salad.

http://medical-dictionary.thefreedictionary.com/word+salad
```

--
Jim Pennino

Remove .spam.sux to reply.

3320. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 16:54:06 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <eelgi7-862.ln1@mail.specsol.com>
Source record: 8170

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:f3cee7dd-631d-4b3e-a4fe-cba724c8e895@x24g2000pro.googlegroups.com...
> On Aug 1, 9:02 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> >
>> > >> >>> "In fact, most dipolar solids exhibit extremely small dielectric
>> > >> >>> losses
>> > >> >>> since W tends to be extremely large. Water-free ice, for example
>> > >> >>> does not
>> > >> >>> heat significantly under microwave irradiation." From:
>> > >> >>> http://www.tan-delta.com/mw_heating.html
>>
>>
>>> The question was: "Does solid insulation makes the radiation weaker or
>>> stop
>> it?"
>>
>>it will not stop it, it might make it stronger or weaker depending on
> the loss characteristics and what you measure as the strength.
>
> And what with the "natural" insulations: the ice and the wet?
>
> Sometimes are on your dipoles an ice or water.
> They should melt/evaporate in the places where are picks of the voltage.
> Is it observed?
>
> Lodge observed the glows. So there should be the heating also.
> Burn off an insulation needs more heat than melting/evaporating of
> ice/water.
> S*

Yet more babbling word salad.

--
Jim Pennino

Remove .spam.sux to reply.
```

3321. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-01 18:27:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f9622155-13ad-432e-8c7a-ba19974f8054@i4g2000prf.googlegroups.com>
Source record: 8171

```
On Aug 1, 4:52 pm, j...@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> > "K1TTT" <k1...@arrl.net> wrote
> >news:99639cf9-6661-4425-ae79-0a3f7da2632b@q35g2000yqn.googlegroups.com...
> >> > On Jul 31, 5:34 pm, j...@specsol.spam.sux.com wrote:
> >> >> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> >> >> >>> "In fact, most dipolar solids exhibit extremely small dielectric
> >> >> >>> losses
> >> >> >>> since W tends to be extremely large. Water-free ice, for example
> >> >> >>> does not
> >> >> >>> heat significantly under microwave irradiation." From:
> >> >> >>>http://www.tan-delta.com/mw_heating.html
>
> >> >> > "Quartz glass has a very high dielectric strength but a very low
> >> >> > electric
> >> >> > conductivity, even at high temperature, high voltage and high
> >> >> > frequency,
> >> >> > nearly without electric loss in the range of the frequencies applied.
> >> >> > Therefore quartz glass is an excellent high temperature dielectric
> >> >> > material."
>
> >> > I wish he would talk to art more, the two of them are more fun when
> >> > they are combining their gibberish. i guess they just don't realize
> >> > that the technobabble they have come up with doesn't really mean
> >> > anything useful, and little pieces of knowledge taken out of context
> >> > just can't be strung back together in any order to prove something
> >> > they think is right.
>
> > The question was: "Does solid insulation makes the radiation weaker or stop
> > it?"
>
> And the question has been answered many times now by several people.
>
> In the real and practical world, no, insulation will not stop the radiation
> from an RF antenna and depending on the frequency and material of the
> insulation some of the radiation will be aborbed as heat by the insulation.
>
> > Instead the answer you serve me the word salad.
> > S*
>
> What you post is word salad.
>
```

> http://medical-dictionary.thefreedictionary.com/word+salad
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

oh, oh, i can search the web also! I like this one, it describes mr. b perfectly!

http://medical-dictionary.thefreedictionary.com/jargon+aphasia

3322. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-02 07:46:56 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5677fb$0$17102$65785112@news.neostrada.pl>
Source record: 8172

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:f9622155-13ad-432e-8c7a-ba19974f8054@i4g2000prf.googlegroups.com...
On Aug 1, 4:52 pm, j...@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
>>
> > The question was: "Does solid insulation makes the radiation weaker or
> > stop
> > it?"
>
> And the question has been answered many times now by several people.
>
> In the real and practical world, no, insulation will not stop the
> radiation
> from an RF antenna and depending on the frequency and material of the
> insulation some of the radiation will be aborbed as heat by the
> insulation.

The was the additional question: "And what with the "natural" insulations:
the ice and the wet?

Sometimes are on your dipoles an ice or water.
They should melt/evaporate in the places where are picks of the voltage.
Is it observed?

No ice and rain in your area?
S*

3323. Re: What is the low end of a band?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-02 12:44:37 UTC
From: AndyS <andysharpe@juno.com>
Message-ID: <26fe9ba3-b966-43a1-95f8-66af9b3ca71c@p11g2000prf.googlegroups.com>
Source record: 8173

On Aug 1, 3:59 am, "barett" <bar...@blueyonder.co.uk> wrote:
> I am thinking of making a new antenna but in the info it talks about, if the
> SWR is high on the low part of the band.
>
> In the 20 meter band are they referring to 14.000Mhz end or the 14.350Mhz
> end of the band as being the low part of the band?
>
> Any help please.
>
> Thank you

Andy comments;

The "low end of the band" is well all the degenerates and neer-do-
wells
hang out.... I have many friends there....

Andy W4OAH

3324. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-02 15:58:04 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ch6ji7-5ta.ln1@mail.specsol.com>
Source record: 8174

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
> news:f9622155-13ad-432e-8c7a-ba19974f8054@i4g2000prf.googlegroups.com...
> On Aug 1, 4:52 pm, j...@specsol.spam.sux.com wrote:
>> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>>
>>>
>> > The question was: "Does solid insulation makes the radiation weaker or
>> > stop
>> > it?"
>>
>> And the question has been answered many times now by several people.
>>
>> In the real and practical world, no, insulation will not stop the
>> radiation
>> from an RF antenna and depending on the frequency and material of the
>> insulation some of the radiation will be aborbed as heat by the
>> insulation.
>
> The was the additional question: "And what with the "natural" insulations:
> the ice and the wet?

What part of the words "insulation" and "insulator" do you not understand?

There is nothing special about ice or liquid water and the electrical
properties of both can be easily looked up.

There is nothing mystical about something that is "natural".

<snip remaining babble>

--
Jim Pennino

Remove .spam.sux to reply.
```

3325. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-02 19:12:35 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c5718ac$0$19175$65785112@news.neostrada.pl>
Source record: 8175

<jimp@specsol.spam.sux.com> wrote news:ch6ji7-5ta.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>>
>> The was the additional question: "And what with the "natural"
>> insulations:
>> the ice and the wet?
>
> What part of the words "insulation" and "insulator" do you not understand?

> There is nothing special about ice or liquid water and the electrical
> properties of both can be easily looked up.
>
> There is nothing mystical about something that is "natural".

You assume that everything "can be easily looked up". It is right for the
old theories.

But now is the new Art's "time dependent Gauss law" theory.

At the ends of the dipole the alternate electric field is produced. There is
the Lodges glow.

So it is interesting if that glow is also visible on insulated wires and
what is emitted from the antenna.

You have opportunity to develop the Art's theory. Do not be lazy.
S*

3326. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-02 20:17:46 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <aolji7-7ic.ln1@mail.specsol.com>
Source record: 8176

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:ch6ji7-5ta.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>>
>>> The was the additional question: "And what with the "natural"
>>> insulations:
>>> the ice and the wet?
>>
>> What part of the words "insulation" and "insulator" do you not understand?
>
>> There is nothing special about ice or liquid water and the electrical
>> properties of both can be easily looked up.
>>
>> There is nothing mystical about something that is "natural".
>
> You assume that everything "can be easily looked up". It is right for the
> old theories.
>
> But now is the new Art's "time dependent Gauss law" theory.
>
> At the ends of the dipole the alternate electric field is produced. There is
> the Lodges glow.
>
> So it is interesting if that glow is also visible on insulated wires and
> what is emitted from the antenna.
>
> You have opportunity to develop the Art's theory. Do not be lazy.
> S*

Yet more babbling gibberish and word salad.

Seek medical help.

--
Jim Pennino

Remove .spam.sux to reply.

3327. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-02 22:16:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <cf3af0bd-7254-4c86-99fe-271f3f7666da@t2g2000yqe.googlegroups.com>
Source record: 8177

On Aug 2, 7:12 pm, "Szczepan Bia³ek" <sz.bia...@wp.pl> wrote:
> <j...@specsol.spam.sux.com> wrotenews:ch6ji7-5ta.ln1@mail.specsol.com...
>
> > Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> >> The was the additional question: "And what with the "natural"
> >> insulations:
> >> the ice and the wet?
>
> > What part of the words "insulation" and "insulator" do you not understand?
> > There is nothing special about ice or liquid water and the electrical
> > properties of both can be easily looked up.
>
> > There is nothing mystical about something that is "natural".
>
> You assume that everything "can be easily looked up". It is right for the
> old theories.
>
> But now is the new Art's "time dependent Gauss law" theory.
>
> At the ends of the dipole the alternate electric field is produced. There is
> the Lodges glow.
>
> So it is interesting if that glow is also visible on insulated wires and
> what is emitted from the antenna.
>
> You have opportunity to develop the Art's theory. Do not be lazy.
> S*

i suggest you talk to art about art's theory, the rest of us on here
know that it is pure garbage. for your information gauss's law has
always been time dependent, art just doesn't understand that and
insists on rewriting and reinterpreting it. he is wrong, and you are
wasting time trying to follow him... but then again you are wasting
your time on just about everything you write on here anyway.

3328. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 01:27:53 UTC
From: tom <news4792@taring.org>
Message-ID: <4c577098$0$55708$8046368a@newsreader.iphouse.net>
Source record: 8178

On 8/1/2010 1:27 PM, K1TTT wrote:
>> What you post is word salad.
>>
>> http://medical-dictionary.thefreedictionary.com/word+salad
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> oh, oh, i can search the web also! I like this one, it describes mr.
> b perfectly!
>
> http://medical-dictionary.thefreedictionary.com/jargon+aphasia
>

I'm not sure you've hit it here. Mr B seems to understand language, he
just ignores the responses if they don't support his skewed world view.

Possibly this is an undiscovered binary version of aphasia.

tom
K0TAR

3329. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 01:32:51 UTC
From: tom <news4792@taring.org>
Message-ID: <4c5771c3$0$55712$8046368a@newsreader.iphouse.net>
Source record: 8179

```
On 8/2/2010 2:12 PM, Szczepan Biaï¿½ek wrote:
> <jimp@specsol.spam.sux.com> wrote news:ch6ji7-5ta.ln1@mail.specsol.com...
>> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>>
>>>
>>> The was the additional question: "And what with the "natural"
>>> insulations:
>>> the ice and the wet?
>>
>> What part of the words "insulation" and "insulator" do you not understand?
>
>> There is nothing special about ice or liquid water and the electrical
>> properties of both can be easily looked up.
>>
>> There is nothing mystical about something that is "natural".
>
> You assume that everything "can be easily looked up". It is right for the
> old theories.
>

You're missing something very important here, and you ask for the
information and then discount it when it doesn't satisfy you.

The MEASURED CHARACTERISTICS of something cannot change just because the
theory explaining it has changed.

And it is quite easy to find. I'm surprised since you seem to be able
to find all the esoteric explanations of how the world works.

Your brain is broken, get it checked.

tom
K0TAR
```

3330. RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 02:08:43 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <i37tne$2kct$1@adenine.netfront.net>
Source record: 8180

I would like to know if I can use RG-6 75 ohm coaxil TV cable to feed a
14 Mhz dipole with 100 watts PEP.

Thank you very much.

Alejandro Lieber
LU1FCR
Rosario Argentina

http://www.1fcr.com.ar

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3331. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 02:35:34 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <po-dnZEBA8iZHcrRnZ2dnUVZ_tSdnZ2d@earthlink.com>
Source record: 8181

"Alejandro Lieber" <alejandro@notvalid.com> wrote in message
news:i37tne$2kct$1@adenine.netfront.net...
>I would like to know if I can use RG-6 75 ohm coaxil TV cable to feed a 14
>Mhz dipole with 100 watts PEP.
>
> Thank you very much.
>
> Alejandro Lieber
> LU1FCR
> Rosario Argentina
>

Yes you can.

Some RG-6 cable has an aluminum shield and can not be soldered to if that is
a problem for you.

3332. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 05:29:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrni5fa5b.jkr.gsm@cable.mendelson.com>
Source record: 8182

Ralph Mowery wrote:
> Some RG-6 cable has an aluminum shield and can not be soldered to if that is
> a problem for you.

In June, we had a long discussion of RG-6 coax, the proper connectors to use for it, and how well it works.

To recap, you need to buy COMPRESSION connectors and the correct tools for them. "F" connectors are used all over the world in the cable tv and satellite industry. F to UHF (aka PL-259) adaptors are available and work well.

In my case, I have a cheap source of BNC to to UHF adaptors, F to UHF adaptors are hard to find and expensive. So I use compression BNC connectors for those ends.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
To help restaurants, as part of the "stimulus package", everyone must order dessert. As part of the socialized health plan, you are forbidden to eat it. :-)

3333. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 08:54:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c57d949$0$17087$65785112@news.neostrada.pl>
Source record: 8183

"K1TTT" <k1ttt@arrl.net> wrote
news:cf3af0bd-7254-4c86-99fe-271f3f7666da@t2g2000yqe.googlegroups.com...
On Aug 2, 7:12 pm, "Szczepan Bia&#65533;ek" <sz.bia...@wp.pl> wrote:
> >
>> But now is the new Art's "time dependent Gauss law" theory.
>
>> At the ends of the dipole the alternate electric field is produced. There
>> is
> the Lodges glow.
>
>> So it is interesting if that glow is also visible on insulated wires and
> what is emitted from the antenna.
>
>> You have opportunity to develop the Art's theory. Do not be lazy.

>i suggest you talk to art about art's theory, the rest of us on here
know that it is pure garbage. for your information gauss's law has
always been time dependent, art just doesn't understand that and
insists on rewriting and reinterpreting it. he is wrong, and you are
wasting time trying to follow him... but then again you are wasting
your time on just about everything you write on here anyway.

So the question "How the radio works? is still open.
S*

3334. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 09:05:20 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c57dbd9$0$19172$65785112@news.neostrada.pl>
Source record: 8184

"tom" <news4792@taring.org> wrote
news:4c577098$0$55708$8046368a@newsreader.iphouse.net...
> >
> I'm not sure you've hit it here. Mr B seems to understand language, he
> just ignores the responses if they don't support his skewed world view.

Longitudinal electric waves were supported by all scientists.
Maxwell-Heaviside's erroneous hipothesis is chosen to teach the field
theory.
Radio people should know that.
S*

3335. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 09:19:14 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c57df1b$0$19161$65785112@news.neostrada.pl>
Source record: 8185

"tom" <news4792@taring.org> napisal w wiadomosci
news:4c5771c3$0$55712$8046368a@newsreader.iphouse.net...
> On 8/2/2010 2:12 PM, Szczepan Bia&#65533;ek wrote:
>
> You're missing something very important here, and you ask for the
> information and then discount it when it doesn't satisfy you.

I encourage you to find the correct.

> The MEASURED CHARACTERISTICS of something cannot change just because the
> theory explaining it has changed.

Yes. But the permittivity is the result of the conductivity measurement.
Conductors, semiconductors and insulators are for students. It is
simplification.
The reality is more complex.
>
> And it is quite easy to find. I'm surprised since you seem to be able to
> find all the esoteric explanations of how the world works.

I can find milions papers on the theory of glow and losses in AC network.
The same should be for the radio frequences.
I was thinking that somebody from you have a link to such.

The AC glow is not simmetrical. So in the radio transmitter must be the
netto electrons flow.
Where can I find the DC ground current?

S*

3336. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 16:01:56 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i39ehk$ds4s$1@tr22n12.aset.psu.edu>
Source record: 8186

Szczepan Bialek wrote:
> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
> news:f9622155-13ad-432e-8c7a-ba19974f8054@i4g2000prf.googlegroups.com...
> On Aug 1, 4:52 pm, j...@specsol.spam.sux.com wrote:
>> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>>
>>> The question was: "Does solid insulation makes the radiation weaker or
>>> stop
>>> it?"
>> And the question has been answered many times now by several people.
>>
>> In the real and practical world, no, insulation will not stop the
>> radiation
>> from an RF antenna and depending on the frequency and material of the
>> insulation some of the radiation will be aborbed as heat by the
>> insulation.
>
> The was the additional question: "And what with the "natural" insulations:
> the ice and the wet?
>
> Sometimes are on your dipoles an ice or water.
> They should melt/evaporate in the places where are picks of the voltage.
> Is it observed?

Are you assuming that because there is high voltage, there is current
induced heating?

Voltage does not translate diresctly to heat.

3337. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 16:43:34 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i39gvr$nc5$1@news.eternal-september.org>
Source record: 8187

On 7/13/2010 3:30 PM, Richard Clark wrote:
> On Tue, 13 Jul 2010 10:05:54 -0800, Bruce in alaska<fast@btpost.net>
> wrote:
>
>> Issue One. Apple has already admitted that the Signal Level algorithm,
>> used in the IPhone4 was seriously flawed in how it displayed Signal
>> Level. (Bars) When the Phone displayed 4 or 5 Bars, it may actually only
>> be receiving at a 1-2 Bar Level. This they have corrected with a
>> Software Patch.
>
> Hi Bruce,
>
> Jim's second link (which I quoted in my response to him) gives very
> specific signal levels. Aside from that, and as is obvious by the
> numbers, the "bars" are merely window (with apologies to M$) dressing
> in any phone (except as a RF exposure risk indicator).
>
>> Issue Two. The Multi-Band Antenna design in the iPhone4 is a Kludge
>> Compromise at best, and burying it in the Metal Frame where Left Hand
>> users put the flesh against it, seriously detunes it. Apple is in the
>> process of hiring a small group of Engineers, with expertise in this
>> area.
>
> A bumper would seem to mitigate the risk. Conformal coating would to
> some lesser extent. All-in-all, the amount of metal seems to be
> consistent with best engineering practices (but, perhaps, not best
> consumer packaging practices).
>
> 73's
> Richard Clark, KB7QHC

When is everyone going to wake up. What we need is a USB dongle which is simply a recvr/xmitter and is software driven. This is the last "cell phone" you will ever need to purchase. It can incorporate an onboard antenna, however should also have an external ant connection so in fringe areas communication is improved.

Isn't it about time we stopped buy a seperate TV, radio, phone, stereo, etc. A computer with the proper software and attachment(s) are all of these and more.

It is time to end the stone age of electronics!

Regards,
JS

3338. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 16:46:22 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i39h51$nc5$2@news.eternal-september.org>
Source record: 8188

On 7/13/2010 3:30 PM, Richard Clark wrote:
> On Tue, 13 Jul 2010 10:05:54 -0800, Bruce in alaska<fast@btpost.net>
> wrote:
>
>> Issue One. Apple has already admitted that the Signal Level algorithm,
>> used in the IPhone4 was seriously flawed in how it displayed Signal
>> Level. (Bars) When the Phone displayed 4 or 5 Bars, it may actually only
>> be receiving at a 1-2 Bar Level. This they have corrected with a
>> Software Patch.
>
> Hi Bruce,
>
> Jim's second link (which I quoted in my response to him) gives very
> specific signal levels. Aside from that, and as is obvious by the
> numbers, the "bars" are merely window (with apologies to M$) dressing
> in any phone (except as a RF exposure risk indicator).
>
>> Issue Two. The Multi-Band Antenna design in the iPhone4 is a Kludge
>> Compromise at best, and burying it in the Metal Frame where Left Hand
>> users put the flesh against it, seriously detunes it. Apple is in the
>> process of hiring a small group of Engineers, with expertise in this
>> area.
>
> A bumper would seem to mitigate the risk. Conformal coating would to
> some lesser extent. All-in-all, the amount of metal seems to be
> consistent with best engineering practices (but, perhaps, not best
> consumer packaging practices).
>
> 73's
> Richard Clark, KB7QHC

When is everyone going to wake up. What we need is a USB dongle which is simply a recvr/xmitter and is software driven. This is the last "cell phone" you will ever need to purchase. It can incorporate an onboard antenna, however should also have an external ant connection so in fringe areas communication is improved.

Isn't it about time we stopped buy a seperate TV, radio, phone, stereo, etc. A computer with the proper software and attachment(s) are all of these and more (all these, except for phone, are available on ebay.)

It is time to end the stone age of electronics!

Regards,
JS

3339. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 16:49:45 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5848b4$0$2602$65785112@news.neostrada.pl>
Source record: 8189

"Michael Coslo" <mjc5@psu.edu> wrote
news:i39ehk$ds4s$1@tr22n12.aset.psu.edu...
> Szczepan Bialek wrote:
>>>>
>> The was the additional question: "And what with the "natural"
>> insulations: the ice and the wet?
>>
>> Sometimes are on your dipoles an ice or water.
>> They should melt/evaporate in the places where are picks of the voltage.
>> Is it observed?
>
> Are you assuming that because there is high voltage, there is current
> induced heating?

Bill Miller calls it "the transverse current". Electrons must displace
perpendicular to the antenna surface in AC.
In insulators are the electric losses.
>
> Voltage does not translate diresctly to heat.

In insulated antena are the transverse current and the displacement current.

The all are facts. Should be easy to observe.

Some topics ago somebody analised the antenna temperature.
The end of the dipole should be the hottest.

Have you any observations in this subject?
S*

3340. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 18:01:54 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <i52mi7-pal.ln1@mail.specsol.com>
Source record: 8190

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> So the question "How the radio works? is still open.
> S*

Maybe to you but not to the sane and educated people of the world.

--
Jim Pennino

Remove .spam.sux to reply.

3341. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 18:03:08 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <s72mi7-pal.ln1@mail.specsol.com>
Source record: 8191

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "tom" <news4792@taring.org> napisal w wiadomosci
> news:4c5771c3$0$55712$8046368a@newsreader.iphouse.net...
>> On 8/2/2010 2:12 PM, Szczepan Bia?ek wrote:
>>
>> You're missing something very important here, and you ask for the
>> information and then discount it when it doesn't satisfy you.
>
> I encourage you to find the correct.

Meaningless babble.

>> The MEASURED CHARACTERISTICS of something cannot change just because the
>> theory explaining it has changed.
>
> Yes. But the permittivity is the result of the conductivity measurement.
> Conductors, semiconductors and insulators are for students. It is
> simplification.
> The reality is more complex.

More meaningless babble.

>> And it is quite easy to find. I'm surprised since you seem to be able to
>> find all the esoteric explanations of how the world works.
>
> I can find milions papers on the theory of glow and losses in AC network.
> The same should be for the radio frequences.
> I was thinking that somebody from you have a link to such.
>
> The AC glow is not simmetrical. So in the radio transmitter must be the
> netto electrons flow.
> Where can I find the DC ground current?
>
> S*

Yet more babble and word salad.

--
Jim Pennino

Remove .spam.sux to reply.

3342. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 18:05:31 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <bc2mi7-pal.ln1@mail.specsol.com>
Source record: 8193

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "tom" <news4792@taring.org> wrote
> news:4c577098$0$55708$8046368a@newsreader.iphouse.net...
>> >
>> I'm not sure you've hit it here. Mr B seems to understand language, he
>> just ignores the responses if they don't support his skewed world view.
>
> Longitudinal electric waves were supported by all scientists.
> Maxwell-Heaviside's erroneous hipothesis is chosen to teach the field
> theory.
> Radio people should know that.
> S*

More meaningless word salad.

--
Jim Pennino

Remove .spam.sux to reply.

3343. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 18:06:26 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <2e2mi7-pal.ln1@mail.specsol.com>
Source record: 8192

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Michael Coslo" <mjc5@psu.edu> wrote
> news:i39ehk$ds4s$1@tr22n12.aset.psu.edu...
>> Szczepan Bialek wrote:
>>>>>
>>> The was the additional question: "And what with the "natural"
>>> insulations: the ice and the wet?
>>>
>>> Sometimes are on your dipoles an ice or water.
>>> They should melt/evaporate in the places where are picks of the voltage.
>>> Is it observed?
>>
>> Are you assuming that because there is high voltage, there is current
>> induced heating?
>
> Bill Miller calls it "the transverse current". Electrons must displace
> perpendicular to the antenna surface in AC.
> In insulators are the electric losses.
>>
>> Voltage does not translate diresctly to heat.
>
> In insulated antena are the transverse current and the displacement current.
>
> The all are facts. Should be easy to observe.
>
> Some topics ago somebody analised the antenna temperature.
> The end of the dipole should be the hottest.
>
> Have you any observations in this subject?
> S*

All nonsense word salad.

--
Jim Pennino

Remove .spam.sux to reply.
```

3344. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 19:21:37 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <4e14e9e8-3dd2-4db3-acce-f71e8ab96c55@x21g2000yqa.googlegroups.com>
Source record: 8194

On 3 ago, 04:08, Alejandro Lieber <alejan...@notvalid.com> wrote:
> I would like to know if I can use RG-6 75 ohm coaxil TV cable to feed a
> 14 Mhz dipole with 100 watts PEP.
>
> Thank you very much.
>
> Alejandro Lieber
> LU1FCR
> Rosario Argentina
>
> http://www.1fcr.com.ar
>
> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---

Hello Alejandro:

If you can solve the mechanical issues, yes you can.

When it has an electrical length n*0.5lambda (n= 0, 1, 2, etc), VSWR
will be exactly the same as with a 50 Ohms cable. With other length
(especially 0.25, 0.75 lambda, etc) length, you may get change in VSWR
(can be both better or worse).

When your dipole is about 50 Ohms (antenna side), just match it at the
transceiver side if required, and don't worry about the cable loss due
to VSWR inside the cable. When the antenna itself shows VSWR=1 (based
on 50 Ohms), your VSWR at the transceiver side should not be worse
then 2.25.

You can use same common mode current suppression techniques (balun,
ferrite common mode chokes, trap, etc) as with a 50 Ohms cable.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc in the address, PM will reach me very likely.

3345. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 20:15:05 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i39tca$ds7k$1@tr22n12.aset.psu.edu>
Source record: 8195

Szczepan Bialek wrote:
> "Michael Coslo" <mjc5@psu.edu> wrote
> news:i39ehk$ds4s$1@tr22n12.aset.psu.edu...
>> Szczepan Bialek wrote:
>>> The was the additional question: "And what with the "natural"
>>> insulations: the ice and the wet?
>>>
>>> Sometimes are on your dipoles an ice or water.
>>> They should melt/evaporate in the places where are picks of the voltage.
>>> Is it observed?
>> Are you assuming that because there is high voltage, there is current
>> induced heating?
>
> Bill Miller calls it "the transverse current". Electrons must displace
> perpendicular to the antenna surface in AC.
> In insulators are the electric losses.
>> Voltage does not translate diresctly to heat.

Is a quantum effect current flow, and does heat emit from the process?
If it isn't heat induced, the effect is almost certainly ionization.
>
> In insulated antena are the transverse current and the displacement current.
>
> The all are facts. Should be easy to observe.
>
> Some topics ago somebody analised the antenna temperature.
> The end of the dipole should be the hottest.

> Have you any observations in this subject?

Aside from analysis, has anyone measured this effect?

Is it to be expected in highly efficent antennas, or just inneficient
ones in which there is substantial heating already?

Is this assuming that the heat if given off is enough to raise the
temperature surrounding th eantenna above 0deg C?

- Mike -

3346. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 20:25:44 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i39u08$ds7m$1@tr22n12.aset.psu.edu>
Source record: 8196

John Smith wrote:

> When is everyone going to wake up. What we need is a USB dongle which
> is simply a recvr/xmitter and is software driven. This is the last
> "cell phone" you will ever need to purchase. It can incorporate an
> onboard antenna, however should also have an external ant connection so
> in fringe areas communication is improved.
>
> Isn't it about time we stopped buy a seperate TV, radio, phone, stereo,
> etc. A computer with the proper software and attachment(s) are all of
> these and more.

No it isn't. I don't want to take calls on my television. The XYL will talk for hours with friends. Seems like a bad thing to tie the TV up for that time. I don't want my telephone to be my computer either, or listen to my music on my telephone.

It's for the same reason that I don't want to keep my frozen meat in my car. A whole lot of us prefer our devices to be purpose built instead of the myriad of compromises in having all in one instruments. History has shown that all in one devices tend to perform poorly or mediocre at best in all their functions.

They kind of remind me of the Escalade SUV/Pickup trucks. Horrible pickup truck, poor SUV, and ugly as sin.

> It is time to end the stone age of electronics!

I want faster, better looking, and higher performance. I don't want all-in wonders, which are always compromises.

- Mike -

3347. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 21:21:08 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3a188$o8a$1@news.eternal-september.org>
Source record: 8197

On 8/3/2010 1:25 PM, Michael Coslo wrote:
> John Smith wrote:

> No it isn't. I don't want to take calls on my television. The XYL will
> talk for hours with friends. Seems like a bad thing to tie the TV up for
> that time. I don't want my telephone to be my computer either, or listen
> to my music on my telephone.
>

Only a damn fool would make a phone call on their TV, or even think
about it. But, if the case is you and the wife can't afford seperate
hand-helds/netbooks, well, get a better job!

> It's for the same reason that I don't want to keep my frozen meat in my
> car. A whole lot of us prefer our devices to be purpose built instead of
> the myriad of compromises in having all in one instruments. History has
> shown that all in one devices tend to perform poorly or mediocre at best
> in all their functions.
>

Again, only a damn fool would think about keeping food in their
palm-top/ereader/netbook, or even think about it. Hmmm, my computer is
not a printer, but an external printer hooked up workes just fine. My
computer is not a netcard, but a USB dongle netcard works just
fine--plugged in, my computer is not a TV, but an USB dongle HD TV works
fine--plugged in, etc. In fact, I have never noticed any problems with
them running all at once. Perhaps you need new hardware.

> They kind of remind me of the Escalade SUV/Pickup trucks. Horrible
> pickup truck, poor SUV, and ugly as sin.
>

Never seen wheels, steering wheel, gearshift, headlights, etc. on a
palm-top/ereader/netbook/laptop/computer. This sounds more of mental
condition and/or drugs.

>
>> It is time to end the stone age of electronics!
>
> I want faster, better looking, and higher performance. I don't want
> all-in wonders, which are always compromises.
>

Must be boring never using any USB or ported peripherals, as your post
indicates! Try it, you will find that "all-in-one-wonders" are great!

> - Mike -

Regards,
JS

3348. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 21:42:23 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <4C588D3F.7010804@notvalid.com>
Source record: 8198

On 08/03/2010 04:21 PM, Wimpie wrote:
> On 3 ago, 04:08, Alejandro Lieber<alejan...@notvalid.com> wrote:
>> I would like to know if I can use RG-6 75 ohm coaxil TV cable to feed a
>> 14 Mhz dipole with 100 watts PEP.
>>
>> Thank you very much.
>>
>> Alejandro Lieber
>> LU1FCR
>> Rosario Argentina
>>
>> http://www.1fcr.com.ar
>>
>> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
> Hello Alejandro:
>
> If you can solve the mechanical issues, yes you can.
>
> When it has an electrical length n*0.5lambda (n= 0, 1, 2, etc), VSWR
> will be exactly the same as with a 50 Ohms cable. With other length
> (especially 0.25, 0.75 lambda, etc) length, you may get change in VSWR
> (can be both better or worse).
>
> When your dipole is about 50 Ohms (antenna side), just match it at the
> transceiver side if required, and don't worry about the cable loss due
> to VSWR inside the cable. When the antenna itself shows VSWR=1 (based
> on 50 Ohms), your VSWR at the transceiver side should not be worse
> then 2.25.
>
> You can use same common mode current suppression techniques (balun,
> ferrite common mode chokes, trap, etc) as with a 50 Ohms cable.
>
> Best regards,
>
> Wim
> PA3DJS
> www.tetech.nl
> without abc in the address, PM will reach me very likely.

I also plan to use the 75 ohm cable to feed a vertical for 20 meters 32ï¿½
high, that is to say aprox. 22 feet.

With that high, the impedance is 100 + i145 ohms. The reactance is
inductive and I will tune it out with a 80 pf capacitor in series made

with the same cable.

The feed line will be 1 +1/4 lambda so at the input of the line the impedance will be (75 x75)/108 = 52 ohms

The 8 radials will be 4 feet long with loses of aprox 5 ohms, so efficiency will be near 94%.

Alejandro Lieber
Rosario Argentina
LU1FCR

http://1fcr.com.ar

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3349. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 21:47:36 UTC
From: Gaius <bin@127.0.0.1>
Message-ID: <MPG.26c29ec44d15c7d398969d@news.zen.co.uk>
Source record: 8199

In article <4c57df1b$0$19161$65785112@news.neostrada.pl>,
sz.bialek@wp.pl says...
> The AC glow is not simmetrical. So in the radio transmitter must be
the
> netto electrons flow.
> Where can I find the DC ground current?
>
> S*

You are clearly influenced by the research of Professor Stanley Unwin.
You should read more of his works - you will recognise many of the
concepts you have been trying to explain.

G

3350. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 22:30:35 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <hr-dncBup4CHBcXRnZ2dnUVZ_t2dnZ2d@earthlink.com>
Source record: 8200

"Wimpie" <wimabctel@tetech.nl> wrote in message
news:4e14e9e8-3dd2-4db3-acce-f71e8ab96c55@x21g2000yqa.googlegroups.com...
> On 3 ago, 04:08, Alejandro Lieber <alejan...@notvalid.com> wrote:
>> I would like to know if I can use RG-6 75 ohm coaxil TV cable to feed a
>> 14 Mhz dipole with 100 watts PEP.
>>
>> Thank you very much.
>>
>> Alejandro Lieber
>> LU1FCR
>> Rosario Argentina
>>
>> http://www.1fcr.com.ar
>>
>> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
> Hello Alejandro:
>
> If you can solve the mechanical issues, yes you can.
>
> When it has an electrical length n*0.5lambda (n= 0, 1, 2, etc), VSWR
> will be exactly the same as with a 50 Ohms cable. With other length
> (especially 0.25, 0.75 lambda, etc) length, you may get change in VSWR
> (can be both better or worse).
>
> When your dipole is about 50 Ohms (antenna side), just match it at the
> transceiver side if required, and don't worry about the cable loss due
> to VSWR inside the cable. When the antenna itself shows VSWR=1 (based
> on 50 Ohms), your VSWR at the transceiver side should not be worse
> then 2.25.
>

Problem with all that is the dipole may be closer to 70 ohms than it is to
50 ohms. With 70 ohm cable, the swr will be close to 1:1. However most swr
and wattmeters that I have seen are for 50 ohm systems and will not show the
actual swr.
Cable losses with an swr of less than say 2:1 will be low enough not to make
any differance in the real world.

3351. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-03 23:03:56 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <nt7h569maves21bpqmfetub4donlklg4jb@4ax.com>
Source record: 8051

On Tue, 03 Aug 2010 16:25:44 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>John Smith wrote:
>
>> It is time to end the stone age of electronics!
>
>I want faster, better looking, and higher performance. I don't want
>all-in wonders, which are always compromises.
>

Amen brother! The reality of 'one size fits all' is 'one size fits no
one especially well'.

3352. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 01:10:33 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3aeme$jd2$1@news.eternal-september.org>
Source record: 8052

On 8/3/2010 4:03 PM, Registered User wrote:
> On Tue, 03 Aug 2010 16:25:44 -0400, Michael Coslo<mjc5@psu.edu>
> wrote:
>
>> John Smith wrote:
>>
>>> It is time to end the stone age of electronics!
>>
>> I want faster, better looking, and higher performance. I don't want
>> all-in wonders, which are always compromises.
>>
>
> Amen brother! The reality of 'one size fits all' is 'one size fits no
> one especially well'.

You are a godsend to the hardware manufacturers, they love you!

My TV, radio, stereo, MP3 player, DVD recorder/player, etc. all travel
in my briefcase as USB Dongles or software. That size fits me well! ROFLOL

To each his/her own,
regards,
JS

3353. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 01:13:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4c58bec2$0$55707$8046368a@newsreader.iphouse.net>
Source record: 8053

On 8/3/2010 11:49 AM, Szczepan Bialek wrote:
> "Michael Coslo"<mjc5@psu.edu> wrote>
> Bill Miller calls it "the transverse current". Electrons must displace
> perpendicular to the antenna surface in AC.
> In insulators are the electric losses.
>>
>> Voltage does not translate diresctly to heat.
>
> In insulated antena are the transverse current and the displacement current.
>
> The all are facts. Should be easy to observe.

If it is easy to observe then you should be able to observe the effect
yourself.

What have you seen?

t

3354. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 02:07:08 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <m38h5693plb718t7hlbmt233ov0u32gjk6@4ax.com>
Source record: 8054

On Tue, 03 Aug 2010 14:21:08 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 8/3/2010 1:25 PM, Michael Coslo wrote:
>> John Smith wrote:
>
>> No it isn't. I don't want to take calls on my television. The XYL will
>> talk for hours with friends. Seems like a bad thing to tie the TV up for
>> that time. I don't want my telephone to be my computer either, or listen
>> to my music on my telephone.
>>
>
>Only a damn fool would make a phone call on their TV, or even think
>about it.

But if as was suggested the computer is the TV and is the telephone
and is the ... abstractly they are all one device.

- quote -
Isn't it about time we stopped buy a seperate TV, radio, phone,
stereo, etc. A computer with the proper software and attachment(s)
are all of these and more (all these, except for phone, are available
on ebay.)
- end quote -

Literally by both connection and dependency they all become one
device. No USB device is especially useful without a computer's USB
port.

> But, if the case is you and the wife can't afford seperate
>hand-helds/netbooks, well, get a better job!
>

It's a functionality question not a financial question. Should a
second computer with all the USB peripherals be required just so
Mike's Mrs. can use the telephone while he watches television? Being
able to do something doesn't validate its worth. Using USB devices for
the sake of using USB devices gains no efficiencies.

>> It's for the same reason that I don't want to keep my frozen meat in my
>> car. A whole lot of us prefer our devices to be purpose built instead of
>> the myriad of compromises in having all in one instruments. History has
>> shown that all in one devices tend to perform poorly or mediocre at best
>> in all their functions.
>>
>

>Again, only a damn fool would think about keeping food in their
>palm-top/ereader/netbook, or even think about it.
>Hmmm, my computer is

Is this discussion about appliances with limited functionality such as
"palm-top/ereader/netbook" or a fully functional computer? How well do
the USB devices mentioned below work within the
"palm-top/ereader/netbook" trifeca?

>not a printer, but an external printer hooked up workes just fine. My
>computer is not a netcard, but a USB dongle netcard works just
>fine--plugged in, my computer is not a TV, but an USB dongle HD TV works
>fine--plugged in, etc. In fact, I have never noticed any problems with
>them running all at once. Perhaps you need new hardware.
>

Yourself as well, your USB spell-checker doesn't appear working
properly ;)

Your initial post alluded to convergence but all you're doing is daisy
chaining peripheral devices. The only visible difference between now
and ten years ago is the number and types of available USB devices.

All those peripherals may work well together until disk, bus and/or
processor activity becomes intensive. Regardless of optimism there are
always limitations.

>> They kind of remind me of the Escalade SUV/Pickup trucks. Horrible
>> pickup truck, poor SUV, and ugly as sin.
>>
>
>Never seen wheels, steering wheel, gearshift, headlights, etc. on a
>palm-top/ereader/netbook/laptop/computer. This sounds more of mental
>condition and/or drugs.
>
You missed the point and taking a second cheap shot won't help you
find it. The Escalade is an analogy about multi-purpose devices in
general, not about using a computer as a multi-purpose device.

If you've never seen wheels, steering wheel, gearshift, headlights,
etc. on a computer you haven't looked at today's passenger vehicles.
There's more processor power there than on/under your desk.

>palm-top/ereader/netbook/laptop/computer
>>
>>> It is time to end the stone age of electronics!
>>
>> I want faster, better looking, and higher performance. I don't want
>> all-in wonders, which are always compromises.
>>
>
>Must be boring never using any USB or ported peripherals, as your post
>indicates! Try it, you will find that "all-in-one-wonders" are great!

>
Pure conjecture. Mike's post provides no insights concerning his use
or non-use of USB devices. For all you know his computer might be
surrounded by cluster of USB devices.

3355. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 07:45:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c591a9d$0$2594$65785112@news.neostrada.pl>
Source record: 8055

"tom" <news4792@taring.org> wrote
news:4c58bec2$0$55707$8046368a@newsreader.iphouse.net...
> On 8/3/2010 11:49 AM, Szczepan Bialek wrote:
>> "Michael Coslo"<mjc5@psu.edu> wrote>
>> Bill Miller calls it "the transverse current". Electrons must displace
>> perpendicular to the antenna surface in AC.
>> In insulators are the electric losses.
>>>
>>> Voltage does not translate diresctly to heat.
>>
>> In insulated antena are the transverse current and the displacement
>> current.
>>
>> The all are facts. Should be easy to observe.
>
> If it is easy to observe then you should be able to observe the effect
> yourself.
>
> What have you seen?

I have not any possibility or opportunity.
Years ago I asked about the frequency doubling. The second answer was:
Luxembourg efect. It was this what I was
looking for.

But next were two hundred post with word salad on me and non-linear effects.

With the "polarisation" was the same.
So I know that sooner or later appear the valuable information.

Michael wrote: "Is it to be expected in highly efficent antennas, or just
inneficient ones in which there is substantial heating already? "

Lodge has seen the glow. You use the LED and VSWR..

Now everybody from you can measure the electron emission and heat emission.
I was expected that you (radio people) know the results.
S*

3356. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 08:36:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5926a7$0$2584$65785112@news.neostrada.pl>
Source record: 8056

"Michael Coslo" <mjc5@psu.edu> wrote
news:i39tca$ds7k$1@tr22n12.aset.psu.edu...
> Szczepan Bialek wrote:
>> "Michael Coslo" <mjc5@psu.edu> wrote
>> news:i39ehk$ds4s$1@tr22n12.aset.psu.edu...
>>> Szczepan Bialek wrote:
>>>> The was the additional question: "And what with the "natural"
>>>> insulations: the ice and the wet?
>>>>
>>>> Sometimes are on your dipoles an ice or water.
>>>> They should melt/evaporate in the places where are picks of the
>>>> voltage.
>>>> Is it observed?
>>> Are you assuming that because there is high voltage, there is current
>>> induced heating?
>>
>> Bill Miller calls it "the transverse current". Electrons must displace
>> perpendicular to the antenna surface in AC.
>> In insulators are the electric losses.

>>> Voltage does not translate diresctly to heat.
>
> Is a quantum effect current flow, and does heat emit from the process? If
> it isn't heat induced, the effect is almost certainly ionization.

No heat only in superconductors. In gold is lower than in aluminium.

>> In insulated antena are the transverse current and the displacement
>> current.
>>
>> The all are facts. Should be easy to observe.
>>
>> Some topics ago somebody analised the antenna temperature.
>> The end of the dipole should be the hottest.
>
>> Have you any observations in this subject?
>
> Aside from analysis, has anyone measured this effect?

Of course. The antennas on animalls have temperature rise below 15C.
>
> Is it to be expected in highly efficent antennas, or just inneficient ones
> in which there is substantial heating already?
>
> Is this assuming that the heat if given off is enough to raise the

> temperature surrounding th eantenna above 0deg C?

I do not know. I am asking you (antenna owners).
Working antenna is hotter than at rest. Which part of the dipole is the
hottest?
S*

3357. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 12:52:20 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <suki56hii34f9d3qg4rgvhveosu4h4jo7k@4ax.com>
Source record: 8057

On Tue, 03 Aug 2010 18:10:33 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 8/3/2010 4:03 PM, Registered User wrote:
>> On Tue, 03 Aug 2010 16:25:44 -0400, Michael Coslo<mjc5@psu.edu>
>> wrote:
>>
>>> John Smith wrote:
>>>
>>>> It is time to end the stone age of electronics!
>>>
>>> I want faster, better looking, and higher performance. I don't want
>>> all-in wonders, which are always compromises.
>>>
>>
>> Amen brother! The reality of 'one size fits all' is 'one size fits no
>> one especially well'.
>
>You are a godsend to the hardware manufacturers, they love you!
>
Why would that be when you are the one purchasing multiple USB
accessories to fulfill your supposed all-in-one vision.

>My TV, radio, stereo, MP3 player, DVD recorder/player, etc. all travel
>in my briefcase as USB Dongles or software. That size fits me well! ROFLOL
>
It sounds like you're describing my 3 y.o. laptop that has all that
hardware built-in. To use the box and all the devices it is simply a
matter of booting up. There is no need to unpack and connect a bunch
of peripherals. When done I can close the lid and go w/o the need to
disconnect and re-pack a bunch of peripherals. It's much closer to
being an all-in-one device than your box with all its external
accessories.

You might want to refrain from using the term 'USB dongle' to describe
anything that plugs into a USB port.

>To each his/her own,
>regards,
>JS

3358. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 13:17:59 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i3bpa7$9k1i$1@tr22n12.aset.psu.edu>
Source record: 8058

John Smith wrote:
> On 8/3/2010 1:25 PM, Michael Coslo wrote:
>> John Smith wrote:
>
>> No it isn't. I don't want to take calls on my television. The XYL will
>> talk for hours with friends. Seems like a bad thing to tie the TV up for
>> that time. I don't want my telephone to be my computer either, or listen
>> to my music on my telephone.
>>
>
> Only a damn fool would make a phone call on their TV, or even think
> about it. But, if the case is you and the wife can't afford seperate
> hand-helds/netbooks, well, get a better job!

So how does your Television/radio/phone/stereo work exactly? If a person using the phone at the same time as another person trying to watch TV and another wanting to listen to music isn't going to conflict, I'm not sure what will. You be the one that suggested we should be buying singular devices and plug dongles into them.

>> It's for the same reason that I don't want to keep my frozen meat in my
>> car. A whole lot of us prefer our devices to be purpose built instead of
>> the myriad of compromises in having all in one instruments. History has
>> shown that all in one devices tend to perform poorly or mediocre at best
>> in all their functions.
>>
>
> Again, only a damn fool would think about keeping food in their
> palm-top/ereader/netbook, or even think about it.

Hmm, I have to imagine you're deliberately missing that analogy.

> Hmmm, my computer is
> not a printer, but an external printer hooked up workes just fine. My
> computer is not a netcard, but a USB dongle netcard works just
> fine--plugged in, my computer is not a TV, but an USB dongle HD TV works
> fine--plugged in, etc. In fact, I have never noticed any problems with
> them running all at once. Perhaps you need new hardware.

As you will. My purpose built hardware has one huge advantage. A lot of people have a whole lot of trouble keeping their computers running. I spend a lot of time as my friends and family's Tech support guy.

Explain how having a PC, with all it's security issues and other problems, like updates that knock it out of commission, is going to be a superior alternative to a television that you turn on, or a phone you

pick up and use. When your computer is zombified or halted due to all the spyware on it, it will take down everything that is attached to it. After that, we have to worry about turning our Televisions, which at this time have a 15 year lifespan, into the 3 or 4 year lifespan of PC's. I can just see children waiting patiently while Dad reformats and reinstalls the system software because the computer got hosed and no one is getting anything on the television.

So people are going to have to become IT weenies so they can watch TV? Good luck with that one.

>> They kind of remind me of the Escalade SUV/Pickup trucks. Horrible
>> pickup truck, poor SUV, and ugly as sin.
>>
>
> Never seen wheels, steering wheel, gearshift, headlights, etc. on a
> palm-top/ereader/netbook/laptop/computer. This sounds more of mental
> condition and/or drugs.

Whoosh. Another analogy about devices that try to be more than one thing. A television is not a telephone is not a cell phone is not a stereo system. One could be pressed into service as all of the above, and at the same time - but it takes a pretty good argument to say it will perform as well as the separate devices.

>>
>>> It is time to end the stone age of electronics!
>>
>> I want faster, better looking, and higher performance. I don't want
>> all-in wonders, which are always compromises.
>>
>
> Must be boring never using any USB or ported peripherals, as your post
> indicates! Try it, you will find that "all-in-one-wonders" are great!

Have got no idea how you got the idea that I don't use USB devices.

- Mike -

3359. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 13:28:37 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i3bpu5$9k1k$1@tr22n12.aset.psu.edu>
Source record: 8059

Registered User wrote:
> On Tue, 03 Aug 2010 14:21:08 -0700, John Smith
> <assemblywizard@gmail.com> wrote:
>
>> On 8/3/2010 1:25 PM, Michael Coslo wrote:
>>> John Smith wrote:
>>> No it isn't. I don't want to take calls on my television. The XYL will
>>> talk for hours with friends. Seems like a bad thing to tie the TV up for
>>> that time. I don't want my telephone to be my computer either, or listen
>>> to my music on my telephone.
>>>
>> Only a damn fool would make a phone call on their TV, or even think
>> about it.
>
> But if as was suggested the computer is the TV and is the telephone
> and is the ... abstractly they are all one device.
>
> - quote -
> Isn't it about time we stopped buy a seperate TV, radio, phone,
> stereo, etc. A computer with the proper software and attachment(s)
> are all of these and more (all these, except for phone, are available
> on ebay.)
> - end quote -
>
> Literally by both connection and dependency they all become one
> device. No USB device is especially useful without a computer's USB
> port.
>
>> But, if the case is you and the wife can't afford seperate
>> hand-helds/netbooks, well, get a better job!
>>
>
> It's a functionality question not a financial question. Should a
> second computer with all the USB peripherals be required just so
> Mike's Mrs. can use the telephone while he watches television? Being
> able to do something doesn't validate its worth. Using USB devices for
> the sake of using USB devices gains no efficiencies.
>
>>> It's for the same reason that I don't want to keep my frozen meat in my
>>> car. A whole lot of us prefer our devices to be purpose built instead of
>>> the myriad of compromises in having all in one instruments. History has
>>> shown that all in one devices tend to perform poorly or mediocre at best
>>> in all their functions.
>>>

>> Again, only a damn fool would think about keeping food in their
>> palm-top/ereader/netbook, or even think about it.
>> Hmmm, my computer is
>
> Is this discussion about appliances with limited functionality such as
> "palm-top/ereader/netbook" or a fully functional computer? How well do
> the USB devices mentioned below work within the
> "palm-top/ereader/netbook" trifeca?
>
>> not a printer, but an external printer hooked up workes just fine. My
>> computer is not a netcard, but a USB dongle netcard works just
>> fine--plugged in, my computer is not a TV, but an USB dongle HD TV works
>> fine--plugged in, etc. In fact, I have never noticed any problems with
>> them running all at once. Perhaps you need new hardware.
>>
>
> Yourself as well, your USB spell-checker doesn't appear working
> properly ;)
>
> Your initial post alluded to convergence but all you're doing is daisy
> chaining peripheral devices. The only visible difference between now
> and ten years ago is the number and types of available USB devices.
>
> All those peripherals may work well together until disk, bus and/or
> processor activity becomes intensive. Regardless of optimism there are
> always limitations.
>
>>> They kind of remind me of the Escalade SUV/Pickup trucks. Horrible
>>> pickup truck, poor SUV, and ugly as sin.
>>>
>> Never seen wheels, steering wheel, gearshift, headlights, etc. on a
>> palm-top/ereader/netbook/laptop/computer. This sounds more of mental
>> condition and/or drugs.
>>
> You missed the point and taking a second cheap shot won't help you
> find it. The Escalade is an analogy about multi-purpose devices in
> general, not about using a computer as a multi-purpose device.
>
> If you've never seen wheels, steering wheel, gearshift, headlights,
> etc. on a computer you haven't looked at today's passenger vehicles.
> There's more processor power there than on/under your desk.
>
>> palm-top/ereader/netbook/laptop/computer
>>>> It is time to end the stone age of electronics!
>>> I want faster, better looking, and higher performance. I don't want
>>> all-in wonders, which are always compromises.
>>>
>> Must be boring never using any USB or ported peripherals, as your post
>> indicates! Try it, you will find that "all-in-one-wonders" are great!
>>

> Pure conjecture. Mike's post provides no insights concerning his use
> or non-use of USB devices. For all you know his computer might be
> surrounded by cluster of USB devices.

I use 'em by the ton. My computer controls my radio via Ham Radio Deluxe. I use DM-780 for my digital modes. The computer control of the radio takes place over a USB to serial Dongle. I also have a TinyTracker interface via another USB to Serial dongle. It works pretty well. But I'd never dream of plugging a MagicJack or watching Hulu on it. I have other computers for that stuff.

Not only would performance drop off, but there would be useage conflicts also. Right now, I can watch Television on my TV, while reading email on one of my computers, while carrying on a PPSK31 QSO with the rig control computer. Heck I could carry on a simultaneous conversation via phone too, I guess.

Much more difficult to do all the above if I was using all in one operation.

- 73 de Mike N3LI -

3360. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 15:44:18 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3c1smicv1@news.eternal-september.org>
Source record: 8060

On 8/3/2010 7:07 PM, Registered User wrote:
> On Tue, 03 Aug 2010 14:21:08 -0700, John Smith
> <assemblywizard@gmail.com> wrote:
>
>> On 8/3/2010 1:25 PM, Michael Coslo wrote:
>>> John Smith wrote:
>>
>>> No it isn't. I don't want to take calls on my television. The XYL will
>>> talk for hours with friends. Seems like a bad thing to tie the TV up for
>>> that time. I don't want my telephone to be my computer either, or listen
>>> to my music on my telephone.
>>>
>>
>> Only a damn fool would make a phone call on their TV, or even think
>> about it.
>
> But if as was suggested the computer is the TV and is the telephone
> and is the ... abstractly they are all one device.
>
> - quote -
> Isn't it about time we stopped buy a seperate TV, radio, phone,
> stereo, etc. A computer with the proper software and attachment(s)
> are all of these and more (all these, except for phone, are available
> on ebay.)
> - end quote -
>
> Literally by both connection and dependency they all become one
> device. No USB device is especially useful without a computer's USB
> port.
>
>> But, if the case is you and the wife can't afford seperate
>> hand-helds/netbooks, well, get a better job!
>>
>
> It's a functionality question not a financial question. Should a
> second computer with all the USB peripherals be required just so
> Mike's Mrs. can use the telephone while he watches television? Being
> able to do something doesn't validate its worth. Using USB devices for
> the sake of using USB devices gains no efficiencies.
>
>>> It's for the same reason that I don't want to keep my frozen meat in my
>>> car. A whole lot of us prefer our devices to be purpose built instead of
>>> the myriad of compromises in having all in one instruments. History has
>>> shown that all in one devices tend to perform poorly or mediocre at best

>>> in all their functions.
>>>
>>
>> Again, only a damn fool would think about keeping food in their
>> palm-top/ereader/netbook, or even think about it.
>> Hmmm, my computer is
>
> Is this discussion about appliances with limited functionality such as
> "palm-top/ereader/netbook" or a fully functional computer? How well do
> the USB devices mentioned below work within the
> "palm-top/ereader/netbook" trifeca?
>
>> not a printer, but an external printer hooked up workes just fine. My
>> computer is not a netcard, but a USB dongle netcard works just
>> fine--plugged in, my computer is not a TV, but an USB dongle HD TV works
>> fine--plugged in, etc. In fact, I have never noticed any problems with
>> them running all at once. Perhaps you need new hardware.
>>
>
> Yourself as well, your USB spell-checker doesn't appear working
> properly ;)
>
> Your initial post alluded to convergence but all you're doing is daisy
> chaining peripheral devices. The only visible difference between now
> and ten years ago is the number and types of available USB devices.
>
> All those peripherals may work well together until disk, bus and/or
> processor activity becomes intensive. Regardless of optimism there are
> always limitations.
>
>>> They kind of remind me of the Escalade SUV/Pickup trucks. Horrible
>>> pickup truck, poor SUV, and ugly as sin.
>>>
>>
>> Never seen wheels, steering wheel, gearshift, headlights, etc. on a
>> palm-top/ereader/netbook/laptop/computer. This sounds more of mental
>> condition and/or drugs.
>>
> You missed the point and taking a second cheap shot won't help you
> find it. The Escalade is an analogy about multi-purpose devices in
> general, not about using a computer as a multi-purpose device.
>
> If you've never seen wheels, steering wheel, gearshift, headlights,
> etc. on a computer you haven't looked at today's passenger vehicles.
> There's more processor power there than on/under your desk.
>
>> palm-top/ereader/netbook/laptop/computer
>>>
>>>> It is time to end the stone age of electronics!
>>>

>>> I want faster, better looking, and higher performance. I don't want
>>> all-in wonders, which are always compromises.
>>>
>>
>> Must be boring never using any USB or ported peripherals, as your post
>> indicates! Try it, you will find that "all-in-one-wonders" are great!
>>
> Pure conjecture. Mike's post provides no insights concerning his use
> or non-use of USB devices. For all you know his computer might be
> surrounded by cluster of USB devices.
>

Pure tripe, and too obvious to respond to. The cry of desperation in
all the verbiage is deafening.

If you missed it, read my first post over, a few times ...

Regards,
JS

3361. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 15:48:03 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3c23ojji1@news.eternal-september.org>
Source record: 8061

On 8/4/2010 6:28 AM, Michael Coslo wrote:

> ...
> I use 'em by the ton. My computer controls my radio via Ham Radio
> Deluxe. I use DM-780 for my digital modes. The computer control of the
> radio takes place over a USB to serial Dongle. I also have a TinyTracker
> interface via another USB to Serial dongle. It works pretty well. But
> I'd never dream of plugging a MagicJack or watching Hulu on it. I have
> other computers for that stuff.
>
> Not only would performance drop off, but there would be useage conflicts
> also. Right now, I can watch Television on my TV, while reading email on
> one of my computers, while carrying on a PPSK31 QSO with the rig control
> computer. Heck I could carry on a simultaneous conversation via phone
> too, I guess.
>
> Much more difficult to do all the above if I was using all in one
> operation.
>
> - 73 de Mike N3LI -

Well then, sounds like you are on the right track, headed in the right direction. It just takes some a bit longer than others. I am sure you will get it right ... eventually. Anyway, will give you something to do while we are waiting for a software controlled cell phone to be developed. But like I say, it probably won't happen until enough people become "electronic literate" enough to demand them.

Regards,
JS

3362. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 16:06:33 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3c36e$p7h$1@news.eternal-september.org>
Source record: 8062

On 8/4/2010 6:17 AM, Michael Coslo wrote:

>
> So how does your Television/radio/phone/stereo work exactly? If a person
> using the phone at the same time as another person trying to watch TV
> and another wanting to listen to music isn't going to conflict, I'm not
> sure what will. You be the one that suggested we should be buying
> singular devices and plug dongles into them.
>

Yeah, I can see how you would have a lot of time figuring that out. It
is done with multiple computers. Home entertainment systems is run off
a desktop. Portable stuff done around the home is done on a laptop.
Stuff in a hotel room is done on one of the travel netbook/laptops.
However, I frequently have the tv in a corner of my screen, muted, an
MP3 playing though USB wireless headphones, a call going over skype or
another such application, and the software defined (SDR) radio
monitoring, etc. So the conflicts you keep coming up with are just
unknown here. Perhaps you are just one of those people who can only do
one thing at a time?

>
>
>>> It's for the same reason that I don't want to keep my frozen meat in my
>>> car. A whole lot of us prefer our devices to be purpose built instead of
>>> the myriad of compromises in having all in one instruments. History has
>>> shown that all in one devices tend to perform poorly or mediocre at best
>>> in all their functions.
>>>
>>
>> Again, only a damn fool would think about keeping food in their
>> palm-top/ereader/netbook, or even think about it.
>
> Hmm, I have to imagine you're deliberately missing that analogy.
>

I imagine you must be missing refrigerated food!

>
>> Hmmm, my computer is not a printer, but an external printer hooked up
>> workes just fine. My computer is not a netcard, but a USB dongle
>> netcard works just fine--plugged in, my computer is not a TV, but an
>> USB dongle HD TV works fine--plugged in, etc. In fact, I have never
>> noticed any problems with them running all at once. Perhaps you need
>> new hardware.
>

> As you will. My purpose built hardware has one huge advantage. A lot of
> people have a whole lot of trouble keeping their computers running. I
> spend a lot of time as my friends and family's Tech support guy.
>

Yeah, that is a real pain. You do have to learn to properly
use/maintain a computer. I am always amazed at the amount of people
standing around calling a tech for some simple "plug it in" answer to
fix it. Usually, these are the first to tell you about all the
technically complex stuff they are doing on their computer, like your
text here starts off, then you find out it usually set non-functional in
a corner with them afraid to touch it, in fear of messing it up, ROFLOL.

> Explain how having a PC, with all it's security issues and other
> problems, like updates that knock it out of commission, is going to be a
> superior alternative to a television that you turn on, or a phone you
> pick up and use. When your computer is zombified or halted due to all
> the spyware on it, it will take down everything that is attached to it.
> After that, we have to worry about turning our Televisions, which at
> this time have a 15 year lifespan, into the 3 or 4 year lifespan of
> PC's. I can just see children waiting patiently while Dad reformats and
> reinstalls the system software because the computer got hosed and no one
> is getting anything on the television.
>
> So people are going to have to become IT weenies so they can watch TV?
> Good luck with that one.
>

The above just proposes a lot of problems which don't exist in my world.
My computers run rock solid. If a kid messes with a control, or
causes a problem in the software, I just fix it. Obviously, you need a
computer course, or two, or three, ... and knowledge in the correct
operation of computers. I use Avast free anti-virus. McAfee, Norton,
etc. are just too buggy--there is a problem with these products.
Microsoft defender is an excellent addition to this.

>
>>> They kind of remind me of the Escalade SUV/Pickup trucks. Horrible
>>> pickup truck, poor SUV, and ugly as sin.
>>>
>>
>> Never seen wheels, steering wheel, gearshift, headlights, etc. on a
>> palm-top/ereader/netbook/laptop/computer. This sounds more of mental
>> condition and/or drugs.
>
> Whoosh. Another analogy about devices that try to be more than one
> thing. A television is not a telephone is not a cell phone is not a
> stereo system. One could be pressed into service as all of the above,
> and at the same time - but it takes a pretty good argument to say it
> will perform as well as the separate devices.
>

That is just a blatantly stupid remark. The computer was meant to do
all this and much, much more. It is that single-device-single-function
mentality which manufacturers have hired madison avenue ad men to sell
you at work.

>>>
>>>> It is time to end the stone age of electronics!
>>>
>>> I want faster, better looking, and higher performance. I don't want
>>> all-in wonders, which are always compromises.
>>>
>>
>> Must be boring never using any USB or ported peripherals, as your post
>> indicates! Try it, you will find that "all-in-one-wonders" are great!
>
> Have got no idea how you got the idea that I don't use USB devices.

Well, you whole texts are confusing. They are written around a logic
which defies translation!

>
> - Mike -

Regards,
JS

3363. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 16:11:04 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3c3et$ql4$1@news.eternal-september.org>
Source record: 8063

On 8/4/2010 5:52 AM, Registered User wrote:

> Why would that be when you are the one purchasing multiple USB
> accessories to fulfill your supposed all-in-one vision.
>

Simply go back and read the original post, that was never my vision.
That was someone elses' interpretation of my text, and that error became
translated into your interpretation.

>> My TV, radio, stereo, MP3 player, DVD recorder/player, etc. all travel
>> in my briefcase as USB Dongles or software. That size fits me well! ROFLOL
>>
> It sounds like you're describing my 3 y.o. laptop that has all that
> hardware built-in. To use the box and all the devices it is simply a
> matter of booting up. There is no need to unpack and connect a bunch
> of peripherals. When done I can close the lid and go w/o the need to
> disconnect and re-pack a bunch of peripherals. It's much closer to
> being an all-in-one device than your box with all its external
> accessories.

No, you are simply trapped by your own world. You need to look beyond
to what other people are actually saying and using.

>
> You might want to refrain from using the term 'USB dongle' to describe
> anything that plugs into a USB port.

That is exactly what they were, have always been, and still are. The
term was coined back in the early 70's and used to be applied to
differing externals plugged in to differing ports of a computer. I
guess you learn something new everyday.

>
>> To each his/her own,
>> regards,
>> JS

Regards,
JS

3364. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 16:17:08 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <4dgoi7-2j2.ln1@mail.specsol.com>
Source record: 8064

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> I have not any possibility or opportunity.
> Years ago I asked about the frequency doubling. The second answer was:
> Luxembourg efect. It was this what I was
> looking for.
>
> But next were two hundred post with word salad on me and non-linear effects.
>
> With the "polarisation" was the same.
> So I know that sooner or later appear the valuable information.
>
> Michael wrote: "Is it to be expected in highly efficent antennas, or just
> inneficient ones in which there is substantial heating already? "
>
> Lodge has seen the glow. You use the LED and VSWR..
>
> Now everybody from you can measure the electron emission and heat emission.
> I was expected that you (radio people) know the results.
> S*

Yet another steaming pile of gibberish and word salad.

--
Jim Pennino

Remove .spam.sux to reply.

3365. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 17:21:45 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3c7jc$d63$1@news.eternal-september.org>
Source record: 8065

On 6/30/2010 3:38 PM, Gary Smith wrote:
> Hi, i have a 2.4 metre solid dish here and was going to use it for TVRO but
> havn't got round to it as the majority of it is foreign with subtitles and
> that doesn't impress me all that much. Just wondering how i might be able to
> utilise this dish in the HAM scenario. I am a "Standard" licence in
> Australia which entitles me to transmit on most bands excluding 3776 - 3800,
> 50 - 52 MHz, 420 - 430 MHz, 2300 - 2302 MHz, 3.5 gig, 10gig, and above. Also
> can't use WARC bands. So it's a bit limited in the higher part of spectrum
> but just wondering if someone could offer some suggestions on what i could
> use it for (Except birdbath, fishpond etc lol)
>
> Thanks
>
> Gary
> VK3LCD
>
>

chuck a USB WiFi Dongle at the focal point and see how far/many WiFi
routers you can hit?

Regards,
JS

3366. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 18:00:41 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <v28j56hoaftdd5daj4s09pe0ls94iqcinh@4ax.com>
Source record: 8066

On Wed, 04 Aug 2010 09:11:04 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>>
>> You might want to refrain from using the term 'USB dongle' to describe
>> anything that plugs into a USB port.
>
>That is exactly what they were, have always been, and still are.
Nope, try an external hardware device which acts as a security key for
a specific piece of software.

>The term was coined back in the early 70's
Nope, wrong decade.

>and used to be applied to differing externals plugged in to differing ports of a computer.
>I guess you learn something new everyday.
>
Apparently not you as you profess to have all the answers already.

3367. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 19:10:24 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i3cdv0$ek30$1@tr22n12.aset.psu.edu>
Source record: 8067

John Smith wrote:

>
> Well, you whole texts are confusing. They are written around a logic
> which defies translation!

Well, JS. Why don't you design and implement this system. You don't like my logic, and I am "wrong". I say it won't work, and gave my reasons. Prove me wrong. Along the way, you'll become the richest man in the world.

I say people have enough trouble with their computers already to have everything they own running on one. Because it won't be running. There is no reason to believe that this setup you propose will be any more reliable than what is already out there, and not being reliable now.

It isn't vision, it isn't being a Luddite, it's just that it isn't practical. My Television is already accessing the internet. It's doing it via software that isn't Microsoft Windows based, and avoids all the vulnerabilities that platform has. My Telephone is IP based, and the same for that. It works, it's not Windows. The weak point of my entire home communication system is the computer internet access. And if you don't have any trouble, you're one of the few. My Linux machine doesn't have any particular problems, my Mac runs bareback. My Windows PC has to be locked down like Fort knox. It's hard to imagine giving up my presently operating systems to migrate to the weakest link of the chain.

But by all means, have at it. Remember us little folk.

My favorite part about Windows users is when I note a problem, they say "Gee, I've never had a problem with my machine - it works flawlessly. THen they start to tell me about the time a virus got into their machine, and they ended up reformatting the drive and reinstalling Windows, and the time they got their DLL's messed up and ended up reformatting the drive and reinstalling Windows, and the time their machine was zombified and they ended up reformatting the drive but it was rootkitted and they have to reformat again, and then figured out they had a problem in the BIOS. But they've never had a problem.

Even those who have a running computer don't know exactly what's on it.

I deal with repairing this stuff every day, and I have to tell ya, there are a lot of intelligent people that for whatever reason, can't keep their computers running.

Anyhow, have fun, no use of you arguing with the great unwashed like myself.

- 73 de Mike N3LI -

3368. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 19:56:46 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3cgm3qcf1@news.eternal-september.org>
Source record: 8068

On 8/4/2010 11:00 AM, Registered User wrote:

> Nope, try an external hardware device which acts as a security key for
> a specific piece of software.
>

A major CAD (computer assisted drafting) software company made that a
popular term for its' copy protection. Anyone coming though an industry
heavily dependent on such, and working is such a department, would
certainly share your view. This is much the same as the term "Computer
Hacker"--used to denote one who is tops in their field; This term was
usurped by the news and now in joe-blow-six-packs minds is associated
with computer criminal. Their error.

>> The term was coined back in the early 70's
> Nope, wrong decade.
>

It was coined before CAD existed.

>> and used to be applied to differing externals plugged in to differing ports of a
computer.
>> I guess you learn something new everyday.
>>
> Apparently not you as you profess to have all the answers already.

I don't profess any such thing, you do.

Regards,
JS

3369. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 19:57:26 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3cgn9qcf2@news.eternal-september.org>
Source record: 8069

On 8/4/2010 12:10 PM, Michael Coslo wrote:
> John Smith wrote:
>
>>
>> Well, you whole texts are confusing. They are written around a logic
>> which defies translation!
>
> Well, JS. Why don't you design and implement this system. You don't like
> my logic, and I am "wrong". I say it won't work, and gave my reasons.
> Prove me wrong. Along the way, you'll become the richest man in the world.
>
> I say people have enough trouble with their computers already to have
> everything they own running on one. Because it won't be running. There
> is no reason to believe that this setup you propose will be any more
> reliable than what is already out there, and not being reliable now.
>
> It isn't vision, it isn't being a Luddite, it's just that it isn't
> practical. My Television is already accessing the internet. It's doing
> it via software that isn't Microsoft Windows based, and avoids all the
> vulnerabilities that platform has. My Telephone is IP based, and the
> same for that. It works, it's not Windows. The weak point of my entire
> home communication system is the computer internet access. And if you
> don't have any trouble, you're one of the few. My Linux machine doesn't
> have any particular problems, my Mac runs bareback. My Windows PC has to
> be locked down like Fort knox. It's hard to imagine giving up my
> presently operating systems to migrate to the weakest link of the chain.
>
> But by all means, have at it. Remember us little folk.
>
>
> My favorite part about Windows users is when I note a problem, they say
> "Gee, I've never had a problem with my machine - it works flawlessly.
> THen they start to tell me about the time a virus got into their
> machine, and they ended up reformatting the drive and reinstalling
> Windows, and the time they got their DLL's messed up and ended up
> reformatting the drive and reinstalling Windows, and the time their
> machine was zombified and they ended up reformatting the drive but it
> was rootkitted and they have to reformat again, and then figured out
> they had a problem in the BIOS. But they've never had a problem.
>
> Even those who have a running computer don't know exactly what's on it.
>
> I deal with repairing this stuff every day, and I have to tell ya, there
> are a lot of intelligent people that for whatever reason, can't keep

> their computers running.
>
> Anyhow, have fun, no use of you arguing with the great unwashed like
> myself.
>
> - 73 de Mike N3LI -

You can cure most of your problems with a college course, or two.

Regards,
JS

3370. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 22:29:12 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <dd27f357-c979-460a-aec8-5e55f18a54ba@x21g2000yqa.googlegroups.com>
Source record: 8070

On Aug 4, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Michael Coslo" <m...@psu.edu> wrotenews:i39tca$ds7k$1@tr22n12.aset.psu.edu...
>
>
>
> > Szczepan Bialek wrote:
> >> "Michael Coslo" <m...@psu.edu> wrote
> >>news:i39ehk$ds4s$1@tr22n12.aset.psu.edu...
> >>> Szczepan Bialek wrote:
> >>>> The was the additional question: "And what with the "natural"
> >>>> insulations: the ice and the wet?
>
> >>>> Sometimes are on your dipoles an ice or water.
> >>>> They should melt/evaporate in the places where are picks of the
> >>>> voltage.
> >>>> Is it observed?
> >>> Are you assuming that because there is high voltage, there is current
> >>> induced heating?
>
> >> Bill Miller calls it "the transverse current". Electrons must displace
> >> perpendicular to the antenna surface in AC.
> >> In insulators are the electric losses.
> >>> Voltage does not translate diresctly to heat.
>
> > Is a quantum effect current flow, and does heat emit from the process? If
> > it isn't heat induced, the effect is almost certainly ionization.
>
> No heat only in superconductors. In gold is lower than in aluminium.
>
> >> In insulated antena are the transverse current and the displacement
> >> current.
>
> >> The all are facts. Should be easy to observe.
>
> >> Some topics ago somebody analised the antenna temperature.
> >> The end of the dipole should be the hottest.
>
> >> Have you any observations in this subject?
>
> > Aside from analysis, has anyone measured this effect?
>
> Of course. The antennas on animalls have temperature rise below 15C.
>
>

>
> > Is it to be expected in highly efficent antennas, or just inneficient ones
> > in which there is substantial heating already?
>
> > Is this assuming that the heat if given off is enough to raise the
> > temperature surrounding th eantenna above 0deg C?
>
> I do not know. I am asking you (antenna owners).
> Working antenna is hotter than at rest. Which part of the dipole is the
> hottest?
> S*

the center part is the hottest.

3371. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-04 22:30:40 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <bcjj56hlacckm9v2u0tttjfobpv8m178dm@4ax.com>
Source record: 8071

On Wed, 04 Aug 2010 12:56:46 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 8/4/2010 11:00 AM, Registered User wrote:
>
>> Nope, try an external hardware device which acts as a security key for
>> a specific piece of software.
>>
>
>A major CAD (computer assisted drafting) software company made that a
>popular term for its' copy protection. Anyone coming though an industry
>heavily dependent on such, and working is such a department, would
>certainly share your view.

After VAX boxes and other minicomputers appeared, many types of
commercial productivity applications besides CAD tool relied on
dongles as security devices. As computers moved to the desktop this
did not change. There was even a C-64 accounting application that
required a dongle. It was primitive but effective security.

>This is much the same as the term "Computer
>Hacker"--used to denote one who is tops in their field; This term was
>usurped by the news and now in joe-blow-six-packs minds is associated
>with computer criminal. Their error.

Not quite. Journalism isn't the only field where hack writers can be
found. Quick and dirty code is often referred to by the author as a
being a quick hack. It's an acknowledgement that the code is not
particularly elegant or robust, just a temporary solution to resolve
an issue or answer a question.

If a computer professional describes them self as a hacker today
(without using the word hat), it's an admission their skills and
training could be better. Calling any computer professional a hack is
a insult.

>>> The term was coined back in the early 70's
>> Nope, wrong decade.
>>
>
>It was coined before CAD existed.
>
Given CAD software has been around for almost fifty years, it appears
you're disagreeing with yourself WRT computer dongles.

>>> and used to be applied to differing externals plugged in to differing ports of a computer.
>>> I guess you learn something new everyday.
>>>
>> Apparently not you as you profess to have all the answers already.
>
>I don't profess any such thing, you do.
>
I'm not the one who wrote

- quote -

It is time to end the stone age of electronics!

- end quote -

and then offered USB devices as the path to enlightenment.

3372. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 00:33:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4c5a06d4$0$55712$8046368a@newsreader.iphouse.net>
Source record: 8072

```
On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> wrote
> news:4c58bec2$0$55707$8046368a@newsreader.iphouse.net...
>> On 8/3/2010 11:49 AM, Szczepan Bialek wrote:
>>> "Michael Coslo"<mjc5@psu.edu> wrote>
>>> Bill Miller calls it "the transverse current". Electrons must displace
>>> perpendicular to the antenna surface in AC.
>>> In insulators are the electric losses.
>>>>
>>>> Voltage does not translate diresctly to heat.
>>>
>>> In insulated antena are the transverse current and the displacement
>>> current.
>>>
>>> The all are facts. Should be easy to observe.
>>
>> If it is easy to observe then you should be able to observe the effect
>> yourself.
>>
>> What have you seen?
>
> I have not any possibility or opportunity.
> Years ago I asked about the frequency doubling. The second answer was:
> Luxembourg efect. It was this what I was
> looking for.
>
> But next were two hundred post with word salad on me and non-linear effects.
>
> With the "polarisation" was the same.
> So I know that sooner or later appear the valuable information.
>
> Michael wrote: "Is it to be expected in highly efficent antennas, or just
> inneficient ones in which there is substantial heating already? "
>
> Lodge has seen the glow. You use the LED and VSWR..
>
> Now everybody from you can measure the electron emission and heat emission.
> I was expected that you (radio people) know the results.
> S*
>
>

Actually we do. You, who believe the 200 and 100 year old myths, don't
believe us. And then you prattle on about us not knowing of what we
```

speak when it is you who do not.

*t

3373. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 04:39:53 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3dfau$5vc$1@news.eternal-september.org>
Source record: 8073

On 8/4/2010 3:30 PM, Registered User wrote:

>
> Not quite. Journalism isn't the only field where hack writers can be
> found. Quick and dirty code is often referred to by the author as a
> being a quick hack. It's an acknowledgement that the code is not
> particularly elegant or robust, just a temporary solution to resolve
> an issue or answer a question.
>
> If a computer professional describes them self as a hacker today
> (without using the word hat), it's an admission their skills and
> training could be better. Calling any computer professional a hack is
> a insult.
>

Absolutely could not disagree with you more. I do all computer languages (Assembly, Cobol, Snobal, BASIC, C/C++, Pascal, etc., etc.), but prefer assembly and C/C++. Only hackers (doctorates) work within my circle. We all enjoy being called hackers, we worked hard to win that title. Anyone in disagreement works for some corporation practicing security though obscurity, i.e. part of the security are dumb-ed down software engineers. Or, is a member of the joe-blow-six-pack club which watches the 11 P.M. news.

> Given CAD software has been around for almost fifty years, it appears
> you're disagreeing with yourself WRT computer dongles.
>

Let me cut to the chase, there are four types of dongles, in the context we are discussing. One will plug into a computer port, the other is in my pants, the third type is obsolete, the forth is walking around with similar characteristics to the one in my pants. ROFLOL!

> I'm not the one who wrote
>
> - quote -
>
> It is time to end the stone age of electronics!
>
> - end quote -
>
> and then offered USB devices as the path to enlightenment.

I did no such thing. Make a computer a cell phone ... or any damn other thing you wish. USB dongles are the quickest/cheapest route.

It takes too much time to keep correcting your errors in text, thinking, etc. Go play with someone else not ...

Regards,
JS

3374. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 07:38:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5a6a75$0$19168$65785112@news.neostrada.pl>
Source record: 8074

"tom" <news4792@taring.org> wrote
news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>> >>
>> Now everybody from you can measure the electron emission and heat
>> emission.
>> I was expected that you (radio people) know the results.
>
> Actually we do. You, who believe the 200 and 100 year old myths, don't
> believe us. And then you prattle on about us not knowing of what we speak
> when it is you who do not.

Tesla wrote in XX century that EM is a myth. I simply agree with him.
Tell me then who know better how the radio works: Tesla or you?
S*

3375. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 07:55:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5a6e91$0$19162$65785112@news.neostrada.pl>
Source record: 8075

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:dd27f357-c979-460a-aec8-5e55f18a54ba@x21g2000yqa.googlegroups.com...
On Aug 4, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> I do not know. I am asking you (antenna owners).
> Working antenna is hotter than at rest. Which part of the dipole is the
> hottest?

>the center part is the hottest.

If the junction with the transmission line is poor.

As you see I cannot accept your answer because it do not fit to Tesla's
radio. So the next question:

The simplest dipole is made from a transmission cable. It is enough to
stretch the wires in the oppsite directions (like arms).
The no junctions.

Which part is the hottest?:
-Transmission cable,
-The first part of the arm,
-The end of the arm.
S*

3376. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 12:57:48 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i3ecgc$cs24$1@tr22n12.aset.psu.edu>
Source record: 8076

John Smith wrote:

> Absolutely could not disagree with you more. I do all computer
> languages (Assembly, Cobol, Snobal, BASIC, C/C++, Pascal, etc., etc.),
> but prefer assembly and C/C++. Only hackers (doctorates) work within my
> circle. We all enjoy being called hackers, we worked hard to win that
> title. Anyone in disagreement works for some corporation practicing
> security though obscurity, i.e. part of the security are dumb-ed down
> software engineers. Or, is a member of the joe-blow-six-pack club which
> watches the 11 P.M. news.

And yet you come down to grace us lowlife with your wisdom, looking for all the world like an anonymous Troll. You don't get the recognition you deserve, John.

How come you're not using your superior skills to implement this system?

- Mike -

3377. Re: Design Flaw in iPhone 4, Testers Say

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 14:45:36 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <sqdl56lj6ebdaa6e7lfa7iu1tg0a09ho0l@4ax.com>
Source record: 8077

On Wed, 04 Aug 2010 21:39:53 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 8/4/2010 3:30 PM, Registered User wrote:
>
>>
>> Not quite. Journalism isn't the only field where hack writers can be
>> found. Quick and dirty code is often referred to by the author as a
>> being a quick hack. It's an acknowledgement that the code is not
>> particularly elegant or robust, just a temporary solution to resolve
>> an issue or answer a question.
>>
>> If a computer professional describes them self as a hacker today
>> (without using the word hat), it's an admission their skills and
>> training could be better. Calling any computer professional a hack is
>> a insult.
>>
>
>Absolutely could not disagree with you more. I do all computer
>languages (Assembly, Cobol, Snobal, BASIC, C/C++, Pascal, etc., etc.),
>but prefer assembly and C/C++.

You "do" all languages huh? Maybe I should be impressed but I'm not.
Reeling off a list of programming languages (with one mis-spelled)
says little about depth of knowledge and corresponding skillsets. The
list does suggest most if not all of what you do involves procedural
programming.

>Only hackers (doctorates) work within my
>circle. We all enjoy being called hackers, we worked hard to win that
>title. Anyone in disagreement works for some corporation practicing
>security though obscurity, i.e. part of the security are dumb-ed down
>software engineers. Or, is a member of the joe-blow-six-pack club which
>watches the 11 P.M. news.
>
Once again you make grand assumptions, your little circle is correct
and everyone else is wrong, wrong, wrong. AFA working with a bunch of
doctorates, what should be inferred? Both the top and bottom of a
graduating class get the same piece of paper. All the document means
is the course of study has been successfully completed, nothing more.

>> Given CAD software has been around for almost fifty years, it appears
>> you're disagreeing with yourself WRT computer dongles.
>>
>

>Let me cut to the chase, there are four types of dongles, in the context
>we are discussing. One will plug into a computer port, the other is in
>my pants, the third type is obsolete, the forth is walking around with
>similar characteristics to the one in my pants. ROFLOL!
>

It's good you're able to keep yourself amused.

>> I'm not the one who wrote
>>
>> - quote -
>>
>> It is time to end the stone age of electronics!
>>
>> - end quote -
>>
>> and then offered USB devices as the path to enlightenment.
>
>I did no such thing.

Funny thing, the written record appears to disagree.

>Make a computer a cell phone ... or any damn other
>thing you wish. USB dongles are the quickest/cheapest route.
>
Re-read what you've written previously and consider the differences
between the "is a" and "has a" relationships.

>It takes too much time to keep correcting your errors in text, thinking,
>etc. Go play with someone else not ...
>

Like where I wrote the term dongle was coined in the early seventies
and existed before CAD applications? Oh wait you wrote that and I
pointed out that the generally-acknowledged first CAD application was
produced in the early sixties.

I'll give up and will concede that you are indeed a hack programmer.
Wear the title well.

3378. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 17:19:06 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ad8ri7-k0e.ln1@mail.specsol.com>
Source record: 8078

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
> news:dd27f357-c979-460a-aec8-5e55f18a54ba@x21g2000yqa.googlegroups.com...
> On Aug 4, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>
>>> I do not know. I am asking you (antenna owners).
>> Working antenna is hotter than at rest. Which part of the dipole is the
>> hottest?
>
>>the center part is the hottest.
>
> If the junction with the transmission line is poor.

Babbling nonsense and shows you have no clue as to the meaning of voltage,
current, and power.

> As you see I cannot accept your answer because it do not fit to Tesla's
> radio. So the next question:

No, you can't accept the answer because it doesn't fit your demented
preconceptions.

Tesla died insane a long time ago.

> The simplest dipole is made from a transmission cable. It is enough to
> stretch the wires in the oppsite directions (like arms).
> The no junctions.
>
> Which part is the hottest?:
> -Transmission cable,
> -The first part of the arm,
> -The end of the arm.
> S*

The above is just babbling word salad and the question has been answered,
whether you like the answer or not.

--
Jim Pennino

Remove .spam.sux to reply.

3379. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 17:19:58 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ue8ri7-k0e.ln1@mail.specsol.com>
Source record: 8079

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "tom" <news4792@taring.org> wrote
> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>> >>
>>> Now everybody from you can measure the electron emission and heat
>>> emission.
>>> I was expected that you (radio people) know the results.
>>
>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>> believe us. And then you prattle on about us not knowing of what we speak
>> when it is you who do not.
>
> Tesla wrote in XX century that EM is a myth. I simply agree with him.
> Tell me then who know better how the radio works: Tesla or you?
> S*

Tesla died insane a long time ago.

You babble on insanely.

--
Jim Pennino

Remove .spam.sux to reply.
```

3380. N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 18:33:25 UTC
From: Al Lorona <al_lorona@agilent.com>
Message-ID: <i3f07jbar1@speranza.aioe.org>
Source record: 8080

Anybody with experience with this antenna? It appears to be a quasi-vertical dipole with two "radials" attached to the bottom end and fed at the bottom. At least this appears to be the case; I could be wrong.

What issues arise when feeding a dipole at one end (the bottom in this case)? This can't be a truly balanced design, can it?

Al W6LX

3381. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 22:40:29 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3fel3bkd1@news.eternal-september.org>
Source record: 8081

On 8/5/2010 11:33 AM, Al Lorona wrote:
> Anybody with experience with this antenna? It appears to be a quasi-vertical
> dipole with two "radials" attached to the bottom end and fed at the bottom.
> At least this appears to be the case; I could be wrong.
>
> What issues arise when feeding a dipole at one end (the bottom in this
> case)? This can't be a truly balanced design, can it?
>
> Al W6LX
>
>

Most likely, it is something similar to this:
http://www.earchi.org/pdf/ENDFED.pdf

Pick up a reasonable matchbox, or build your own, use with the above
80-10m. I'd be surprised if what he has warrants the expense.

Regards,
JS

3382. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 23:12:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <82839184-9edf-4779-9394-ecf15c454cf8@y11g2000yqm.googlegroups.com>
Source record: 8082

On Aug 5, 7:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:dd27f357-c979-460a-aec8-5e55f18a54ba@x21g2000yqa.googlegroups.com...
> On Aug 4, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> I do not know. I am asking you (antenna owners).
> > > Working antenna is hotter than at rest. Which part of the dipole is the
> > > hottest?
> > >the center part is the hottest.
>
> If the junction with the transmission line is poor.
>
> As you see I cannot accept your answer because it do not fit to Tesla's
> radio. So the next question:
>
> The simplest dipole is made from a transmission cable. It is enough to
> stretch the wires in the oppsite directions (like arms).
> The no junctions.
>
> Which part is the hottest?:
> -Transmission cable,
> -The first part of the arm,
> -The end of the arm.
> S*

i know better than whatever you think you understand of tesla's work,
and also have at least 60 years of research after he died to support
it. the first part of the arm is hottest, just like the center part
of the dipole that is not heated due to a bad connection... maybe you
make bad connections to dipoles, i don't!

3383. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-05 23:38:52 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <cf0a3185-73cf-4ce2-a9a7-98485f3a55a0@q22g2000yqm.googlegroups.com>
Source record: 8083

On Aug 5, 7:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:dd27f357-c979-460a-aec8-5e55f18a54ba@x21g2000yqa.googlegroups.com...
> On Aug 4, 8:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> I do not know. I am asking you (antenna owners).
> > > Working antenna is hotter than at rest. Which part of the dipole is the
> > > hottest?
> > >the center part is the hottest.
>
> If the junction with the transmission line is poor.
>
> As you see I cannot accept your answer because it do not fit to Tesla's
> radio. So the next question:
>
> The simplest dipole is made from a transmission cable. It is enough to
> stretch the wires in the oppsite directions (like arms).
> The no junctions.
>
> Which part is the hottest?:
> -Transmission cable,
> -The first part of the arm,
> -The end of the arm.
> S*

i know better than whatever you think you understand of tesla's work,
and also have at least 60 years of research after he died to support
it. the first part of the arm is hottest, just like the center part
of the dipole that is not heated due to a bad connection... maybe you
make bad connections to dipoles, i don't!

3384. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 00:13:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4c5b53c0$0$55708$8046368a@newsreader.iphouse.net>
Source record: 8084

On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> wrote
> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>> >>
>>> Now everybody from you can measure the electron emission and heat
>>> emission.
>>> I was expected that you (radio people) know the results.
>>
>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>> believe us. And then you prattle on about us not knowing of what we speak
>> when it is you who do not.
>
> Tesla wrote in XX century that EM is a myth. I simply agree with him.
> Tell me then who know better how the radio works: Tesla or you?
> S*
>
>

Me.

*t

3385. BNC Tribander for New TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 00:25:39 UTC
From: Patty <bonnypatty@gmail.com>
Message-ID: <ed765b96-24d3-4d73-8988-c36341fdec94@p22g2000pre.googlegroups.com>
Source record: 8085

I just got a TH-F6A and have been reading about the weakness of the SMA connector. I'm convinced I need to get an SMA-BNC adapter but I have found no BNC HT triband antennas. Are there any out there?

The Smiley 270A is a dual band 2M/440, but they claim it will also work on 440? Any experience with that?

Also, I have been thinking about Gulyas http://www.wa3hrl.com/smabnc/ SMA-BNC adapter in particular, but then I read this article http://osdir.com/ml/recreation.radio.hardware.kenwood.th-f6a/2008-01/msg00041.html It says: "To minimize the stress on the HT, I use the slick little adapter BGA-80 from Steve Gulyas. It uses a special o-ring arrangement that minimizes leverage against the SMA. Works pretty well. Its the best on performance, but too big to be attached to the HT when worn on the belt."

Does anyone have any experience with SMC-BNC adapters? Do any good ones allow you to attach your HT youir belt?

I'd really appreciate any suggestions you may have!

Patty

3386. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 00:37:26 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i3flga$p8$1@news.eternal-september.org>
Source record: 8086

On 08/05/2010 05:13 PM, tom wrote:
> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>> "tom"<news4792@taring.org> wrote
>> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>>> >>
>>>> Now everybody from you can measure the electron emission and heat
>>>> emission.
>>>> I was expected that you (radio people) know the results.
>>>
>>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>>> believe us. And then you prattle on about us not knowing of what we
>>> speak
>>> when it is you who do not.
>>
>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>> Tell me then who know better how the radio works: Tesla or you?
>> S*
>>
>>
>
> Me.
>
> *t

I hate to break in on private arguments, but Tesla was one of the
smartest people to ever walk this earth. Are You?
He invented Radio, but Marconi took the credit, using at least 6 of
Tesla's patents.
I can rant on Edison and Daguerre, but that gets long.
Some of you guys need a 'TRUE' history lesson.

Bill Baka, Listener only, since I rent these days.
Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
but gave it up some years back when they decided to do away with the
first class distinction.

Different numbers, but hard work to get anyway.

3387. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 01:35:41 UTC
From: tom <news4792@taring.org>
Message-ID: <4c5b66eb$0$24414$8046368a@newsreader.iphouse.net>
Source record: 8087

On 8/5/2010 7:37 PM, Bill Baka wrote:
> On 08/05/2010 05:13 PM, tom wrote:
>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>> "tom"<news4792@taring.org> wrote
>>> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>>>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>>>> >>
>>>>> Now everybody from you can measure the electron emission and heat
>>>>> emission.
>>>>> I was expected that you (radio people) know the results.
>>>>
>>>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>>>> believe us. And then you prattle on about us not knowing of what we
>>>> speak
>>>> when it is you who do not.
>>>
>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>> Tell me then who know better how the radio works: Tesla or you?
>>> S*
>>>
>>>
>>
>> Me.
>>
>> *t
>
> I hate to break in on private arguments, but Tesla was one of the
> smartest people to ever walk this earth. Are You?
> He invented Radio, but Marconi took the credit, using at least 6 of
> Tesla's patents.
> I can rant on Edison and Daguerre, but that gets long.
> Some of you guys need a 'TRUE' history lesson.
>
> Bill Baka, Listener only, since I rent these days.
> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
> but gave it up some years back when they decided to do away with the
> first class distinction.
>
> Different numbers, but hard work to get anyway.

I was specifically responding to the part where it is claimed that Tesla
said EM is a myth. I feel quite safe, thanks.

But I wouldn't have debated alternating current motors with Tesla. No sir.

*t

3388. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 02:23:57 UTC
From: tom <news4792@taring.org>
Message-ID: <4c5b723f$0$55712$8046368a@newsreader.iphouse.net>
Source record: 8088

On 8/5/2010 7:37 PM, Bill Baka wrote:
> On 08/05/2010 05:13 PM, tom wrote:
>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>> "tom"<news4792@taring.org> wrote
>>> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>>>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>>>> >>
>>>>> Now everybody from you can measure the electron emission and heat
>>>>> emission.
>>>>> I was expected that you (radio people) know the results.
>>>>
>>>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>>>> believe us. And then you prattle on about us not knowing of what we
>>>> speak
>>>> when it is you who do not.
>>>
>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>> Tell me then who know better how the radio works: Tesla or you?
>>> S*
>>>
>>>
>>
>> Me.
>>
>> *t
>
> I hate to break in on private arguments, but Tesla was one of the
> smartest people to ever walk this earth. Are You?
> He invented Radio, but Marconi took the credit, using at least 6 of
> Tesla's patents.
> I can rant on Edison and Daguerre, but that gets long.
> Some of you guys need a 'TRUE' history lesson.
>
> Bill Baka, Listener only, since I rent these days.
> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
> but gave it up some years back when they decided to do away with the
> first class distinction.
>
> Different numbers, but hard work to get anyway.

Just noticed the renter part.

I've been renting for 35 years and haven't been too seriously
constrained for most of it. And by not seriously constrained I mean 4
over 4 yagis at 25 and 37 feet with 1000 watts on 6m amongst other things.

If you work with your landlord you can often get permission for a lot.
And the right city helps, too.

tom
K0TAR

3389. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 07:42:31 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5bbcf3$0$17086$65785112@news.neostrada.pl>
Source record: 8089

"tom" <news4792@taring.org> wrote
news:4c5b66eb$0$24414$8046368a@newsreader.iphouse.net...
> On 8/5/2010 7:37 PM, Bill Baka wrote:
>> On 08/05/2010 05:13 PM, tom wrote:
>>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>>>>>>>
>>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>>> Tell me then who know better how the radio works: Tesla or you?
>>> Me.
>>>
>> I hate to break in on private arguments, but Tesla was one of the
>> smartest people to ever walk this earth. Are You?
>> He invented Radio, but Marconi took the credit, using at least 6 of
>> Tesla's patents.
>> I can rant on Edison and Daguerre, but that gets long.
>> Some of you guys need a 'TRUE' history lesson.
>>
>> Bill Baka, Listener only, since I rent these days.
>> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
>> but gave it up some years back when they decided to do away with the
>> first class distinction.
>>
>> Different numbers, but hard work to get anyway.
>
> I was specifically responding to the part where it is claimed that Tesla
> said EM is a myth. I feel quite safe, thanks.

Nikola Tesla wrote: " I showed that the universal medium is a gaseous body
in which only longitudinal pulses can be propagated, involving alternating
compressions and expansions similar to those produced by sound waves in the
air. Thus, a wireless transmitter does not propagate Hertz waves, which are
a myth, but sound waves in the ether, behaving in every respect like those
in the air, except that, owing to the great elastic force and extremely
small density of the medium, their speed is that of light."

Bill Baka wrote: "Some of you guys need a 'TRUE' history lesson."

There is also wrote that EM wrote Heaviside not Maxwell.
Maxwell's hypothesis was quite different. There were the molecullar magnetic
vortices. Inside the solenoid were millions of them. They rotate the
polarisation plane. What rotate it in Heaviside EM? Inside the solenoid is
the flux. Any rotation.
In our textbooks is wrote "whats a pity that to teaching was choosen
Heaviside not Ampere".
But Ampere is too sophisticated for students.

So, "I feel quite safe, thanks."
S*

3390. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 12:02:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <16f7637b-393d-418c-b41b-667f340c18e3@s9g2000yqd.googlegroups.com>
Source record: 8090

On Aug 6, 7:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org>
wrotenews:4c5b66eb$0$24414$8046368a@newsreader.iphouse.net...
>
>
>
> > On 8/5/2010 7:37 PM, Bill Baka wrote:
> >> On 08/05/2010 05:13 PM, tom wrote:
> >>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>
> >>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
> >>>> Tell me then who know better how the radio works: Tesla or you?
> >>> Me.
>
> >> I hate to break in on private arguments, but Tesla was one of the
> >> smartest people to ever walk this earth. Are You?
> >> He invented Radio, but Marconi took the credit, using at least 6 of
> >> Tesla's patents.
> >> I can rant on Edison and Daguerre, but that gets long.
> >> Some of you guys need a 'TRUE' history lesson.
>
> >> Bill Baka, Listener only, since I rent these days.
> >> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
> >> but gave it up some years back when they decided to do away with the
> >> first class distinction.
>
> >> Different numbers, but hard work to get anyway.
>
> > I was specifically responding to the part where it is claimed that Tesla
> > said EM is a myth. I feel quite safe, thanks.
> Nikola Tesla wrote: " I showed that the universal medium is a gaseous body
>
> in which only longitudinal pulses can be propagated, involving alternating
> compressions and expansions similar to those produced by sound waves in the
> air. Thus, a wireless transmitter does not propagate Hertz waves, which are
> a myth, but sound waves in the ether, behaving in every respect like those
> in the air, except that, owing to the great elastic force and extremely
> small density of the medium, their speed is that of light."
>
> Bill Baka wrote: "Some of you guys need a 'TRUE' history lesson."
>
> There is also wrote that EM wrote Heaviside not Maxwell.
> Maxwell's hypothesis was quite different. There were the molecullar magnetic
> vortices. Inside the solenoid were millions of them. They rotate the

> polarisation plane. What rotate it in Heaviside EM? Inside the solenoid is
> the flux. Any rotation.
> In our textbooks is wrote "whats a pity that to teaching was choosen
> Heaviside not Ampere".
> But Ampere is too sophisticated for students.
>
> So, "I feel quite safe, thanks."
> S*

maybe in your 19th century text books, mine has plenty of Ampere in
it. you must remember, those guys were working things out as they
went along, their early writings were likely replaced by later ones
that changed with improved observations that disproved what they
thought at first. and then many things changed after the michaelson-
morley experiment dispelled the last believers in aether. so unless
you are studying things after that you are likely reading outdated and
well disproved early theories.

3391. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 14:39:36 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <8ejti7-1bo.ln1@mail.specsol.com>
Source record: 8091

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "tom" <news4792@taring.org> wrote
> news:4c5b66eb$0$24414$8046368a@newsreader.iphouse.net...
>> On 8/5/2010 7:37 PM, Bill Baka wrote:
>>> On 08/05/2010 05:13 PM, tom wrote:
>>>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>>>>>>>>
>>>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>>>> Tell me then who know better how the radio works: Tesla or you?
>>>> Me.
>>>>
>>> I hate to break in on private arguments, but Tesla was one of the
>>> smartest people to ever walk this earth. Are You?
>>> He invented Radio, but Marconi took the credit, using at least 6 of
>>> Tesla's patents.
>>> I can rant on Edison and Daguerre, but that gets long.
>>> Some of you guys need a 'TRUE' history lesson.
>>>
>>> Bill Baka, Listener only, since I rent these days.
>>> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
>>> but gave it up some years back when they decided to do away with the
>>> first class distinction.
>>>
>>> Different numbers, but hard work to get anyway.
>>
>> I was specifically responding to the part where it is claimed that Tesla
>> said EM is a myth. I feel quite safe, thanks.
>
> Nikola Tesla wrote: " I showed that the universal medium is a gaseous body
> in which only longitudinal pulses can be propagated, involving alternating
> compressions and expansions similar to those produced by sound waves in the
> air. Thus, a wireless transmitter does not propagate Hertz waves, which are
> a myth, but sound waves in the ether, behaving in every respect like those
> in the air, except that, owing to the great elastic force and extremely
> small density of the medium, their speed is that of light."

And close to 100 years worth of experimental testing say Tesla was wrong, get
over it.

--
Jim Pennino

Remove .spam.sux to reply.

3392. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 16:40:44 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5c3b18$0$27033$65785112@news.neostrada.pl>
Source record: 8092

"K1TTT" <k1ttt@arrl.net> wrote
news:82839184-9edf-4779-9394-ecf15c454cf8@y11g2000yqm.googlegroups.com...
On Aug 5, 7:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> The simplest dipole is made from a transmission cable. It is enough to
> stretch the wires in the oppsite directions (like arms).
> There no junctions.
>
>> Which part is the hottest?:
> -Transmission cable,
> -The first part of the arm,
> -The end of the arm.
> S*

>i know better than whatever you think you understand of tesla's work,
and also have at least 60 years of research after he died to support
it. the first part of the arm is hottest, just like the center part
of the dipole that is not heated due to a bad connection... maybe you
make bad connections to dipoles, i don't!

Michaels answer was the best: "Aside from analysis, has anyone measured this
effect?

Is it to be expected in highly efficent antennas, or just inneficient
ones in which there is substantial heating already?

I have found that ice (hoar-frost) and rain do not disturbs radiating. But
the ice-water strongly. The ice-water is in a moment when the hoar-frost is
melting and in the pores is water (normally is air).

It is agreement with: " "In fact, most dipolar solids exhibit extremely
small dielectric losses since W tends to be extremely large. Water-free ice,
for example does not heat significantly under microwave irradiation."

I have found also that the temperature is measured for antennas for
annimals. The temperature rise must be below 15C. Of course they know the
details.

So no additional questions from me.
S*

3393. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-06 23:38:57 UTC
From: nm5k@wt.net
Message-ID: <6da47b49-bb65-4161-befd-7a26da196797@u26g2000yqu.googlegroups.com>
Source record: 8093

On Aug 5, 1:33 pm, "Al Lorona" <al_lor...@agilent.com> wrote:
> Anybody with experience with this antenna? It appears to be a quasi-vertical
> dipole with two "radials" attached to the bottom end and fed at the bottom.
> At least this appears to be the case; I could be wrong.
>
> What issues arise when feeding a dipole at one end (the bottom in this
> case)? This can't be a truly balanced design, can it?
>
> Al W6LX

I've run plenty of base fed half waves, but never saw a need for
two lower elements.. You can't really call them radials in that case.
They have nothing to do with lowering ground loss.
But it's hard to tell, being I've never seen the antenna.
But if I were base feeding a half wave, I would not bother
with two lower elements spread apart. No real point in it.
The main difference in feeding at the base vs feeding in
the center is impedance. A much higher Z when base fed,
so you need a matching device. And for that I usually
prefer a single turn coil and a coax capacitor. Some have
called this a "gamma loop" matching device, which is
fairly close I suppose being as you tap the single turn
coil at the point of best match, much like the usual gamma
match. Truly balanced? Nope.. But that really doesn't
mean much. Even a center fed half wave can have common
mode problems. So it's not like that method of feeding cures
all feed line radiation problems.
They will both require decoupling sections for optimum
performance. But saying that, you can often run a half wave
with no real decoupling and have decent results.
It will vary to each installation.

3394. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 05:52:05 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9DCCE87927D0Egreederxprtnet@194.177.98.144>
Source record: 8094

"Gary Smith" <vkthree@gmail.com> wrote in
news:4c2bc774$0$14137$c3e8da3@news.astraweb.com:

> Hi, i have a 2.4 metre solid dish here and was going to use it for
> TVRO but havn't got round to it as the majority of it is foreign with
> subtitles and that doesn't impress me all that much.

Much of it is also available as streaming internet video.
Free video players are widely available. So, why invest
in the TVRO equiptment.

I like the Wi-Fi DX idea for the dish.

3395. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1281161101@panix.com>
Source record: 8095
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

3396. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 07:44:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5d0ee7$0$21010$65785112@news.neostrada.pl>
Source record: 8096
Body handling: Inline uuencoded payload not displayed: efe3f3c74634bc48f39670fd0e4b22fc.png

"K1TTT" <k1ttt@arrl.net> wrote
news:16f7637b-393d-418c-b41b-667f340c18e3@s9g2000yqd.googlegroups.com...
On Aug 6, 7:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > In our textbooks is wrote "whats a pity that to teaching was choosen
>> Heaviside not Ampere".
>> But Ampere is too sophisticated for students.
>
>> So, "I feel quite safe, thanks."

>maybe in your 19th century text books, mine has plenty of Ampere in
it. you must remember, those guys were working things out as they
went along, their early writings were likely replaced by later ones
that changed with improved observations that disproved what they
thought at first.

Ampere, Gauss, Weber, Maxwell are too difficult for student.

> and then many things changed after the michaelson-
morley experiment dispelled the last believers in aether.

MMX proved that no motionless solid ether. Such was necessary for the
transverse waves.

> so unless
you are studying things after that you are likely reading outdated and
well disproved early theories.

Now is the plasma physics: "Waves in plasmas can be classified as
electromagnetic or electrostatic according to whether or not there is an
oscillating magnetic field. Applying Faraday's law of induction to plane
waves, we find , implying that an electrostatic wave must be purely
longitudinal. An electromagnetic wave, in contrast, must have a transverse
component, but may also be partially longitudinal"

For Tesla ether is: "but sound waves in the ether, behaving in every respect
like those
> in the air, except that, owing to the great elastic force and extremely
> small density of the medium, their speed is that of light."

For Dirac it was an electrons see.

Now we know that in the electron see are the positive ions, So the plasma is
neutral.

As you see people step by step go ahead. Only you are standing in the
Heaviside's water (hydraulic analogy).
S*

[Inline uuencoded payload not displayed: efe3f3c74634bc48f39670fd0e4b22fc.png]

3397. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 08:13:16 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c5d15a8$0$22799$65785112@news.neostrada.pl>
Source record: 8097

<jimp@specsol.spam.sux.com> wrote news:8ejti7-1bo.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>> Nikola Tesla wrote: " I showed that the universal medium is a gaseous
>> body
>> in which only longitudinal pulses can be propagated, involving
>> alternating
>> compressions and expansions similar to those produced by sound waves in
>> the
>> air. Thus, a wireless transmitter does not propagate Hertz waves, which
>> are
>> a myth, but sound waves in the ether, behaving in every respect like
>> those
>> in the air, except that, owing to the great elastic force and extremely
>> small density of the medium, their speed is that of light."
>
> And close to 100 years worth of experimental testing say Tesla was wrong,
> get
> over it.

Tesla like Ampere are not in the teaching program.
Teaching programs are written by Ministry of Education.
Not all is in the teaching programs.

Up to now I have never seen opinion that Ampere and Tesla was wrong.
Remember that all scientists discard the Maxwell's hypothesis.

Heavisde made the EM.:
http://en.wikisource.org/wiki/Electromagnetic_effects_of_a_moving_charge
But he wrote: " I must, however, disagree with Prof. Thomson's assumption
that the motion must be irrotational. It would appear, by the above, that
this limitation is unnecessary."

The magnetic whirl was born. Teachers like it. They can write divrot H = 0.
It seems that you also like it.
S*

3398. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 11:21:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f466f22c-69b4-4bb4-9fcb-6af770a2b5b8@c10g2000yqi.googlegroups.com>
Source record: 8098

On Aug 7, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:16f7637b-393d-418c-b41b-667f340c18e3@s9g2000yqd.googlegroups.com...
> On Aug 6, 7:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > > In our textbooks is wrote "whats a pity that to teaching was choosen
> >> Heaviside not Ampere".
> >> But Ampere is too sophisticated for students.
>
> >> So, "I feel quite safe, thanks."
> >maybe in your 19th century text books, mine has plenty of Ampere in
>
> it. you must remember, those guys were working things out as they
> went along, their early writings were likely replaced by later ones
> that changed with improved observations that disproved what they
> thought at first.
>
> Ampere, Gauss, Weber, Maxwell are too difficult for student.

they are not hard they are the basis of teaching modern
electromagnetics. Any introductory electromagnetics course uses their
stuff. if they are too hard for you that explains why you have all
those strange ideas, you are stuck 100 years ago with outdated over
simplified theories that have been disproved many times.

3399. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 12:46:12 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4aa0ec19-172f-44d4-95ca-c84f53f51e23@v41g2000yqv.googlegroups.com>
Source record: 8099

On Aug 7, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:16f7637b-393d-418c-b41b-667f340c18e3@s9g2000yqd.googlegroups.com...
> On Aug 6, 7:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > > In our textbooks is wrote "whats a pity that to teaching was choosen
> >> Heaviside not Ampere".
> >> But Ampere is too sophisticated for students.
>
> >> So, "I feel quite safe, thanks."
> >maybe in your 19th century text books, mine has plenty of Ampere in
>
> it. you must remember, those guys were working things out as they
> went along, their early writings were likely replaced by later ones
> that changed with improved observations that disproved what they
> thought at first.
>
> Ampere, Gauss, Weber, Maxwell are too difficult for student.

they are not hard they are the basis of teaching modern
electromagnetics. Any introductory electromagnetics course uses their
stuff. if they are too hard for you that explains why you have all
those strange ideas, you are stuck 100 years ago with outdated over
simplified theories that have been disproved many times.

3400. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 17:08:29 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <dhg0j7-5p7.ln1@mail.specsol.com>
Source record: 8100

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Ampere, Gauss, Weber, Maxwell are too difficult for student.

A lot of college students would disagree with you.

<snip remaing insane babbling>

--
Jim Pennino

Remove .spam.sux to reply.

3401. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 17:13:32 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <sqg0j7-5p7.ln1@mail.specsol.com>
Source record: 8001

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:8ejti7-1bo.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>> Nikola Tesla wrote: " I showed that the universal medium is a gaseous
>>> body
>>> in which only longitudinal pulses can be propagated, involving
>>> alternating
>>> compressions and expansions similar to those produced by sound waves in
>>> the
>>> air. Thus, a wireless transmitter does not propagate Hertz waves, which
>>> are
>>> a myth, but sound waves in the ether, behaving in every respect like
>>> those
>>> in the air, except that, owing to the great elastic force and extremely
>>> small density of the medium, their speed is that of light."
>>
>> And close to 100 years worth of experimental testing say Tesla was wrong,
>> get
>> over it.
>
> Tesla like Ampere are not in the teaching program.

Tesla's stuff before he went insane is in the text books and so is Ampere.

> Teaching programs are written by Ministry of Education.
> Not all is in the teaching programs.

Insane babble.

<snip remaing insane babble>

--
Jim Pennino

Remove .spam.sux to reply.

3402. what length for 1/2 or 5/8s UHF NMO whip

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 17:40:29 UTC
From: Robert Keeler <Robert.Keeler.6a38fe8@radiobanter.com>
Message-ID: <Robert.Keeler.6a38fe8@radiobanter.com>
Source record: 8003

I want to use an NMO whip for 460 UHF band. I know a 1/4 wave would be about 5.8 inches. can I cut it to be a 1/2 wave or 5/8s wave? if so what would the correct length be? this is a straight whip, no coil or spring. Thanks!

--
Robert Keeler

3403. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 18:17:37 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <187c15f6-5e64-46f0-bf52-806e646bfe55@y11g2000yqm.googlegroups.com>
Source record: 8002

On Aug 6, 7:38 pm, n...@wt.net wrote:
> On Aug 5, 1:33 pm, "Al Lorona" <al_lor...@agilent.com> wrote:
>
> > Anybody with experience with this antenna? It appears to be a quasi-vertical
> > dipole with two "radials" attached to the bottom end and fed at the bottom.
> > At least this appears to be the case; I could be wrong.
>
> > What issues arise when feeding a dipole at one end (the bottom in this
> > case)? This can't be a truly balanced design, can it?
>
> > Al W6LX
>
> I've run plenty of base fed half waves, but never saw a need for
> two lower elements.. You can't really call them radials in that case.
> They have nothing to do with lowering ground loss.
> But it's hard to tell, being I've never seen the antenna.
> But if I were base feeding a half wave, I would not bother
> with two lower elements spread apart. No real point in it.
> The main difference in feeding at the base vs feeding in
> the center is impedance. A much higher Z when base fed,
> so you need a matching device. And for that I usually
> prefer a single turn coil and a coax capacitor. Some have
> called this a "gamma loop" matching device, which is
> fairly close I suppose being as you tap the single turn
> coil at the point of best match, much like the usual gamma
> match. Truly balanced? Nope.. But that really doesn't
> mean much. Even a center fed half wave can have common
> mode problems. So it's not like that method of feeding cures
> all feed line radiation problems.
> They will both require decoupling sections for optimum
> performance. But saying that, you can often run a half wave
> with no real decoupling and have decent results.
> It will vary to each installation.

I think there has been some efforts to improve feedline decoupling
when feeding a .5wl antenna using radials. This may be such an
attempt.

Jimmie

3404. Re: BNC Tribander for New TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 22:24:04 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <n1l7o.394251$iG7.55824@en-nntp-12.dc1.easynews.com>
Source record: 8004

On 8/5/2010 7:25 PM, Patty wrote:
> I just got a TH-F6A and have been reading about the weakness of the
> SMA connector. I'm convinced I need to get an SMA-BNC adapter but I
> have found no BNC HT triband antennas. Are there any out there?
>
> The Smiley 270A is a dual band 2M/440, but they claim it will also
> work on 440? Any experience with that?
>
> Also, I have been thinking about Gulyas http://www.wa3hrl.com/smabnc/
> SMA-BNC adapter in particular, but then I read this article
> http://osdir.com/ml/recreation.radio.hardware.kenwood.th-f6a/2008-01/msg00041.html
> It says: "To minimize the stress on the HT, I use the slick little
> adapter BGA-80 from Steve Gulyas. It uses a special o-ring arrangement
> that minimizes leverage against the SMA. Works pretty well. Its the
> best on performance, but too big to be attached to the HT when worn on
> the belt."
>
> Does anyone have any experience with SMC-BNC adapters? Do any good
> ones allow you to attach your HT youir belt?
>
> I'd really appreciate any suggestions you may have!
>
> Patty
>

I got an 3' long thin coax cable 'SMA to PL-259' adapter at Houston
Amateur Radio Supply. Good for mobile work, or via 3/4" dia. UHF lo-loss
coax from CableXperts.com up my 50'tower to Cushcraft 6/2/70cm beam, or
via RG213/X to the ArrowAntenna.com 146/440 J-pole on my roof. The
antennas are also a match on 224, but not much activity on that band.

Marv

3405. Re: what length for 1/2 or 5/8s UHF NMO whip

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-07 22:29:42 UTC
From: nm5k@wt.net
Message-ID: <367c4b1d-361b-4cb1-988b-4a080472306b@e15g2000yqo.googlegroups.com>
Source record: 8005

On Aug 7, 12:40 pm, Robert Keeler <Robert.Keeler.
6a38...@radiobanter.com> wrote:
> I want to use an NMO whip for 460 UHF band. I know a 1/4 wave would be
> about 5.8 inches. can I cut it to be a 1/2 wave or 5/8s wave? if so what
> would the correct length be? this is a straight whip, no coil or spring.
> Thanks!
>
> --
> Robert Keeler

Neither will work properly without matching. Without using a matching
device, you are limited to 1/4 wave, or 3/4 wave. And 3/4 wave is not
desirable as you start seeing higher angle lobes past .64 wave in
length. "5/8 wave"
If you have an NMO mount, and want to use a 5/8 wave, you need
one of the NMO mount 5/8 whips with the loading coil at the base.
A 1/2 wave will be high z, and require a matching device.
Without the proper matching, you are best off running the 1/4
wave whip.

3406. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 07:50:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5e61d4$0$22813$65785112@news.neostrada.pl>
Source record: 8006

"K1TTT" <k1ttt@arrl.net> wrote
news:f466f22c-69b4-4bb4-9fcb-6af770a2b5b8@c10g2000yqi.googlegroups.com...
On Aug 7, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
> > > In our textbooks is wrote "whats a pity that to teaching was choosen
> >> Heaviside not Ampere".
> >> But Ampere is too sophisticated for students.
>
>
>> Ampere, Gauss, Weber, Maxwell are too difficult for student.

>they are not hard they are the basis of teaching modern
electromagnetics.

Electromagnetics is a one form of Electrodynamics. The only form in teaching
program. The others is for selfteaching.
Here are the review: http://www.df.lth.se/~snorkelf/Longitudinal/node4.html

> Any introductory electromagnetics course uses their
stuff.

EM made by Heaviside is a simplification of electrodynamics. Teachers choose
it for teaching.

> if they are too hard for you that explains why you have all
those strange ideas, you are stuck 100 years ago with outdated over
simplified theories that have been disproved many times.

Ampere's longitudinal force was derived experimentally. So it cannot be
disproved.
Current elements (electrons) repel each others and thanks this the radio
works.
S*

3407. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 07:53:24 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c5e627e$0$21007$65785112@news.neostrada.pl>
Source record: 8007

<jimp@specsol.spam.sux.com> wrote news:sqg0j7-5p7.ln1@mail.specsol.com...
> "Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>>
>>
>> Tesla like Ampere are not in the teaching program.
>
> Tesla's stuff before he went insane is in the text books and so is Ampere.

Where in teachin program is Ampere's longitudinal force?
S*

3408. Re: what length for 1/2 or 5/8s UHF NMO whip

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 08:17:24 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <2lhMbxLUgmXMFwXl@g3ohx.demon.co.uk>
Source record: 8008

In message
<367c4b1d-361b-4cb1-988b-4a080472306b@e15g2000yqo.googlegroups.com>,
nm5k@wt.net writes
>On Aug 7, 12:40ï¿½pm, Robert Keeler <Robert.Keeler.
>6a38...@radiobanter.com> wrote:
>> I want to use an NMO whip for 460 UHF band. I know a 1/4 wave would be
>> about 5.8 inches. can I cut it to be a 1/2 wave or 5/8s wave? if so what
>> would the correct length be? this is a straight whip, no coil or spring.
>> Thanks!
>>
>> --
>> Robert Keeler
>
>Neither will work properly without matching. Without using a matching
>device, you are limited to 1/4 wave, or 3/4 wave. And 3/4 wave is not
>desirable as you start seeing higher angle lobes past .64 wave in
>length. "5/8 wave"
>If you have an NMO mount, and want to use a 5/8 wave, you need
>one of the NMO mount 5/8 whips with the loading coil at the base.
>A 1/2 wave will be high z, and require a matching device.
>Without the proper matching, you are best off running the 1/4
>wave whip.
>
A 5/8 wave gives you the highest gain at low angles (which is what you
want). The length of the antenna is a '1/2 wave and a bit more'. The
loading coil at the base is essentially the rest of the length required
to make it electrically look like a 3/4 wave, so that it will have a low
input impedance, and be a good match.

Over a perfect ground plane, the 1/4 wave will have an impedance of
around 37.5 ohms, and the 5/8 wave around 50 ohms, so the 5/8 is
potentially a better match for 50 ohm coax. Also, the part of the
antenna which does most of the radiating (1/4 wave from the tip) will be
some 6" higher in the sky and, at 460MHz, if the antenna is mounted low
down, every inch of height above the ground counts! Despite this, in
many situations, you may not find much practical difference between a
1/4 and 5/8 wave.
--
Ian

3409. Re: what length for 1/2 or 5/8s UHF NMO whip

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 08:49:04 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ztOdnYbibMcc8sPRnZ2dnUVZ_tSdnZ2d@giganews.com>
Source record: 8009

On 8/8/2010 1:17 AM, Ian Jackson wrote:
>. . .
> Over a perfect ground plane, the 1/4 wave will have an impedance of
> around 37.5 ohms, and the 5/8 wave around 50 ohms, so the 5/8 is
> potentially a better match for 50 ohm coax. Also, the part of the
> antenna which does most of the radiating (1/4 wave from the tip) will be
> some 6" higher in the sky and, at 460MHz, if the antenna is mounted low
> down, every inch of height above the ground counts! Despite this, in
> many situations, you may not find much practical difference between a
> 1/4 and 5/8 wave.

I found only one practical difference. A 5/8 wave mag mount came undone
on the freeway. I've never had a 1/4 wave come off.

Roy Lewallen, W7EL

3410. Re: what length for 1/2 or 5/8s UHF NMO whip

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 09:14:34 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <ZFaHjbO6VnXMFwhj@g3ohx.demon.co.uk>
Source record: 8010

In message <ztOdnYbibMcc8sPRnZ2dnUVZ_tSdnZ2d@giganews.com>, Roy Lewallen
<w7el@eznec.com> writes
>On 8/8/2010 1:17 AM, Ian Jackson wrote:
>>. . .
>> Over a perfect ground plane, the 1/4 wave will have an impedance of
>> around 37.5 ohms, and the 5/8 wave around 50 ohms, so the 5/8 is
>> potentially a better match for 50 ohm coax. Also, the part of the
>> antenna which does most of the radiating (1/4 wave from the tip) will be
>> some 6" higher in the sky and, at 460MHz, if the antenna is mounted low
>> down, every inch of height above the ground counts! Despite this, in
>> many situations, you may not find much practical difference between a
>> 1/4 and 5/8 wave.
>
>I found only one practical difference. A 5/8 wave mag mount came undone
>on the freeway. I've never had a 1/4 wave come off.
>
Your magmount obviously wasn't big enough. Was it one of those piddling
2" dia jobs? I've got a 6" limpet, and, with a 146Mhz 5/8 with the 3
turn 'spring' loading coil, there's no was that is going to come off at
any speed (regardless of headwind). Obviously, if the antenna is rigid,
there is more chance of levering it off.
--
Ian

3411. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 10:56:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a91f280d-e28e-4473-bd82-f59e5e61e643@m1g2000yqo.googlegroups.com>
Source record: 8011

On Aug 8, 7:53 am, "Szczepan Bia³ek" <sz.bia...@wp.pl> wrote:
> <j...@specsol.spam.sux.com> wrotenews:sqg0j7-5p7.ln1@mail.specsol.com...
>
> > "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> >> Tesla like Ampere are not in the teaching program.
>
> > > Tesla's stuff before he went insane is in the text books and so is Ampere.
>
> Where in teachin program is Ampere's longitudinal force?
> S*

just because he is in the books doesn't mean that everything he ever
wrote is correct. much of the early writings of all those guys was
wrong, it isn't until later when they had learned from their mistakes
that the final correct formulas of electromagnetics were agreed on.
for best results read modern textbooks, if you try to sort out all the
dead ends they went down from the early guesses you will need 100
years to figure it all out again.

3412. Built In Telescopic Antenna In "cheap" sw Portables ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 12:56:33 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i3m9i2$to2$1@news.eternal-september.org>
Source record: 8012

Hello,

Not an antenna expert, so thought I'd ask here.
I've gotten some great info. from you folks in the past, which I really appreciate.

Will be buying a portable sw receiver for a gift.

Many of them seem to come with a built in telescopic antenna.
I guess the intent is to use fully extended, and vertically, although horiz. use also seems to be doable from the pictures, but would sure be awkward in a horiz. position I would think.

How "good" can one receive <30 MHz (and the normal fm broadcast bands) using one of these antenna vertically ?

Aren't most sw signals horiz. polarized, or, by the time they actually make it here, the polarization has become pretty much randomized ?

Will try with a "lon'wire" of course, but thought I'd ask re how good the built in antennas, vert. oriented, are as a general question.

BTW: anyone have any strong opinions on a good $ 250 max table top (preferred)or portable sw receiver for a very non-technical person ?
Would want it to have memories. SSB not necessary.

Thanks,
Bob

3413. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 13:04:25 UTC
From: DMD <dmb@my_email.com>
Message-ID: <i3ma0sqop1@adenine.netfront.net>
Source record: 8013

"Al Lorona" <al_lorona@agilent.com> a crit dans le message de
news:i3f07jbar1@speranza.aioe.org...
> Anybody with experience with this antenna? It appears to be a
quasi-vertical
> dipole with two "radials" attached to the bottom end and fed at the
bottom.
> At least this appears to be the case; I could be wrong.
>
> What issues arise when feeding a dipole at one end (the bottom in this
> case)? This can't be a truly balanced design, can it?
>
> Al W6LX
>
>

Hi Al

Go there and you'll found the "real" of explanation about this antenna
model.

www.kg4jjh.com/sigma.html

www.n6bt.com/n6bt-AAOL-3rd-Edition-r9-1c-201-205.pdf

73

DMB

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3414. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 15:39:47 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3nv2j7-nii.ln1@mail.specsol.com>
Source record: 8014

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:f466f22c-69b4-4bb4-9fcb-6af770a2b5b8@c10g2000yqi.googlegroups.com...
> On Aug 7, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>>
>> > > In our textbooks is wrote "whats a pity that to teaching was choosen
>> >> Heaviside not Ampere".
>> >> But Ampere is too sophisticated for students.
>>
>>
>>> Ampere, Gauss, Weber, Maxwell are too difficult for student.
>
>>they are not hard they are the basis of teaching modern
> electromagnetics.
>
> Electromagnetics is a one form of Electrodynamics. The only form in teaching
> program. The others is for selfteaching.

You have obviously never gone to school and have no idea what is taught
in schools.

Your posts are babbling nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

3415. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 15:43:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <5tv2j7-nii.ln1@mail.specsol.com>
Source record: 8015

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:sqg0j7-5p7.ln1@mail.specsol.com...
>> "Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>>>
>>>
>>> Tesla like Ampere are not in the teaching program.
>>
>> Tesla's stuff before he went insane is in the text books and so is Ampere.
>
> Where in teachin program is Ampere's longitudinal force?
> S*

Why don't you go to school and find out?

--
Jim Pennino

Remove .spam.sux to reply.

3416. Re: Built In Telescopic Antenna In "cheap" sw Portables ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 16:57:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <jvmt56dcjol72aja28sspt506jk15vr73k@4ax.com>
Source record: 8016

On Sun, 08 Aug 2010 08:56:33 -0400, Bob <rgsros@notme.invalid> wrote:

>How "good" can one receive <30 MHz (and the normal fm broadcast bands)
>using one of these antenna vertically ?

Hi Bob,

How good? Not very.

They will pull in the extremely powerful stations, but if you expected
to pick up a particular one, then you have every chance of failing.

>Aren't most sw signals horiz. polarized, or, by the time they actually
>make it here, the polarization has become pretty much randomized ?

Yes.

>Will try with a "lon'wire" of course, but thought I'd ask re how good
>the built in antennas, vert. oriented, are as a general question.

I have been a SWLer since the late 50s. Sometimes I was in the middle
of it, sometimes at the margins. Let me explain.

Here in Seattle, most of Europe is over the magnetic pole which makes
for miserable reception - others may have better experience. I have
had scant reception of Africa, outside of Radio South Africa (I was a
club member in the 60s). I had a very different experience with
Africa that I will describe in response to your next question below:

>BTW: anyone have any strong opinions on a good $ 250 max table top
>(preferred)or portable sw receiver for a very non-technical person ?
>Would want it to have memories. SSB not necessary.

I took a digital tuned SW radio (available from Radio Shack for $35)
to South Africa and casually tuned the bands there. With its whip
extended it was pretty boring, but it certainly had more signals than
I could hear from in Seattle. I came prepared for underwhelming
reception, however. Before expanding on this reception statement, I
would point out that "table top" radios are filled mostly with air so
that they can be big enough to call "table top." My $35 radio was the
size of a large paper back book. I have a $200 radio shack radio that
I suspect offers no better performance, but is too large for
intercontinental travel.

When we went to Africa, I brought along 30 feet of wire wrap wire with
an alligator clip on one end, and a quarter taped to the other. I
tossed the quarter over the rafters in our "hut" (built to 4 star
guest expectations) or into the canopy of the trees (the height was

never more than a dozen feet or so) and tuned in:

Shortwave in Zulu Natal
freq Time Station
MHz GMT
3.26 2214 BBC
African Interviews
4.97 2220 Radio Christian Voice
5.10 2225 BBC
African Interviews
5.92 2226
African Music
Arabic talk radio
6.07 0610 Radio Christian Voice
6.15 0615 BBC
in Russian
6.20 0615
in English
6.17 2200 Zambia N C
News in English
6.225 2205 DW
News in English
5.83 2207
Arabic music pgm
5.85 2209 CBC
English
5.87 2210
Arabic
5.89 2215 Vatican Radio
News in English
5.92 2220
Round Table in African
7.125 2226 DW
News in English
7.195 2228 DW
News in English
7.28 2113
Pgm in Chinese
9.50 2118 DW
Pgm in Arabic
9.53 2119
Pgm in Russian
9.60 2121
Pgm in French
9.74 2136 Family Radio
Pgm in Arabic
9.79 2146
African moder music pgm
12.035 0555 BBC
News in English

12.785 0600 RFI
News in English
12.865 0605 RFI
News in English
13.69 0607 RFI
News in English
13.775 0609 Vatican Radio
News in English
14.18 0611
"Sherlock Holmes"
14.29 0615

14.345 0617
Music pgm. in Arabic
14.395 0620
Pgm. in French
14.445 0624 CRI (China)
News in English
14.51 BBC
News
14.56 0629 CRI (China)
News in English
10.000 0630 WWV
Time signal
15.000 0630 WWV
Time signal
15.10 0632
Arabic music pgm.
15.11 0632 Kuwait?
English pgm.

****

Shortwave in Simonstown
freq Time Station
MHz GMT
4.935 2214 VOA
African music pgm
4.935 0529 VOA
African news pgm
5.98 0537
African music pgm
9.64 0547
News pgm. In French
9.69 0549
News pgm. In French
11.65 1536 DW
African music pgm.
12.71 1600 VOA
African music pgm.
13.66 1623 Family Radio

Arabic pgm.

I could have listened to so MUCH more, but I took the time to linger and try to pick up a call or interval signal.

There was more radio-activity on SW there, than on AM here; but I had to be there (a lot of this stuff was low power as you might imagine).

The bottom line is, cheap does pretty good if you know the limitations (the whip) and how to overcome them (a penny worth of wire). And, yes, it has memories (probably the simplest thing that could be done for cheap and digital).

More could be said.

73's
Richard Clark, KB7QHC

3417. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 18:23:03 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c5ef610$0$21006$65785112@news.neostrada.pl>
Source record: 8017

"K1TTT" <k1ttt@arrl.net> wrote
news:a91f280d-e28e-4473-bd82-f59e5e61e643@m1g2000yqo.googlegroups.com...
On Aug 8, 7:53 am, "Szczepan Bia&#65533;ek" <sz.bia...@wp.pl> wrote:
> <j...@specsol.spam.sux.com> wrotenews:sqg0j7-5p7.ln1@mail.specsol.com...
>
> >> Tesla like Ampere are not in the teaching program.
>
>> > Tesla's stuff before he went insane is in the text books and so is
>> > Ampere.
>
>> Where in teaching program is Ampere's longitudinal force?
> S*

>just because he is in the books doesn't mean that everything he ever
wrote is correct. much of the early writings of all those guys was
wrong, it isn't until later when they had learned from their mistakes
that the final correct formulas of electromagnetics were agreed on.

I am not interesting in electromagnetics. It is the hydraulic analogy.

In Ampere electroDYNAMICS no magnetism.

>for best results read modern textbooks, if you try to sort out all the
dead ends they went down from the early guesses you will need 100
years to figure it all out again.

The XXI century will be the century of Ampere ElectroDYNAMICS. It is the
common opinion.
S*

3418. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 18:40:42 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <aaa3j7-1tj.ln1@mail.specsol.com>
Source record: 8018

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:a91f280d-e28e-4473-bd82-f59e5e61e643@m1g2000yqo.googlegroups.com...
> On Aug 8, 7:53 am, "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>> <j...@specsol.spam.sux.com> wrotenews:sqg0j7-5p7.ln1@mail.specsol.com...
>>
>> >> Tesla like Ampere are not in the teaching program.
>>
>>> > Tesla's stuff before he went insane is in the text books and so is
>>> > Ampere.
>>
>>> Where in teaching program is Ampere's longitudinal force?
>> S*
>
>>just because he is in the books doesn't mean that everything he ever
> wrote is correct. much of the early writings of all those guys was
> wrong, it isn't until later when they had learned from their mistakes
> that the final correct formulas of electromagnetics were agreed on.
>
> I am not interesting in electromagnetics. It is the hydraulic analogy.

No, it is not, that is babbling nonsense.

> In Ampere electroDYNAMICS no magnetism.
>
>>for best results read modern textbooks, if you try to sort out all the
> dead ends they went down from the early guesses you will need 100
> years to figure it all out again.
>
> The XXI century will be the century of Ampere ElectroDYNAMICS. It is the
> common opinion.
> S*

More babbling nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

3419. Re: what length for 1/2 or 5/8s UHF NMO whip

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-08 23:25:13 UTC
From: nm5k@wt.net
Message-ID: <3c78f129-b273-456f-aa96-7a1a3e4082ae@c10g2000yqi.googlegroups.com>
Source record: 8019

On Aug 8, 3:17 am, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> In message
> <367c4b1d-361b-4cb1-988b-4a0804723...@e15g2000yqo.googlegroups.com>,
> n...@wt.net writes
>
> >On Aug 7, 12:40 pm, Robert Keeler <Robert.Keeler.
> >6a38...@radiobanter.com> wrote:
> >> I want to use an NMO whip for 460 UHF band. I know a 1/4 wave would be
> >> about 5.8 inches. can I cut it to be a 1/2 wave or 5/8s wave? if so what
> >> would the correct length be? this is a straight whip, no coil or spring.
> >> Thanks!
>
> >> --
> >> Robert Keeler
>
> >Neither will work properly without matching. Without using a matching
> >device, you are limited to 1/4 wave, or 3/4 wave. And 3/4 wave is not
> >desirable as you start seeing higher angle lobes past .64 wave in
> >length. "5/8 wave"
> >If you have an NMO mount, and want to use a 5/8 wave, you need
> >one of the NMO mount 5/8 whips with the loading coil at the base.
> >A 1/2 wave will be high z, and require a matching device.
> >Without the proper matching, you are best off running the 1/4
> >wave whip.
>
> A 5/8 wave gives you the highest gain at low angles (which is what you
> want). The length of the antenna is a '1/2 wave and a bit more'. The
> loading coil at the base is essentially the rest of the length required
> to make it electrically look like a 3/4 wave, so that it will have a low
> input impedance, and be a good match.
>
> Over a perfect ground plane, the 1/4 wave will have an impedance of
> around 37.5 ohms, and the 5/8 wave around 50 ohms, so the 5/8 is
> potentially a better match for 50 ohm coax. Also, the part of the
> antenna which does most of the radiating (1/4 wave from the tip) will be
> some 6" higher in the sky and, at 460MHz, if the antenna is mounted low
> down, every inch of height above the ground counts! Despite this, in
> many situations, you may not find much practical difference between a
> 1/4 and 5/8 wave.
> --
> Ian

I realize all that, but he has no coil. Or at least he implied he didn't.
He was inquiring about using a 1/2 or 5/8 whip with no matching device,
which I don't think is too good an idea. Or at least he said no coil or springs in his post, so I assume no matching.
If he wants to run a 5/8 wave whip he will need to buy the coil that fits the NMO mount.
The 5/8 won't be potentially a better match for 50 ohm coax without the coil to tune to 3/4 wave.
I got the impression he wants to cut a longer whip and just stick it on the mount with no matching at all. Which was why I said 1/4 wave and 3/4 wave would be his only options and still have a decent match. And I don't recommend a 3/4 wave whip.
I've almost always seen an improvement using a 5/8 vs a 1/4 wave on 2 meters. A bit better range, and usually less picket fencing.
I would expect the same on UHF in most cases.
But if he wants to run a 5/8 whip, he is going to need the coil to go with it.

3420. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 01:24:30 UTC
From: nm5k@wt.net
Message-ID: <36c49b11-f502-4577-865d-33033bf92032@z10g2000yqb.googlegroups.com>
Source record: 8020

On Aug 8, 8:04 am, "DMD" <dmb@my_email.com> wrote:

>
> Go there and you'll found the "real" of explanation about this antenna
> model.
>
> www.kg4jjh.com/sigma.html
>
> www.n6bt.com/n6bt-AAOL-3rd-Edition-r9-1c-201-205.pdf

That's totally different than what I had in mind.
That is just a loaded vertical dipole with capacity hats on
each end. And looks to be center fed, not base fed.

3421. Re: Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 03:08:00 UTC
From: tom <news4792@taring.org>
Message-ID: <4c5f7111$0$24411$8046368a@newsreader.iphouse.net>
Source record: 8021

On 8/8/2010 9:56 PM, Bill wrote:
> On Aug 7, 2:05 am, r...@panix.com (rec.radio.info Admin) wrote:
>
>>
>> We are seeking a replacement maintainer for the following information
>> bulletin formerly posted to rec.radio.amateur.* (and currently archived
>> athttp://www.faqs.org/faqs/radio/personal-intro/):
>
> You have been seeking New FAQ/Intro Maintainers for a long time.
> Could any of these worthies do the job?
>
> Paul W. Schleck, K3FU
> Bob Diepenbrock, KC4UAI
> Ace Ratliff, WH2T
> Bill Horne, W1AC
> Mike Coslo, N3LI
> Ivor Jones, G6URP
> Jim Miccolis, N2EY
> Dan Yemiola, AI8O
> Dick Grady, AC7EL
> Cecil A. Moore, W5DXP
> Phil Kane, K2ASP
> Brian Short, K7ON
> Jeff Angus, WA6FWI

Their links point to Google Groups. How tough is that?

Is that announcement some sort of joke then?

tom
K0TAR

3422. Hy-Gain BN-86 balun for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 15:31:37 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <i3p70nrvm1@news.eternal-september.org>
Source record: 8022

I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
asking $50 for it. The instruction manual can be viewed at:

http://www.thiecom.de/pdf/BN-86.pdf

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

3423. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 16:25:22 UTC
From: Al Lorona <al_lorona@agilent.com>
Message-ID: <i3pa7l$6kf$1@speranza.aioe.org>
Source record: 8023

"DMD" <dmb@my_email.com> wrote
> Go there and you'll found the "real" of explanation about this antenna
> model.
>
> www.kg4jjh.com/sigma.html
>
> DMB

Thank you for the references. Not good. I didn't realize that the feedpoint contains a 50 ohm resistor (re: 40m EZNEC model on KG4JJH's web site cited above).

Thanks again,

Al W6LX

3424. Re: Hy-Gain BN-86 balun for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 16:33:26 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <95de2bcc-c6a0-40cb-9d83-e2f9f6796593@x25g2000yqj.googlegroups.com>
Source record: 8024

On Aug 9, 10:31 am, Henry <wa0...@arrl.net> wrote:
> I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale.

Just a friendly reminder to everyone. For sell/trade/buy items need to
be posted to rec.radio.swap. Such postings violate the guidelines for
the rec.radio.amateur.* groups including this one.
--
73, Cecil, w5dxp.com

3425. Re: Hy-Gain BN-86 balun for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 19:17:34 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3pk8tqed1@news.eternal-september.org>
Source record: 8025

On 8/9/2010 9:33 AM, Cecil Moore wrote:
> On Aug 9, 10:31 am, Henry<wa0...@arrl.net> wrote:
>> I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale.
>
> Just a friendly reminder to everyone. For sell/trade/buy items need to
> be posted to rec.radio.swap. Such postings violate the guidelines for
> the rec.radio.amateur.* groups including this one.
> --
> 73, Cecil, w5dxp.com

Hey Cecil, good to see you! Wife asked if I had seen you about the
newsgroups, I will report your apparent good health to her.
That balun utilizes a ferrite rod anyway. A homebrew with a toroid
would be better anyway.

Regards,
JS

3426. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 22:06:26 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DD0527908651nonenowhere@61.9.134.55>
Source record: 8026

"Al Lorona" <al_lorona@agilent.com> wrote in
news:i3pa7l$6kf$1@speranza.aioe.org:
...
> Thank you for the references. Not good. I didn't realize that the
> feedpoint contains a 50 ohm resistor (re: 40m EZNEC model on KG4JJH's
> web site cited above).

He does not mention a "50 ohm resistor" in his review document, not show it in his feedpoint picture.

Are you quite sure of what you say?

He does include load of 50+j500 in shunt with the feedpoint, presumably modelling the shunt coil... has that got you confused?

The next question is whether such a load is a good characterisation of the actual coil. The value of R seems rather high.

Owen

3427. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 22:23:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <03c5857e-bd06-450d-886b-a00daf7c999d@i31g2000yqm.googlegroups.com>
Source record: 8027

On Aug 8, 6:23 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:a91f280d-e28e-4473-bd82-f59e5e61e643@m1g2000yqo.googlegroups.com...
> On Aug 8, 7:53 am, "Szczepan Bia³ek" <sz.bia...@wp.pl> wrote:
>
> > <j...@specsol.spam.sux.com> wrotenews:sqg0j7-5p7.ln1@mail.specsol.com...
>
> > >> Tesla like Ampere are not in the teaching program.
>
> >> > Tesla's stuff before he went insane is in the text books and so is
> >> > Ampere.
>
> >> Where in teaching program is Ampere's longitudinal force?
> > S*
> >just because he is in the books doesn't mean that everything he ever
>
> wrote is correct. much of the early writings of all those guys was
> wrong, it isn't until later when they had learned from their mistakes
> that the final correct formulas of electromagnetics were agreed on.
>
> I am not interesting in electromagnetics. It is the hydraulic analogy.
>
> In Ampere electroDYNAMICS no magnetism.
>
> >for best results read modern textbooks, if you try to sort out all the
>
> dead ends they went down from the early guesses you will need 100
> years to figure it all out again.
>
> The XXI century will be the century of Ampere ElectroDYNAMICS. It is the
> common opinion.
> S*

what good is a theory without magnetism. it obviously doesn't fit the
real world as we know it today. maybe it is your opinion, but its not
anywhere i have heard of. ampere's theory dates from almost 200 years
ago and was the predecessor of electromagnetics, so you seem to have
taken another step backwards, now you are almost 2 centuries out of
date.

3428. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-09 22:53:36 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i3q0tg$78a$1@news.jpl.nasa.gov>
Source record: 8028

Owen Duffy wrote:

> He does include load of 50+j500 in shunt with the feedpoint, presumably
> modelling the shunt coil... has that got you confused?
>
> The next question is whether such a load is a good characterisation of the
> actual coil. The value of R seems rather high.
>

Wouldn't that correspond to a Q of 10, which is pretty bad for a air
core coil. I'd say something like 30 or 100 would be more realistic
(unless it's wound with really fine wire)
(I don't have eznec, so I can't open the .ez file)

3429. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 00:35:02 UTC
From: Al Lorona <al_lorona@agilent.com>
Message-ID: <i3q6tu$36g$1@speranza.aioe.org>
Source record: 8029

"Owen Duffy" <none@no.where> wrote in message
news:Xns9DD0527908651nonenowhere@61.9.134.55...
>
> Are you quite sure of what you say?
>

Beats me... I've never seen one of these antennas and am going only by the EZNEC model on that web site, as I said in my last post. Says that there's 50 + j500 at the feedpoint. That's a 50 ohm resistor in series with an inductor, isn't it? Or, as you say, a coil with a real low Q. Either way, it's an extremely lossy device that adversely affects the results. Try adjusting the R to a more reasonable value for an average coil and re-simulating in EZNEC and take a look at the result. KG4JJH has measured data in that review that definitely coincides with a 50 +j500 device at the feedpoint.

Al W6LX

3430. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 00:41:13 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <a13238f7-fd3d-4e2c-8c55-7040d10ca6a9@b4g2000pra.googlegroups.com>
Source record: 8030

On Aug 9, 6:53 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Owen Duffy wrote:
> > He does include load of 50+j500 in shunt with the feedpoint, presumably
> > modelling the shunt coil... has that got you confused?
>
> > The next question is whether such a load is a good characterisation of the
> > actual coil. The value of R seems rather high.
>
> Wouldn't that correspond to a Q of 10, which is pretty bad for a air
> core coil. I'd say something like 30 or 100 would be more realistic
> (unless it's wound with really fine wire)
> (I don't have eznec, so I can't open the .ez file)

I opened the document in 4NEC2. Whilst my version of EZNEC cannot read
or write .NEC decks, 4NEC2 can read .EZ format.

If you look at the pic of the coil, a Qi of 10 seems very low.
Nevertheless, it doesn't consume much power.

Owen

3431. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 01:07:56 UTC
From: Owen Duffy <owen@owenduffy.net>
Message-ID: <d22018fd-5ff6-417a-b841-385e55e2f6b4@q21g2000prm.googlegroups.com>
Source record: 8031

On Aug 10, 10:35 am, "Al Lorona" <al_lor...@agilent.com> wrote:
> "Owen Duffy" <n...@no.where> wrote in message
>
> news:Xns9DD0527908651nonenowhere@61.9.134.55...
>
>
>
> > Are you quite sure of what you say?
>
> Beats me... I've never seen one of these antennas and am going only by the
> EZNEC model on that web site, as I said in my last post. Says that there's
> 50 + j500 at the feedpoint. That's a 50 ohm resistor in series with an
> inductor, isn't it? Or, as you say, a coil with a real low Q. Either way,
> it's an extremely lossy device that adversely affects the results. Try
> adjusting the R to a more reasonable value for an average coil and
> re-simulating in EZNEC and take a look at the result. KG4JJH has measured
> data in that review that definitely coincides with a 50 +j500 device at the
> feedpoint.
>

I though about this while on the road this morning. Sometimes
enlightenment comes when there is not a keyboard to confuse things.

I assumed that he intended to model the shunt coil, and correctly
modelled it, but in fact his load is in series with the feedpoint...
so it hasn't captured the shunt coil.

Removing the load, and running the model gives a feedpoint Z of 16-
j500. A shunt coil with Qi around 100, and L around 29uH will
transform that to 50+jX. That coild has an equivalent shunt R of 120k,
so negligible power is lost in it.

I haven't looked closely at the model in all respects, but it seems to
do some crazy things that certainly give unrealistically low
efficiency.

Owen

3432. Re: Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 02:55:47 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3qf3q$5uq$1@news.eternal-september.org>
Source record: 8032

On 8/9/2010 1:36 PM, Bill wrote:
> On Aug 8, 11:08 pm, tom<news4...@taring.org> wrote:
>> On 8/8/2010 9:56 PM, Bill wrote:
>>
>>
>>
>>
>>
>>>> On Aug 7, 2:05 am, r...@panix.com (rec.radio.info Admin) wrote:
>>
>>>>> We are seeking a replacement maintainer for the following information
>>>>> bulletin formerly posted to rec.radio.amateur.* (and currently archived
>>>>> athttp://www.faqs.org/faqs/radio/personal-intro/):
>>
>>>> You have been seeking New FAQ/Intro Maintainers for a long time.
>>>> Could any of these worthies do the job?
>>
>>>> Paul W. Schleck, K3FU
>>>> Bob Diepenbrock, KC4UAI
>>>> Ace Ratliff, WH2T
>>>> Bill Horne, W1AC
>>>> Mike Coslo, N3LI
>>>> Ivor Jones, G6URP
>>>> Jim Miccolis, N2EY
>>>> Dan Yemiola, AI8O
>>>> Dick Grady, AC7EL
>>>> Cecil A. Moore, W5DXP
>>>> Phil Kane, K2ASP
>>>> Brian Short, K7ON
>>>> Jeff Angus, WA6FWI
>>
>> Their links point to Google Groups. How tough is that?
>>
>> Is that announcement some sort of joke then?
>>
>> tom
>> K0TAR
>
> They take themselves seriously.

Damn, fooled me. I thought it was the drugs! <grin>

Regards,
JS

3433. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 07:51:03 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c6104f4$0$22810$65785112@news.neostrada.pl>
Source record: 8033

"K1TTT" <k1ttt@arrl.net> wrote
news:03c5857e-bd06-450d-886b-a00daf7c999d@i31g2000yqm.googlegroups.com...
On Aug 8, 6:23 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> In Ampere electroDYNAMICS no magnetism.
>
>> The XXI century will be the century of Ampere ElectroDYNAMICS. It is the
>> common opinion.

>what good is a theory without magnetism. it obviously doesn't fit the
real world as we know it today. maybe it is your opinion, but its not
anywhere i have heard of.

Gravity force, electrostatic force and magnetic force are the real world for the most people. But not for scientists.
They know that in the space is the place for the one of them.
So step by step they decrease the number of them.
The first was Aepinus who proved that gravity and electrostatic are the same.
The last step was made by Ampere who build the artifical magnet - solenoid.
It means that magnetism is an ilussion like gravity. The all forces are electric.

> ampere's theory dates from almost 200 years
ago and was the predecessor of electromagnetics, so you seem to have
taken another step backwards, now you are almost 2 centuries out of
date.

Heaviside was not scientists and he has taken another step backwards to Poisson's fluids.
He did not understand Maxwell and Stokes.

Teachers must be in "real world" and wait for the end of works on the Unification of gravity, electricity and magnetism (they are pending).
S*

3434. Re: Hy-Gain BN-86 balun for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 15:04:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <dec284a4-1a5a-4b8d-95de-ffbe794e9be3@i31g2000yqm.googlegroups.com>
Source record: 8034

On Aug 9, 2:17 pm, John Smith <assemblywiz...@gmail.com> wrote:
> Hey Cecil, good to see you! Wife asked if I had seen you about the
> newsgroups, I will report your apparent good health to her.
> That balun utilizes a ferrite rod anyway. A homebrew with a toroid
> would be better anyway.

Hi John, tell the XYL that I'm doing as well as someone licensed in
1953 could be doing. :-) Someone used to post the r.r.a.* newsgroup
guidelines here, but I haven't seen it posted in quite a while.
--
73, Cecil, w5dxp.com

3435. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 16:18:19 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <bna8j7-b7a.ln1@mail.specsol.com>
Source record: 8035

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:03c5857e-bd06-450d-886b-a00daf7c999d@i31g2000yqm.googlegroups.com...
> On Aug 8, 6:23 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> >
>>> In Ampere electroDYNAMICS no magnetism.
>>
>>> The XXI century will be the century of Ampere ElectroDYNAMICS. It is the
>>> common opinion.
>
>>what good is a theory without magnetism. it obviously doesn't fit the
> real world as we know it today. maybe it is your opinion, but its not
> anywhere i have heard of.
>
> Gravity force, electrostatic force and magnetic force are the real world for
> the most people. But not for scientists.

Utter, babbling nonsense.

> They know that in the space is the place for the one of them.
> So step by step they decrease the number of them.
> The first was Aepinus who proved that gravity and electrostatic are the
> same.
> The last step was made by Ampere who build the artifical magnet - solenoid.
> It means that magnetism is an ilussion like gravity. The all forces are
> electric.

Word salad and gibberish.

>> ampere's theory dates from almost 200 years
> ago and was the predecessor of electromagnetics, so you seem to have
> taken another step backwards, now you are almost 2 centuries out of
> date.
>
> Heaviside was not scientists and he has taken another step backwards to
> Poisson's fluids.
> He did not understand Maxwell and Stokes.
>
> Teachers must be in "real world" and wait for the end of works on the
> Unification of gravity, electricity and magnetism (they are pending).
> S*

More word salad and gibberish.

--
Jim Pennino

Remove .spam.sux to reply.

3436. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-10 21:23:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <10047bbf-32a0-4fe9-89f6-67b02b9d5b5b@k10g2000yqa.googlegroups.com>
Source record: 8036

On Aug 10, 7:51 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:03c5857e-bd06-450d-886b-a00daf7c999d@i31g2000yqm.googlegroups.com...
> On Aug 8, 6:23 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In Ampere electroDYNAMICS no magnetism.
>
> >> The XXI century will be the century of Ampere ElectroDYNAMICS. It is the
> >> common opinion.
> >what good is a theory without magnetism. it obviously doesn't fit the
>
> real world as we know it today. maybe it is your opinion, but its not
> anywhere i have heard of.
>
> Gravity force, electrostatic force and magnetic force are the real world for
> the most people. But not for scientists.
> They know that in the space is the place for the one of them.
> So step by step they decrease the number of them.
> The first was Aepinus who proved that gravity and electrostatic are the
> same.
> The last step was made by Ampere who build the artifical magnet - solenoid.
> It means that magnetism is an ilussion like gravity. The all forces are
> electric.
>
> > ampere's theory dates from almost 200 years
>
> ago and was the predecessor of electromagnetics, so you seem to have
> taken another step backwards, now you are almost 2 centuries out of
> date.
>
> Heaviside was not scientists and he has taken another step backwards to
> Poisson's fluids.
> He did not understand Maxwell and Stokes.
>
> Teachers must be in "real world" and wait for the end of works on the
> Unification of gravity, electricity and magnetism (they are pending).
> S*

it sure would be nice if gravity and electrostatics were the same
force, would make it easy to build antigravity device, just hook up a
van de graf generator and fly away!!! you really are digging up some
old and incorrect theories from long ago... keep digging and you'll

get back to the 4 basic elements, then you will know everything.

3437. vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 00:39:19 UTC
From: z@z.z.z
Message-ID: <i3sulgvgb1@news.grnet.gr>
Source record: 8037

-
source
158 KB
VEMSA3D_source_11.zip
http://rga.googlecode.com/files/VEMSA3D_source_11.zip

exe standalone
971 KB
VEMSA3D_exe_standalone_11.zip
http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip

vemsa3d all downloads:
http://code.google.com/p/rga/downloads/list

A FLOSS Visual EM Simulator for 3D Antennas
http://arxiv.org/abs/1006.0031

The RGA project:
http://code.google.com/p/rga/

Petros SV7BAX
Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
-Not-for-Profit-

3438. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 06:29:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c624355$0$22804$65785112@news.neostrada.pl>
Source record: 8038

"K1TTT" <k1ttt@arrl.net> wrote
news:10047bbf-32a0-4fe9-89f6-67b02b9d5b5b@k10g2000yqa.googlegroups.com...
On Aug 10, 7:51 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
> Teachers must be in "real world" and wait for the end of works on the
> Unification of gravity, electricity and magnetism (they are pending).
> S*

>it sure would be nice if gravity and electrostatics were the same
force, would make it easy to build antigravity device, just hook up a
van de graf generator and fly away!!!

Moon dust fly away.
On the Earth the soap-bubble levitates if are charged.
Earth and Moon have the excess of electrons.

> you really are digging up some
old and incorrect theories from long ago... keep digging and you'll
get back to the 4 basic elements, then you will know everything.

Bill Baka wrote: "Some of you guys need a 'TRUE' history lesson."

In the history are the reasons for which Maxwell did the hipothesis and and
why it was discarded.
Not as a whole. The math for solid body is in using. In a solid body are
stress and strains.

In the history no the school version by Heaviside. It is only in your "real
world" and in textbooks.
S*

3439. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 13:10:46 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3u7h2$qk0$1@news.eternal-september.org>
Source record: 8039

On 8/10/2010 5:39 PM, z@z.z.z wrote:
> -
> source
> 158 KB
> VEMSA3D_source_11.zip
> http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>
> exe standalone
> 971 KB
> VEMSA3D_exe_standalone_11.zip
> http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>
> vemsa3d all downloads:
> http://code.google.com/p/rga/downloads/list
>
> A FLOSS Visual EM Simulator for 3D Antennas
> http://arxiv.org/abs/1006.0031
>
> The RGA project:
> http://code.google.com/p/rga/
>
> Petros SV7BAX
> Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
> -Not-for-Profit-
>
>
>

Well, that certainly allows "the little guy" to view the code and extract the important parameters, math and formulas so that they can construct their own specialized tools! Just a bit of understanding how math is defined by a computer language and you are good-to-go.

Regards,
JS

3440. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 15:32:09 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <pcsaj7-hg4.ln1@mail.specsol.com>
Source record: 8040

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:10047bbf-32a0-4fe9-89f6-67b02b9d5b5b@k10g2000yqa.googlegroups.com...
> On Aug 10, 7:51 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>
>> Teachers must be in "real world" and wait for the end of works on the
>> Unification of gravity, electricity and magnetism (they are pending).
>> S*
>
>>it sure would be nice if gravity and electrostatics were the same
> force, would make it easy to build antigravity device, just hook up a
> van de graf generator and fly away!!!
>
> Moon dust fly away.
> On the Earth the soap-bubble levitates if are charged.
> Earth and Moon have the excess of electrons.

Babbling word salad.

>> you really are digging up some
> old and incorrect theories from long ago... keep digging and you'll
> get back to the 4 basic elements, then you will know everything.
>
> Bill Baka wrote: "Some of you guys need a 'TRUE' history lesson."
>
> In the history are the reasons for which Maxwell did the hipothesis and and
> why it was discarded.
> Not as a whole. The math for solid body is in using. In a solid body are
> stress and strains.
>
> In the history no the school version by Heaviside. It is only in your "real
> world" and in textbooks.
> S*

More babbling word salad.

Seek medical help.

--
Jim Pennino

Remove .spam.sux to reply.

3441. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 16:03:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1be7f953-1b66-45bf-8fd0-40aa45139b5d@z28g2000yqh.googlegroups.com>
Source record: 8041

On Aug 11, 1:10 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/10/2010 5:39 PM, z...@z.z.z wrote:
>
>
>
> > -
> >   source
> >   158 KB
> >   VEMSA3D_source_11.zip
> >   http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>
> >   exe standalone
> >   971 KB
> >   VEMSA3D_exe_standalone_11.zip
> >   http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>
> >   vemsa3d all downloads:
> >   http://code.google.com/p/rga/downloads/list
>
> >   A FLOSS Visual EM Simulator for 3D Antennas
> >   http://arxiv.org/abs/1006.0031
>
> >   The RGA project:
> >   http://code.google.com/p/rga/
>
> >   Petros SV7BAX
> >   Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
> >   -Not-for-Profit-
>
> Well, that certainly allows "the little guy" to view the code and
> extract the important parameters, math and formulas so that they can
> construct their own specialized tools! Just a bit of understanding how
> math is defined by a computer language and you are good-to-go.
>
> Regards,
> JS

DANGER WILL ROBINSON!!! a 'bit of understanding' in this case could
lead to totally incorrect results. be sure you thoroughly understand
the limitations of the 'thin polygonal wire' model and any earth model
they are using. it is likely this will have lots of undocumented
limitations. also i worry about their claim of comparing to other
freeware results, do they only build models for comparison that are
well represented in both tools? and do they understand the

limitations of what they are comparing to?

3442. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 17:52:05 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i3uo05$vn8$1@news.jpl.nasa.gov>
Source record: 8042

John Smith wrote:
> On 8/10/2010 5:39 PM, z@z.z.z wrote:
>> -
>> source
>> 158 KB
>> VEMSA3D_source_11.zip
>> http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>>
>> exe standalone
>> 971 KB
>> VEMSA3D_exe_standalone_11.zip
>> http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>>
>> vemsa3d all downloads:
>> http://code.google.com/p/rga/downloads/list
>>
>> A FLOSS Visual EM Simulator for 3D Antennas
>> http://arxiv.org/abs/1006.0031
>>
>> The RGA project:
>> http://code.google.com/p/rga/
>>
>> Petros SV7BAX
>> Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
>> -Not-for-Profit-
>>
>>
>>
>
> Well, that certainly allows "the little guy" to view the code and
> extract the important parameters, math and formulas so that they can
> construct their own specialized tools! Just a bit of understanding how
> math is defined by a computer language and you are good-to-go.
>
> Regards,
> JS
>

One wonders why they converted Richmond's older code rather than NEC2.
Both are available as FORTRAN source. Even NEC4 source is readily
available these days, although not for free (so it wouldn't necessarily
meet their FLOSS objective.. I'm not sure.. they wouldn't be copying it,
they'd be converting it, by hand, to C++, and I think that would break
the "proprietary" link)

Maybe Richmond's code does insulation? or wires in a conductive medium?

3443. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 18:53:33 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <43d0c4c6-4be5-42d1-9ad9-6828d13fb05a@y11g2000yqm.googlegroups.com>
Source record: 8043

On Aug 11, 5:52 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> John Smith wrote:
> > On 8/10/2010 5:39 PM, z...@z.z.z wrote:
> >> -
> >>   source
> >>   158 KB
> >>   VEMSA3D_source_11.zip
> >>   http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>
> >>   exe standalone
> >>   971 KB
> >>   VEMSA3D_exe_standalone_11.zip
> >>   http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>
> >>   vemsa3d all downloads:
> >>   http://code.google.com/p/rga/downloads/list
>
> >>   A FLOSS Visual EM Simulator for 3D Antennas
> >>   http://arxiv.org/abs/1006.0031
>
> >>   The RGA project:
> >>   http://code.google.com/p/rga/
>
> >>   Petros SV7BAX
> >>   Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
> >>   -Not-for-Profit-
>
> > Well, that certainly allows "the little guy" to view the code and
> > extract the important parameters, math and formulas so that they can
> > construct their own specialized tools! Just a bit of understanding how
> > math is defined by a computer language and you are good-to-go.
>
> > Regards,
> > JS
>
> One wonders why they converted Richmond's older code rather than NEC2.
> Both are available as FORTRAN source. Even NEC4 source is readily
> available these days, although not for free (so it wouldn't necessarily
> meet their FLOSS objective.. I'm not sure.. they wouldn't be copying it,
> they'd be converting it, by hand, to C++, and I think that would break
> the "proprietary" link)
>
> Maybe Richmond's code does insulation? or wires in a conductive medium?

the proprietaryness(is that a word?) or the copyright status may not be broken by changing language if the algorithms are claimed as the actual intellectual property... the code is just an implementation of it, no matter what the language. There would be no need to convert the fortran anyway, there are still fortran compilers available and you could call the fortran computations from any language gui front end. i'm doing a project like that now that calls old fortran, c, c++, or pascal computation modules from a new c# front end.

3444. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 19:17:29 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3ut0i$b6q$1@news.eternal-september.org>
Source record: 8044

```
On 8/11/2010 9:03 AM, K1TTT wrote:
> On Aug 11, 1:10 pm, John Smith<assemblywiz...@gmail.com> wrote:
>> On 8/10/2010 5:39 PM, z...@z.z.z wrote:
>>
>>
>>
>>> -
>>> source
>>> 158 KB
>>> VEMSA3D_source_11.zip
>>> http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>>
>>> exe standalone
>>> 971 KB
>>> VEMSA3D_exe_standalone_11.zip
>>> http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>>
>>> vemsa3d all downloads:
>>> http://code.google.com/p/rga/downloads/list
>>
>>> A FLOSS Visual EM Simulator for 3D Antennas
>>> http://arxiv.org/abs/1006.0031
>>
>>> The RGA project:
>>> http://code.google.com/p/rga/
>>
>>> Petros SV7BAX
>>> Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
>>> -Not-for-Profit-
>>
>> Well, that certainly allows "the little guy" to view the code and
>> extract the important parameters, math and formulas so that they can
>> construct their own specialized tools! Just a bit of understanding how
>> math is defined by a computer language and you are good-to-go.
>>
>> Regards,
>> JS
>
> DANGER WILL ROBINSON!!! a 'bit of understanding' in this case could
> lead to totally incorrect results. be sure you thoroughly understand
> the limitations of the 'thin polygonal wire' model and any earth model
> they are using. it is likely this will have lots of undocumented
> limitations. also i worry about their claim of comparing to other
> freeware results, do they only build models for comparison that are
```

> well represented in both tools? and do they understand the
> limitations of what they are comparing to?
>

LOL! Yeah, well, a lot of people wonder and worry about the light in
the refrigerator, to--if it goes out when you shut the door!

Regards,
JS

3445. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 19:20:07 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3ut5g$b6q$2@news.eternal-september.org>
Source record: 8045

```
On 8/11/2010 11:53 AM, K1TTT wrote:
> On Aug 11, 5:52 pm, Jim Lux<james.p....@jpl.nasa.gov> wrote:
>> John Smith wrote:
>>> On 8/10/2010 5:39 PM, z...@z.z.z wrote:
>>>> -
>>>> source
>>>> 158 KB
>>>> VEMSA3D_source_11.zip
>>>> http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>>
>>>> exe standalone
>>>> 971 KB
>>>> VEMSA3D_exe_standalone_11.zip
>>>> http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>>
>>>> vemsa3d all downloads:
>>>> http://code.google.com/p/rga/downloads/list
>>
>>>> A FLOSS Visual EM Simulator for 3D Antennas
>>>> http://arxiv.org/abs/1006.0031
>>
>>>> The RGA project:
>>>> http://code.google.com/p/rga/
>>
>>>> Petros SV7BAX
>>>> Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
>>>> -Not-for-Profit-
>>
>>> Well, that certainly allows "the little guy" to view the code and
>>> extract the important parameters, math and formulas so that they can
>>> construct their own specialized tools! Just a bit of understanding how
>>> math is defined by a computer language and you are good-to-go.
>>
>>> Regards,
>>> JS
>>
>> One wonders why they converted Richmond's older code rather than NEC2.
>> Both are available as FORTRAN source. Even NEC4 source is readily
>> available these days, although not for free (so it wouldn't necessarily
>> meet their FLOSS objective.. I'm not sure.. they wouldn't be copying it,
>> they'd be converting it, by hand, to C++, and I think that would break
>> the "proprietary" link)
>>
>> Maybe Richmond's code does insulation? or wires in a conductive medium?
```

>
> the proprietaryness(is that a word?) or the copyright status may not
> be broken by changing language if the algorithms are claimed as the
> actual intellectual property... the code is just an implementation of
> it, no matter what the language. There would be no need to convert
> the fortran anyway, there are still fortran compilers available and
> you could call the fortran computations from any language gui front
> end. i'm doing a project like that now that calls old fortran, c, c+
> +, or pascal computation modules from a new c# front end.

I would be really surprised if you could patent math formulas,
equations, etc. The software which uses them can, obviously, be
patented. Something with is "self-intuitive" or a law of nature just
can't be patented!

Regards,
JS

3446. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 19:43:52 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1d829a56-944e-4b71-a6cf-e8af08bda3a3@c10g2000yqi.googlegroups.com>
Source record: 8046

```
On Aug 11, 7:20 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/11/2010 11:53 AM, K1TTT wrote:
>
>
>
> > On Aug 11, 5:52 pm, Jim Lux<james.p....@jpl.nasa.gov>  wrote:
> >> John Smith wrote:
> >>> On 8/10/2010 5:39 PM, z...@z.z.z wrote:
> >>>> -
> >>>>     source
> >>>>     158 KB
> >>>>     VEMSA3D_source_11.zip
> >>>>    http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>
> >>>>     exe standalone
> >>>>     971 KB
> >>>>     VEMSA3D_exe_standalone_11.zip
> >>>>    http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>
> >>>>     vemsa3d all downloads:
> >>>>    http://code.google.com/p/rga/downloads/list
>
> >>>>     A FLOSS Visual EM Simulator for 3D Antennas
> >>>>    http://arxiv.org/abs/1006.0031
>
> >>>>     The RGA project:
> >>>>    http://code.google.com/p/rga/
>
> >>>>     Petros SV7BAX
> >>>>     Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
> >>>>     -Not-for-Profit-
>
> >>> Well, that certainly allows "the little guy" to view the code and
> >>> extract the important parameters, math and formulas so that they can
> >>> construct their own specialized tools!  Just a bit of understanding how
> >>> math is defined by a computer language and you are good-to-go.
>
> >>> Regards,
> >>> JS
>
> >> One wonders why they converted Richmond's older code rather than NEC2.
> >> Both are available as FORTRAN source.  Even NEC4 source is readily
> >> available these days, although not for free (so it wouldn't necessarily
> >> meet their FLOSS objective.. I'm not sure.. they wouldn't be copying it,
```

> >> they'd be converting it, by hand, to C++, and I think that would break
> >> the "proprietary" link)
>
> >> Maybe Richmond's code does insulation? or wires in a conductive medium?
>
> > the proprietaryness(is that a word?) or the copyright status may not
> > be broken by changing language if the algorithms are claimed as the
> > actual intellectual property... the code is just an implementation of
> > it, no matter what the language. There would be no need to convert
> > the fortran anyway, there are still fortran compilers available and
> > you could call the fortran computations from any language gui front
> > end. i'm doing a project like that now that calls old fortran, c, c+
> > +, or pascal computation modules from a new c# front end.
>
> I would be really surprised if you could patent math formulas,
> equations, etc. The software which uses them can, obviously, be
> patented. Something with is "self-intuitive" or a law of nature just
> can't be patented!
>
> Regards,
> JS

what is intuitive to you is a patented or copyrighted work from a
lawyer's point of view. while you can't patent or copyright maxwell's
equations you can patent or copyright a method of applying them to
come up with solutions to practical problems. these are common things
now in the software and business world, though some countries have
stopped issuing software patents and others are considering that move
also. but the copyright process is well ingrained in the software
world. So much so that there are specific copyright notices you can
use to specify that you DON'T want to stop anyone from using your
code, just so you don't get bothered by people asking all the time.

3447. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 20:02:58 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i3uvlh$65d$1@news.jpl.nasa.gov>
Source record: 8049

K1TTT wrote:
> On Aug 11, 5:52 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> John Smith wrote:
>>> On 8/10/2010 5:39 PM, z...@z.z.z wrote:
>>>> -
>>>> source
>>>> 158 KB
>>>> VEMSA3D_source_11.zip
>>>> http://rga.googlecode.com/files/VEMSA3D_source_11.zip
>>>> exe standalone
>>>> 971 KB
>>>> VEMSA3D_exe_standalone_11.zip
>>>> http://rga.googlecode.com/files/VEMSA3D_exe_standalone_11.zip
>>>> vemsa3d all downloads:
>>>> http://code.google.com/p/rga/downloads/list
>>>> A FLOSS Visual EM Simulator for 3D Antennas
>>>> http://arxiv.org/abs/1006.0031
>>>> The RGA project:
>>>> http://code.google.com/p/rga/
>>>> Petros SV7BAX
>>>> Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
>>>> -Not-for-Profit-
>>> Well, that certainly allows "the little guy" to view the code and
>>> extract the important parameters, math and formulas so that they can
>>> construct their own specialized tools! Just a bit of understanding how
>>> math is defined by a computer language and you are good-to-go.
>>> Regards,
>>> JS
>> One wonders why they converted Richmond's older code rather than NEC2.
>> Both are available as FORTRAN source. Even NEC4 source is readily
>> available these days, although not for free (so it wouldn't necessarily
>> meet their FLOSS objective.. I'm not sure.. they wouldn't be copying it,
>> they'd be converting it, by hand, to C++, and I think that would break
>> the "proprietary" link)
>>
>> Maybe Richmond's code does insulation? or wires in a conductive medium?
>
> the proprietaryness(is that a word?) or the copyright status may not
> be broken by changing language if the algorithms are claimed as the
> actual intellectual property...

I don't think that's what's claimed by Lawrence Livermore Lab.. the code
is copyrighted, and the license agreement (I don't have it here in front
of me, so I'm working off memory) basically says you can't redistribute

the code. The algorithms have all been described elsewhere.

the code is just an implementation of
> it, no matter what the language. There would be no need to convert
> the fortran anyway, there are still fortran compilers available and
> you could call the fortran computations from any language gui front
> end. i'm doing a project like that now that calls old fortran, c, c+
> +, or pascal computation modules from a new c# front end.

I did wonder why the authors bothered to convert from FORTRAN to C++... but I think they did that as a separate activity, previously, for other reasons. There's a comment in their paper about not using automated translators, too (presumably to avoid any sort of claim that the output of the translator is somehow contaminated with the proprietaryness of the translator? Kind of like Intel copyrighting the assembler instruction mnemonics for the 8080, so Zilog had to use different ones)

Probably it's just a historical artifact.. when they started their development a while ago, they happened to start with the Richmond code, as opposed to the Burke and Poggio code.

3448. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 20:46:02 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i3v269$aq2$1@news.eternal-september.org>
Source record: 8047

On 08/05/2010 06:35 PM, tom wrote:
> On 8/5/2010 7:37 PM, Bill Baka wrote:
>> On 08/05/2010 05:13 PM, tom wrote:
>>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>>> "tom"<news4792@taring.org> wrote
>>>> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>>>>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>>>>> >>
>>>>>> Now everybody from you can measure the electron emission and heat
>>>>>> emission.
>>>>>> I was expected that you (radio people) know the results.
>>>>>
>>>>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>>>>> believe us. And then you prattle on about us not knowing of what we
>>>>> speak
>>>>> when it is you who do not.
>>>>
>>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>>> Tell me then who know better how the radio works: Tesla or you?
>>>> S*
>>>>
>>>>
>>>
>>> Me.
>>>
>>> *t
>>
>> I hate to break in on private arguments, but Tesla was one of the
>> smartest people to ever walk this earth. Are You?
>> He invented Radio, but Marconi took the credit, using at least 6 of
>> Tesla's patents.
>> I can rant on Edison and Daguerre, but that gets long.
>> Some of you guys need a 'TRUE' history lesson.
>>
>> Bill Baka, Listener only, since I rent these days.
>> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
>> but gave it up some years back when they decided to do away with the
>> first class distinction.
>>
>> Different numbers, but hard work to get anyway.
>
> I was specifically responding to the part where it is claimed that Tesla
> said EM is a myth. I feel quite safe, thanks.
>

> But I wouldn't have debated alternating current motors with Tesla. No sir.
>
> *t
>
I am not arguing the obvious, just that Tesla was a genius before his time. Edison had some creativity but mostly stole other people's inventions and made them work for commercially viable products.
He wanted to distribute DC power but Tesla wanted nothing to do with it so he became allied with Western House who knew that AC motors were the way to go. Since Edison went with D.C. and then found out it was only good at the local level he lost out. It took years but we can all see the effects by looking at those million volt transmission towers. I climbed one about 15 years ago and all I could hear was the crackling around me. Let Edison try to convert DC at that level.
Bill Baka

3449. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 20:50:22 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i3v2ed$c80$1@news.eternal-september.org>
Source record: 8048

On 08/06/2010 12:42 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org> wrote
> news:4c5b66eb$0$24414$8046368a@newsreader.iphouse.net...
>> On 8/5/2010 7:37 PM, Bill Baka wrote:
>>> On 08/05/2010 05:13 PM, tom wrote:
>>>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>>>>>>>>
>>>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>>>> Tell me then who know better how the radio works: Tesla or you?
>>>> Me.
>>>>
>>> I hate to break in on private arguments, but Tesla was one of the
>>> smartest people to ever walk this earth. Are You?
>>> He invented Radio, but Marconi took the credit, using at least 6 of
>>> Tesla's patents.
>>> I can rant on Edison and Daguerre, but that gets long.
>>> Some of you guys need a 'TRUE' history lesson.
>>>
>>> Bill Baka, Listener only, since I rent these days.
>>> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
>>> but gave it up some years back when they decided to do away with the
>>> first class distinction.
>>>
>>> Different numbers, but hard work to get anyway.
>>
>> I was specifically responding to the part where it is claimed that Tesla
>> said EM is a myth. I feel quite safe, thanks.
>
> Nikola Tesla wrote: " I showed that the universal medium is a gaseous body
> in which only longitudinal pulses can be propagated, involving alternating
> compressions and expansions similar to those produced by sound waves in the
> air. Thus, a wireless transmitter does not propagate Hertz waves, which are
> a myth, but sound waves in the ether, behaving in every respect like those
> in the air, except that, owing to the great elastic force and extremely
> small density of the medium, their speed is that of light."
>
> Bill Baka wrote: "Some of you guys need a 'TRUE' history lesson."
>
> There is also wrote that EM wrote Heaviside not Maxwell.
> Maxwell's hypothesis was quite different. There were the molecullar magnetic
> vortices. Inside the solenoid were millions of them. They rotate the
> polarisation plane. What rotate it in Heaviside EM? Inside the solenoid is
> the flux. Any rotation.
> In our textbooks is wrote "whats a pity that to teaching was choosen

> Heaviside not Ampere".
> But Ampere is too sophisticated for students.
>
> So, "I feel quite safe, thanks."
> S*
>
>
>
I only commented on Tesla being a world smarter than Edison and did not intend to start an off topic war. P.S. Philo T. Farnsworth invented television, not RCA, who just ripped him off.

3450. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 21:02:20 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i3v34s$c80$2@news.eternal-september.org>
Source record: 8050

On 08/06/2010 10:52 PM, Gordon wrote:
> "Gary Smith"<vkthree@gmail.com> wrote in
> news:4c2bc774$0$14137$c3e8da3@news.astraweb.com:
>
>> Hi, i have a 2.4 metre solid dish here and was going to use it for
>> TVRO but havn't got round to it as the majority of it is foreign with
>> subtitles and that doesn't impress me all that much.
>
> Much of it is also available as streaming internet video.
> Free video players are widely available. So, why invest
> in the TVRO equiptment.
>
> I like the Wi-Fi DX idea for the dish.

I had a 10 foot horizon to horizon Zenith dish and not only did I catch news anchors picking their noses but got a lot of shows a week before they were on regular TV. That was 1990 time frame, so much must have changed by now. I did pick up purely digital signals which were detectable as byte length dots and dashes (1's and 0's) but never recorded one. I have to wonder what those were. Now, in 2010 it may be a bit of an antique but I will bet there is still some interesting stuff going around.

3451. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 21:07:41 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i3v3et$c80$3@news.eternal-september.org>
Source record: 7951

```
On 08/05/2010 07:23 PM, tom wrote:
> On 8/5/2010 7:37 PM, Bill Baka wrote:
>> On 08/05/2010 05:13 PM, tom wrote:
>>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>>> "tom"<news4792@taring.org> wrote
>>>> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>>>>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>>>>> >>
>>>>>> Now everybody from you can measure the electron emission and heat
>>>>>> emission.
>>>>>> I was expected that you (radio people) know the results.
>>>>>
>>>>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>>>>> believe us. And then you prattle on about us not knowing of what we
>>>>> speak
>>>>> when it is you who do not.
>>>>
>>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>>> Tell me then who know better how the radio works: Tesla or you?
>>>> S*
>>>>
>>>>
>>>
>>> Me.
>>>
>>> *t
>>
>> I hate to break in on private arguments, but Tesla was one of the
>> smartest people to ever walk this earth. Are You?
>> He invented Radio, but Marconi took the credit, using at least 6 of
>> Tesla's patents.
>> I can rant on Edison and Daguerre, but that gets long.
>> Some of you guys need a 'TRUE' history lesson.
>>
>> Bill Baka, Listener only, since I rent these days.
>> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
>> but gave it up some years back when they decided to do away with the
>> first class distinction.
>>
>> Different numbers, but hard work to get anyway.
>
> Just noticed the renter part.
>
> I've been renting for 35 years and haven't been too seriously
```

> constrained for most of it. And by not seriously constrained I mean 4
> over 4 yagis at 25 and 37 feet with 1000 watts on 6m amongst other things.
>
> If you work with your landlord you can often get permission for a lot.
> And the right city helps, too.
>
> tom
> K0TAR
>
You are obviously not renting from Herr Commandant Earl Kennedy. He
doesn't allow shit except for maybe a long wire run through the trees.
If he can see it, he says take it down. I can't wait to move to a house
that is farther out and he doesn't own.
Bill Baka

3452. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 21:21:07 UTC
From: Bill Baka <bbaka@comcast.net>
Message-ID: <i3v482$c80$4@news.eternal-september.org>
Source record: 7952

On 08/10/2010 11:29 PM, Szczepan Bialek wrote:
> "K1TTT"<k1ttt@arrl.net> wrote
> news:10047bbf-32a0-4fe9-89f6-67b02b9d5b5b@k10g2000yqa.googlegroups.com...
> On Aug 10, 7:51 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>
>> Teachers must be in "real world" and wait for the end of works on the
>> Unification of gravity, electricity and magnetism (they are pending).
>> S*
>
>> it sure would be nice if gravity and electrostatics were the same
> force, would make it easy to build antigravity device, just hook up a
> van de graf generator and fly away!!!
>
> Moon dust fly away.
> On the Earth the soap-bubble levitates if are charged.
> Earth and Moon have the excess of electrons.
>
>> you really are digging up some
> old and incorrect theories from long ago... keep digging and you'll
> get back to the 4 basic elements, then you will know everything.
>
> Bill Baka wrote: "Some of you guys need a 'TRUE' history lesson."

I didn't start this to be a flame war, but I should have known.
As for really high magnetic fields they have levitated a mouse in the
lab with about 5 Teslas interacting with the water in his body.
Bill Baka
>
> In the history are the reasons for which Maxwell did the hipothesis and and
> why it was discarded.
> Not as a whole. The math for solid body is in using. In a solid body are
> stress and strains.
>
> In the history no the school version by Heaviside. It is only in your "real
> world" and in textbooks.
> S*
>
>

3453. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 21:44:07 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <76ibj7-m27.ln1@mail.specsol.com>
Source record: 7953

```
Bill Baka <bbaka@comcast.net> wrote:
> On 08/05/2010 06:35 PM, tom wrote:
>> On 8/5/2010 7:37 PM, Bill Baka wrote:
>>> On 08/05/2010 05:13 PM, tom wrote:
>>>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
>>>>> "tom"<news4792@taring.org> wrote
>>>>> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
>>>>>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>>>>>>> >>
>>>>>>> Now everybody from you can measure the electron emission and heat
>>>>>>> emission.
>>>>>>> I was expected that you (radio people) know the results.
>>>>>>
>>>>>> Actually we do. You, who believe the 200 and 100 year old myths, don't
>>>>>> believe us. And then you prattle on about us not knowing of what we
>>>>>> speak
>>>>>> when it is you who do not.
>>>>>
>>>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
>>>>> Tell me then who know better how the radio works: Tesla or you?
>>>>> S*
>>>>>
>>>>>
>>>>
>>>> Me.
>>>>
>>>> *t
>>>
>>> I hate to break in on private arguments, but Tesla was one of the
>>> smartest people to ever walk this earth. Are You?
>>> He invented Radio, but Marconi took the credit, using at least 6 of
>>> Tesla's patents.
>>> I can rant on Edison and Daguerre, but that gets long.
>>> Some of you guys need a 'TRUE' history lesson.
>>>
>>> Bill Baka, Listener only, since I rent these days.
>>> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
>>> but gave it up some years back when they decided to do away with the
>>> first class distinction.
>>>
>>> Different numbers, but hard work to get anyway.
>>
>> I was specifically responding to the part where it is claimed that Tesla
>> said EM is a myth. I feel quite safe, thanks.
```

>>
>> But I wouldn't have debated alternating current motors with Tesla. No sir.
>>
>> *t
>>
> I am not arguing the obvious, just that Tesla was a genius before his
> time. Edison had some creativity but mostly stole other people's
> inventions and made them work for commercially viable products.
> He wanted to distribute DC power but Tesla wanted nothing to do with it
> so he became allied with Western House who knew that AC motors were the
> way to go. Since Edison went with D.C. and then found out it was only
> good at the local level he lost out. It took years but we can all see
> the effects by looking at those million volt transmission towers. I
> climbed one about 15 years ago and all I could hear was the crackling
> around me. Let Edison try to convert DC at that level.
> Bill Baka

HVDC distribution systems over long distances are not that uncommon.

http://en.wikipedia.org/wiki/High-voltage_direct_current

The Pacific DC Intertie from Celilo, Oregon to Sylmar, California is just
under 2,000 km long and runs at .5 MV.

--
Jim Pennino

Remove .spam.sux to reply.

3454. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-11 23:46:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <01111eb3-0f8f-4a1b-b6a1-64f5321a0ce3@p7g2000yqa.googlegroups.com>
Source record: 7954

On Aug 11, 8:46 pm, Bill Baka <bb...@comcast.net> wrote:
> On 08/05/2010 06:35 PM, tom wrote:
>
> > On 8/5/2010 7:37 PM, Bill Baka wrote:
> >> On 08/05/2010 05:13 PM, tom wrote:
> >>> On 8/5/2010 2:38 AM, Szczepan Bialek wrote:
> >>>> "tom"<news4...@taring.org> wrote
> >>>> news:4c5a06d4$0$55712$8046368a@newsreader.iphouse.net...
> >>>>> On 8/4/2010 2:45 AM, Szczepan Bialek wrote:
>
> >>>>>> Now everybody from you can measure the electron emission and heat
> >>>>>> emission.
> >>>>>> I was expected that you (radio people) know the results.
>
> >>>>> Actually we do. You, who believe the 200 and 100 year old myths, don't
> >>>>> believe us. And then you prattle on about us not knowing of what we
> >>>>> speak
> >>>>> when it is you who do not.
>
> >>>> Tesla wrote in XX century that EM is a myth. I simply agree with him.
> >>>> Tell me then who know better how the radio works: Tesla or you?
> >>>> S*
>
> >>> Me.
>
> >>> *t
>
> >> I hate to break in on private arguments, but Tesla was one of the
> >> smartest people to ever walk this earth. Are You?
> >> He invented Radio, but Marconi took the credit, using at least 6 of
> >> Tesla's patents.
> >> I can rant on Edison and Daguerre, but that gets long.
> >> Some of you guys need a 'TRUE' history lesson.
>
> >> Bill Baka, Listener only, since I rent these days.
> >> Had a 1st Class Radiotelephone with Marine RADAR, P1-12-24966,
> >> but gave it up some years back when they decided to do away with the
> >> first class distinction.
>
> >> Different numbers, but hard work to get anyway.
>
> > I was specifically responding to the part where it is claimed that Tesla
> > said EM is a myth. I feel quite safe, thanks.
>

> > But I wouldn't have debated alternating current motors with Tesla. No sir.
>
> > *t
>
> I am not arguing the obvious, just that Tesla was a genius before his
> time. Edison had some creativity but mostly stole other people's
> inventions and made them work for commercially viable products.
> He wanted to distribute DC power but Tesla wanted nothing to do with it
> so he became allied with Western House who knew that AC motors were the
> way to go. Since Edison went with D.C. and then found out it was only
> good at the local level he lost out. It took years but we can all see
> the effects by looking at those million volt transmission towers. I
> climbed one about 15 years ago and all I could hear was the crackling
> around me. Let Edison try to convert DC at that level.
> Bill Baka

well, actually edison was right... and many long distance transmission lines today are DC at up to +/- 600kv, that will put a crackle in your snap and pop! There are also places where interconnects between major AC systems are done using back to back AC/DC converters so that the systems can be isolated due to voltage or frequency control issues. don't count out large dc motors either, our submarines have been using them forever... even nuclear subs have dc propulsion systems. All solar panels start as DC, as are most of the storage systems for them, and don't forget plugin hybrid or all electric vehicles, most all of them are dc powered. There is also a new move to use DC distribution in large data centers to reduce heat from transformers and simplify backup power systems. most subway systems and electric rail i believe are also dc powered. and believe it or not, there was still a block in nyc that was provided with dc by ConEd until 2007, and as i understand it they had to provide custom rectifiers for some equipment that was still in use so they could retire the rest of that system.

3455. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 01:53:34 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i3vk79$626$1@news.eternal-september.org>
Source record: 7955

On 8/11/2010 12:43 PM, K1TTT wrote:
> On Aug 11, 7:20 pm, John Smith<assemblywiz...@gmail.com> wrote:
>> On 8/11/2010 11:53 AM, K1TTT wrote:

>
> what is intuitive to you is a patented or copyrighted work from a
> lawyer's point of view. while you can't patent or copyright maxwell's
> equations you can patent or copyright a method of applying them to
> come up with solutions to practical problems. these are common things
> now in the software and business world, though some countries have
> stopped issuing software patents and others are considering that move
> also. but the copyright process is well ingrained in the software
> world. So much so that there are specific copyright notices you can
> use to specify that you DON'T want to stop anyone from using your
> code, just so you don't get bothered by people asking all the time.
>

I never seen this as a problem or a road block. You are simply a matter
of all the knowledge you have picked up from others along the way, most
likely, a large portion of this came from copyrighted materials.
Indeed, if I read a copyrighted book, then turn around and write a book,
containing all I have read, I have done no wrong; If I copied the work,
I am.

When it comes to math, removed from other works, it is exactly the same.
You would have to be an idiot to do it in such a way as to cause problems.

This is all so self-apparent, it always puzzles me when I am brought to
putting the concept(s) to text, or even spoken speech!

Regards,
JS

3456. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 06:09:08 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c639011$0$21006$65785112@news.neostrada.pl>
Source record: 7956

<jimp@specsol.spam.sux.com> wrote news:76ibj7-m27.ln1@mail.specsol.com...
> Bill Baka <bbaka@comcast.net> wrote:
>> >
> HVDC distribution systems over long distances are not that uncommon.
>
> http://en.wikipedia.org/wiki/High-voltage_direct_current

" Due to the space charge formed around the conductors, an HVDC system may have about half the loss per unit length of a high voltage AC system carrying the same amount of power. With monopolar transmission the choice of polarity of the energized conductor leads to a degree of control over the corona discharge. In particular, the polarity of the ions emitted can be controlled, which may have an environmental impact on particulate condensation. (particles of different polarities have a different mean-free path.) Negative coronas generate considerably more ozone than positive coronas,"

But what it works in your antennas.
S*

3457. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 12:22:15 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <478e1ce8-d437-45f2-b58e-9405d7307ba3@y11g2000yqm.googlegroups.com>
Source record: 7957

On Aug 12, 6:09 am, "Szczepan Bia³ek" <sz.bia...@wp.pl> wrote:
> <j...@specsol.spam.sux.com> wrotenews:76ibj7-m27.ln1@mail.specsol.com...
>
> > Bill Baka <bb...@comcast.net> wrote:
>
> > HVDC distribution systems over long distances are not that uncommon.
>
> >http://en.wikipedia.org/wiki/High-voltage_direct_current
>
> " Due to the space charge formed around the conductors, an HVDC system may
> have about half the loss per unit length of a high voltage AC system
> carrying the same amount of power. With monopolar transmission the choice of
> polarity of the energized conductor leads to a degree of control over the
> corona discharge. In particular, the polarity of the ions emitted can be
> controlled, which may have an environmental impact on particulate
> condensation. (particles of different polarities have a different mean-free
> path.) Negative coronas generate considerably more ozone than positive
> coronas,"
>
> But what it works in your antennas.
> S*

your antennas do not use DC.

3458. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 12:24:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2dd3ad61-e021-4f25-a048-8a1bc1d54327@a36g2000yqc.googlegroups.com>
Source record: 7958

On Aug 12, 1:53 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/11/2010 12:43 PM, K1TTT wrote:
>
> > On Aug 11, 7:20 pm, John Smith<assemblywiz...@gmail.com> wrote:
> >> On 8/11/2010 11:53 AM, K1TTT wrote:
>
> > > what is intuitive to you is a patented or copyrighted work from a
> > > lawyer's point of view. while you can't patent or copyright maxwell's
> > > equations you can patent or copyright a method of applying them to
> > > come up with solutions to practical problems. these are common things
> > > now in the software and business world, though some countries have
> > > stopped issuing software patents and others are considering that move
> > > also. but the copyright process is well ingrained in the software
> > > world. So much so that there are specific copyright notices you can
> > > use to specify that you DON'T want to stop anyone from using your
> > > code, just so you don't get bothered by people asking all the time.
>
> I never seen this as a problem or a road block. You are simply a matter
> of all the knowledge you have picked up from others along the way, most
> likely, a large portion of this came from copyrighted materials.
> Indeed, if I read a copyrighted book, then turn around and write a book,
> containing all I have read, I have done no wrong; If I copied the work,
> I am.
>
> When it comes to math, removed from other works, it is exactly the same.
> You would have to be an idiot to do it in such a way as to cause problems.
>
> This is all so self-apparent, it always puzzles me when I am brought to
> putting the concept(s) to text, or even spoken speech!
>
> Regards,
> JS

it may be self apparent to you, but it is how corporate lawyers make
their living.

3459. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 20:25:27 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i41lc3$u2j$1@news.eternal-september.org>
Source record: 7959

>
> I did wonder why the authors bothered to convert from FORTRAN to C++...
> but I think they did that as a separate activity, previously, for other
> reasons. There's a comment in their paper about not using automated
> translators, too (presumably to avoid any sort of claim that the output
> of the translator is somehow contaminated with the proprietaryness of
> the translator? Kind of like Intel copyrighting the assembler
> instruction mnemonics for the 8080, so Zilog had to use different ones)
>
> Probably it's just a historical artifact.. when they started their
> development a while ago, they happened to start with the Richmond code,
> as opposed to the Burke and Poggio code.

FORTRAN is pretty much a dead language, although you will find strong argument to that statement in some math circles. While I do agree that language makes little difference to software engineers, most being fluent in many/multiple languages, a C translation just keeps the code, more, up-to-date.

And, none of the above is of any real importance, other than complete, or even substantial fragments of, programs can be copyrighted. But, I am sure there are millions of "for statements", etc. in code that are exact duplicates of some found in Microsoft Windows, etc. To claim that the truths of mathematics is patentable is just stoopid.

However, all that said, there are such things as "encoder algorithms", for an example, and such, which are so narrow and contain such an exact and specific set of math instructions to execute and obtain reproducible results from, that the validity for a patent is quite obvious. However, as has been demonstrated, for any patented algorithm which has yet been created, a freeware solution which is either so close in effectiveness as to make it a moot point, or even greater in effectiveness--an example is MP3 format (patented) as relates to Ogg Vorbis format (public domain.)

The future where patents cause real road blocks in software development, or even "hoops to be jumped through", is still in software engineers' future.

Regards,
JS

3460. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 20:54:22 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <uk3ej7-qfg.ln1@mail.specsol.com>
Source record: 7960

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:76ibj7-m27.ln1@mail.specsol.com...
>> Bill Baka <bbaka@comcast.net> wrote:
>>> >
>> HVDC distribution systems over long distances are not that uncommon.
>>
>> http://en.wikipedia.org/wiki/High-voltage_direct_current
>
> " Due to the space charge formed around the conductors, an HVDC system may
> have about half the loss per unit length of a high voltage AC system
> carrying the same amount of power. With monopolar transmission the choice of
> polarity of the energized conductor leads to a degree of control over the
> corona discharge. In particular, the polarity of the ions emitted can be
> controlled, which may have an environmental impact on particulate
> condensation. (particles of different polarities have a different mean-free
> path.) Negative coronas generate considerably more ozone than positive
> coronas,"

Whoopee, you can cut and paste from a web page, what a genius.

> But what it works in your antennas.
> S*

It has nothing to do with antennas, moron.

--
Jim Pennino

Remove .spam.sux to reply.

3461. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 21:33:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e9bc517b-b2e9-4ebc-8b74-27483c87590e@t2g2000yqe.googlegroups.com>
Source record: 7961

On Aug 12, 8:25 pm, John Smith <assemblywiz...@gmail.com> wrote:
> > I did wonder why the authors bothered to convert from FORTRAN to C++...
> > but I think they did that as a separate activity, previously, for other
> > reasons. There's a comment in their paper about not using automated
> > translators, too (presumably to avoid any sort of claim that the output
> > of the translator is somehow contaminated with the proprietaryness of
> > the translator? Kind of like Intel copyrighting the assembler
> > instruction mnemonics for the 8080, so Zilog had to use different ones)
>
> > Probably it's just a historical artifact.. when they started their
> > development a while ago, they happened to start with the Richmond code,
> > as opposed to the Burke and Poggio code.
>
> FORTRAN is pretty much a dead language, although you will find strong
> argument to that statement in some math circles. While I do agree that
> language makes little difference to software engineers, most being
> fluent in many/multiple languages, a C translation just keeps the code,
> more, up-to-date.
>
> And, none of the above is of any real importance, other than complete,
> or even substantial fragments of, programs can be copyrighted. But, I
> am sure there are millions of "for statements", etc. in code that are
> exact duplicates of some found in Microsoft Windows, etc. To claim that
> the truths of mathematics is patentable is just stoopid.
>
> However, all that said, there are such things as "encoder algorithms",
> for an example, and such, which are so narrow and contain such an exact
> and specific set of math instructions to execute and obtain reproducible
> results from, that the validity for a patent is quite obvious. However,
> as has been demonstrated, for any patented algorithm which has yet been
> created, a freeware solution which is either so close in effectiveness
> as to make it a moot point, or even greater in effectiveness--an example
> is MP3 format (patented) as relates to Ogg Vorbis format (public domain.)
>
> The future where patents cause real road blocks in software development,
> or even "hoops to be jumped through", is still in software engineers'
> future.
>
> Regards,
> JS

don't bet on it. microsoft just had to remove a major feature from
word because of patent infringement. and there are lots of cases
where companies have to buy rights to use patented features before

they can release their products, compression algorithms are just one of many things that have been patented. even the cursor and the mouse have patents. fortunately most of my work is using standard tools that come with distribution licenses, and the stuff i develop that is unique is from our own research programs so we obviously own the rights. but if i find a free tool that has something that will make my job much easier i have to submit the license to our software quality and then maybe legal offices to be sure we can use it without infringing. you know those long license statements that no one ever reads before installing something?? most of them unfortunately make sense to me now.

3462. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 21:34:50 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4a547a11-3376-4287-849c-c014857e1666@q22g2000yqm.googlegroups.com>
Source record: 7962

On Aug 12, 8:54 pm, j...@specsol.spam.sux.com wrote:
> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> > <j...@specsol.spam.sux.com> wrotenews:76ibj7-m27.ln1@mail.specsol.com...
> >> Bill Baka <bb...@comcast.net> wrote:
>
> >> HVDC distribution systems over long distances are not that uncommon.
>
> >>http://en.wikipedia.org/wiki/High-voltage_direct_current
>
> > " Due to the space charge formed around the conductors, an HVDC system may
> > have about half the loss per unit length of a high voltage AC system
> > carrying the same amount of power. With monopolar transmission the choice of
> > polarity of the energized conductor leads to a degree of control over the
> > corona discharge. In particular, the polarity of the ions emitted can be
> > controlled, which may have an environmental impact on particulate
> > condensation. (particles of different polarities have a different mean-free
> > path.) Negative coronas generate considerably more ozone than positive
> > coronas,"
>
> Whoopee, you can cut and paste from a web page, what a genius.
>
> > But what it works in your antennas.
> > S*
>
> It has nothing to do with antennas, moron.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

maybe he does try to use dc on his antennas? kind of low data rate,
but it would suffice for anything logical he had to say.

3463. FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-12 22:34:14 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i41st6$3es$1@news.jpl.nasa.gov>
Source record: 7963

John Smith wrote:
>
>>
>> I did wonder why the authors bothered to convert from FORTRAN to C++...
>> but I think they did that as a separate activity, previously, for other
>> reasons. There's a comment in their paper about not using automated
>> translators, too (presumably to avoid any sort of claim that the output
>> of the translator is somehow contaminated with the proprietaryness of
>> the translator? Kind of like Intel copyrighting the assembler
>> instruction mnemonics for the 8080, so Zilog had to use different ones)
>>
>> Probably it's just a historical artifact.. when they started their
>> development a while ago, they happened to start with the Richmond code,
>> as opposed to the Burke and Poggio code.
>
> FORTRAN is pretty much a dead language, although you will find strong
> argument to that statement in some math circles. While I do agree that
> language makes little difference to software engineers, most being
> fluent in many/multiple languages, a C translation just keeps the code,
> more, up-to-date.

FORTRAN is far from dead in applications processing massive arrays (just about any finite element program). For instance, I'd venture that most weather prediction codes are in FORTRAN (MM5, which is a widely used mesoscale modeling code, is in FORTRAN, as is WRF), as are a lot of structural analysis (e.g. NASTRAN is in FORTRAN), and virtually ALL electromagnetics codes.

FORTRAN is hard to beat when it comes to specifying array operations, and such. Running gridded models doesn't require much in the way of pointers or string manipulation, which are admittedly a pain in older FORTRANs (pre FORTRAN-90 or FORTRAN-77). FORTRAN also has an intrinsic Complex type which is nice.

Compilers for numerical analysis applications (e.g. those weather grid models) for FORTRAN are highly optimized, too. There's also nifty tools like FLIC (FORTRAN Loop and Index Converter)

There's even new versions of FORTRAN coming out.

> However, all that said, there are such things as "encoder algorithms",
> for an example, and such, which are so narrow and contain such an exact
> and specific set of math instructions to execute and obtain reproducible
> results from, that the validity for a patent is quite obvious. However,

> as has been demonstrated, for any patented algorithm which has yet been
> created, a freeware solution which is either so close in effectiveness
> as to make it a moot point, or even greater in effectiveness--an example
> is MP3 format (patented) as relates to Ogg Vorbis format (public domain.)

Unless you need compatibility and interoperability. Sure, there are
non-patented communications coding schemes like LDPC that give better
performance than, say, Turbo codes (patented), but if you need to build
a radio that interoperates with a radio using Turbo codes, you're pretty
well stuck.

All the various high performance low bit rate voice codecs have similar
issues. All the "good" ones are patented, as well as most of the "not
quite so good", and the patents are broad enough that you would have a
tough time designing around them. (which is actually, I think, how it
should be.. patents *should* be for fairly general conceptual leaps, not
for some fiddly little detail that's different.. that's what "design
patents" are about)

Fortunately, the patents *will* expire. Unlike copyright, which has an
ever longer tail.

>
> The future where patents cause real road blocks in software development,
> or even "hoops to be jumped through", is still in software engineers'
> future.

I don't think so. It's here now, especially if you consider advanced
signal processing or protocol handling in software. The software is just
the means by which the invention is realized, and it's no different than
doing it with discrete hardware components. While raw "algorithms" and
"math" can't be patented, a clever and efficient implementation
technique certainly can be.

3464. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 00:08:02 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <kl2966t663189n4ogg8jbfeouorv4g5blf@4ax.com>
Source record: 7964

A microphone at the focus and an amplifier listens real good!

On Wed, 04 Aug 2010 10:21:45 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 6/30/2010 3:38 PM, Gary Smith wrote:
>> Hi, i have a 2.4 metre solid dish here and was going to use it for TVRO but
>> havn't got round to it as the majority of it is foreign with subtitles and
>> that doesn't impress me all that much. Just wondering how i might be able to
>> utilise this dish in the HAM scenario. I am a "Standard" licence in
>> Australia which entitles me to transmit on most bands excluding 3776 - 3800,
>> 50 - 52 MHz, 420 - 430 MHz, 2300 - 2302 MHz, 3.5 gig, 10gig, and above. Also
>> can't use WARC bands. So it's a bit limited in the higher part of spectrum
>> but just wondering if someone could offer some suggestions on what i could
>> use it for (Except birdbath, fishpond etc lol)
>>
>> Thanks
>>
>> Gary
>> VK3LCD
>>
>>
>
>chuck a USB WiFi Dongle at the focal point and see how far/many WiFi
>routers you can hit?
>
>Regards,
>JS
John Ferrell W8CCW

3465. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 00:34:11 UTC
From: Al Lorona <al_lorona@agilent.com>
Message-ID: <i423u8moa1@speranza.aioe.org>
Source record: 7965

Thanks, Owen. That makes sense. I agree it looks like a modeling error.

Regards,

Al

"Owen Duffy" <owen@owenduffy.net> wrote in message
news:d22018fd-5ff6-417a-b841-385e55e2f6b4@q21g2000prm.googlegroups.com...
On Aug 10, 10:35 am, "Al Lorona" <al_lor...@agilent.com> wrote:
> "Owen Duffy" <n...@no.where> wrote in message
>
> news:Xns9DD0527908651nonenowhere@61.9.134.55...
>
>
>
> > Are you quite sure of what you say?
>
> Beats me... I've never seen one of these antennas and am going only by the
> EZNEC model on that web site, as I said in my last post. Says that there's
> 50 + j500 at the feedpoint. That's a 50 ohm resistor in series with an
> inductor, isn't it? Or, as you say, a coil with a real low Q. Either way,
> it's an extremely lossy device that adversely affects the results. Try
> adjusting the R to a more reasonable value for an average coil and
> re-simulating in EZNEC and take a look at the result. KG4JJH has measured
> data in that review that definitely coincides with a 50 +j500 device at
> the
> feedpoint.
>

I though about this while on the road this morning. Sometimes
enlightenment comes when there is not a keyboard to confuse things.

I assumed that he intended to model the shunt coil, and correctly
modelled it, but in fact his load is in series with the feedpoint...
so it hasn't captured the shunt coil.

Removing the load, and running the model gives a feedpoint Z of 16-
j500. A shunt coil with Qi around 100, and L around 29uH will
transform that to 50+jX. That coild has an equivalent shunt R of 120k,
so negligible power is lost in it.

I haven't looked closely at the model in all respects, but it seems to
do some crazy things that certainly give unrealistically low
efficiency.

Owen

3466. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 01:12:07 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i4265j$to9$1@news.eternal-september.org>
Source record: 7966

On 8/12/2010 3:34 PM, Jim Lux wrote:
> John Smith wrote:
>>
...
>
>
> FORTRAN is far from dead in applications processing massive arrays (just
> about any finite element program). For instance, I'd venture that most
> weather prediction codes are in FORTRAN (MM5, which is a widely used
> mesoscale modeling code, is in FORTRAN, as is WRF), as are a lot of
> structural analysis (e.g. NASTRAN is in FORTRAN), and virtually ALL
> electromagnetics codes.
>

These days, I choose to program, almost exclusively, in assembly and C/C+/C++ (all C looks the same to someone writing in it.) If someone hands me a FORTRAN coded work, I can read it, but it tends to look like a mess to me. I simply run it though a source translator/optimizer and I have C code. When I am done, if they requested the result in FORTRAN, I run it back through the translator in reverse. C is simply a universal language which has the most favor with engineers and which has become the industry standard. Like I said, arguing language is a moot point ...

> FORTRAN is hard to beat when it comes to specifying array operations,
> and such. Running gridded models doesn't require much in the way of
> pointers or string manipulation, which are admittedly a pain in older
> FORTRANs (pre FORTRAN-90 or FORTRAN-77). FORTRAN also has an intrinsic
> Complex type which is nice.
>

FORTRAN is not "hard to beat" at anything. Assembly instructions are the only "real code" which a processor understands, it is the binary language of processing units. There is not a computer language in existence which does not translate to assembly before execution. FORTRAN and C only differ in semantics. While FORTRAN was an attempt to make the language more readable in translation, C is an attempt to make the language more efficient in translation. The goals of the two languages are not exact.

> Compilers for numerical analysis applications (e.g. those weather grid
> models) for FORTRAN are highly optimized, too. There's also nifty tools
> like FLIC (FORTRAN Loop and Index Converter)
>

The meaning of that is just moot, and implies an argument for leaving
something unoptimized would be someones goal, somewhere, for what
purpose that would be baffles me!

>
> There's even new versions of FORTRAN coming out.
>

As I admitted, there are almost religious devotions to some languages
... another point which baffles me.

>
>
...
>
> Unless you need compatibility and interoperability. Sure, there are
> non-patented communications coding schemes like LDPC that give better
> performance than, say, Turbo codes (patented), but if you need to build
> a radio that interoperates with a radio using Turbo codes, you're pretty
> well stuck.
>

That is some gobble-de-gook which defies meaningful translation ...
perhaps a dynamic demonstration of obfuscation? To someone outside the
field, I can see how it might just work!

> All the various high performance low bit rate voice codecs have similar
> issues. All the "good" ones are patented, as well as most of the "not
> quite so good", and the patents are broad enough that you would have a
> tough time designing around them. (which is actually, I think, how it
> should be.. patents *should* be for fairly general conceptual leaps, not
> for some fiddly little detail that's different.. that's what "design
> patents" are about)
>
> Fortunately, the patents *will* expire. Unlike copyright, which has an
> ever longer tail.
>

The best ones have not even been thought-of/invented yet! However, you
remind me of that patent office employee who once mentioned "the fact"
that most patents had already been patented ... and your statement is
just as valid as his!

...
>
> I don't think so. It's here now, especially if you consider advanced
> signal processing or protocol handling in software. The software is just
> the means by which the invention is realized, and it's no different than
> doing it with discrete hardware components. While raw "algorithms" and
> "math" can't be patented, a clever and efficient implementation
> technique certainly can be.
>

... more obfuscation ... but does acknowledge the basic truth that
truths cannot be patented.

Regards,
JS

3467. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 01:24:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4c649ec9$0$24413$8046368a@newsreader.iphouse.net>
Source record: 7967

On 8/12/2010 5:34 PM, Jim Lux wrote:
> John Smith wrote:
<snip>
>>
>> FORTRAN is pretty much a dead language, although you will find strong
>> argument to that statement in some math circles. While I do agree that
>> language makes little difference to software engineers, most being
>> fluent in many/multiple languages, a C translation just keeps the
>> code, more, up-to-date.
>
>
> FORTRAN is far from dead in applications processing massive arrays (just
> about any finite element program). For instance, I'd venture that most
> weather prediction codes are in FORTRAN (MM5, which is a widely used
> mesoscale modeling code, is in FORTRAN, as is WRF), as are a lot of
> structural analysis (e.g. NASTRAN is in FORTRAN), and virtually ALL
> electromagnetics codes.
>
> FORTRAN is hard to beat when it comes to specifying array operations,
> and such. Running gridded models doesn't require much in the way of
> pointers or string manipulation, which are admittedly a pain in older
> FORTRANs (pre FORTRAN-90 or FORTRAN-77). FORTRAN also has an intrinsic
> Complex type which is nice.
>
> Compilers for numerical analysis applications (e.g. those weather grid
> models) for FORTRAN are highly optimized, too. There's also nifty tools
> like FLIC (FORTRAN Loop and Index Converter)
>
>
> There's even new versions of FORTRAN coming out.
>

My daughter just got her doctorate from Columbia University. Her thesis
was all about data sets massaged with FORTRAN.

It ain't dead. Far from it.

tom
K0TAR

3468. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 01:27:10 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i4271q$12r$1@news.eternal-september.org>
Source record: 7968

On 8/12/2010 2:33 PM, K1TTT wrote:

First, I would like to point out and "slap right on the table",
obfuscation, diversion, slight-of-hand and wordiness look lame to me ...
for whatever reason, they strike me as tools of the "uneducated con
man." That out of the way ...

> ...
> don't bet on it. microsoft just had to remove a major feature from
> word because of patent infringement. and there are lots of cases
> where companies have to buy rights to use patented features before
> they can release their products, compression algorithms are just one
> of many things that have been patented.

Microsoft stole Java from Sun and attempted to make it, its' own.
Microsoft has a long history of this. The type(s) of individual(s) who
do such seem to infiltrate large corporations in large numbers.
However, really a moot point to the direction in which this conversation
first started ...

>> >> even the cursor and the mouse have patents.

Yeah, as if someone grasping at straws and thinking that "just owning a
patent", in someway, is some kind of status symbol ... something which
fails to impress anyone worth impressing.

>> fortunately most of my work is using standard tools
> that come with distribution licenses, and the stuff i develop that is
> unique is from our own research programs so we obviously own the
> rights. but if i find a free tool that has something that will make my
> job much easier i have to submit the license to our software quality
> and then maybe legal offices to be sure we can use it without
> infringing. you know those long license statements that no one ever
> reads before installing something?? most of them unfortunately make
> sense to me now.

Yeah, most people double check their work(s) and have others do so, if
available ...

Regards,
JS

3469. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 02:06:21 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i429b8$97u$1@news.eternal-september.org>
Source record: 7969

On 8/12/2010 6:24 PM, tom wrote:

> ...
> My daughter just got her doctorate from Columbia University. Her thesis
> was all about data sets massaged with FORTRAN.
>
> It ain't dead. Far from it.
>
> tom
> K0TAR

Frankly, I find that amazing, indeed, it implies insanity to me.

Why anyone would allow a thesis to be done which would favor a particular language defies rationality. As, language is only a device for the implementation of truths, ideas, algorithms and laws. It is the underlying structure of math and logic which are the only important points. To express these in a form speaking to computer engineers, a "language" such as pseudo-code would be the logical choice. To do any different simply implies there are interests at work other than pure science.

Are you sure a FORTRAN compiler/developer with financial interests did not back this academic venture? ROFLOL

Regards,
JS

3470. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 03:33:16 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <9d69e823-d9b7-4f64-90e9-b4c32db21b41@k17g2000prf.googlegroups.com>
Source record: 7970

On Aug 11, 2:02 pm, Bill Baka <bb...@comcast.net> wrote:
> On 08/06/2010 10:52 PM, Gordon wrote:
>
> > "Gary Smith"<vkth...@gmail.com> wrote in
> >news:4c2bc774$0$14137$c3e8da3@news.astraweb.com:
>
> >> Hi, i have a 2.4 metre solid dish here and was going to use it for
> >> TVRO but havn't got round to it as the majority of it is foreign with
> >> subtitles and that doesn't impress me all that much.
>
> > Much of it is also available as streaming internet video.
> > Free video players are widely available. So, why invest
> > in the TVRO equiptment.
>
> > I like the Wi-Fi DX idea for the dish.
>
> I had a 10 foot horizon to horizon Zenith dish and not only did I catch
> news anchors picking their noses but got a lot of shows a week before
> they were on regular TV. That was 1990 time frame, so much must have
> changed by now. I did pick up purely digital signals which were
> detectable as byte length dots and dashes (1's and 0's) but never
> recorded one. I have to wonder what those were. Now, in 2010 it may be a
> bit of an antique but I will bet there is still some interesting stuff
> going around.

There's a lot of sports programming available in the clear, both
analog and digital. On a far west C-band satellite (135-degrees West,
I think) I could still get the Alaska network digital feeds until
recently in San Diego. (I took down my 10-foot C-band dish a few
years ago, so my knowledge is getting stale.)

Much info is available on skyvision.com and satelliteguys.us . Also
see lyngsat.com and sadoun.com . The science of cataloging what's
available is not perfected, as the programmers don't care that we know
what's on -- unless we're paying customers. :-(

The fun is building the gear, especially antennas and mounts. I hand-
built a geometrically-correct polar mount out of the pipe from a
DirecTV wall mount and an ordinary TV antenna rotor. It tracked the
arc perfectly for a small Ku dish. I still have it and I'll post a
picture if anybody wants to see it.

I hope this helps.

"Sal"

3471. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 05:20:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <96l966htfjh3dh6jqbm8s25n30hvhb2vju@4ax.com>
Source record: 7971

On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>> My daughter just got her doctorate from Columbia University.

>Frankly, I find that amazing, indeed, it implies insanity to me.

And our friend Mr. Ostrom, the computer scientist, got his AS degree
in Chico something more than a dozen years ago. There's authority on
the topic speaking for ya'.

3472. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 05:55:01 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <59n9669qh7usdo9ge6l97hd58q0t1hbapq@4ax.com>
Source record: 7972

On Thu, 12 Aug 2010 15:34:14 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>There's even new versions of FORTRAN coming out.

Yep. Intel has several Fortran compilers for Windoze, Mac, and Linux.
<http://software.intel.com/en-us/intel-compilers/>
Rumors of the demise of Fortran have been greatly exaggerated.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3473. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 08:42:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c650571$0$21007$65785112@news.neostrada.pl>
Source record: 7973

"K1TTT" <k1ttt@arrl.net> wrote
news:4a547a11-3376-4287-849c-c014857e1666@q22g2000yqm.googlegroups.com...
On Aug 12, 8:54 pm, j...@specsol.spam.sux.com wrote:
> "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
>>>http://en.wikipedia.org/wiki/High-voltage_direct_current
>
> > " Due to the space charge formed around the conductors, an HVDC system
> > may
> > have about half the loss per unit length of a high voltage AC system
> > carrying the same amount of power.
>
> > But what it works in your antennas.
> > S*
>

>maybe he does try to use dc on his antennas? kind of low data rate,
but it would suffice for anything logical he had to say.

Your antenna is a high voltage AC system.
The loss is a loss of electrons.
Try to measure it.
S*

3474. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 11:38:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2aaf0b64-e43b-4daf-a7ac-c91d0df97567@m1g2000yqo.googlegroups.com>
Source record: 7974

On Aug 13, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:4a547a11-3376-4287-849c-c014857e1666@q22g2000yqm.googlegroups.com...
> On Aug 12, 8:54 pm, j...@specsol.spam.sux.com wrote:
>
> > "Szczepan Bia?ek" <sz.bia...@wp.pl> wrote:
>
> >>>http://en.wikipedia.org/wiki/High-voltage_direct_current
>
> > > " Due to the space charge formed around the conductors, an HVDC system
> > > may
> > > have about half the loss per unit length of a high voltage AC system
> > > carrying the same amount of power.
>
> > > But what it works in your antennas.
> > > S*
>
> >maybe he does try to use dc on his antennas? kind of low data rate,
>
> but it would suffice for anything logical he had to say.
>
> Your antenna is a high voltage AC system.
> The loss is a loss of electrons.
> Try to measure it.
> S*

there is no net charge build up on an antenna due to rf.

3475. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 11:45:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <42801dbd-76e8-4467-b110-e5d2e31d886a@z28g2000yqh.googlegroups.com>
Source record: 7975

On Aug 13, 1:12 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/12/2010 3:34 PM, Jim Lux wrote:
>
> > John Smith wrote:
>
> ...
>
> > > FORTRAN is far from dead in applications processing massive arrays (just
> > > about any finite element program). For instance, I'd venture that most
> > > weather prediction codes are in FORTRAN (MM5, which is a widely used
> > > mesoscale modeling code, is in FORTRAN, as is WRF), as are a lot of
> > > structural analysis (e.g. NASTRAN is in FORTRAN), and virtually ALL
> > > electromagnetics codes.
>
> These days, I choose to program, almost exclusively, in assembly and
> C/C+/C++ (all C looks the same to someone writing in it.) If someone

well, that just blew any credibility you had with me. c+ is a joke,
c# is real, and no, all flavors of c don't look the same! far from
it, someone who knows c would be lost doing c++ or c#.

and yes, there is a huge fortran codebase out there in scientific and
engineering circles. many of the largest modeling packages use
fortran for at least the backend, even if the frontend has been
rewritten in a more gui friendly language.

3476. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 15:51:45 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <h96gj7-smn.ln1@mail.specsol.com>
Source record: 7976

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Your antenna is a high voltage AC system.

No, it isn't.

> The loss is a loss of electrons.

No, it isn't.

> Try to measure it.
> S*

Measure what, your babbling ignorance?

--
Jim Pennino

Remove .spam.sux to reply.

3477. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 16:50:59 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i43t5t$9ei$1@news.eternal-september.org>
Source record: 7977

On 8/13/2010 4:45 AM, K1TTT wrote:

>
> well, that just blew any credibility you had with me. c+ is a joke,
> c# is real, and no, all flavors of c don't look the same! far from
> it, someone who knows c would be lost doing c++ or c#.
>
> and yes, there is a huge fortran codebase out there in scientific and
> engineering circles. many of the largest modeling packages use
> fortran for at least the backend, even if the frontend has been
> rewritten in a more gui friendly language.

Yeah, you are just another idiot shooting off his mouth about what he knows nothing about. Gee, isn't that unique? ROFLOL

3478. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 16:51:49 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i43t7e$9ei$2@news.eternal-september.org>
Source record: 7978

On 8/12/2010 10:20 PM, Richard Clark wrote:
> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>> My daughter just got her doctorate from Columbia University.
>
>> Frankly, I find that amazing, indeed, it implies insanity to me.
>
> And our friend Mr. Ostrom, the computer scientist, got his AS degree
> in Chico something more than a dozen years ago. There's authority on
> the topic speaking for ya'.

Oh no, another know-it-all that knows nothing. ROFLOL

3479. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 17:03:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <75202fa2-718e-4670-9f20-39f1df11357c@g17g2000yqe.googlegroups.com>
Source record: 7979

On Aug 13, 4:50 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/13/2010 4:45 AM, K1TTT wrote:
>
>
>
> > well, that just blew any credibility you had with me. c+ is a joke,
> > c# is real, and no, all flavors of c don't look the same! far from
> > it, someone who knows c would be lost doing c++ or c#.
>
> > and yes, there is a huge fortran codebase out there in scientific and
> > engineering circles. many of the largest modeling packages use
> > fortran for at least the backend, even if the frontend has been
> > rewritten in a more gui friendly language.
>
> Yeah, you are just another idiot shooting off his mouth about what he
> knows nothing about. Gee, isn't that unique? ROFLOL

i win! i got called a name first!

3480. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 17:17:04 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dfva66103g8igvocrvv3viqqm8i6v3jt94@4ax.com>
Source record: 7980

On Fri, 13 Aug 2010 09:51:49 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 8/12/2010 10:20 PM, Richard Clark wrote:
>> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
>> <assemblywizard@gmail.com> wrote:
>>
>>>> My daughter just got her doctorate from Columbia University.
>>
>>> Frankly, I find that amazing, indeed, it implies insanity to me.
>>
>> And our friend Mr. Ostrom, the computer scientist, got his AS degree
>> in Chico something more than a dozen years ago. There's authority on
>> the topic speaking for ya'.
>
>Oh no, another know-it-all that knows nothing. ROFLOL

A confirmation. ;-)

73's
Richard Clark, KB7QHC

3481. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 17:19:57 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c657ec8$0$22793$65785112@news.neostrada.pl>
Source record: 7981

"K1TTT" <k1ttt@arrl.net> wrote
news:2aaf0b64-e43b-4daf-a7ac-c91d0df97567@m1g2000yqo.googlegroups.com...
On Aug 13, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Your antenna is a high voltage AC system.
>> The loss is a loss of electrons.
>> Try to measure it.

>there is no net charge build up on an antenna due to rf.

So we are at the beginning.
Try then to work without ground.
S*

3482. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 17:25:51 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <26a479f6-039c-44a0-915c-dfe1ffb4bb93@j18g2000yqd.googlegroups.com>
Source record: 7982

On Aug 13, 5:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:2aaf0b64-e43b-4daf-a7ac-c91d0df97567@m1g2000yqo.googlegroups.com...
> On Aug 13, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Your antenna is a high voltage AC system.
> >> The loss is a loss of electrons.
> >> Try to measure it.
> >there is no net charge build up on an antenna due to rf.
>
> So we are at the beginning.
> Try then to work without ground.
> S*

antennas work just fine without a ground. how do they work in
airplanes? how about spacecraft? yes, i know, you like plasmas that
provide the free electrons... but you are wrong. take a transmitter,
encase it in rubber, put it in a vacuum chamber and pump out all the
air, and you will still receive it.

3483. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 17:27:01 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <jvva669a66m6gdk07av9ni5i7robh22m38@4ax.com>
Source record: 7983

I would like to see the picture. If no one else is interested you can
email the picture. My email is in the clear.

On Thu, 12 Aug 2010 20:33:16 -0700 (PDT), "Sal M. Onella"
<sobars@cox.net> wrote:

>There's a lot of sports programming available in the clear, both
>analog and digital. On a far west C-band satellite (135-degrees West,
>I think) I could still get the Alaska network digital feeds until
>recently in San Diego. (I took down my 10-foot C-band dish a few
>years ago, so my knowledge is getting stale.)
>
>Much info is available on skyvision.com and satelliteguys.us . Also
>see lyngsat.com and sadoun.com . The science of cataloging what's
>available is not perfected, as the programmers don't care that we know
>what's on -- unless we're paying customers. :-(
>
>The fun is building the gear, especially antennas and mounts. I hand-
>built a geometrically-correct polar mount out of the pipe from a
>DirecTV wall mount and an ordinary TV antenna rotor. It tracked the
>arc perfectly for a small Ku dish. I still have it and I'll post a
>picture if anybody wants to see it.
>
>I hope this helps.
>
>"Sal"
John Ferrell W8CCW

3484. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 17:55:02 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c658700$0$22793$65785112@news.neostrada.pl>
Source record: 7984

"K1TTT" <k1ttt@arrl.net>wrote
news:26a479f6-039c-44a0-915c-dfe1ffb4bb93@j18g2000yqd.googlegroups.com...
On Aug 13, 5:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
> >So we are at the beginning.
> >Try then to work without ground.

>antennas work just fine without a ground. how do they work in
airplanes? how about spacecraft? yes, i know, you like plasmas that
provide the free electrons... but you are wrong. take a transmitter,
encase it in rubber, put it in a vacuum chamber and pump out all the
air, and you will still receive it.

See at the fig. 1: http://amasci.com/tesla/tmistk.html
Can it work without Gnd?

You can use a chassis.
Transmitter is only a oscillating pump. Such must has a tank.
S*

3485. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 18:20:31 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <f0fgj7-40p.ln1@mail.specsol.com>
Source record: 7985

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:2aaf0b64-e43b-4daf-a7ac-c91d0df97567@m1g2000yqo.googlegroups.com...
> On Aug 13, 8:42 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>>
>>> Your antenna is a high voltage AC system.
>>> The loss is a loss of electrons.
>>> Try to measure it.
>
>>there is no net charge build up on an antenna due to rf.
>
> So we are at the beginning.
> Try then to work without ground.
> S*

Antennas work just fine without ground.

Have you ever heard of airplanes, radiosondes and spacecraft?

--
Jim Pennino

Remove .spam.sux to reply.

3486. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 18:23:49 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <l6fgj7-40p.ln1@mail.specsol.com>
Source record: 7986

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net>wrote
> news:26a479f6-039c-44a0-915c-dfe1ffb4bb93@j18g2000yqd.googlegroups.com...
> On Aug 13, 5:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> >
>> >So we are at the beginning.
>> >Try then to work without ground.
>
>>antennas work just fine without a ground. how do they work in
> airplanes? how about spacecraft? yes, i know, you like plasmas that
> provide the free electrons... but you are wrong. take a transmitter,
> encase it in rubber, put it in a vacuum chamber and pump out all the
> air, and you will still receive it.
>
> See at the fig. 1: http://amasci.com/tesla/tmistk.html
> Can it work without Gnd?
>
> You can use a chassis.
> Transmitter is only a oscillating pump. Such must has a tank.
> S*

Gibberish and nonsense based on ancient crap.

Connect an RF source through a transformer with the secondary connected to
a dipole and hang it from a balloon; works fine and no ground or chassis.

--
Jim Pennino

Remove .spam.sux to reply.

3487. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 18:26:00 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <oafgj7-40p.ln1@mail.specsol.com>
Source record: 7987

John Smith <assemblywizard@gmail.com> wrote:
> On 8/13/2010 4:45 AM, K1TTT wrote:
>
>>
>> well, that just blew any credibility you had with me. c+ is a joke,
>> c# is real, and no, all flavors of c don't look the same! far from
>> it, someone who knows c would be lost doing c++ or c#.
>>
>> and yes, there is a huge fortran codebase out there in scientific and
>> engineering circles. many of the largest modeling packages use
>> fortran for at least the backend, even if the frontend has been
>> rewritten in a more gui friendly language.
>
> Yeah, you are just another idiot shooting off his mouth about what he
> knows nothing about. Gee, isn't that unique? ROFLOL

Sounds more like a case of pot-kettle-black.

Whether you like it or not, and whether you can accept the fact or not,
what he says is true.

--
Jim Pennino

Remove .spam.sux to reply.

3488. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 19:09:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7ae31d70-c3e2-42d7-86c0-8a576c6d13d3@d8g2000yqf.googlegroups.com>
Source record: 7988

On Aug 13, 5:55 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>wrotenews:26a479f6-039c-44a0-915c-dfe1ffb4bb93@j18g2000yqd.goog
legroups.com...
> On Aug 13, 5:19 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > > >So we are at the beginning.
> > > >Try then to work without ground.
> >antennas work just fine without a ground. how do they work in
>
> airplanes? how about spacecraft? yes, i know, you like plasmas that
> provide the free electrons... but you are wrong. take a transmitter,
> encase it in rubber, put it in a vacuum chamber and pump out all the
> air, and you will still receive it.
>
> See at the fig. 1:http://amasci.com/tesla/tmistk.html
> Can it work without Gnd?
>
> You can use a chassis.
> Transmitter is only a oscillating pump. Such must has a tank.
> S*

the best quote from that web page: "electromagnetism is
electromagnetism", nuff said.

3489. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 20:51:07 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <nmbb66l7uqkm2bdrn6k4lic0kq10qsp70g@4ax.com>
Source record: 7989

On Tue, 3 Aug 2010 12:21:37 -0700 (PDT), Wimpie <wimabctel@tetech.nl>
wrote:

>On 3 ago, 04:08, Alejandro Lieber <alejan...@notvalid.com> wrote:
>> I would like to know if I can use RG-6 75 ohm coaxil TV cable to feed a
>> 14 Mhz dipole with 100 watts PEP.
>>
>> Thank you very much.
>>
>> Alejandro Lieber
>> LU1FCR
>> Rosario Argentina
>>
>> http://www.1fcr.com.ar
>>
>> --- news://freenews.netfront.net/ - complaints: n...@netfront.net ---
>
>Hello Alejandro:
>
>If you can solve the mechanical issues, yes you can.
>
>When it has an electrical length n*0.5lambda (n= 0, 1, 2, etc), VSWR
>will be exactly the same as with a 50 Ohms cable. With other length
>(especially 0.25, 0.75 lambda, etc) length, you may get change in VSWR
>(can be both better or worse).

Additionally the dipole may be a better match for 75 ohms than 50
depending on height and surrounding conditions.
I used 3/4" 75 ohm coax for low loss, long runs for years with no
problems and never paid attention to length.

OTOH at times using a commercial multi band vertical I had to play
with the 50 ohm coax length even when the antenna was a good match.

Stateside the F to UHF connectors are relatively inexpensive and
common. They may not be the best quality but work well indoors.

73

Roger (K8RI)

>
>When your dipole is about 50 Ohms (antenna side), just match it at the
>transceiver side if required, and don't worry about the cable loss due
>to VSWR inside the cable. When the antenna itself shows VSWR=1 (based
>on 50 Ohms), your VSWR at the transceiver side should not be worse

>then 2.25.
>
>You can use same common mode current suppression techniques (balun,
>ferrite common mode chokes, trap, etc) as with a 50 Ohms cable.
>
>Best regards,
>
>Wim
>PA3DJS
>www.tetech.nl
>without abc in the address, PM will reach me very likely.

3490. Re: BNC Tribander for New TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 21:13:08 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <l7db661euu2gprmnfm1137h5o0fushklkq@4ax.com>
Source record: 7990

On Thu, 5 Aug 2010 17:25:39 -0700 (PDT), Patty <bonnypatty@gmail.com>
wrote:

>I just got a TH-F6A and have been reading about the weakness of the
>SMA connector. I'm convinced I need to get an SMA-BNC adapter but I
>have found no BNC HT triband antennas. Are there any out there?

Welll... I had a number of HTs using BNCs over the years. The ones
that were used a lot in general needed the Chassis connector changed
once a year. I've yet to have to change an SMA.

73

Roger (K8RI)

>
>The Smiley 270A is a dual band 2M/440, but they claim it will also
>work on 440? Any experience with that?
>
>Also, I have been thinking about Gulyas http://www.wa3hrl.com/smabnc/
>SMA-BNC adapter in particular, but then I read this article
>http://osdir.com/ml/recreation.radio.hardware.kenwood.th-f6a/2008-01/msg00041.html
>It says: "To minimize the stress on the HT, I use the slick little
>adapter BGA-80 from Steve Gulyas. It uses a special o-ring arrangement
>that minimizes leverage against the SMA. Works pretty well. Its the
>best on performance, but too big to be attached to the HT when worn on
>the belt."
>
>Does anyone have any experience with SMC-BNC adapters? Do any good
>ones allow you to attach your HT youir belt?
>
>I'd really appreciate any suggestions you may have!
>
>Patty
>

3491. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 21:20:31 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DD44AAE55750nonenowhere@61.9.134.55>
Source record: 7991

Alejandro Lieber <alejandro@notvalid.com> wrote in
news:4C588D3F.7010804@notvalid.com:

> On 08/03/2010 04:21 PM, Wimpie wrote:
>> On 3 ago, 04:08, Alejandro Lieber<alejan...@notvalid.com> wrote:
>>> I would like to know if I can use RG-6 75 ohm coaxil TV cable to
>>> feed a 14 Mhz dipole with 100 watts PEP.

That should be fine. See my notes at
http://vk1od.net/transmissionline/RG6/index.htm . See Fig 2, RG6 should
handle over 1kW continuous at 14MHz at unity VSWR, over 500W at 2:1
VSWR.

The article also shows a BNC connector option which IMHO is superior to
F connectors.

...
> I also plan to use the 75 ohm cable to feed a vertical for 20 meters
> 32ï high, that is to say aprox. 22 feet.
>
> With that high, the impedance is 100 + i145 ohms. The reactance is
> inductive and I will tune it out with a 80 pf capacitor in series made
> with the same cable.
>
> The feed line will be 1 +1/4 lambda so at the input of the line the
> impedance will be (75 x75)/108 = 52 ohms

An alternative method of matching is to shorten the vertical a little
from a quarter wave, and use a shunt s/c stub. See
http://vk1od.net/transmissionline/QWVmatch/QWVmatch.htm for a
description of this and another method of matching.

>
> The 8 radials will be 4 feet long with loses of aprox 5 ohms, so
> efficiency will be near 94%.

This isn't entirely clear to me.

Owen

3492. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 21:44:06 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <b2308b3a-9185-4c70-965b-35a1b40a3e22@v6g2000prd.googlegroups.com>
Source record: 7992

On Aug 13, 10:27 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> I would like to see the picture. If no one else is interested you can
> email the picture. My email is in the clear.
>
> On Thu, 12 Aug 2010 20:33:16 -0700 (PDT), "Sal M. Onella"
>
>
>
>
>
> <sob...@cox.net> wrote:
> >There's a lot of sports programming available in the clear, both
> >analog and digital. On a far west C-band satellite (135-degrees West,
> >I think) I could still get the Alaska network digital feeds until
> >recently in San Diego. (I took down my 10-foot C-band dish a few
> >years ago, so my knowledge is getting stale.)
>
> >Much info is available on skyvision.com and satelliteguys.us . Also
> >see lyngsat.com and sadoun.com . The science of cataloging what's
> >available is not perfected, as the programmers don't care that we know
> >what's on -- unless we're paying customers. :-(
>
> >The fun is building the gear, especially antennas and mounts.   I hand-
> >built a geometrically-correct polar mount out of the pipe from a
> >DirecTV wall mount and an ordinary TV antenna rotor. It tracked the
> >arc perfectly for a small Ku dish. I still have it and I'll post a
> >picture if anybody wants to see it.
>
> >I hope this helps.
>
> >"Sal"
>
> John Ferrell W8CCW

OK. I dug it out and I'll snap some pix later.

Questions: Do you understand the geometry involved in a polar mount?
How about the concept of declination, whereby you compensate for the
fact that you are not on the Equator? When I bought my 10-foot dish
(1986) it came with instructions that included a table of declination
vs. latitude and a corresponding adjustment scale on the mount
itself. With a do-it-yourself dish, you have to "do it yourself." hi
hi.

I ask because the web has a number of tutorials on the subject of backyard dishes. If you don't already have the knowledge, you may wish to search now. Not a big deal, but if you fail to apply the correction, you can't track the arc faithfully.

On the side: We are discussing herein a polar mount, whose operation adjusts azimuth and elevation simultaneously. There is also an AZ-EL mount that permits you to manually aim at each satellite, based on pointing info derived for your location. Simpler, but not much fun to build.

"Sal"
KD6VKW
(Vicious Killer Weasel)

3493. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 22:59:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4c65ce3c$0$55719$8046368a@newsreader.iphouse.net>
Source record: 7993

On 8/13/2010 12:17 PM, Richard Clark wrote:
> On Fri, 13 Aug 2010 09:51:49 -0700, John Smith
> <assemblywizard@gmail.com> wrote:
>
>> On 8/12/2010 10:20 PM, Richard Clark wrote:
>>> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
>>> <assemblywizard@gmail.com> wrote:
>>>
>>>>> My daughter just got her doctorate from Columbia University.
>>>
>>>>> Frankly, I find that amazing, indeed, it implies insanity to me.
>>>
>>> And our friend Mr. Ostrom, the computer scientist, got his AS degree
>>> in Chico something more than a dozen years ago. There's authority on
>>> the topic speaking for ya'.
>>
>> Oh no, another know-it-all that knows nothing. ROFLOL
>
> A confirmation. ;-)
>
> 73's
> Richard Clark, KB7QHC

It says a lot about ability and self esteem when someone has an email address like his and says the things he does. My guess is that I have made a lot more money programming than he ever will. And in a lot more languages. And a lot fewer bugs.

tom
K0TAR

3494. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-13 23:47:54 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <87ae8f3b-47c4-4528-b03e-4327f48e41de@y11g2000yqm.googlegroups.com>
Source record: 7994

On Aug 13, 10:59 pm, tom <news4...@taring.org> wrote:
> On 8/13/2010 12:17 PM, Richard Clark wrote:
>
>
>
> > On Fri, 13 Aug 2010 09:51:49 -0700, John Smith
> > <assemblywiz...@gmail.com> wrote:
>
> >> On 8/12/2010 10:20 PM, Richard Clark wrote:
> >>> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
> >>> <assemblywiz...@gmail.com>   wrote:
>
> >>>> My daughter just got her doctorate from Columbia University.
>
> >>> Frankly, I find that amazing, indeed, it implies insanity to me.
>
> >>> And our friend Mr. Ostrom, the computer scientist, got his AS degree
> >>> in Chico something more than a dozen years ago. There's authority on
> >>> the topic speaking for ya'.
>
> >> Oh no, another know-it-all that knows nothing. ROFLOL
>
> > A confirmation. ;-)
>
> > 73's
> > Richard Clark, KB7QHC
>
> It says a lot about ability and self esteem when someone has an email
> address like his and says the things he does. My guess is that I have
> made a lot more money programming than he ever will. And in a lot more
> languages. And a lot fewer bugs.
>
> tom
> K0TAR

amen on that... lets see, 42 years programming now, 26 getting paid
just for that, languages??? pdp8 assy, focal, fortran(several
versions), basic(several variants), pascal, x86 assy, vb, ada, c, c++,
c#, vb.net, asp.net, various jcl variations, ibm360 assy, 68xxx assy,
objective c, pl-1, apl, java, javascript, vrml, html, xaml, xml,
matlab, mathcad, and probably a few others i have forgotten.

3495. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 00:35:47 UTC
From: tom <news4792@taring.org>
Message-ID: <4c65e4e1$0$24411$8046368a@newsreader.iphouse.net>
Source record: 7995

On 8/13/2010 6:47 PM, K1TTT wrote:
> On Aug 13, 10:59 pm, tom<news4...@taring.org> wrote:
>> On 8/13/2010 12:17 PM, Richard Clark wrote:
>>
>>
>>
>>> On Fri, 13 Aug 2010 09:51:49 -0700, John Smith
>>> <assemblywiz...@gmail.com> wrote:
>>
>>>> On 8/12/2010 10:20 PM, Richard Clark wrote:
>>>>> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
>>>>> <assemblywiz...@gmail.com> wrote:
>>
>>>>>> My daughter just got her doctorate from Columbia University.
>>
>>>>> Frankly, I find that amazing, indeed, it implies insanity to me.
>>
>>>>> And our friend Mr. Ostrom, the computer scientist, got his AS degree
>>>>> in Chico something more than a dozen years ago. There's authority on
>>>>> the topic speaking for ya'.
>>
>>>> Oh no, another know-it-all that knows nothing. ROFLOL
>>
>>> A confirmation. ;-)
>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>> It says a lot about ability and self esteem when someone has an email
>> address like his and says the things he does. My guess is that I have
>> made a lot more money programming than he ever will. And in a lot more
>> languages. And a lot fewer bugs.
>>
>> tom
>> K0TAR
>
> amen on that... lets see, 42 years programming now, 26 getting paid
> just for that, languages??? pdp8 assy, focal, fortran(several
> versions), basic(several variants), pascal, x86 assy, vb, ada, c, c++,
> c#, vb.net, asp.net, various jcl variations, ibm360 assy, 68xxx assy,
> objective c, pl-1, apl, java, javascript, vrml, html, xaml, xml,
> matlab, mathcad, and probably a few others i have forgotten.

PDP8 assy? 12 bit machine wasn't it? (didn't look it up, not cheating)

I rebuilt one after someone plugged the TTY card into the bus. You may remember that none of the cards were keyed. Loop current voltage hits the bus, oops. Lots of RTL and DTL to replace.

tom
K0TAR

3496. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 00:41:07 UTC
From: tom <news4792@taring.org>
Message-ID: <4c65e621$0$55709$8046368a@newsreader.iphouse.net>
Source record: 7996

On 8/13/2010 6:47 PM, K1TTT wrote:
> On Aug 13, 10:59 pm, tom<news4...@taring.org> wrote:
>> On 8/13/2010 12:17 PM, Richard Clark wrote:
>>
>>
>>
>>> On Fri, 13 Aug 2010 09:51:49 -0700, John Smith
>>> <assemblywiz...@gmail.com> wrote:
>>
>>>> On 8/12/2010 10:20 PM, Richard Clark wrote:
>>>>> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
>>>>> <assemblywiz...@gmail.com> wrote:
>>
>>>>>> My daughter just got her doctorate from Columbia University.
>>
>>>>> Frankly, I find that amazing, indeed, it implies insanity to me.
>>
>>>>> And our friend Mr. Ostrom, the computer scientist, got his AS degree
>>>>> in Chico something more than a dozen years ago. There's authority on
>>>>> the topic speaking for ya'.
>>
>>>> Oh no, another know-it-all that knows nothing. ROFLOL
>>
>>> A confirmation. ;-)
>>
>>> 73's
>>> Richard Clark, KB7QHC
>>
>> It says a lot about ability and self esteem when someone has an email
>> address like his and says the things he does. My guess is that I have
>> made a lot more money programming than he ever will. And in a lot more
>> languages. And a lot fewer bugs.
>>
>> tom
>> K0TAR
>
> amen on that... lets see, 42 years programming now, 26 getting paid
> just for that, languages??? pdp8 assy, focal, fortran(several
> versions), basic(several variants), pascal, x86 assy, vb, ada, c, c++,
> c#, vb.net, asp.net, various jcl variations, ibm360 assy, 68xxx assy,
> objective c, pl-1, apl, java, javascript, vrml, html, xaml, xml,
> matlab, mathcad, and probably a few others i have forgotten.

Favorite assy was 6809. Did a lot on the Ericsson MD110 while writing patches.

tom
K0TAR

3497. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 01:07:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f306e1c9-3566-4aee-b4a1-f43fd5d7cac3@s9g2000yqd.googlegroups.com>
Source record: 7997

On Aug 14, 12:41 am, tom <news4...@taring.org> wrote:
> On 8/13/2010 6:47 PM, K1TTT wrote:
>
>
>
> > On Aug 13, 10:59 pm, tom<news4...@taring.org> wrote:
> >> On 8/13/2010 12:17 PM, Richard Clark wrote:
>
> >>> On Fri, 13 Aug 2010 09:51:49 -0700, John Smith
> >>> <assemblywiz...@gmail.com>   wrote:
>
> >>>> On 8/12/2010 10:20 PM, Richard Clark wrote:
> >>>>> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
> >>>>> <assemblywiz...@gmail.com>   wrote:
>
> >>>>>> My daughter just got her doctorate from Columbia University.
>
> >>>>> Frankly, I find that amazing, indeed, it implies insanity to me.
>
> >>>>> And our friend Mr. Ostrom, the computer scientist, got his AS degree
> >>>>> in Chico something more than a dozen years ago. There's authority on
> >>>>> the topic speaking for ya'.
>
> >>>> Oh no, another know-it-all that knows nothing. ROFLOL
>
> >>> A confirmation. ;-)
>
> >>> 73's
> >>> Richard Clark, KB7QHC
>
> >> It says a lot about ability and self esteem when someone has an email
> >> address like his and says the things he does. My guess is that I have
> >> made a lot more money programming than he ever will. And in a lot more
> >> languages. And a lot fewer bugs.
>
> >> tom
> >> K0TAR
>
> > amen on that... lets see, 42 years programming now, 26 getting paid
> > just for that, languages??? pdp8 assy, focal, fortran(several
> > versions), basic(several variants), pascal, x86 assy, vb, ada, c, c++,
> > c#, vb.net, asp.net, various jcl variations, ibm360 assy, 68xxx assy,
> > objective c, pl-1, apl, java, javascript, vrml, html, xaml, xml,

> > matlab, mathcad, and probably a few others i have forgotten.
>
> Favorite assy was 6809. Did a lot on the Ericsson MD110 while writing
> patches.
>
> tom
> K0TAR

yeah, pdp8 was 12 bit, everything in octal instead of hex. i did a lot of 6809 stuff on a ratshack coco machine, amazing what you could make that box do once you got inside it. had one doing fax, rtty, 4 channel music synthesizer, and running a dialup bulletin board even before aol started sending out floppies. and i built an 8080 based desktop computer from scratch in 1977, all of 2k of ram and a hex keypad to load the programs from manually or from cassette tapes!

3498. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 01:20:38 UTC
From: tom <news4792@taring.org>
Message-ID: <4c65ef69$0$55720$8046368a@newsreader.iphouse.net>
Source record: 7998

On 8/13/2010 8:07 PM, K1TTT wrote:
>>
>> Favorite assy was 6809. Did a lot on the Ericsson MD110 while writing
>> patches.
>>
>> tom
>> K0TAR
>
> yeah, pdp8 was 12 bit, everything in octal instead of hex. i did a
> lot of 6809 stuff on a ratshack coco machine, amazing what you could
> make that box do once you got inside it. had one doing fax, rtty, 4
> channel music synthesizer, and running a dialup bulletin board even
> before aol started sending out floppies. and i built an 8080 based
> desktop computer from scratch in 1977, all of 2k of ram and a hex
> keypad to load the programs from manually or from cassette tapes!

I ran OS/9 on my CoCo. I had dual 5 1/4 inch drives, woohoo! Also got
a couple things published in Hot CoCo if you remember that mag.

OS/9 was great. Developed by Motorola as a micro based Unix type O/S.
I heard it was parallel developed with the 6809 chip with feedback
between the 2 teams. It was very fast and very small. Kicked the IBM
PC's butt with one fifth the clock speed. As you may know, the 6809 was
about as much 16 bit as it was 8, which was probably part of the reason why.

And I still have all of the bits. Haven't fired them up in maybe 15
years. I wonder if the disks will still read.

tom
K0TAR

3499. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 01:30:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dmrb66hvlsf0fbf9o603cbc3ih3klv7k32@4ax.com>
Source record: 7999

On Fri, 13 Aug 2010 17:59:10 -0500, tom <news4792@taring.org> wrote:

>>>> And our friend Mr. Ostrom, the computer scientist, got his AS degree
>>>> in Chico something more than a dozen years ago. There's authority on
>>>> the topic speaking for ya'.
>>>
>>> Oh no, another know-it-all that knows nothing. ROFLOL
>>
>> A confirmation. ;-)

Anyone else would have asked who Mr. Ostrom is - or wait for Mr.
Ostrom to indignantly reply (and he did).

>It says a lot about ability and self esteem when someone has an email
>address like his and says the things he does. My guess is that I have
>made a lot more money programming than he ever will. And in a lot more
>languages. And a lot fewer bugs.

Hi Tom,

Brett has an identity problem here. Even Art has a better self image.

73's
Richard Clark, KB7QHC

3500. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 08:03:38 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4c664ded$0$20998$65785112@news.neostrada.pl>
Source record: 8000

<jimp@specsol.spam.sux.com> wrote news:l6fgj7-40p.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>> Transmitter is only a oscillating pump. Such must has a tank.
>
> Gibberish and nonsense based on ancient crap.
>
> Connect an RF source through a transformer with the secondary connected to
> a dipole and hang it from a balloon; works fine and no ground or chassis.

Start thinking. The dipole is a very long wire. The electrons are emitted
from the ends only. The rest of the wire is the chassis.
The very short dipole (0.05 wavelengh) should not work fine without ground.

All antennas are the same:

"In conventional ICP (or TCP) reactors, a rf power is inductively coupled to
an antenna placed outside a plasma vessel. Such an external coupling system
is known to have several disadvantages. In order to avoid these
disadvantages, a new internal coupling system has been developed in which a
bare metal antenna is directly immersed in a plasma, thus forming a full
metal reactor. This is accomplished by generating magnetic field lines
around an antenna conductor, which effectively suppress the electron loss at
the antenna and hence suppress the anomalous rise of plasma potential.
Magnetic fields near the antenna are formed by superposing a dc current on a
rf current along the antenna. This type of ICP enables rf discharges at
rather low pressures such as ?3&#65533;10-4 Torr due to the magnetron effect. Other
characteristics of internal metal antennas are also discussed".

"the electron loss" and "the anomalous rise of plasma potential." apply to
all antennas.
S*

3501. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 13:08:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f7f36565-838e-4fc8-ab64-387f6799f90a@t20g2000yqa.googlegroups.com>
Source record: 7901

On Aug 14, 8:03 am, "Szczepan Bia³ek" <sz.bia...@wp.pl> wrote:
> <j...@specsol.spam.sux.com> wrotenews:l6fgj7-40p.ln1@mail.specsol.com...
>
> > Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> >> Transmitter is only a oscillating pump. Such must has a tank.
>
> > Gibberish and nonsense based on ancient crap.
>
> > Connect an RF source through a transformer with the secondary connected to
> > a dipole and hang it from a balloon; works fine and no ground or chassis.
>
> Start thinking. The dipole is a very long wire. The electrons are emitted
> from the ends only. The rest of the wire is the chassis.
> The very short dipole (0.05 wavelengh) should not work fine without ground.
>
> All antennas are the same:
>
> "In conventional ICP (or TCP) reactors, a rf power is inductively coupled to
> an antenna placed outside a plasma vessel. Such an external coupling system
> is known to have several disadvantages. In order to avoid these
> disadvantages, a new internal coupling system has been developed in which a
> bare metal antenna is directly immersed in a plasma, thus forming a full
> metal reactor. This is accomplished by generating magnetic field lines
> around an antenna conductor, which effectively suppress the electron loss at
> the antenna and hence suppress the anomalous rise of plasma potential.
> Magnetic fields near the antenna are formed by superposing a dc current on a
> rf current along the antenna. This type of ICP enables rf discharges at
> rather low pressures such as ?3×10-4 Torr due to the magnetron effect. Other
> characteristics of internal metal antennas are also discussed".
>
> "the electron loss" and "the anomalous rise of plasma potential." apply to
> all antennas.
> S*

no they don't. that discusses a rather unique situation of an antenna
in a very low pressure plasma. another case where google supplied
irrelevant information because of your ignorance of the actual physics
involved.

3502. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 13:12:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e5a7e440-753c-4473-a5d0-45f4b0fb1e38@f42g2000yqn.googlegroups.com>
Source record: 7902

On Aug 14, 1:20 am, tom <news4...@taring.org> wrote:
> On 8/13/2010 8:07 PM, K1TTT wrote:
>
>
>
> >> Favorite assy was 6809. Did a lot on the Ericsson MD110 while writing
> >> patches.
>
> >> tom
> >> K0TAR
>
> > yeah, pdp8 was 12 bit, everything in octal instead of hex. i did a
> > lot of 6809 stuff on a ratshack coco machine, amazing what you could
> > make that box do once you got inside it. had one doing fax, rtty, 4
> > channel music synthesizer, and running a dialup bulletin board even
> > before aol started sending out floppies. and i built an 8080 based
> > desktop computer from scratch in 1977, all of 2k of ram and a hex
> > keypad to load the programs from manually or from cassette tapes!
>
> I ran OS/9 on my CoCo. I had dual 5 1/4 inch drives, woohoo! Also got
> a couple things published in Hot CoCo if you remember that mag.
>
> OS/9 was great. Developed by Motorola as a micro based Unix type O/S.
> I heard it was parallel developed with the 6809 chip with feedback
> between the 2 teams. It was very fast and very small. Kicked the IBM
> PC's butt with one fifth the clock speed. As you may know, the 6809 was
> about as much 16 bit as it was 8, which was probably part of the reason why.
>
> And I still have all of the bits. Haven't fired them up in maybe 15
> years. I wonder if the disks will still read.
>
> tom
> K0TAR

oh yes, i remember hot coco... at one point i had 4 floppies and extra
ram extension on my coco. that was when i was using it as a bbs.
finally turned it into a repeater controller in the mid 80's.

3503. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 17:59:48 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <k52jj7-0l4.ln1@mail.specsol.com>
Source record: 7903

"Szczepan Bia?ek" <sz.bialek@wp.pl> wrote:
>
> <jimp@specsol.spam.sux.com> wrote news:l6fgj7-40p.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>
>>> Transmitter is only a oscillating pump. Such must has a tank.
>>
>> Gibberish and nonsense based on ancient crap.
>>
>> Connect an RF source through a transformer with the secondary connected to
>> a dipole and hang it from a balloon; works fine and no ground or chassis.
>
> Start thinking. The dipole is a very long wire. The electrons are emitted
> from the ends only. The rest of the wire is the chassis.
> The very short dipole (0.05 wavelengh) should not work fine without ground.

Babbling nonsense contradicted by about a hundred years of empirical
observation.

--
Jim Pennino

Remove .spam.sux to reply.

3504. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 18:05:48 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i46lu6$8gl$1@news.eternal-september.org>
Source record: 7904

On 8/12/2010 10:20 PM, Richard Clark wrote:
> On Thu, 12 Aug 2010 19:06:21 -0700, John Smith
> <assemblywizard@gmail.com> wrote:
>
>>> My daughter just got her doctorate from Columbia University.
>
>> Frankly, I find that amazing, indeed, it implies insanity to me.
>
> And our friend Mr. Ostrom, the computer scientist, got his AS degree
> in Chico something more than a dozen years ago. There's authority on
> the topic speaking for ya'.

To which, I reply:
All characters appearing in this work are fictitious. Any resemblance to
real persons, living or dead, is purely coincidental.

However, I knew you would be along, shortly, with character
assassination, high-jacking of content to other subjects, etc. My gawd
man, so predictable, return years later, all is still the same. ROFLOL

Regards,
Mr. Ostrom

3505. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 18:08:35 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i46m3d$8gl$2@news.eternal-september.org>
Source record: 7905

On 8/13/2010 4:47 PM, K1TTT wrote:
> On Aug 13, 10:59 pm, tom<news4...@taring.org> wrote:

>> ...
>> It says a lot about ability and self esteem when someone has an email
>> address like his and says the things he does. My guess is that I have
>> made a lot more money programming than he ever will. And in a lot more
>> languages. And a lot fewer bugs.
>>
>> tom
>> K0TAR
>
> amen on that... lets see, 42 years programming now, 26 getting paid
> just for that, languages??? pdp8 assy, focal, fortran(several
> versions), basic(several variants), pascal, x86 assy, vb, ada, c, c++,
> c#, vb.net, asp.net, various jcl variations, ibm360 assy, 68xxx assy,
> objective c, pl-1, apl, java, javascript, vrml, html, xaml, xml,
> matlab, mathcad, and probably a few others i have forgotten.

Thanks, you saved me a lot of trouble. And, when addressing a room full of engineers from such varied programming experiences, one would use pseudocode, a "universal language." Indeed, a thesis would utilize the same ...

Regards,
Mr. Ostrom

3506. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 18:09:43 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i46m5h$8gl$3@news.eternal-september.org>
Source record: 7906

On 8/13/2010 6:30 PM, Richard Clark wrote:
> On Fri, 13 Aug 2010 17:59:10 -0500, tom<news4792@taring.org> wrote:
>

>
> Hi Tom,
>
> Brett has an identity problem here. Even Art has a better self image.
>
> 73's
> Richard Clark, KB7QHC

Your material has been covered long ago ...

Regards,
Brett

3507. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 18:10:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i46m77$8gl$4@news.eternal-september.org>
Source record: 7907

On 8/13/2010 6:30 PM, Richard Clark wrote:
> On Fri, 13 Aug 2010 17:59:10 -0500, tom<news4792@taring.org> wrote:

>
> Hi Tom,
>
> Brett has an identity problem here. Even Art has a better self image.
>
> 73's
> Richard Clark, KB7QHC

Ohh, I forgot:
Disclaimer:
All characters appearing in this work are fictitious. Any resemblance to
real persons, living or dead, is purely coincidental.

Regards,
Brett

3508. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 18:26:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <34d9532e-0d3a-4f65-9b97-5adf73abb73f@v8g2000yqe.googlegroups.com>
Source record: 7908

```
On Aug 14, 6:08 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/13/2010 4:47 PM, K1TTT wrote:
>
>
>
> > On Aug 13, 10:59 pm, tom<news4...@taring.org>  wrote:
> >>  ...
> >> It says a lot about ability and self esteem when someone has an email
> >> address like his and says the things he does.  My guess is that I have
> >> made a lot more money programming than he ever will.  And in a lot more
> >> languages.  And a lot fewer bugs.
>
> >> tom
> >> K0TAR
>
> > amen on that... lets see, 42 years programming now, 26 getting paid
> > just for that, languages??? pdp8 assy, focal, fortran(several
> > versions), basic(several variants), pascal, x86 assy, vb, ada, c, c++,
> > c#, vb.net, asp.net, various jcl variations, ibm360 assy, 68xxx assy,
> > objective c, pl-1, apl, java, javascript, vrml, html, xaml, xml,
> > matlab, mathcad, and probably a few others i have forgotten.
>
> Thanks, you saved me a lot of trouble.  And, when addressing a room full
> of engineers from such varied programming experiences, one would use
> pseudocode, a "universal language."  Indeed, a thesis would utilize the
> same ...
>
> Regards,
> Mr. Ostrom

only if the thesis didn't care about the exact implementation, but did
depend on the algorithm. if the code were just a tool used to crunch
data, which is what it sounded like in that part of the discussion,
then the code itself may not even be part of the thesis, just the
results of crunching.
```

3509. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 18:43:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ktod66hiua6ejvc9e1hdej67citomu5393@4ax.com>
Source record: 7909

On Sat, 14 Aug 2010 11:05:48 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>Mr. Ostrom

Of course.

73's
Richard Clark, KB7QHC

3510. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-14 21:49:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrni6e3kj.cbn.gsm@cable.mendelson.com>
Source record: 7910

Owen Duffy wrote:

> The article also shows a BNC connector option which IMHO is superior to
> F connectors.

BNC compression connectors are available. They are much harder to install properly than F connectors, but once you "get the hang of it", they work fine and are sturdy. BNC to UHF adaptors are also available, and the ones I have seen are better quality than the F to UHF ones.

I don't know if they are as water resistant as the F connectors designed for outdoor use, but UHF (PL-259) connectors are in comparison sponges, so if you are used to them, you should be able to deal with BNC connectors.

Note that there are different connectors for RG-59, RG-6 (not quad shield) and RG-6 quad shield, and they can not be used on cables they are not designed for. Either they don't fit on properly and don't make connections, or fall off. :-(

You can buy a package of compression 50 BNC connectors and the appropriate tool with international postage for about $50 on eBay.

There are three kinds of compression connectors I have seen so far.
One is a one piece solid connector, which when compressed, the back end folds into itself (think of a metal accordian). The second is made from two pieces fitted together, and when you compress it, the part in the back is compressed into the front.

Both work well, and if you get the trimming right, will fit well. I found on the two piece verisions I have, the center conductor has to be trimmed to 3mm. 4 or more and they fall off. :-(

Note that when I say two piece, when you get them they are both one piece and can not be separated. It's just obvious that not counting the ring, they were made from one or two pieces.

There also is a third kind I have so far only seen in F connectors where the front pushes into the back. I tried many in all sorts of ways and cables, and either end up with it falling off, or making a solid fitting but no contact to the shield (ground). :-(

Any advice on how to get them to work would be appriceated. I still have around 30 of them.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM

To help restaurants, as part of the "stimulus package", everyone must order dessert. As part of the socialized health plan, you are forbidden to eat it. :-)

3511. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 04:31:50 UTC
From: pez@grnet.gr
Message-ID: <i47v8e$1dt$1@news.grnet.gr>
Source record: 7911

Hello,

We would like to thank you all very much for your kind attention you paid on our work; especially, since the appearance of vemsa3d 1.1 announcement is still delayed for 5th day, as we will like to reveal, in some other e-mailing ham antenna lists commercially moderated outside the USENET. Well, we tried to collect all of your remarks which are strictly related to vemsa3d, and here are our due answers:

1
The reason for which the code was translated from FORTRAN to C++ was to establish a uniform language environment, most appropriate to be a graphics oriented one, from the scratch.

2
The reason for which the transform was made line-by-line was to fully control the reliability of this transformation.

3
The reason for which we used RichWire -that is our fully analysed and then revised Richmond's FORTRAN code- beyond those reasons mentioned in our page limited paper, as it is already pointed out by Jim Lux, was that NASA does not put any restriction in its public domain code on the number of modeling current modes, that is on its modelling capabilities.

4
The reason for which we focused and concluded with that particular horn comparison example between 4nec2 and vemsa3d was to emphasize that very important restriction on the limited modelling capabilities even with physically short electromagnetic objects like that horn for which we exceeded the maximum number of 4NEC2 permitted dipole mode currents by a factor of about 4, that is up to almost 5,500+ dipole current modes.

5
Finally, the reason for which we carried out this overall tedious, much time-consuming, work was to stop discouraging "the little men" like us -not only the guys of John Smith but the dolls too- from being involved with the electromagnetics modeling interiors, on which, some other people, had been artificiallly put knowledge barriers. From now on, as we hope, there is no self-excuse for no one to hesitate in trying his/her forces on this, most demanding, most challenging,

multi-discipline field.

Well, after the above clarifications, we don't see any other, either straight or impled, question among your very welcomed indeed comments, which is strictly related with vemsa3d and remains unanswered. Anyway, if there is indeed any point that was missed our attention and you are really interested to be cleared, please definitely put that to try to answer it too.

Petros, SV7BAX, on behalf of -Not-for-Profit- Antennas Research Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU

3512. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 04:36:17 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i47qsedca1@news.eternal-september.org>
Source record: 7912

On 8/14/2010 11:26 AM, K1TTT wrote:

>
> only if the thesis didn't care about the exact implementation, but did
> depend on the algorithm. if the code were just a tool used to crunch
> data, which is what it sounded like in that part of the discussion,
> then the code itself may not even be part of the thesis, just the
> results of crunching.

I gotta go, the "ring of idiots" grows ... you are new addition? I
don't remember you from years ago, like I do richard ... but makes no
difference ... anything code-able in a language is code-able in pseudo
... indeed, things impossible to code in a real language are possible in
pseudo ... any software engineer can validate that ... ROFLOL

Regards,
JS

3513. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 04:41:34 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i47r6b$e7n$1@news.eternal-september.org>
Source record: 7913

On 8/14/2010 9:31 PM, pez@grnet.gr wrote:
> Hello,
>
> We would like to thank you all very much for your kind attention
> you paid on our work; especially, since the appearance of
> vemsa3d 1.1 announcement is still delayed for 5th day, as we
> will like to reveal, in some other e-mailing ham antenna lists
> commercially moderated outside the USENET. Well, we tried to
> collect all of your remarks which are strictly related to
> vemsa3d, and here are our due answers:
>
> 1
> The reason for which the code was translated from FORTRAN to C++
> was to establish a uniform language environment, most
> appropriate to be a graphics oriented one, from the scratch.
>
> 2
> The reason for which the transform was made line-by-line was to
> fully control the reliability of this transformation.
>
> 3
> The reason for which we used RichWire -that is our fully
> analysed and then revised Richmond's FORTRAN code- beyond those
> reasons mentioned in our page limited paper, as it is already
> pointed out by Jim Lux, was that NASA does not put any
> restriction in its public domain code on the number of modeling
> current modes, that is on its modelling capabilities.
>
> 4
> The reason for which we focused and concluded with that
> particular horn comparison example between 4nec2 and vemsa3d was
> to emphasize that very important restriction on the limited
> modelling capabilities even with physically short
> electromagnetic objects like that horn for which we exceeded the
> maximum number of 4NEC2 permitted dipole mode currents by a
> factor of about 4, that is up to almost 5,500+ dipole current
> modes.
>
> 5
> Finally, the reason for which we carried out this overall
> tedious, much time-consuming, work was to stop discouraging "the
> little men" like us -not only the guys of John Smith but the
> dolls too- from being involved with the electromagnetics
> modeling interiors, on which, some other people, had been

> artificiallly put knowledge barriers. From now on, as we hope,
> there is no self-excuse for no one to hesitate in trying his/her
> forces on this, most demanding, most challenging,
> multi-discipline field.
>
> Well, after the above clarifications, we don't see any other,
> either straight or impled, question among your very welcomed
> indeed comments, which is strictly related with vemsa3d and
> remains unanswered. Anyway, if there is indeed any point that
> was missed our attention and you are really interested to be
> cleared, please definitely put that to try to answer it too.
>
> Petros, SV7BAX, on behalf of -Not-for-Profit- Antennas Research
> Group, Palaia Morsini, Xanthi, Thrace, Hellas, EU
>
>
>

Thanks for your points and information. Sorry about "the little display here." As you can probably guess, a lot of the BS is over old and past threads and exchanges. I hope you don't feel anything I said was pointed at you or your information, it was not--I assure you, other than to note I considered it a worthwhile addition to the "toolshed."

Thanks for your time and patience,
JS

3514. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 05:27:13 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <f633d2e8-2ba9-4475-9889-198a2556563b@l25g2000prn.googlegroups.com>
Source record: 7914

On Aug 13, 10:27 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> I would like to see the picture. If no one else is interested you can
> email the picture. My email is in the clear.
>
> John Ferrell W8CCW

OK, I sent two pictures in a private email to your address on
qrz.com. For some reason, I only see part of your email address
here. (My email provider discontinued Newsgroups this year and I'm
still getting the hang of Google Groups. Maybe I should try Yahoo
Groups or pay for a real NG server.)

"Sal"

3515. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 05:40:16 UTC
From: pez@grnet.gr
Message-ID: <i48393$67r$1@news.grnet.gr>
Source record: 7915

```
| "John Smith" <assemblywizard@gmail.com> wrote in message
| news:i47r6b$e7n$1@news.eternal-september.org...
|
| On 8/14/2010 9:31 PM, pez@grnet.gr wrote:
|
| Thanks for your points and information. Sorry about "the little display
| here." As you can probably guess, a lot of the BS is over old and past
| threads and exchanges. I hope you don't feel anything I said was pointed
| at you or your information, it was not--I assure you, other than to note
| I considered it a worthwhile addition to the "toolshed."
|
| Thanks for your time and patience,
| JS
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Well, I see now that I have to confess that "the little dolls",
in particular, had to be mentioned, as to be directly
connected with the second author: Mrs. yin, SV7DMC.

Thank you for your comments,

pez
```

3516. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 10:53:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <310cf0fd-3e58-4903-9611-5a7d563da266@q22g2000yqm.googlegroups.com>
Source record: 7916

On Aug 15, 4:36 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/14/2010 11:26 AM, K1TTT wrote:
>
>
>
> > > only if the thesis didn't care about the exact implementation, but did
> > > depend on the algorithm. if the code were just a tool used to crunch
> > > data, which is what it sounded like in that part of the discussion,
> > > then the code itself may not even be part of the thesis, just the
> > > results of crunching.
>
> I gotta go, the "ring of idiots" grows ... you are new addition? I
> don't remember you from years ago, like I do richard ... but makes no
> difference ... anything code-able in a language is code-able in pseudo
> ... indeed, things impossible to code in a real language are possible in
> pseudo ... any software engineer can validate that ... ROFLOL
>
> Regards,
> JS

if you can't code it in a 'real' language how would you code it in a
pseudo code? that just doesn't make sense. the whole purpose of
pseudo code is to help work out logic and program structure at a high
level. it wouldn't be much good if you couldn't break it down into
actual code in the end.

3517. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 14:34:31 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <j3nf6690rcis538i716r187gk52p5b7kgt@4ax.com>
Source record: 7917

On Sun, 15 Aug 2010 03:53:05 -0700 (PDT), K1TTT <k1ttt@arrl.net>
wrote:

>
>if you can't code it in a 'real' language how would you code it in a
>pseudo code? that just doesn't make sense.
Agreed.

> the whole purpose of
>pseudo code is to help work out logic and program structure at a high
>level.
Your interpretation of pseudo code seems much broader than mine. I view pseudo code as a non-verbal means to describe the nuts and bolts of an implementation. I don't see pseudo code having the ability to describe design patterns, even basic procedural patterns such as inheritance, polymorphism and encapsulation. Pseudo code just isn't abstract enough and doesn't scale well enough to communicate larger, more general concepts, principles and ideas.

A design pattern might call for a collection of references to objects where pseudo code would use an array of pointers. Abstractly they are the same but while a pointer is a reference, a reference per se does not have to describe an object's location in memory. A reference could be something as simple as an index into an array. It's a subtle difference but most meaningful. In this example the design pattern can be implemented in C# while the pseudo code presents a stumbling block.

Then again at certain levels of abstraction, design patterns might be described as being pseudo code. Design patterns are very useful in revealing what public properties and methods types will require without drilling down to implementation specifics.

>it wouldn't be much good if you couldn't break it down into
>actual code in the end.

Design patterns can do this nicely for OO languages. I can't speak for FORTRAN as I haven't had occasion to use that language in almost forty years. Still it seems a FORTRAN flow chart would fall somewhere between design patterns and pseudo code. A flow chart does describe a specific design without specifying implementation details.

3518. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 15:40:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7c07425f-7007-4be3-8346-fc8e3d850f14@w30g2000yqw.googlegroups.com>
Source record: 7918

On Aug 15, 2:34 pm, Registered User <n4...@ix.netcom.com> wrote:
> On Sun, 15 Aug 2010 03:53:05 -0700 (PDT), K1TTT <k1...@arrl.net>
> wrote:
>
>
>
> >if you can't code it in a 'real' language how would you code it in a
> >pseudo code? that just doesn't make sense.
>
> Agreed.
>
> > the whole purpose of
> >pseudo code is to help work out logic and program structure at a high
> >level.
>
> Your interpretation of pseudo code seems much broader than mine. I
> view pseudo code as a non-verbal means to describe the nuts and bolts
> of an implementation. I don't see pseudo code having the ability to
> describe design patterns, even basic procedural patterns such as
> inheritance, polymorphism and encapsulation. Pseudo code just isn't
> abstract enough and doesn't scale well enough to communicate larger,
> more general concepts, principles and ideas.
>
> A design pattern might call for a collection of references to objects
> where pseudo code would use an array of pointers. Abstractly they are
> the same but while a pointer is a reference, a reference per se does
> not have to describe an object's location in memory. A reference could
> be something as simple as an index into an array. It's a subtle
> difference but most meaningful. In this example the design pattern can
> be implemented in C# while the pseudo code presents a stumbling block.
>
> Then again at certain levels of abstraction, design patterns might be
> described as being pseudo code. Design patterns are very useful in
> revealing what public properties and methods types will require
> without drilling down to implementation specifics.
>
> >it wouldn't be much good if you couldn't break it down into
> >actual code in the end.
>
> Design patterns can do this nicely for OO languages. I can't speak for
> FORTRAN as I haven't had occasion to use that language in almost forty
> years. Still it seems a FORTRAN flow chart would fall somewhere
> between design patterns and pseudo code. A flow chart does describe a

> specific design without specifying implementation details.

there is OO fortran also!

3519. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 18:06:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6oag66pc9drri0canv84k59fq817o1s29v@4ax.com>
Source record: 7919

On Sat, 14 Aug 2010 22:27:13 -0700 (PDT), "Sal M. Onella"
<sobars@cox.net> wrote:

>or pay for a real NG server.

Try:
http://www.forteinc.com/apn/index.php

for $3 a month you get 12 Gigabytes download capacity.

At the rate I draw from that capacity (in the Kilobytes) I should have
to pay a penny a year instead - but they don't offer that kind of
plan.

73's
Richard Clark, KB7QHC

3520. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 18:48:48 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <mcdg6692c7kfffolm7ujve279v1crb4ia9@4ax.com>
Source record: 7920

I got them!
I think it will be a while but I am slowly accumulating stuff for the
project. I am especially interested in how mechanical problems are
handled.

I use a few concrete blocks on my antenna projects too!

Thanks for the info,

On Sat, 14 Aug 2010 22:27:13 -0700 (PDT), "Sal M. Onella"
<sobars@cox.net> wrote:

>On Aug 13, 10:27ï¿½am, John Ferrell <jferrel...@triad.rr.com> wrote:
>> I would like to see the picture. If no one else is interested you can
>> email the picture. My email is in the clear.
>>
>> John Ferrell W8CCW
>
>OK, I sent two pictures in a private email to your address on
>qrz.com. For some reason, I only see part of your email address
>here. (My email provider discontinued Newsgroups this year and I'm
>still getting the hang of Google Groups. Maybe I should try Yahoo
>Groups or pay for a real NG server.)
>
>"Sal"
John Ferrell W8CCW

3521. Re: What could i do with this dish?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 19:13:37 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <ccd344d2-42ba-4712-8873-d0cd9fab4523@l25g2000prn.googlegroups.com>
Source record: 7921

On Aug 15, 11:48 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> I got them!
> I think it will be a while but I am slowly accumulating stuff for the
> project. I am especially interested in how mechanical problems are
> handled.
>
> I use a few concrete blocks on my antenna projects too!
>
> Thanks for the info,
>
> John Ferrell W8CCW

You're welcome. The OP said his dish was 2.5m; how big is yours? Or do you have one yet?

I had a 2m solid dish for a few years (unused) and finally gave it away. That thing was heavy. I never had the whole mount for it -- just a tripod frame off the back of the dish -- so I can't offer any direct suggestions. One idea, if you have a communications company nearby, like the area cable-tv provider, maybe a friendly tech will let you into their yard, where you can examine how their dishes mount. Just a thought.

My other dish, a ten-foot mesh unit with which I watched premium programs for fifteen years, is now in EME service a few miles from here. Are you thinking EME?

"Sal"

3522. Re: N6BT's "Vertical dipole"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-15 22:05:36 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i49obh$m88$1@news.eternal-september.org>
Source record: 7922

On 8/5/2010 11:33 AM, Al Lorona wrote:
> Anybody with experience with this antenna? It appears to be a quasi-vertical
> dipole with two "radials" attached to the bottom end and fed at the bottom.
> At least this appears to be the case; I could be wrong.
>
> What issues arise when feeding a dipole at one end (the bottom in this
> case)? This can't be a truly balanced design, can it?
>
> Al W6LX
>
>

Looking for something else, I found this:
http://www.qsl.net/wb1gfh/zepp.html

He also had a page offering this:
http://www.qsl.net/wb1gfh/antenna.html

Mainly, his dialog was humorous. Anyway, thought you might enjoy it.

Regards,
JS

3523. 7 band rotatable Delta loop

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-16 07:06:14 UTC
From: ve7sq <ve7sq.6aec4a9@radiobanter.com>
Message-ID: <ve7sq.6aec4a9@radiobanter.com>
Source record: 7923

I have built a 4 element Delta loop for 20/17/15/12/10 meters and it has full gain for each band. I have been working with this antenna for some 20 years now and have got it working pretty good. If anyone wants to see my figures, go to rgantennaparts.com to see information about this great antenna. I am presently building a 7 band 2 element rotatable delta loop. This antenna has the 40/30 bands included. The figures for gain, back to front ratio and matching impedance are there. This antenna has wire supported by fibreglass poles instead of the regular aluminum elements.

--
ve7sq

3524. Re: BNC Tribander for New TH-F6A

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-16 17:22:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i4bs5b$291$1@news.jpl.nasa.gov>
Source record: 7924

Roger wrote:
> On Thu, 5 Aug 2010 17:25:39 -0700 (PDT), Patty <bonnypatty@gmail.com>
> wrote:
>
>> I just got a TH-F6A and have been reading about the weakness of the
>> SMA connector. I'm convinced I need to get an SMA-BNC adapter but I
>> have found no BNC HT triband antennas. Are there any out there?
>
> Welll... I had a number of HTs using BNCs over the years. The ones
> that were used a lot in general needed the Chassis connector changed
> once a year. I've yet to have to change an SMA.
>
> 73
>
> Roger (K8RI)
>

The connector itself on the TH-F6A isn't particularly strong, but there is a raised ridge around it on the case that the supplied rubber duck rests on to take the mechanical loads. If you're putting a different antenna on, what you probably want to do is what a colleague of mine did: find a nylon bushing that's just the right height to support the bending load of the SMA/BNC adapter on that same ridge. Rummaging at the local hardware store he found one that required only a tiny bit of sanding to make it work.

Then, he did the usual "two right angle BNC adapters" to further relieve the stress loads.

3525. Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-17 02:10:07 UTC
From: Noskosteve <noskosteve@gmail.com>
Message-ID: <3aaecad9-d181-4981-a45a-1ff8ce463e05@d8g2000yqf.googlegroups.com>
Source record: 7925

I have some professional Fischer current probes (clamp-on current
transformers).

For a simple dipole, balun, 50 ohm coax feed system...
It seems to be that I can simply clamp one on the rig side of the
balun, and see how much current is flowing and compare it to antenna
current. I can clamp it on either, or each antenna leg near the feed
point to measure antenna current.

It'd also be interesting to probe several points along the feed line.

Anyone see anythhing wrong with this reasoning?

73, Steve
PLEASE also respond via email
K9DCI @ arrl dot net

3526. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-17 07:12:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <unck6699u6ng7ccnp7vd2ajrqa15h7hre9@4ax.com>
Source record: 7926

On Mon, 16 Aug 2010 19:10:07 -0700 (PDT), Noskosteve
<noskosteve@gmail.com> wrote:

>It'd also be interesting to probe several points along the feed line.
>
>Anyone see anythhing wrong with this reasoning?

Hi Steve,

You will have the length of the line leading to the probe in the radiation field and it will disturb the transmission line coupling to that same field, changing the current characteristics. At some point, it won't matter, at other points it may matter considerably - the trick is knowing one point from the other. What will be happening is that you will force a common mode into a balanced circuit, or will be further unbalancing an already unbalanced load with that long length of line.

In other words, it will be a joker in the deck unless you choke that line too.

The question then comes to this: Why are you doing this? Is this some form of classroom experiment with what was called Lecher lines? Measuring SWR? If so, you might find that you are pushing the current node along the line (like a bead on a string) as you slide the probe. At some point the node will pop back to its original position and if you are trying to plot current points, they will exhibit a curiously distorted shape. This can occur through overcoupling the probe to the line.

73's
Richard Clark, KB7QHC

3527. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-17 09:58:33 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DD7CB33D2472nonenowhere@61.9.134.55>
Source record: 7927

Noskosteve <noskosteve@gmail.com> wrote in news:3aaecad9-d181-4981-a45a-1ff8ce463e05@d8g2000yqf.googlegroups.com:

...
> It'd also be interesting to probe several points along the feed line.

You realise of course that the common mode current is almost certainly a standing wave, and meaasurement at a single point is not a reliable way to characterise a standing wave.

I know that this is not consistent with the widely held view that a common mode choke creates a demarcation point where common mode current can flow on one side and not the other.

This is the pitch for the very popular Carolina Windom which advertisers and promoters claim leverages the radiation from the vertical feedline section on one side of the "isolator" but there is no undesirable common mode current on the tx side of the "isolator".

>
> Anyone see anythhing wrong with this reasoning?

To assess effectiveness, don't you first need to take inventory of what it is supposed to do, then assess its performance against those criteria? Have you a list of expected benefits?

There are a lot of flawed common mode current measurment articles around, and even some commercial instruments that seem not cognizant of the fact the line currents are complex quantities (eg at least one MFJ 'instrument'). Most reports I have seen of "I have common mode current 20dB down" speak more of the reporters lack of knowledge of the problem and measurment technology than 'clean' status.

If for instance, one of your benefits was reduction of receive noise level due to proximity of common mode conductors with household noise sources, then your current test is not likely to be a good measure of that outcome.

If the objective is EMC improvement on tx, then isn't the best test observation of interference to yours and your neighbors TV, HiFi, computer, telephone etc? These effects usually incorporate a threshold effect, and if field strengths are below threshold, your home free.

I am not familiar with the equipment you have, so ask the question, can you measure the phenomena without significantly disturbing it? If I was designing a common mode current probe, I would think of a small self contained thing with a panel DMM readout, battery powered, and that could

be clamped to a conductor and read remotely with a telescope. Anything with substantial length of conductors is likely to be a problem.

Owen

3528. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-17 12:17:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7c3993e5-069f-4688-9e89-894d1be2f7c3@i31g2000yqm.googlegroups.com>
Source record: 7928

On Aug 17, 4:58 am, Owen Duffy <n...@no.where> wrote:
> I know that this is not consistent with the widely held view that a
> common mode choke creates a demarcation point where common mode current
> can flow on one side and not the other.
>
> This is the pitch for the very popular Carolina Windom which advertisers
> and promoters claim leverages the radiation from the vertical feedline
> section on one side of the "isolator" but there is no undesirable common
> mode current on the tx side of the "isolator".

Ideally, the high-impedance "isolator" causes a reflection of the
forward common-mode wave back toward the antenna. This ideally results
in a current node (minimum) at the "isolator" and ideally confines the
common-mode standing wave to the feedline between the "isolator" and
the antenna. That's the theory behind the Carolina Windom. How it
performs in reality is another question.

It should be easy to measure the common-mode current at a few points
between the isolator and the antenna and at a few points between the
isolator and the shack to determine just how effective the Carolina
Windom "isolator" really is. It should also be possible to model the
situation with EZNEC - no, not a perfect model, just close enough to
observe the effect of the "Isolator".

Does anyone know the choking impedance for the Carolina Windom
"isolator" over the spec'ed frequency range?
--
73, Cecil, w5dxp.com

3529. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-17 16:39:06 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i4edv9$ud2$1@news.jpl.nasa.gov>
Source record: 7929

Owen Duffy wrote:

> I am not familiar with the equipment you have, so ask the question, can
> you measure the phenomena without significantly disturbing it? If I was
> designing a common mode current probe, I would think of a small self
> contained thing with a panel DMM readout, battery powered, and that could
> be clamped to a conductor and read remotely with a telescope. Anything
> with substantial length of conductors is likely to be a problem.
>

A strategy that is used in antenna research with bolometers is to use wires with an impedance of 377 ohms/square so they "look" like free space and don't perturb the field. I haven't seen these as a commercial item, so I suspect that they are fabricated by the researcher: perhaps by cutting from sheets of so called space cloth or paper (which has the required sheet resistance)

Check out the work by Bolomey, et al., with measuring fields with "modulated scattering probes" (put a small dipole in the field with a diode in it that you can turn on and off with a DC bias, supplied by resistive lines)

3530. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-17 19:23:30 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i4enji$g846$1@tr22n12.aset.psu.edu>
Source record: 7930

K1TTT wrote:

> if you can't code it in a 'real' language how would you code it in a
> pseudo code? that just doesn't make sense. the whole purpose of
> pseudo code is to help work out logic and program structure at a high
> level. it wouldn't be much good if you couldn't break it down into
> actual code in the end.

David, just count your blessings that "John" has you on his "ring of idiots" list. It's actually an honor.

- 73 de Mike N3LI -

3531. Re: FORTRAN/ Intellectual Property was Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-17 21:29:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <93b496ae-4f2d-4262-8fe2-87f80014af8d@y11g2000yqm.googlegroups.com>
Source record: 7931

```
On Aug 17, 7:23 pm, Michael Coslo <m...@psu.edu> wrote:
> K1TTT wrote:
> > if you can't code it in a 'real' language how would you code it in a
> > pseudo code?  that just doesn't make sense.  the whole purpose of
> > pseudo code is to help work out logic and program structure at a high
> > level.  it wouldn't be much good if you couldn't break it down into
> > actual code in the end.
>
> David, just count your blessings that "John" has you on his "ring of
> idiots" list. It's actually an honor.
>
>         - 73 de Mike N3LI -

yeah, i was just trying to see how fast i could get him to call me
names. didn't take too long.
```

3532. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-18 16:35:39 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <i4h24t$1rl0$1@adenine.netfront.net>
Source record: 7932

On 08/13/2010 06:20 PM, Owen Duffy wrote:
> Alejandro Lieber<alejandro@notvalid.com> wrote in
> news:4C588D3F.7010804@notvalid.com:
>
>> On 08/03/2010 04:21 PM, Wimpie wrote:
>>> On 3 ago, 04:08, Alejandro Lieber<alejan...@notvalid.com> wrote:
>>>> I would like to know if I can use RG-6 75 ohm coaxil TV cable to
>>>> feed a 14 Mhz dipole with 100 watts PEP.
>
> That should be fine. See my notes at
> http://vk1od.net/transmissionline/RG6/index.htm . See Fig 2, RG6 should
> handle over 1kW continuous at 14MHz at unity VSWR, over 500W at 2:1
> VSWR.
>
> The article also shows a BNC connector option which IMHO is superior to
> F connectors.
>
> ...
>> I also plan to use the 75 ohm cable to feed a vertical for 20 meters
>> 32ï¿½ high, that is to say aprox. 22 feet.
>>
>> With that high, the impedance is 100 + i145 ohms. The reactance is
>> inductive and I will tune it out with a 80 pf capacitor in series made
>> with the same cable.
>>
>> The feed line will be 1 +1/4 lambda so at the input of the line the
>> impedance will be (75 x75)/108 = 52 ohms
>
> An alternative method of matching is to shorten the vertical a little
> from a quarter wave, and use a shunt s/c stub. See
> http://vk1od.net/transmissionline/QWVmatch/QWVmatch.htm for a
> description of this and another method of matching.

The idea is to increase the radiation resistance, not to decrease it, so
has to increase efficiency.
>
>>
>> The 8 radials will be 4 feet long with loses of aprox 5 ohms, so
>> efficiency will be near 94%.
>
> This isn't entirely clear to me.
>
> Owen

If I define radiation efficiency as:

Rr/(Rr+Rl)

where Rr; radiation resistance
and Rl: loss resistance

and take Rl=5 ohms for 8 radials of 8 feet each

For a 25ï¿½ length radiator: 36/(36+5) = 88%
For a 32ï¿½ length radiator: 100/(100+5) = 95%

Losses are reduced from 12% to 5% by only adding 5 feet to the 20 meter
vertical quarter wave antenna and with a 75 ohm coax of 1,25 wavelength
I can get a perfect match to a 50 ohm output impedance transmitter.

Alejandro Lieber
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2 at:

http://1fcr.com.ar

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3533. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-18 17:49:24 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DD926E3EC3Anonenowhere@61.9.134.55>
Source record: 7933

Alejandro Lieber <alejandro@notvalid.com> wrote in news:i4h24t$1rl0$1
@adenine.netfront.net:

...
> and take Rl=5 ohms for 8 radials of 8 feet each

That specifically escapes me.

Owen

3534. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-18 21:16:54 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <i4hikb$8mo$1@adenine.netfront.net>
Source record: 7934

On 08/18/2010 02:49 PM, Owen Duffy wrote:
> Alejandro Lieber<alejandro@notvalid.com> wrote in news:i4h24t$1rl0$1
> @adenine.netfront.net:
>
> ...
>> and take Rl=5 ohms for 8 radials of 8 feet each
>
> That specifically escapes me.
>
> Owen

The 8 radial can be as short as 4 feet long for the same results.
I came to these results from R. J. Edwards (G4FGQ) program ENDFEED.EXE
It's interesting to note, that radial longer than 1.3m (4 feet), always
increase earth looses.

The complete modeling results can be seen at:

http://1fcr.com.ar/endfeed.pgn

Alejandro Lieber
Rosario Argentina
LU1FCR

http://1fcr.com.ar

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3535. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-18 21:21:08 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <i4hisb$9km$1@adenine.netfront.net>
Source record: 7935

On 08/18/2010 06:16 PM, Alejandro Lieber wrote:
> On 08/18/2010 02:49 PM, Owen Duffy wrote:
>> Alejandro Lieber<alejandro@notvalid.com> wrote in news:i4h24t$1rl0$1
>> @adenine.netfront.net:
>>
>> ...
>>> and take Rl=5 ohms for 8 radials of 8 feet each
>>
>> That specifically escapes me.
>>
>> Owen
>
>
> The 8 radial can be as short as 4 feet long for the same results.
> I came to these results from R. J. Edwards (G4FGQ) program ENDFEED.EXE
> It's interesting to note, that radial longer than 1.3m (4 feet), always
> increase earth looses.
>
> The complete modeling results can be seen at:
>
> http://1fcr.com.ar/endfeed.pgn
>
> Alejandro Lieber
> Rosario Argentina
> LU1FCR
>
> http://1fcr.com.ar
>
> --- news://freenews.netfront.net/ - complaints: news@netfront.net ---

Sorry:

the link to the results is:

http://lieber.com.ar/enfeed.png

Alejandro Lieber

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3536. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-19 02:45:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6l6p66tgh0514kphi53h23dccnllcfiv7o@4ax.com>
Source record: 7936

On Wed, 18 Aug 2010 18:21:08 -0300, Alejandro Lieber
<alejandro@notvalid.com> wrote:

>the link to the results is:
>
>http://lieber.com.ar/enfeed.png

Not Found
The requested URL /enfeed.png was not found on this server.

Always use cut/paste from a browser actually viewing the page you wish
to share with others.

73's
Richard Clark, KB7QHC

3537. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-19 17:32:11 UTC
From: pez@grnet.gr
Message-ID: <i4jpqt$14e$1@speranza.aioe.org>
Source record: 7937
Cross-posted to: sci.physics.electromag,rec.radio.amateur.antenna

| From......: "Bill Miller" <kt4ye@yahoo.com>
| Newsgroups: sci.physics.electromag
| Sent......: Wednesday, August 18, 2010 10:44 PM
| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas
|
| <pez@grnet.gr> wrote in message news:i405hivvf1@news.grnet.gr...
|> -
| ...
|>
| How does this work differ from NEC Numeric Electromagnetic Code for antenna
| analysis?
|
| Bill Miller
- -

Dear Mr. Miller,

VEMSA3D can not work differently, because it is based
on the same theoretical method as NEC does, that is on
the Method of Moments.

However, since each of these numerical applications use
a different basis of the current function space and since
their corresponding computer programs use unavoidably
finite linear combinations of them, in general, they
produce different results.

To be specific, the two bases details are included in the
following:

VEMSA3D current basis:
J. H. Rischmond, Radiation and Scattering by Thin-Wire
Structues in the Complex Freqeuncy Domain, (15), p.6
http://tinyurl.com/24zwycy

NEC current basis:
G. J. Burke, A. G. Poggio
Numerical Electromagnetics Code - Method of Moments
Equation (20), p. 11
http://www.si-list.net/NEC_Archives/nec2prt1.pdf

Regards,

Petros Zimourtopoulos

3538. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-19 19:52:14 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <5052ca35-3de3-4c5d-bc88-b0dd73dcf1dc@n19g2000prf.googlegroups.com>
Source record: 7938

On Aug 18, 2:21 pm, Alejandro Lieber <alejan...@notvalid.com> wrote:
...
> Sorry:
>
> the link to the results is:
>
> http://lieber.com.ar/enfeed.png

For what it's worth, the link works fine for me.

Cheers,
Tom

3539. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-20 00:59:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DDA6FE097661nonenowhere@61.9.134.55>
Source record: 7939

Alejandro Lieber <alejandro@notvalid.com> wrote in
news:i4hisb$9km$1@adenine.netfront.net:

...
>> The 8 radial can be as short as 4 feet long for the same results.
>> I came to these results from R. J. Edwards (G4FGQ) program
>> ENDFEED.EXE It's interesting to note, that radial longer than 1.3m (4
>> feet), always increase earth looses.

The model sensitivity to radial length suggests that the radials are modelled as short transmission line immersed in a lossy medium, in which case, the assumptions about soil conductivity and permittivity are very important to the model accuracy. It is unlikely though that shallow buried radials are very consistent in behaviour due to the effects of rainfall.

It would be interesting to measure the antenna and compare it with your model predictions.

Owen

3540. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-21 20:45:00 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8das3mF4huU1@mid.individual.net>
Source record: 7940
Cross-posted to: sci.physics.electromag,rec.radio.amateur.antenna

<pez@grnet.gr> wrote in message news:i4jpqt$14e$1@speranza.aioe.org...
>| From.....: "Bill Miller" <kt4ye@yahoo.com>
> | Newsgroups: sci.physics.electromag
> | Sent.....: Wednesday, August 18, 2010 10:44 PM
> | Subject...: Re: vemsa3d 1.1 - a floss visual em simulator for 3d
> antennas
> |
> | <pez@grnet.gr> wrote in message news:i405hivvf1@news.grnet.gr...
> |> -
> | ...
> |>
> | How does this work differ from NEC Numeric Electromagnetic Code for
> antenna
> | analysis?
> |
> | Bill Miller
> -
>
> Dear Mr. Miller,
>
> VEMSA3D can not work differently, because it is based
> on the same theoretical method as NEC does, that is on
> the Method of Moments.
>
> However, since each of these numerical applications use
> a different basis of the current function space and since
> their corresponding computer programs use unavoidably
> finite linear combinations of them, in general, they
> produce different results.

Can you quantify further or explain the nature of thes "different results?"

Are there certain classes of antennas for which VEMSA3D might produce more
accurate results than NEC?

Thanks!

Bill Miller

> To be specific, the two bases details are included in the
> following:
>
> VEMSA3D current basis:
> J. H. Rischmond, Radiation and Scattering by Thin-Wire
> Structues in the Complex Freqeuncy Domain, (15), p.6

> http://tinyurl.com/24zwycy
>
> NEC current basis:
> G. J. Burke, A. G. Poggio
> Numerical Electromagnetics Code - Method of Moments
> Equation (20), p. 11
> http://www.si-list.net/NEC_Archives/nec2prt1.pdf
>
> Regards,
>
> Petros Zimourtopoulos
>
>
>
>
>

3541. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 03:48:05 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <g47176pbft0t2tmipkssi0i8gvk3270ke6@4ax.com>
Source record: 7941

On Sat, 14 Aug 2010 21:49:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>Owen Duffy wrote:
>
>> The article also shows a BNC connector option which IMHO is superior to
>> F connectors.
>
>BNC compression connectors are available. They are much harder to install
>properly than F connectors, but once you "get the hang of it", they work fine
>and are sturdy. BNC to UHF adaptors are also available, and the ones I have
>seen are better quality than the F to UHF ones.
>
>I don't know if they are as water resistant as the F connectors designed for
>outdoor use, but UHF (PL-259) connectors are in comparison sponges, so if
>you are used to them, you should be able to deal with BNC connectors.
>
>Note that there are different connectors for RG-59, RG-6 (not quad
>shield) and RG-6 quad shield, and they can not be used on cables they
>are not designed for. Either they don't fit on properly and don't make
>connections, or fall off. :-(
>
>You can buy a package of compression 50 BNC connectors and the appropriate
>tool with international postage for about $50 on eBay.
>
>There are three kinds of compression connectors I have seen so far.
>One is a one piece solid connector, which when compressed, the back end
>folds into itself (think of a metal accordian). The second is made from
>two pieces fitted together, and when you compress it, the part in the back
>is compressed into the front.
>
>Both work well, and if you get the trimming right, will fit well. I found
>on the two piece verisions I have, the center conductor has to be trimmed
>to 3mm. 4 or more and they fall off. :-(
>
>Note that when I say two piece, when you get them they are both one piece
>and can not be separated. It's just obvious that not counting the ring,
>they were made from one or two pieces.
>
>There also is a third kind I have so far only seen in F connectors where
>the front pushes into the back. I tried many in all sorts of ways and cables,
>and either end up with it falling off, or making a solid fitting but no contact
>to the shield (ground). :-(
>

I use a lot of compression F connectors that are truly 2 pieces with
the back piece being pressed into the front.
The front part has an extension that *just* fits over the foil and
under the braid and jacket. The back part is a snug fit on the jacket.
When the back is pressed into the front the forward part with a soft
plastic gasket compresses down on the jacket and braid giving a strong
connection to the braid and foil. The center of the coax (RG6) forms
the center pin of the connector. I just leave it long until after the
connector is installed. Then trim it off about 1/16th inch in front of
the connector. You can go a good 1/8th inch or cut it flush so there
is lots of leeway.

I use a commercial pair of pliers made for installing these, but it
would be fairly easy to make up a set of pliers if need be.

73

Roger (K8RI)
>Any advice on how to get them to work would be appriceated. I still have
>around 30 of them.
>
>Geoff.

3542. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 03:51:53 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <6l71765kdm3s831427g16rm61keqpmr1ck@4ax.com>
Source record: 7942

On Wed, 18 Aug 2010 19:45:37 -0700, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Wed, 18 Aug 2010 18:21:08 -0300, Alejandro Lieber
><alejandro@notvalid.com> wrote:
>
>>the link to the results is:
>>
>>http://lieber.com.ar/enfeed.png
>
>Not Found
>The requested URL /enfeed.png was not found on this server.

Likewise I get: " Sorry, the page you were looking for could not be
found"

73

Roger (K8RI)

>
>Always use cut/paste from a browser actually viewing the page you wish
>to share with others.
>
>73's
>Richard Clark, KB7QHC

3543. Re: RG-6 coaxil cable

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 04:52:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DDC9760137AAnonenowhere@61.9.134.55>
Source record: 7943

Roger <Invalid@rogerhalstead.com> wrote in
news:6l71765kdm3s831427g16rm61keqpmr1ck@4ax.com:

> On Wed, 18 Aug 2010 19:45:37 -0700, Richard Clark <kb7qhc@comcast.net>
> wrote:
>
>>On Wed, 18 Aug 2010 18:21:08 -0300, Alejandro Lieber
>><alejandro@notvalid.com> wrote:
>>
>>>the link to the results is:
>>>
>>>http://lieber.com.ar/enfeed.png
>>
>>Not Found
>>The requested URL /enfeed.png was not found on this server.
>
> Likewise I get: " Sorry, the page you were looking for could not be
> found"

And when I click it in Roger's quote of the original post, it works for me.
Why would that be?

Owen

3544. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 17:59:02 UTC
From: kb9rqz <mmpunce69@hotmail.com>
Message-ID: <Hzdco.16426$wJ1.11549@newsfe08.iad>
Source record: 7944
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.policy

"James" <jnipperxxx@nospamfdn.com> wrote in message
news:VsednRfMq7Up3d7RnZ2dnUVZ_uadnZ2d@posted.localnet...
>I need to "trim" the steel whip of a two meter antenna, and have not been
> sucessful in finding an easy way to cut. Tried a vise-grip with its
> close-in pinchers, and also tried a heavy duty pair of wire cutters, but
> no
> go.
>
> What common tool can be used to do this ? This steel whip sure is tough
> !!
>
>
> Thanks !!
>
>
> 73 de Jim K4PYT
>
>
I has used gavies flase teath a few time seem to make claen cut four me most
time weh i cut teh diaploes.

3545. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 18:58:17 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i4rs0ckua1@news.eternal-september.org>
Source record: 7945
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.policy

On 8/22/2010 10:59 AM, kb9rqz wrote:
> "James"<jnipperxxx@nospamfdn.com> wrote in message

> I has used gavies flase teath a few time seem to make claen cut four me most
> time weh i cut teh diaploes.
>
>
Hacksaw, the tool of professionals. Boltcutters work on the cheap SS
whips, but a good spring steel whip can divit bolt cutters. A carbide
cutting disk in a dremel tool or grinder is another option.

For those "tool challenged" a hacksaw blade with several wraps of duct
tape around one end will work.

Regards,
JS

3546. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 19:38:41 UTC
From: pez@grnet.gr
Message-ID: <i4rudf$qu4$1@news.grnet.gr>
Source record: 7946
Cross-posted to: sci.physics.electromag,rec.radio.amateur.antenna

```
| "Bill Miller" <kt4ye@yahoo.com> wrote in message
| news:8das3mF4huU1@mid.individual.net...
|
| <pez@grnet.gr> wrote in message
| news:i4jpqt$14e$1@speranza.aioe.org...
|>| From......: "Bill Miller" <kt4ye@yahoo.com>
|>| Newsgroups: sci.physics.electromag
|>| Sent......: Wednesday, August 18, 2010 10:44 PM
|>| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator
|>| for 3d antennas
|>|
|>| <pez@grnet.gr> wrote in message news:i405hi$vvf$1@news.grnet.gr...
|>|> -
|>| ...
|>|>
|>| How does this work differ from NEC Numeric Electromagnetic
|>| Code for antenna analysis?
|>|
|>| Bill Miller
|> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|>
|> Dear Mr. Miller,
|>
|> VEMSA3D can not work differently, because it is based
|> on the same theoretical method as NEC does, that is on
|> the Method of Moments.
|>
|> However, since each of these numerical applications use
|> a different basis of the current function space and since
|> their corresponding computer programs use unavoidably
|> finite linear combinations of them, in general, they
|> produce different results.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

1
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|
| Can you quantify further or explain the nature of thes
| "different results?"
|
| - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Well, I can try. These numerically different results are due
to the different coupling -reaction, or impedance- between two
```

current distributions for which different function -expression,
type, formula, or equation- is used to describe them in each
one of the two applications, VEMSA3D and NEC.

2
| -
|
| Are there certain classes of antennas for which VEMSA3D
| might produce more accurate results than NEC?
|
| Thanks!
|
| Bill Miller
|
- -

You are welcome!

VEMSA3D is a thin-wire polygonal modeler in "free space".
Therefore, it has to "exactly" predict or justify the
characteristics of any thin-wire antenna. For this class of
antennas VEMSA3D can be certainly compared with NEC. Anyhow,
this comparison can only be indirect: you have to build and
measure the specific thin-wire antenna first and then to
overlay the results of both applications upon the
measurements. But since this kind of knowledge is definitely
a posteriori, you can try a comparison of both applications
for *any* class of antennas. Here, only the advertisement
builds knowledge a priori; but usually this is followed by
a deep disillusionment.

Regards,

Petros Zimourtopoulos

3547. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 20:08:11 UTC
From: Mike Y <joe@user.com>
Message-ID: <KCfco.78479$KT3.9804@newsfe13.iad>
Source record: 7948
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

"Pete" <pjetson@yahoo.com> wrote in message
news:4C47B326.7060307@yahoo.com...
> Topaz305rk wrote:
>
>>> What common tool can be used to do this ? This steel whip sure is
>>> tough
>
>> In the field, use a set of linemen pliers.
>
> When I worked for a two-way radio company, we used to use a pair of small
> bolt-cutters to trim antennas.
>
> VK3ZMB

If you're talking a good quality whip, like one made from 6140, you will ruin your pliers or even the best bolt cutters you can find. They may work on cheap whips, like the ones on discount store CB antennas, but not on a good quality whip. And it seems that some of the 'thinner' whips are tougher than the thicker whips.

Notch it with a file or an impregnated fiberglass wheel on a rotary tool, than bend it sharply and it should snap off clean. The harder the steel and the more difficult it is to cut, it seems the more brittle it gets, and the easier it is to snap.

3548. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 20:56:34 UTC
From: dave <dave@dave.dave>
Message-ID: <4c7180e9$0$5504$bd467cd0@news.dslextreme.com>
Source record: 7947
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna,rec.radio.amateur.policy

John Smith wrote:
> On 8/22/2010 10:59 AM, kb9rqz wrote:
>> "James"<jnipperxxx@nospamfdn.com> wrote in message
>
>> I has used gavies flase teath a few time seem to make claen cut four
>> me most
>> time weh i cut teh diaploes.
>>
>>
> Hacksaw, the tool of professionals. Boltcutters work on the cheap SS
> whips, but a good spring steel whip can divit bolt cutters. A carbide
> cutting disk in a dremel tool or grinder is another option.
>
> For those "tool challenged" a hacksaw blade with several wraps of duct
> tape around one end will work.
>
> Regards,
> JS
>

Sawzall!

3549. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-22 22:34:59 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i4s8mn$2oh$1@news.eternal-september.org>
Source record: 7949
Cross-posted to: sci.physics.electromag,rec.radio.amateur.antenna

```
On 8/19/2010 10:32 AM, pez@grnet.gr wrote:
> | From......: "Bill Miller"<kt4ye@yahoo.com>
> | Newsgroups: sci.physics.electromag
> | Sent......: Wednesday, August 18, 2010 10:44 PM
> | Subject...: Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas
> |
> |<pez@grnet.gr> wrote in message news:i405hi$vvf$1@news.grnet.gr...
> |> -
> | ...
> |>
> | How does this work differ from NEC Numeric Electromagnetic Code for antenna
> | analysis?
> |
> | Bill Miller
> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
>
> Dear Mr. Miller,
>
> VEMSA3D can not work differently, because it is based
> on the same theoretical method as NEC does, that is on
> the Method of Moments.
>
> However, since each of these numerical applications use
> a different basis of the current function space and since
> their corresponding computer programs use unavoidably
> finite linear combinations of them, in general, they
> produce different results.
>
> To be specific, the two bases details are included in the
> following:
>
> VEMSA3D current basis:
> J. H. Rischmond, Radiation and Scattering by Thin-Wire
> Structues in the Complex Freqeuncy Domain, (15), p.6
> http://tinyurl.com/24zwycy
>
> NEC current basis:
> G. J. Burke, A. G. Poggio
> Numerical Electromagnetics Code - Method of Moments
> Equation (20), p. 11
> http://www.si-list.net/NEC_Archives/nec2prt1.pdf
>
> Regards,
```

>
> Petros Zimourtopoulos

I like how everyone ignores the elephant in the room, thought I would keep quite, sit back and see if anyone noticed the elephant stepping on their foot--case of numb feet I guess.

So: What about MMANA-GAL. MMANA-GAL is about an exact work-a-like as you can get to NEC. Is free, has no limitations in software, etc. Are there any advantages to your program? Accuracy?

Regards,
JS

3550. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 06:55:41 UTC
From: pez@grnet.gr
Message-ID: <i4t62f$4lc$1@news.grnet.gr>
Source record: 7950
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
| "John Smith" <assemblywizard@gmail.com> wrote in message
| news:i4s8mn$2oh$1@news.eternal-september.org...
| On 8/19/2010 10:32 AM, pez@grnet.gr wrote:
|>| From......: "Bill Miller"<kt4ye@yahoo.com>
|>| Newsgroups: sci.physics.electromag
|>| Sent......: Wednesday, August 18, 2010 10:44 PM
|>| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator
|>| for 3d antennas
|>|
|>| <pez@grnet.gr> wrote in message news:i405hi$vvf$1@news.grnet.gr...
|>|> -
|>|> ...
|>|>
|>| How does this work differ from NEC Numeric Electromagnetic Code for antenna
|>| analysis?
|>|
|>| Bill Miller
|> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|>
|> Dear Mr. Miller,
|>
|> VEMSA3D can not work differently, because it is based
|> on the same theoretical method as NEC does, that is on
|> the Method of Moments.
|>
|> However, since each of these numerical applications use
|> a different basis of the current function space and since
|> their corresponding computer programs use unavoidably
|> finite linear combinations of them, in general, they
|> produce different results.
|>
|> To be specific, the two bases details are included in the
|> following:
|>
|> VEMSA3D current basis:
|> J. H. Rischmond, Radiation and Scattering by Thin-Wire
|> Structues in the Complex Freqeuncy Domain, (15), p.6
|> http://tinyurl.com/24zwycy
|>
|> NEC current basis:
|> G. J. Burke, A. G. Poggio
|> Numerical Electromagnetics Code - Method of Moments
|> Equation (20), p. 11
```

|> http://www.si-list.net/NEC_Archives/nec2prt1.pdf
|>
|> Regards,
|>
|> Petros Zimourtopoulos
- -

- -
|
| I like how everyone ignores the elephant in the room, thought
| I would keep quite, sit back and see if anyone noticed the
| elephant stepping on their foot--case of numb feet I guess.
|
| So: What about MMANA-GAL. MMANA-GAL is about an exact
| work-a-like as you can get to NEC. Is free, has no
| limitations in software, etc. Are there any advantages to
| your program? Accuracy?
|
| Regards,
| JS
|
- -

Hello, again, JS!

For MMANA-GAL, I just took a look at:
http://mmhamsoft.amateur-radio.ca/pages/mmana-gal.php

where you can also read that, according to its developers,
this application is a descendant of MININEC, that is of NEC.
Therefore, there is no need to add nothing more on what already
written in some previous articles of this thread about VEMSA3D
and NEC.

Furthermore, I also just took a look at:
http://dl2kq.de/promm/

where you can read too that its developers clearly exhibit its
license and capabilities limitations. Therefore, there is also
no need to add nothing more on what they already wrote -not to
mention what it is lengthy said about software pattents and usage
restrictions in this tread.

Finally, the accuracy issue is also has been exhausted in
yesterday article:

| Sent.....: Sunday, August 22, 2010 9:38 PM
| Newsgroups: sci.physics.electromag,rec.radio.amateur.antenna
| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator for
| 3d antennas
| From.....: pez@grnet.gr

so I have also nothing to add.

Well, after all, it seems that we only forgot to mention the name of that elephant in the room -perhpas because its advantageous name is /F/L/O/S/S/.

Best regards,

pez

3551. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 17:13:33 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i4ua81$90r$1@news.eternal-september.org>
Source record: 7851
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 8/22/2010 11:55 PM, pez@grnet.gr wrote:

>...
> Well, after all, it seems that we only forgot to mention the
> name of that elephant in the room -perhpas because its
> advantageous name is /F/L/O/S/S/.
>
> Best regards,
>
> pez
>
>

Yes, the free, as in free beer is one great advantage, but an advantage not all will be able to take advantage of. Since MMANA-GAL and EZNEC have visual interfaces so similar, being able to use one is effectively being able to immediately use the other. The learning curve into your interface takes just a bit longer ... but, as you say, the availability of the source makes it highly desirable to at least one group.

Thanks for the swift reply,
JS

3552. Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 18:15:22 UTC
From: "Peter O. Brackett" <none@no-such-domain.nul>
Message-ID: <zfmdndKi0KQjJ-_RnZ2dnUVZ_qmdnZ2d@earthlink.com>
Source record: 7852

Antenna Newsgroup Denizens:

Apart from the professional 'lab grade' (and undoubtedly very expensive) devices made by the likes of Agilent, there are on the amateur market several antenna analyzers that are more reasonably priced.

I'm currently considering the purchase of such a device, and so...

I'm interested in hearing opinions, pro-con arguments, and/or receiving pointers to reviews of such devices.

All thoughts and comments will be appreciated, unbiased or not.

Thanks!

-- Pete k1po
-- Indialantic By-the-Sea, FL

3553. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 19:07:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com>
Source record: 7853

I have only one comment which applies to most if not all of the amateur level products, as well as a very high quality HP impedance meter I used years ago.

I live about 15 miles from hilltops where the local AM, FM, and TV broadcast towers are. The signals from those stations are strong enough to overwhelm the broad bandwidth detection circuitry in the analyzers (and HP vector impedance meter) I've used, resulting in meaningless readings when connected to an antenna. I find that I grab my MFJ antenna analyzer for a host of jobs like measuring a ferrite core impedance, checking the length of a piece of coax, and so forth. But for me it's just about useless for the job of analyzing actual antennas. When I need to measure antenna impedance I dust off an old GR bridge and use a portable receiver for the detector in order to reject the strong ambient signals.

Of course this isn't a problem for everyone, but it sure is for me and I don't think my situation is unusual for an urban environment. I've had to put common mode chokes on my thermometer thermocouple wire, my light meter connecting wire, scope leads, and even in audio circuitry to keep the RF out. But even one strong local station might be enough to upset a typical antenna analyzer.

Roy Lewallen, W7EL

On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
> Antenna Newsgroup Denizens:
>
> Apart from the professional 'lab grade' (and undoubtedly very expensive)
> devices made by the likes of Agilent, there are on the amateur market
> several antenna analyzers that are more reasonably priced.
>
> I'm currently considering the purchase of such a device, and so...
>
> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> pointers to reviews of such devices.
>
> All thoughts and comments will be appreciated, unbiased or not.
>
> Thanks!
>
> -- Pete k1po
> -- Indialantic By-the-Sea, FL

3554. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 19:42:03 UTC
From: pez@grnet.gr
Message-ID: <i4uivb$2hi$1@news.grnet.gr>
Source record: 7854
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
| "John Smith" <assemblywizard@gmail.com> wrote in message
| news:i4ua81$90r$1@news.eternal-september.org...
| On 8/22/2010 11:55 PM, pez@grnet.gr wrote:
|
|> ...
|> Well, after all, it seems that we only forgot to mention the
|> name of that elephant in the room -perhpas because its
|> advantageous name is /F/L/O/S/S/.
|>
|> Best regards,
|>
|> pez
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|
| Yes, the free, as in free beer is one great advantage, but an
| advantage not all will be able to take advantage of. Since
| MMANA-GAL and EZNEC have visual interfaces so similar, being
| able to use one is effectively being able to immediately use
| the other. The learning curve into your interface takes just
| a bit longer ... but, as you say, the availability of the
| source makes it highly desirable to at least one group.
|
| Thanks for the swift reply,
| JS
|
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

You're very welcome!

But please take into account that our software is not free,
as in free beer or free gratis; is free, as in liberty, in
free speech or free libre*. Therefore, we don't support
license brokers, promote illegal code use or propagandize
software piracy.

Thank you very much for the chances you gave me to clearly
express our group point of view!

Kind regards,

pez

* Gratis versus Libre:
http://en.wikipedia.org/wiki/Gratis_versus_Libre
```

3555. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 20:46:40 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <37Bco.77472$Ua4.44237@en-nntp-09.dc1.easynews.com>
Source record: 7855

I've used Autek Research "RF" and "VHF" Analysts for some time and
they've served my purposes for antennas and testing.

Also Heathkit, Diamond (VHF-UHF) and Daiwa power output & SWR meters
in-line on coax.

Not so important if one uses a Tansmatch or tuner with them built-in.

W5MTV

On 8/23/2010 1:15 PM, Peter O. Brackett wrote:
> Antenna Newsgroup Denizens:
>
> Apart from the professional 'lab grade' (and undoubtedly very expensive)
> devices made by the likes of Agilent, there are on the amateur market
> several antenna analyzers that are more reasonably priced.
>
> I'm currently considering the purchase of such a device, and so...
>
> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> pointers to reviews of such devices.
>
> All thoughts and comments will be appreciated, unbiased or not.
>
> Thanks!
>
> -- Pete k1po
> -- Indialantic By-the-Sea, FL

3556. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 21:53:33 UTC
From: "Peter O. Brackett" <none@no-such-domain.nul>
Message-ID: <IcSdnd6PIK59cO_RnZ2dnUVZ_jSdnZ2d@earthlink.com>
Source record: 7856

Roy:

Thanks for your input on the effects of interference from other transmitters, especially BC transmitters, point well taken.

I suppose one might add some kind of carefully designed passive filtering to the devices to 'notch' out offending BC stations, etc...

But... that would be messy and complicated.

Using a bridge with a tuned detector seems a much better approach. I do have an old MFJ Rx resistance bridge at hand, but I was looking for a little bit better accuracy. I must check e-bay, etc... for prices for a used bridge of the GR class you have.

My current problem could likly be solved by using one of my (so-called) VSWR meters, but I felt I might like to get a little more metrological capability for a few bucks.

I've never had a vertical antenna before and currently I'm laying out a radial field under a new vertical antenna. I just wanted to know when to stop laying down radials.

I figure that I just need to measure the input impedance of the antenna Zin at my frequencies of interest and record the (hopefully decreasing) impedance values as I lay down more radials. My assumption is that Zin = Zant + Rg. where Zant includes the reactance and radiation resistance of the radiator element at my frequency of interest and Rg is the ground resistance. Hopefully Rg should decrease as I add raials. I intend to quit adding radials when the impedance decrease becomes 'negligible' (In the sense of received S units [smile]).

Thanks again!

-- Pete k1po
-- Indialantic By-the-Sea, FL

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>I have only one comment which applies to most if not all of the amateur
>level products, as well as a very high quality HP impedance meter I used
>years ago.
>
> I live about 15 miles from hilltops where the local AM, FM, and TV
> broadcast towers are. The signals from those stations are strong enough to
> overwhelm the broad bandwidth detection circuitry in the analyzers (and HP
> vector impedance meter) I've used, resulting in meaningless readings when

> connected to an antenna. I find that I grab my MFJ antenna analyzer for a
> host of jobs like measuring a ferrite core impedance, checking the length
> of a piece of coax, and so forth. But for me it's just about useless for
> the job of analyzing actual antennas. When I need to measure antenna
> impedance I dust off an old GR bridge and use a portable receiver for the
> detector in order to reject the strong ambient signals.
>
> Of course this isn't a problem for everyone, but it sure is for me and I
> don't think my situation is unusual for an urban environment. I've had to
> put common mode chokes on my thermometer thermocouple wire, my light meter
> connecting wire, scope leads, and even in audio circuitry to keep the RF
> out. But even one strong local station might be enough to upset a typical
> antenna analyzer.
>
> Roy Lewallen, W7EL
>
> On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
>> Antenna Newsgroup Denizens:
>>
>> Apart from the professional 'lab grade' (and undoubtedly very expensive)
>> devices made by the likes of Agilent, there are on the amateur market
>> several antenna analyzers that are more reasonably priced.
>>
>> I'm currently considering the purchase of such a device, and so...
>>
>> I'm interested in hearing opinions, pro-con arguments, and/or receiving
>> pointers to reviews of such devices.
>>
>> All thoughts and comments will be appreciated, unbiased or not.
>>
>> Thanks!
>>
>> -- Pete k1po
>> -- Indialantic By-the-Sea, FL

3557. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 22:04:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c84b1f6e-49bb-467a-b1b6-0aa99586ab11@l20g2000yqm.googlegroups.com>
Source record: 7857

On Aug 23, 6:15 pm, "Peter O. Brackett" <n...@no-such-domain.nul>
wrote:
> Antenna Newsgroup Denizens:
>
> Apart from the professional 'lab grade' (and undoubtedly very expensive)
> devices made by the likes of Agilent, there are on the amateur market
> several antenna analyzers that are more reasonably priced.
>
> I'm currently considering the purchase of such a device, and so...
>
> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> pointers to reviews of such devices.
>
> All thoughts and comments will be appreciated, unbiased or not.
>
> Thanks!
>
> -- Pete k1po
> -- Indialantic By-the-Sea, FL

i presently have 3 analyzers... an mfj269 which i use for taking up
towers to check antennas when i have doubt about the coax or switch,
checking tuning real quick on anything, and doing simple cable loss
checks. then i have a minivna which i am still learning to use, but
which has proved very helpful in tuning stubs and checking filters.
it also does the tuning checks from the shack but requires a pc for
operation so wouldn't be very useful up a tower. my third one is a
home made tdr, just a decent scope and pulse generator set up to do
tdr on cables from the shack end. indispensable for finding damaged
cables, isolating bad connectors or relay boxes, etc. i wouldn't want
to be without any of them right now.

3558. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 22:17:26 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <paadnfPJKennbu_RnZ2dnUVZ_uGdnZ2d@giganews.com>
Source record: 7858

On 8/23/2010 2:53 PM, Peter O. Brackett wrote:
> Roy:
>
> Thanks for your input on the effects of interference from other
> transmitters, especially BC transmitters, point well taken.
>
> I suppose one might add some kind of carefully designed passive
> filtering to the devices to 'notch' out offending BC stations, etc...
>
> But... that would be messy and complicated.
> . . .

Yes, it is. I've done it, but a lot of care has to be taken that the filter doesn't have a significant effect on the impedance being measured. At best, it usually also restricts you to a relatively narrow bandwidth. It might be adequate for your particular purpose, however. But for the job you describe of evaluating a radial system, a simple homebrew resistance bridge is perfectly adequate. _Solid State Design for the Radio Amateur_ had some examples, and I assume its successor _Experimental Methods in RF Design_ does also.

Roy Lewallen, W7EL

3559. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 23:00:20 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <hdq576linutcif66gljrqr9nhcsqaegsm6@4ax.com>
Source record: 7860

On Mon, 23 Aug 2010 10:13:33 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 8/22/2010 11:55 PM, pez@grnet.gr wrote:
>
>>...
>> Well, after all, it seems that we only forgot to mention the
>> name of that elephant in the room -perhpas because its
>> advantageous name is /F/L/O/S/S/.
>>
>> Best regards,
>>
>> pez
>>
>>
>
>Yes, the free, as in free beer is one great advantage, but an advantage
>not all will be able to take advantage of.

If you're saying free isn't really free I can agree with you. I have
brewed my own beer (still do) and the realization was quickly
discovered that free isn't really free unless the hourly rate is zip,
zero, nada....

Paying consultants a kilobuck per day to support FOSS-based projects
starts looking pound-foolish very quickly. Training the in-house guy
to learn the ins and outs of a piece of FOSS doesn't work too well
either. If the guy is any good, he will soon be marketing his skills
as a $100+/hr consultant. In this aspect FOSS is just another form
vendor lock-in except the vendor is the consultant hawking his skills
and knowledge.

>Since MMANA-GAL and EZNEC
>have visual interfaces so similar, being able to use one is effectively
>being able to immediately use the other. The learning curve into your
>interface takes just a bit longer ...

Both provide immediate understanding but one immediacy takes longer
than the other? How different are skillsets for using a WIMP
interface?

>but, as you say, the availability
>of the source makes it highly desirable to at least one group.
>
The free in FOSS doesn't mean that anything is free of a learning
curve. In fact FOSS can actually present a learning wall. P2P support

tends to deal with solving specific problems rather than any abstract interpretation of what the problem is, why it exists (aka why the tool works as it does), and how best to resolve the specific issue.

The biggest problem with FOSS is too many freetards try to use the tools and fail to contribute what they have learned/experienced into any sort of public knowledge base.

I don't mean to denigrate FOSS at all. I'm just asking if FOSS is _the_ answer what was _the_ question? Too many know-nothings assume the tool is the answer and free means minimal effort/expense required. Only knowledgeable consumers ask how expensive is free.

3560. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-23 23:00:39 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8dgcq1F36nU1@mid.individual.net>
Source record: 7859
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
<pez@grnet.gr> wrote in message news:i4uivb$2hi$1@news.grnet.gr...
>| "John Smith" <assemblywizard@gmail.com> wrote in message
> | news:i4ua81$90r$1@news.eternal-september.org...
> | On 8/22/2010 11:55 PM, pez@grnet.gr wrote:
> |
> |> ...
> |> Well, after all, it seems that we only forgot to mention the
> |> name of that elephant in the room -perhpas because its
> |> advantageous name is /F/L/O/S/S/.
> |>
> |> Best regards,
> |>
> |> pez
> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
> |
> | Yes, the free, as in free beer is one great advantage, but an
> | advantage not all will be able to take advantage of. Since
> | MMANA-GAL and EZNEC have visual interfaces so similar, being
> | able to use one is effectively being able to immediately use
> | the other. The learning curve into your interface takes just
> | a bit longer ... but, as you say, the availability of the
> | source makes it highly desirable to at least one group.
> |
> | Thanks for the swift reply,
> | JS
> |
> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
>
> You're very welcome!
>
> But please take into account that our software is not free,
> as in free beer or free gratis; is free, as in liberty, in
> free speech or free libre*. Therefore, we don't support
> license brokers, promote illegal code use or propagandize
> software piracy.
>
> Thank you very much for the chances you gave me to clearly
> express our group point of view!
>
> Kind regards,
>
> pez
>
```

> * Gratis versus Libre:
> http://en.wikipedia.org/wiki/Gratis_versus_Libre
>
>FYI I'll be posting information and links on your software on
>antenneX.com's user group.

Antennex.com is, perhaps, the largest and most diverse website devoted exclusively to antennas and related items. The website has both free (no charge) and fee (charge for subscription) sections.

The user group is no charge and there are particiapnts from close to 100 countries with skill levels from enthusiastic amateur to world recognized experts.

Bill

3561. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 00:38:38 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <ec6847aa-9899-4121-92e0-64082c010428@j8g2000yqd.googlegroups.com>
Source record: 7861

On Aug 23, 4:53 pm, "Peter O. Brackett" <n...@no-such-domain.nul>
wrote:
> Roy:
>
> Thanks for your input on the effects of interference from other
> transmitters, especially BC transmitters, point well taken.
>
> I suppose one might add some kind of carefully designed passive filtering to
> the devices to 'notch' out offending BC stations, etc...
>
> But... that would be messy and complicated.
>
> Using a bridge with a tuned detector seems a much better approach. I do
> have an old MFJ Rx resistance bridge at hand, but I was looking for a little
> bit better accuracy. I must check e-bay, etc... for prices for a used
> bridge of the GR class you have.
>
> My current problem could likly be solved by using one of my (so-called) VSWR
> meters, but I felt I might like to get a little more metrological capability
> for a few bucks.
>
> I've never had a vertical antenna before and currently I'm laying out a
> radial field under a new vertical antenna. I just wanted to know when to
> stop laying down radials.
>
> I figure that I just need to measure the input impedance of the antenna Zin
> at my frequencies of interest and record the (hopefully decreasing)
> impedance values as I lay down more radials.   My assumption is that Zin =
> Zant + Rg. where Zant includes the reactance and radiation resistance of
> the radiator element at my frequency of interest and Rg is the ground
> resistance. Hopefully Rg should decrease as I add raials. I intend to quit
> adding radials when the impedance decrease becomes 'negligible' (In the
> sense of received S units [smile]).
>
> Thanks again!
>
> -- Pete k1po
> -- Indialantic By-the-Sea, FL
>
> "Roy Lewallen" <w...@eznec.com> wrote in message
>
> news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>
>

>
> >I have only one comment which applies to most if not all of the amateur
> >level products, as well as a very high quality HP impedance meter I used
> >years ago.
>
> > I live about 15 miles from hilltops where the local AM, FM, and TV
> > broadcast towers are. The signals from those stations are strong enough to
> > overwhelm the broad bandwidth detection circuitry in the analyzers (and HP
> > vector impedance meter) I've used, resulting in meaningless readings when
> > connected to an antenna. I find that I grab my MFJ antenna analyzer for a
> > host of jobs like measuring a ferrite core impedance, checking the length
> > of a piece of coax, and so forth. But for me it's just about useless for
> > the job of analyzing actual antennas. When I need to measure antenna
> > impedance I dust off an old GR bridge and use a portable receiver for the
> > detector in order to reject the strong ambient signals.
>
> > Of course this isn't a problem for everyone, but it sure is for me and I
> > don't think my situation is unusual for an urban environment. I've had to
> > put common mode chokes on my thermometer thermocouple wire, my light meter
> > connecting wire, scope leads, and even in audio circuitry to keep the RF
> > out. But even one strong local station might be enough to upset a typical
> > antenna analyzer.
>
> > Roy Lewallen, W7EL
>
> > On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
> >> Antenna Newsgroup Denizens:
>
> >> Apart from the professional 'lab grade' (and undoubtedly very expensive)
> >> devices made by the likes of Agilent, there are on the amateur market
> >> several antenna analyzers that are more reasonably priced.
>
> >> I'm currently considering the purchase of such a device, and so...
>
> >> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> >> pointers to reviews of such devices.
>
> >> All thoughts and comments will be appreciated, unbiased or not.
>
> >> Thanks!
>
> >> -- Pete k1po
> >> -- Indialantic By-the-Sea, FL- Hide quoted text -
>
> - Show quoted text -

Hi Pete, If you are evaluating a radial field for a vertical, then
the value you should be shooting for is 30-35 ohms, with no
reactance. As you know this is 1/2 the impedance of a 1/2 wave
dipole-70 ohms in free space. I have never done this, but an

impedance below 40 ohms with little reactance should provide you with an efficient vertical. Once you get around this value, I guess there is nothing to be gained by adding more radials. What your analyzer tells you, as others have mentioned, depends on the rf in the area.

Gary N4AST

3562. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 00:51:18 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i4v52a$s5m$1@news.eternal-september.org>
Source record: 7862
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 8/23/2010 12:42 PM, pez@grnet.gr wrote:

> ...
> You're very welcome!
>
> But please take into account that our software is not free,
> as in free beer or free gratis; is free, as in liberty, in
> free speech or free libre*. Therefore, we don't support
> license brokers, promote illegal code use or propagandize
> software piracy.
>
> Thank you very much for the chances you gave me to clearly
> express our group point of view!
>
> Kind regards,
>
> pez
>
> * Gratis versus Libre:
> http://en.wikipedia.org/wiki/Gratis_versus_Libre

Well, as you have seen, a concept such as "free" can mean many things to many different people, splitting hairs on that is only a waste of time some can engage in here ... However, I have downloaded the source, in C++, and have been making notes and stub testing various parts. One aspect of the source which really strikes me in the face, it is un-commented! Ya' just gotta luv that software engineer! ROFLOL

Regards,
JS

3563. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 01:09:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <dbadnaZhFZAihu7RnZ2dnUVZ_rednZ2d@giganews.com>
Source record: 7863

On 8/23/2010 5:38 PM, Gary wrote:
>
> Hi Pete, If you are evaluating a radial field for a vertical, then
> the value you should be shooting for is 30-35 ohms, with no
> reactance. As you know this is 1/2 the impedance of a 1/2 wave
> dipole-70 ohms in free space. I have never done this, but an
> impedance below 40 ohms with little reactance should provide you with
> an efficient vertical. Once you get around this value, I guess there
> is nothing to be gained by adding more radials. What your analyzer
> tells you, as others have mentioned, depends on the rf in the area.
>
> Gary N4AST

The actual value you get when the radial system loss is minimal depends on a number of factors, including the height and diameter of the vertical. I've also seen convergence to other resistance values when the ground was dry on the surface but apparently wet at some depth below. In that case, radial current can be significant at quite a distance from the antenna (as opposed to the exponential-looking decay you see in the current on radials buried in moist ground), making the system act more like a system of elevated radials. In those systems, radial length also plays a role in determining the feedpoint resistance value.

The bottom line is that I don't trust a single value or its comparison to 36 or 40 ohms as being a reliable indication of efficiency. You either need to look for convergence of the feedpoint resistance as Peter proposed, or even better yet, look for convergence of field strength values at a fixed location as you increase the number of radials.

Roy Lewallen, W7EL

3564. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 01:24:40 UTC
From: walt <walt@w2du.com>
Message-ID: <71306181-8733-42c3-be01-bda90849ba47@x42g2000yqx.googlegroups.com>
Source record: 7864

On Aug 23, 8:38 pm, Gary <jgboy...@aol.com> wrote:
> On Aug 23, 4:53 pm, "Peter O. Brackett" <n...@no-such-domain.nul>
> wrote:
>
>
>
> > Roy:
>
> > Thanks for your input on the effects of interference from other
> > transmitters, especially BC transmitters, point well taken.
>
> > I suppose one might add some kind of carefully designed passive filtering to
> > the devices to 'notch' out offending BC stations, etc...
>
> > But... that would be messy and complicated.
>
> > Using a bridge with a tuned detector seems a much better approach. I do
> > have an old MFJ Rx resistance bridge at hand, but I was looking for a little
> > bit better accuracy. I must check e-bay, etc... for prices for a used
> > bridge of the GR class you have.
>
> > My current problem could likly be solved by using one of my (so-called) VSWR
> > meters, but I felt I might like to get a little more metrological capability
> > for a few bucks.
>
> > I've never had a vertical antenna before and currently I'm laying out a
> > radial field under a new vertical antenna. I just wanted to know when to
> > stop laying down radials.
>
> > I figure that I just need to measure the input impedance of the antenna Zin
> > at my frequencies of interest and record the (hopefully decreasing)
> > impedance values as I lay down more radials.   My assumption is that Zin =
> > Zant + Rg. where Zant includes the reactance and radiation resistance of
> > the radiator element at my frequency of interest and Rg is the ground
> > resistance. Hopefully Rg should decrease as I add raials. I intend to quit
> > adding radials when the impedance decrease becomes 'negligible' (In the
> > sense of received S units [smile]).
>
> > Thanks again!
>
> > -- Pete k1po
> > -- Indialantic By-the-Sea, FL
>
> > "Roy Lewallen" <w...@eznec.com> wrote in message

>
> >news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>
> > >I have only one comment which applies to most if not all of the amateur
> > >level products, as well as a very high quality HP impedance meter I used
> > >years ago.
>
> > > I live about 15 miles from hilltops where the local AM, FM, and TV
> > > broadcast towers are. The signals from those stations are strong enough to
> > > overwhelm the broad bandwidth detection circuitry in the analyzers (and HP
> > > vector impedance meter) I've used, resulting in meaningless readings when
> > > connected to an antenna. I find that I grab my MFJ antenna analyzer for a
> > > host of jobs like measuring a ferrite core impedance, checking the length
> > > of a piece of coax, and so forth. But for me it's just about useless for
> > > the job of analyzing actual antennas. When I need to measure antenna
> > > impedance I dust off an old GR bridge and use a portable receiver for the
> > > detector in order to reject the strong ambient signals.
>
> > > Of course this isn't a problem for everyone, but it sure is for me and I
> > > don't think my situation is unusual for an urban environment. I've had to
> > > put common mode chokes on my thermometer thermocouple wire, my light meter
> > > connecting wire, scope leads, and even in audio circuitry to keep the RF
> > > out. But even one strong local station might be enough to upset a typical
> > > antenna analyzer.
>
> > > Roy Lewallen, W7EL
>
> > > On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
> > >> Antenna Newsgroup Denizens:
>
> > >> Apart from the professional 'lab grade' (and undoubtedly very expensive)
> > >> devices made by the likes of Agilent, there are on the amateur market
> > >> several antenna analyzers that are more reasonably priced.
>
> > >> I'm currently considering the purchase of such a device, and so...
>
> > >> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> > >> pointers to reviews of such devices.
>
> > >> All thoughts and comments will be appreciated, unbiased or not.
>
> > >> Thanks!
>
> > >> -- Pete k1po
> > >> -- Indialantic By-the-Sea, FL- Hide quoted text -
>
> > - Show quoted text -
>
> Hi Pete, If you are evaluating a radial field for a vertical, then
> the value you should be shooting for is 30-35 ohms, with no

> reactance. As you know this is 1/2 the impedance of a 1/2 wave
> dipole-70 ohms in free space. I have never done this, but an
> impedance below 40 ohms with little reactance should provide you with
> an efficient vertical. Once you get around this value, I guess there
> is nothing to be gained by adding more radials. What your analyzer
> tells you, as others have mentioned, depends on the rf in the area.
>
> Gary N4AST

Hi Pete, long time since I've seen a post from you on this NG!

Pete, I'd take Roy's route and use a GR impedance bridge. I've used the GR-1606A and the 1606B for the last 50 years. If you're not familiar with it it's been the standard impedance-measuring device for AM BC antennas for more than 50 years. It's accuracy cannot be beaten. These bridges were expensive when new, but they are available rather inexpensively now, and are stable as a rock. And as Roy said, they use either a millivolt meter or a tunable receiver as the detector. Using the receiver, interfering signals picked up with the antenna being measured are eliminated, thus not degrading the accuracy of the impedance measurement.

The GR-1606A measures from below 500 kHz up to 60 MHz. The GR-1602 measures well into the VHF range. If you should try one I know you'll like it.

Walt, W2DU

PS--If you'd like to see the results of measuring W2DU's antenna impedances, I refer you to Reflections, Chapter 15, Tables 15-4, 15-5, and Fig 15-1, which is a graph of the data in the Tables. If you don't have a copy of Reflections you can see this data on my web page at www.w2du.com. Just select 'Read Chapters from Reflections 2'.

3565. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 02:26:30 UTC
From: Danny <dwr@k6mhe.com>
Message-ID: <i4vakm0jk@news1.newsguy.com>
Source record: 7865

I've been pretty satisfied with the AIM 4170. Check this out.

http://arraysolutions.com/images/Tuning_160m_Vertical.pdf

73,
Danny, K6MHE

On Mon, 23 Aug 2010 17:53:33 -0400, Peter O. Brackett wrote:

> Roy:
>
> Thanks for your input on the effects of interference from other
> transmitters, especially BC transmitters, point well taken.
>
> I suppose one might add some kind of carefully designed passive
> filtering to the devices to 'notch' out offending BC stations, etc...
>
> But... that would be messy and complicated.
>
> Using a bridge with a tuned detector seems a much better approach. I do
> have an old MFJ Rx resistance bridge at hand, but I was looking for a
> little bit better accuracy. I must check e-bay, etc... for prices for a
> used bridge of the GR class you have.
>
> My current problem could likly be solved by using one of my (so-called)
> VSWR meters, but I felt I might like to get a little more metrological
> capability for a few bucks.
>
> I've never had a vertical antenna before and currently I'm laying out a
> radial field under a new vertical antenna. I just wanted to know when
> to stop laying down radials.
>
> I figure that I just need to measure the input impedance of the antenna
> Zin at my frequencies of interest and record the (hopefully decreasing)
> impedance values as I lay down more radials. My assumption is that Zin
> = Zant + Rg. where Zant includes the reactance and radiation resistance
> of the radiator element at my frequency of interest and Rg is the ground
> resistance. Hopefully Rg should decrease as I add raials. I intend to
> quit adding radials when the impedance decrease becomes 'negligible' (
> In the sense of received S units [smile]).
>
> Thanks again!
>
> -- Pete k1po
> -- Indialantic By-the-Sea, FL

>
>
> "Roy Lewallen" <w7el@eznec.com> wrote in message
> news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>>I have only one comment which applies to most if not all of the amateur
>>level products, as well as a very high quality HP impedance meter I used
>>years ago.
>>
>> I live about 15 miles from hilltops where the local AM, FM, and TV
>> broadcast towers are. The signals from those stations are strong enough
>> to overwhelm the broad bandwidth detection circuitry in the analyzers
>> (and HP vector impedance meter) I've used, resulting in meaningless
>> readings when connected to an antenna. I find that I grab my MFJ
>> antenna analyzer for a host of jobs like measuring a ferrite core
>> impedance, checking the length of a piece of coax, and so forth. But
>> for me it's just about useless for the job of analyzing actual
>> antennas. When I need to measure antenna impedance I dust off an old GR
>> bridge and use a portable receiver for the detector in order to reject
>> the strong ambient signals.
>>
>> Of course this isn't a problem for everyone, but it sure is for me and
>> I don't think my situation is unusual for an urban environment. I've
>> had to put common mode chokes on my thermometer thermocouple wire, my
>> light meter connecting wire, scope leads, and even in audio circuitry
>> to keep the RF out. But even one strong local station might be enough
>> to upset a typical antenna analyzer.
>>
>> Roy Lewallen, W7EL
>>
>> On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
>>> Antenna Newsgroup Denizens:
>>>
>>> Apart from the professional 'lab grade' (and undoubtedly very
>>> expensive) devices made by the likes of Agilent, there are on the
>>> amateur market several antenna analyzers that are more reasonably
>>> priced.
>>>
>>> I'm currently considering the purchase of such a device, and so...
>>>
>>> I'm interested in hearing opinions, pro-con arguments, and/or
>>> receiving pointers to reviews of such devices.
>>>
>>> All thoughts and comments will be appreciated, unbiased or not.
>>>
>>> Thanks!
>>>
>>> -- Pete k1po
>>> -- Indialantic By-the-Sea, FL

3566. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 06:59:28 UTC
From: pez@grnet.gr
Message-ID: <i4vqkrmse1@news.grnet.gr>
Source record: 7866
Cross-posted to: sci.physics.electromag,rec.radio.amateur.antenna

Please, note that I experimentally confirmed -once again- that
NASA does not infinitely support direct linking to its
Technical Reports Server (NTRS) contents. Therefore, the link
given in article:

```
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
| Sent.....: Thursday, August 19, 2010 7:32 PM
| Newsgroups: sci.physics.electromag,rec.radio.amateur.antenna
| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator for
| 3d antennas
| From.....: pez@grnet.gr
|
| ...
| J. H. Richmond, Radiation and Scattering by Thin-Wire
| Structures in the Complex Frequency Domain, (15), p.6
| http://tinyurl.com/24zwycy
| ...
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

is not a valid one anymore. One has to firstly connect to
NTRS:
http://ntrs.nasa.gov/search.jsp

and search for:
"Radiation and scattering by thin-wire structures in the
complex frequency domain"

or some adequate part of it, e.g. like the following one,
which it seems that currently holds:
"Radiation and scattering by thin-wire"

to get the Richmond's report item first and after two
more steps the full-text through "View PDF File".

Petros Zimourtopoulos

3567. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 08:05:45 UTC
From: pez@grnet.gr
Message-ID: <i4vuh3qfb1@news.grnet.gr>
Source record: 7867
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
| "John Smith" <assemblywizard@gmail.com> wrote in message
| news:i4v52a$s5m$1@news.eternal-september.org...
| On 8/23/2010 12:42 PM, pez@grnet.gr wrote:
|
|> ...
|
| Well, as you have seen, a concept such as "free" can mean
| many things to many different people, splitting hairs on that
| is only a waste of time some can engage in here ...
| However, I have downloaded the source, in C++, and have been
| making notes and stub testing various parts. One aspect of
| the source which really strikes me in the face, it is
| un-commented! Ya' just gotta luv that software engineer!
| ROFLOL
|
| Regards,
| JS
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Dear JS,

Thank you for pointed out this issue too!

As I already said, VEMSA3D is open source code, which is
distributed as free-libre; not free-gratis. Therefore, we
keep the right to publish full-comments about our source
code sometime in the future, as everybody else of course.
Please, see GNU GPL 3.0:
http://www.gnu.org/licenses/gpl.html

Free-gratis is the MS Windows application VEMSA3D, which
*everyone* can enjoy the production of it by simply following
the fully-commented instructions we already gave at the third
page, right column, of our paper:
http://arxiv.org/abs/1006.0031

Best regards,

pez, SV7BAX
```

3568. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 08:35:12 UTC
From: pez@grnet.gr
Message-ID: <i5008m$s7b$1@news.grnet.gr>
Source record: 7868
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
| From.....: "Bill Miller" <kt4ye@yahoo.com>
| Newsgroups: rec.radio.amateur.antenna,sci.physics.electromag
| Sent.....: Tuesday, August 24, 2010 1:00 AM
| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator
| ..........: for 3d antennas
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
| <pez@grnet.gr> wrote in message news:i4uivb$2hi$1@news.grnet.gr...
|>| "John Smith" <assemblywizard@gmail.com> wrote in message
|>| news:i4ua81$90r$1@news.eternal-september.org...
|>| On 8/22/2010 11:55 PM, pez@grnet.gr wrote:
|>|
|>|> ...
|>|> Well, after all, it seems that we only forgot to mention the
|>|> name of that elephant in the room -perhpas because its
|>|> advantageous name is /F/L/O/S/S/.
|>|>
|>|> Best regards,
|>|>
|>|> pez
|> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|> |
|> | Yes, the free, as in free beer is one great advantage, but an
|> | advantage not all will be able to take advantage of. Since
|> | MMANA-GAL and EZNEC have visual interfaces so similar, being
|> | able to use one is effectively being able to immediately use
|> | the other. The learning curve into your interface takes just
|> | a bit longer ... but, as you say, the availability of the
|> | source makes it highly desirable to at least one group.
|> |
|> | Thanks for the swift reply,
|> | JS
|> |
|> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|>
|> You're very welcome!
|>
|> But please take into account that our software is not free,
|> as in free beer or free gratis; is free, as in liberty, in
|> free speech or free libre*. Therefore, we don't support
|> license brokers, promote illegal code use or propagandize
|> software piracy.
|>
```

```
|> Thank you very much for the chances you gave me to clearly
|> express our group point of view!
|>
|> Kind regards,
|>
|> pez
|>
|>* Gratis versus Libre:
|> http://en.wikipedia.org/wiki/Gratis_versus_Libre
|
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|
| FYI I'll be posting information and links on your software on
| antenneX.com's user group.
|
| Antennex.com is, perhaps, the largest and most diverse
| website devoted exclusively to antennas and related items.
| The website has both free (no charge) and fee (charge for
| subscription) sections.
|
| The user group is no charge and there are particiapnts from
| close to 100 countries with skill levels from enthusiastic
| amateur to world recognized experts.
|
| Bill
|
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Thank you very much, Bill, I really appreciate your offer.
Please try to do so -if you are an unmoderated user of the
magazine list, of course- since our accounts to magazine
e-list are about to expire, while, after 7 years or so, our
group members' subscriptions to the magazine, have been
recently expired -the last one today:

```
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
| Sent...: Tuesday, August 24, 2010 7:03 AM
| Subject: Your antenneX Paid Subscription Account has Expired
| From...: antenneX Online Magazine listmgr-at-antennex.com
| To.....: Petros Zimourtopoulos ...-at-antennas.gr
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Petros

3569. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 12:44:58 UTC
From: KBa <kba@nic.fi>
Message-ID: <CbPco.14284$136.11675@uutiset.elisa.fi>
Source record: 7869

On 23.08.2010 21:15, Peter O. Brackett wrote:
> Antenna Newsgroup Denizens:
>
> Apart from the professional 'lab grade' (and undoubtedly very expensive)
> devices made by the likes of Agilent, there are on the amateur market
> several antenna analyzers that are more reasonably priced.
>
> I'm currently considering the purchase of such a device, and so...
>
> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> pointers to reviews of such devices.
>
> All thoughts and comments will be appreciated, unbiased or not.
>
> Thanks!
>
> -- Pete k1po
> -- Indialantic By-the-Sea, FL

Hi, there are quite many choices between tiny hand-held units like Autek
Research VA-1 vector analyzer and computer/laptop connected VNAs like
N2PK VNA which gives more accurate measurements. This last one is
basically a kit, but not too complicated to build at home and is quite
multi-use device.
Both have been useful and done their jobs well.

Kari B

3570. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 15:14:09 UTC
From: "Peter O. Brackett" <none@no-such-domain.nul>
Message-ID: <wpudnZRBjpRafO7RnZ2dnUVZ_uCdnZ2d@earthlink.com>
Source record: 7870

Roy:

[snip]
"Roy Lewallen" <w7el@eznec.com> wrote in message
news:dbadnaZhFZAihu7RnZ2dnUVZ_rednZ2d@giganews.com...
.
.
.
> The bottom line is that I don't trust a single value or its comparison to
> 36 or 40 ohms as being a reliable indication of efficiency. You either
> need to look for convergence of the feedpoint resistance as Peter
> proposed, or even better yet, look for convergence of field strength
> values at a fixed location as you increase the number of radials.
>
> Roy Lewallen, W7EL
[snip]

That's exactly what I thought.

Since; (a) I don't know my soil characteristics and (b) because of property limitations that dictate a non-uniform radial field, I felt that all I can do is to lay down radials in the property area I have avaliable until I see the change in Zin due to adding more radials become insignificant, then... I'm done!

I don't really care what the exact value of Zin = Rin + jXin ends up to be, since there is nothing I can do about it anyway. When I reach the point in laying down radials to where I can't reduce Zin much by adding more radials, I will then have the most efficient radial field with the lowest ground resistance Rg that I can get for my money and effort [smile].

Heh, heh... Money is only money, the effort, hmmm... well that's me crawling on my hands and knees for hours digging in the dirt (sand) in the blazing hot Florida sunshine, heat and humidity!

When I arrive at that point in burying radials, I believe that I can then tune out any reactive part of Zin with my 'tuner' and and end up feeding power into the remaining resistance Rin which then should be the sum of the vertical element radiation resistance Rr and whatever value I have ended up with for ground resistance Rg.

I just won't know what the value of Rr and Rg is, but I will know that I have achieved the most efficient radial field I could put down here at my place.

Is this right?

-- Pete k1po
-- Indialantic By-the-Sea, FL

PS: I took your advice and did some reading on simple impedance bridges, and I saw one that you had designed in one of my ARRL pubs. Cool!

Another idea I came upon that allow the use of those antenna analyzers in a situation where they can be somewhat immune to BC interference involved a two step process that went as follows...

(1) Hook up a transmitter through an antenna tuner to the antenna and ground systems under test and tune the tuner for zero reflected power with a 50 Ohm reflectometer (VSWR meter). Then (2) disconnect the tuner from the antenna, and without disturbing the tuner settings, hook a 50 Ohm load to the input side where the transmitter was connected, and then use the antenna analyzer to measure the impedance looking back into the output, or antenna terminals, of the tuner. This impedance should be the conjugate of Zin. Here the analyzer may not be as affected by potentially strong BC RF signals picked up by the lengthy antenna element.

3571. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 15:15:22 UTC
From: "Peter O. Brackett" <none@no-such-domain.nul>
Message-ID: <8pednWGtYqWSf-7RnZ2dnUVZ_tmdnZ2d@earthlink.com>
Source record: 7871

Thanks Walt!

"walt" <walt@w2du.com> wrote in message
news:71306181-8733-42c3-be01-bda90849ba47@x42g2000yqx.googlegroups.com...
On Aug 23, 8:38 pm, Gary <jgboy...@aol.com> wrote:
> On Aug 23, 4:53 pm, "Peter O. Brackett" <n...@no-such-domain.nul>
> wrote:
>
>
>
> > Roy:
>
> > Thanks for your input on the effects of interference from other
> > transmitters, especially BC transmitters, point well taken.
>
> > I suppose one might add some kind of carefully designed passive
> > filtering to
> > the devices to 'notch' out offending BC stations, etc...
>
> > But... that would be messy and complicated.
>
> > Using a bridge with a tuned detector seems a much better approach. I do
> > have an old MFJ Rx resistance bridge at hand, but I was looking for a
> > little
> > bit better accuracy. I must check e-bay, etc... for prices for a used
> > bridge of the GR class you have.
>
> > My current problem could likly be solved by using one of my (so-called)
> > VSWR
> > meters, but I felt I might like to get a little more metrological
> > capability
> > for a few bucks.
>
> > I've never had a vertical antenna before and currently I'm laying out a
> > radial field under a new vertical antenna. I just wanted to know when to
> > stop laying down radials.
>
> > I figure that I just need to measure the input impedance of the antenna
> > Zin
> > at my frequencies of interest and record the (hopefully decreasing)
> > impedance values as I lay down more radials. My assumption is that Zin =
> > Zant + Rg. where Zant includes the reactance and radiation resistance of
> > the radiator element at my frequency of interest and Rg is the ground
> > resistance. Hopefully Rg should decrease as I add raials. I intend to

> > quit
> > adding radials when the impedance decrease becomes 'negligible' (In the
> > sense of received S units [smile]).
>
> > Thanks again!
>
> > -- Pete k1po
> > -- Indialantic By-the-Sea, FL
>
> > "Roy Lewallen" <w...@eznec.com> wrote in message
>
> >news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>
> > > >I have only one comment which applies to most if not all of the amateur
> > > >level products, as well as a very high quality HP impedance meter I
> > > >used
> > > >years ago.
>
> > > > I live about 15 miles from hilltops where the local AM, FM, and TV
> > > > broadcast towers are. The signals from those stations are strong
> > > > enough to
> > > > overwhelm the broad bandwidth detection circuitry in the analyzers
> > > > (and HP
> > > > vector impedance meter) I've used, resulting in meaningless readings
> > > > when
> > > > connected to an antenna. I find that I grab my MFJ antenna analyzer
> > > > for a
> > > > host of jobs like measuring a ferrite core impedance, checking the
> > > > length
> > > > of a piece of coax, and so forth. But for me it's just about useless
> > > > for
> > > > the job of analyzing actual antennas. When I need to measure antenna
> > > > impedance I dust off an old GR bridge and use a portable receiver for
> > > > the
> > > > detector in order to reject the strong ambient signals.
>
> > > > Of course this isn't a problem for everyone, but it sure is for me and
> > > > I
> > > > don't think my situation is unusual for an urban environment. I've had
> > > > to
> > > > put common mode chokes on my thermometer thermocouple wire, my light
> > > > meter
> > > > connecting wire, scope leads, and even in audio circuitry to keep the
> > > > RF
> > > > out. But even one strong local station might be enough to upset a
> > > > typical
> > > > antenna analyzer.
>
> > > > Roy Lewallen, W7EL
>

> > > On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
> > >> Antenna Newsgroup Denizens:
>
> > >> Apart from the professional 'lab grade' (and undoubtedly very
> > >> expensive)
> > >> devices made by the likes of Agilent, there are on the amateur market
> > >> several antenna analyzers that are more reasonably priced.
>
> > >> I'm currently considering the purchase of such a device, and so...
>
> > >> I'm interested in hearing opinions, pro-con arguments, and/or
> > >> receiving
> > >> pointers to reviews of such devices.
>
> > >> All thoughts and comments will be appreciated, unbiased or not.
>
> > >> Thanks!
>
> > >> -- Pete k1po
> > >> -- Indialantic By-the-Sea, FL- Hide quoted text -
>
> > - Show quoted text -
>
> Hi Pete, If you are evaluating a radial field for a vertical, then
> the value you should be shooting for is 30-35 ohms, with no
> reactance. As you know this is 1/2 the impedance of a 1/2 wave
> dipole-70 ohms in free space. I have never done this, but an
> impedance below 40 ohms with little reactance should provide you with
> an efficient vertical. Once you get around this value, I guess there
> is nothing to be gained by adding more radials. What your analyzer
> tells you, as others have mentioned, depends on the rf in the area.
>
> Gary N4AST

Hi Pete, long time since I've seen a post from you on this NG!

Pete, I'd take Roy's route and use a GR impedance bridge. I've used the GR-1606A and the 1606B for the last 50 years. If you're not familiar with it it's been the standard impedance-measuring device for AM BC antennas for more than 50 years. It's accuracy cannot be beaten. These bridges were expensive when new, but they are available rather inexpensively now, and are stable as a rock. And as Roy said, they use either a millivolt meter or a tunable receiver as the detector. Using the receiver, interfering signals picked up with the antenna being measured are eliminated, thus not degrading the accuracy of the impedance measurement.

The GR-1606A measures from below 500 kHz up to 60 MHz. The GR-1602 measures well into the VHF range. If you should try one I know you'll like it.

Walt, W2DU

PS--If you'd like to see the results of measuring W2DU's antenna impedances, I refer you to Reflections, Chapter 15, Tables 15-4, 15-5, and Fig 15-1, which is a graph of the data in the Tables. If you don't have a copy of Reflections you can see this data on my web page at www.w2du.com. Just select 'Read Chapters from Reflections 2'.

3572. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 15:25:08 UTC
From: "Peter O. Brackett" <none@no-such-domain.nul>
Message-ID: <LMmdncKFvYPGee7RnZ2dnUVZ_jSdnZ2d@earthlink.com>
Source record: 7872

Danny:

Hey thanks! I read your reference. Nice piece of work!

I guess I didn 't realize just how big those BC RF signals on the antenna element would actually be.
And for that matter, how little front end selectivity the analog inputs of those amateur antenna analyzers contain. None!

Hmmm... the amateur antenna analyzer sales literature I read don't mention this problem at all. The ads all 'brag' on the 'super features' of the devices. [smile]

I presume there must be more than a few dissappointed antenna analyzer purchasers who find this fact out the hard way.

Thanks again for the great reference.

-- Pete k1po
-- Indialantic By-the-Sea, FL

"Danny" <dwr@k6mhe.com> wrote in message news:i4vakm0jk@news1.newsguy.com...
> I've been pretty satisfied with the AIM 4170. Check this out.
>
> http://arraysolutions.com/images/Tuning_160m_Vertical.pdf
>
> 73,
> Danny, K6MHE
>
> On Mon, 23 Aug 2010 17:53:33 -0400, Peter O. Brackett wrote:
>
>> Roy:
>>
>> Thanks for your input on the effects of interference from other
>> transmitters, especially BC transmitters, point well taken.
>>
>> I suppose one might add some kind of carefully designed passive
>> filtering to the devices to 'notch' out offending BC stations, etc...
>>
>> But... that would be messy and complicated.
>>
>> Using a bridge with a tuned detector seems a much better approach. I do
>> have an old MFJ Rx resistance bridge at hand, but I was looking for a
>> little bit better accuracy. I must check e-bay, etc... for prices for a
>> used bridge of the GR class you have.
>>

>> My current problem could likly be solved by using one of my (so-called)
>> VSWR meters, but I felt I might like to get a little more metrological
>> capability for a few bucks.
>>
>> I've never had a vertical antenna before and currently I'm laying out a
>> radial field under a new vertical antenna. I just wanted to know when
>> to stop laying down radials.
>>
>> I figure that I just need to measure the input impedance of the antenna
>> Zin at my frequencies of interest and record the (hopefully decreasing)
>> impedance values as I lay down more radials. My assumption is that Zin
>> = Zant + Rg. where Zant includes the reactance and radiation resistance
>> of the radiator element at my frequency of interest and Rg is the ground
>> resistance. Hopefully Rg should decrease as I add raials. I intend to
>> quit adding radials when the impedance decrease becomes 'negligible' (
>> In the sense of received S units [smile]).
>>
>> Thanks again!
>>
>> -- Pete k1po
>> -- Indialantic By-the-Sea, FL
>>
>>
>> "Roy Lewallen" <w7el@eznec.com> wrote in message
>> news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>>>I have only one comment which applies to most if not all of the amateur
>>>level products, as well as a very high quality HP impedance meter I used
>>>years ago.
>>>
>>> I live about 15 miles from hilltops where the local AM, FM, and TV
>>> broadcast towers are. The signals from those stations are strong enough
>>> to overwhelm the broad bandwidth detection circuitry in the analyzers
>>> (and HP vector impedance meter) I've used, resulting in meaningless
>>> readings when connected to an antenna. I find that I grab my MFJ
>>> antenna analyzer for a host of jobs like measuring a ferrite core
>>> impedance, checking the length of a piece of coax, and so forth. But
>>> for me it's just about useless for the job of analyzing actual
>>> antennas. When I need to measure antenna impedance I dust off an old GR
>>> bridge and use a portable receiver for the detector in order to reject
>>> the strong ambient signals.
>>>
>>> Of course this isn't a problem for everyone, but it sure is for me and
>>> I don't think my situation is unusual for an urban environment. I've
>>> had to put common mode chokes on my thermometer thermocouple wire, my
>>> light meter connecting wire, scope leads, and even in audio circuitry
>>> to keep the RF out. But even one strong local station might be enough
>>> to upset a typical antenna analyzer.
>>>
>>> Roy Lewallen, W7EL
>>>

>>> On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
>>>> Antenna Newsgroup Denizens:
>>>>
>>>> Apart from the professional 'lab grade' (and undoubtedly very
>>>> expensive) devices made by the likes of Agilent, there are on the
>>>> amateur market several antenna analyzers that are more reasonably
>>>> priced.
>>>>
>>>> I'm currently considering the purchase of such a device, and so...
>>>>
>>>> I'm interested in hearing opinions, pro-con arguments, and/or
>>>> receiving pointers to reviews of such devices.
>>>>
>>>> All thoughts and comments will be appreciated, unbiased or not.
>>>>
>>>> Thanks!
>>>>
>>>> -- Pete k1po
>>>> -- Indialantic By-the-Sea, FL
>

3573. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 16:28:56 UTC
From: Larry Coyle <lmcoyle1@verizon.net>
Message-ID: <Y_ydnVgqWMXUbu7RnZ2dnUVZ_q-dnZ2d@giganews.com>
Source record: 7873

"Gary" <jgboyles@aol.com> wrote in message
news:ec6847aa-9899-4121-92e0-64082c010428@j8g2000yqd.googlegroups.com...
On Aug 23, 4:53 pm, "Peter O. Brackett" <n...@no-such-domain.nul>
wrote:
> Roy:
>
> Thanks for your input on the effects of interference from other
> transmitters, especially BC transmitters, point well taken.
>
> I suppose one might add some kind of carefully designed passive filtering
> to
> the devices to 'notch' out offending BC stations, etc...
>
> But... that would be messy and complicated.
>
> Using a bridge with a tuned detector seems a much better approach. I do
> have an old MFJ Rx resistance bridge at hand, but I was looking for a
> little
> bit better accuracy. I must check e-bay, etc... for prices for a used
> bridge of the GR class you have.
>
> My current problem could likly be solved by using one of my (so-called)
> VSWR
> meters, but I felt I might like to get a little more metrological
> capability
> for a few bucks.
>
> I've never had a vertical antenna before and currently I'm laying out a
> radial field under a new vertical antenna. I just wanted to know when to
> stop laying down radials.
>
> I figure that I just need to measure the input impedance of the antenna
> Zin
> at my frequencies of interest and record the (hopefully decreasing)
> impedance values as I lay down more radials. My assumption is that Zin =
> Zant + Rg. where Zant includes the reactance and radiation resistance of
> the radiator element at my frequency of interest and Rg is the ground
> resistance. Hopefully Rg should decrease as I add raials. I intend to quit
> adding radials when the impedance decrease becomes 'negligible' (In the
> sense of received S units [smile]).
>
> Thanks again!
>
> -- Pete k1po

> -- Indialantic By-the-Sea, FL
>
> "Roy Lewallen" <w...@eznec.com> wrote in message
>
> news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>
>
>
> >I have only one comment which applies to most if not all of the amateur
> >level products, as well as a very high quality HP impedance meter I used
> >years ago.
>
> > I live about 15 miles from hilltops where the local AM, FM, and TV
> > broadcast towers are. The signals from those stations are strong enough
> > to
> > overwhelm the broad bandwidth detection circuitry in the analyzers (and
> > HP
> > vector impedance meter) I've used, resulting in meaningless readings
> > when
> > connected to an antenna. I find that I grab my MFJ antenna analyzer for
> > a
> > host of jobs like measuring a ferrite core impedance, checking the
> > length
> > of a piece of coax, and so forth. But for me it's just about useless for
> > the job of analyzing actual antennas. When I need to measure antenna
> > impedance I dust off an old GR bridge and use a portable receiver for
> > the
> > detector in order to reject the strong ambient signals.
>
> > Of course this isn't a problem for everyone, but it sure is for me and I
> > don't think my situation is unusual for an urban environment. I've had
> > to
> > put common mode chokes on my thermometer thermocouple wire, my light
> > meter
> > connecting wire, scope leads, and even in audio circuitry to keep the RF
> > out. But even one strong local station might be enough to upset a
> > typical
> > antenna analyzer.
>
> > Roy Lewallen, W7EL
>
> > On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
> >> Antenna Newsgroup Denizens:
>
> >> Apart from the professional 'lab grade' (and undoubtedly very
> >> expensive)
> >> devices made by the likes of Agilent, there are on the amateur market
> >> several antenna analyzers that are more reasonably priced.
>
> >> I'm currently considering the purchase of such a device, and so...

>
> >> I'm interested in hearing opinions, pro-con arguments, and/or receiving
> >> pointers to reviews of such devices.
>
> >> All thoughts and comments will be appreciated, unbiased or not.
>
> >> Thanks!
>
> >> -- Pete k1po
> >> -- Indialantic By-the-Sea, FL- Hide quoted text -
>
> - Show quoted text -

Hi Pete, If you are evaluating a radial field for a vertical, then the value you should be shooting for is 30-35 ohms, with no reactance. As you know this is 1/2 the impedance of a 1/2 wave dipole-70 ohms in free space. I have never done this, but an impedance below 40 ohms with little reactance should provide you with an efficient vertical. Once you get around this value, I guess there is nothing to be gained by adding more radials. What your analyzer tells you, as others have mentioned, depends on the rf in the area.

Gary N4AST

My experience with the MFJ-269 agrees with Roy's -- fine for bench top measurements but nearly useless for antenna checks if you're close to high-powered broadcasters. (I'm even closer than he is!)

I have been thinking of an antenna impedance measurement setup using a HF bridge of some kind, driven by a high-level generator to swamp out the ambient junk. My 100 wattHF rig followed by a power attenuator (say, 10db?) would serve to drive the bridge, I would guess.

Anybody have some thoughts on this approach - pro or con? What kind of bridge would be good?

Larry Coyle, K1QW

3574. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 16:53:18 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8dibl8F18oU1@mid.individual.net>
Source record: 7874
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

Petros ...

I posted some information on your VEMSA3D on Antennex's discussion group, but your email bounced. May I have a correct email for you, please? PM me if you'd like.

Bill Miller
kt4yeatyahoo.com

3575. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 17:59:45 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i511alcak1@news.eternal-september.org>
Source record: 7875
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 8/24/2010 1:05 AM, pez@grnet.gr wrote:

>> ...
> Dear JS,
>
> Thank you for pointed out this issue too!
>
> As I already said, VEMSA3D is open source code, which is
> distributed as free-libre; not free-gratis. Therefore, we
> keep the right to publish full-comments about our source
> code sometime in the future, as everybody else of course.
> Please, see GNU GPL 3.0:
> http://www.gnu.org/licenses/gpl.html
>
> Free-gratis is the MS Windows application VEMSA3D, which
> *everyone* can enjoy the production of it by simply following
> the fully-commented instructions we already gave at the third
> page, right column, of our paper:
> http://arxiv.org/abs/1006.0031
>
> Best regards,
>
> pez, SV7BAX
>

Again, I would never look a gift horse in the mouth ... I don't find the lack of comments an surmountable problem. If you have a basic understanding of the concepts which a piece of software source deals with, it is relatively easy to locate them and comment/document them yourself. For example, when looking in software for routines and statements dealing with a circle, you would simple search for constructs dealing with area, circumference, diameter, etc. It is just a logical progression to look for those dealing with the implementation of the moment method. NEC source used in conjunction with these efforts makes it a tolerable exercise in reverse engineering the task ...

I see nothing wrong with expecting someone to do a bit of work to get something for "free", LOL.

Regards,
JS

3576. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 19:03:26 UTC
From: Bruce in alaska <fast@btpost.net>
Message-ID: <fast-B89B62.11032324082010@unknown.hwng.net>
Source record: 7876

In article <Y_ydnVgqWMXUbu7RnZ2dnUVZ_q-dnZ2d@giganews.com>,
"Larry Coyle" <lmcoyle1@verizon.net> wrote:

> My experience with the MFJ-269 agrees with Roy's -- fine for bench top
> measurements but nearly useless for antenna checks if you're close to
> high-powered broadcasters. (I'm even closer than he is!)
>
> I have been thinking of an antenna impedance measurement setup using a
> HF bridge of some kind, driven by a high-level generator to swamp out
> the ambient junk. My 100 wattHF rig followed by a power attenuator
> (say, 10db?) would serve to drive the bridge, I would guess.
>
> Anybody have some thoughts on this approach - pro or con? What kind of
> bridge would be good?
>
> Larry Coyle, K1QW

The price you pay for living on a Hilltop.... Good for you and every
other RF source......

--
Bruce in alaska
add <path> after <fast> to reply

3577. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 20:20:44 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i519j0$29e$1@news.eternal-september.org>
Source record: 7877

On 8/16/2010 7:10 PM, Noskosteve wrote:
>
>
> I have some professional Fischer current probes (clamp-on current
> transformers).
>
> For a simple dipole, balun, 50 ohm coax feed system...
> It seems to be that I can simply clamp one on the rig side of the
> balun, and see how much current is flowing and compare it to antenna
> current. I can clamp it on either, or each antenna leg near the feed
> point to measure antenna current.
>
> It'd also be interesting to probe several points along the feed line.
>
> Anyone see anythhing wrong with this reasoning?
>
> 73, Steve
> PLEASE also respond via email
> K9DCI @ arrl dot net

You could just pass the coax though a suitable toroid. This toroid having a few turns of wire, rectification (diode) and some type of readout. This could easily be slid along the length of the coax and "relative measurements" taken. You could probably add some calculations and with the proper choice of components, actually get "real" readings. A simple turn of non-shorted coax around the inside circumference of the toroid, plus windings, would provide a measure of capacitance decoupling. I am sure, someone, somewhere has already done this and would have some meaningful data what is possible or what might be expected ... if nothing else, a "poor mans' indicator."

Regards,
JS

3578. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 20:23:24 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i519nv$29e$2@news.eternal-september.org>
Source record: 7878

On 8/24/2010 1:20 PM, John Smith wrote:
> A simple turn of non-shorted coax around the inside circumference of the
> toroid,

should have read, "A simple turn of non-shorted copper foil around the
inside circumference of the toroid,"

I know, do error checking before posting ... yeah, get right on that ...

Regards,
JS

3579. Art Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 22:16:25 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <179e9c0d-52c7-4e92-b58e-3e9e754e4152@j8g2000yqd.googlegroups.com>
Source record: 7879

Does anyone know the reason why Mr Unwin has not posted anything on
this NG in quite a while...?

3580. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-24 23:56:57 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <33005c32-574e-47c6-9d5f-3ef37fb782dd@q22g2000yqm.googlegroups.com>
Source record: 7880

On Aug 23, 8:09 pm, Roy Lewallen <w...@eznec.com> wrote:
> On 8/23/2010 5:38 PM, Gary wrote:
>
>
>
> > Hi Pete, If you are evaluating a radial field for a vertical, then
> > the value you should be shooting for is 30-35 ohms, with no
> > reactance. As you know this is 1/2 the impedance of a 1/2 wave
> > dipole-70 ohms in free space. I have never done this, but an
> > impedance below 40 ohms with little reactance should provide you with
> > an efficient vertical. Once you get around this value, I guess there
> > is nothing to be gained by adding more radials. What your analyzer
> > tells you, as others have mentioned, depends on the rf in the area.
>
> > Gary N4AST
>
> The actual value you get when the radial system loss is minimal depends
> on a number of factors, including the height and diameter of the
> vertical. I've also seen convergence to other resistance values when the
> ground was dry on the surface but apparently wet at some depth below. In
> that case, radial current can be significant at quite a distance from
> the antenna (as opposed to the exponential-looking decay you see in the
> current on radials buried in moist ground), making the system act more
> like a system of elevated radials. In those systems, radial length also
> plays a role in determining the feedpoint resistance value.
>
> The bottom line is that I don't trust a single value or its comparison
> to 36 or 40 ohms as being a reliable indication of efficiency. You
> either need to look for convergence of the feedpoint resistance as Peter
> proposed, or even better yet, look for convergence of field strength
> values at a fixed location as you increase the number of radials.
>
> Roy Lewallen, W7EL

Hi Roy, I agree that field strength would be the best indicator of
efficiency as additional radials are laid down. However, for the
average Joe Ham trying to figure out how many radials is enough, and
all he has is an antenna anlyzer, what do you recommend?

Seems to me, with a 1/4 wave vertical of diameter large enough to
minimize I^2*R losses over average ground, if you add enough radials
to get the impedance to 35+/-j0 ohms as measured by the antenna
analyzer, you should be good to go. An additional check with the
analyzer could be the SWR bandwidth. If the swr was 1.7 across a
broad range then the 35 ohms is all ground losses. If the 1.7 swr

bandwidth is very narrow then you have a high Q antenna, and very efficient at the operating frequency. Does this make sense?

Gary N4AST

3581. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 07:44:25 UTC
From: pez@grnet.gr
Message-ID: <i52hl7$7cf$1@speranza.aioe.org>
Source record: 7881
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
| "Bill Miller" <kt4ye@yahoo.com> wrote in message
| news:8dibl8F18oU1@mid.individual.net...
|
| Petros ...
|
| I posted some information on your VEMSA3D on Antennex's
| discussion group, but your email bounced. May I have a correct
| email for you, please? PM me if you'd like.
|
| Bill Miller
| kt4yeatyahoo.com

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Bill,

Yes, indeed! I just saw your appreciative message for vemsa3d
along with the comments of other [Antenna-discussion] list
members, just a little before, when I unsubscribed from that
list:

-
| Sent...: Wednesday, August 25, 2010 8:43 AM
| Subject: You have been unsubscribed from the Antenna-discussion
| : mailing list
| To.....: ...-at-gmail.com
| From...: antenna-discussion-bounces@antennex.com
|

| Thanks for your stay with us!
|
| Regards, Listmgr
-

as well as of that one founded by ever memorable Cebik:

-
| Sent...: Wednesday, August 25, 2010 8:50 AM
| Subject: You have been unsubscribed from the Cebiksite
| mailing list
| To.....: ...-at-gmail.com
| From...: cebiksite-bounces-at-cebik.com
-

As of this email address, unfortunately, I have to use it in
USENET against e-mail robot-reapers. I already sent you this
```

e-mail from my real e-mail address too.

Thank you very much,

Petros Zimourtopoulos

3582. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 07:58:46 UTC
From: pez@grnet.gr
Message-ID: <i52ig5$lr3$1@news.grnet.gr>
Source record: 7882
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
| <pez@grnet.gr> wrote in message news:i4vuh3$qfb$1@news.grnet.gr...
| ...
| Free-gratis is the MS Windows application VEMSA3D, which
| *everyone* can enjoy the production of it by simply following
| the fully-commented instructions we already gave at the third
| page, right column, of our paper:
| http://arxiv.org/abs/1006.0031
| ...

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

A clarification is needed here: This is version 1.0 info,
which has to be seen in parallell with that of file
[install.txt] included in version 1.1 zip at:
http://code.google.com/p/rga/downloads/list

pez, SV7BAX
```

3583. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 09:18:32 UTC
From: pez@grnet.gr
Message-ID: <i52n5v$q49$1@news.grnet.gr>
Source record: 7883
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
| "John Smith" <assemblywizard@gmail.com> wrote in message
| news:i511al$cak$1@news.eternal-september.org...
| ...
| Again, I would never look a gift horse in the mouth ... I don't
| find the lack of comments an surmountable problem. If you have
| a basic understanding of the concepts which a piece of software
| source deals with, it is relatively easy to locate them and
| comment/document them yourself. For example, when looking in
| software for routines and statements dealing with a circle, you
| would simple search for constructs dealing with area,
| circumference, diameter, etc. It is just a logical progression
| to look for those dealing with the implementation of the
| moment method. NEC source used in conjunction with these
| efforts makes it a tolerable exercise in reverse engineering
| the task ...
|
| I see nothing wrong with expecting someone to do a bit of work
| to get something for "free", LOL.
|
| Regards,
| JS

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

That's right! Since -as you already said- there are various
aspects of "free". Therefore, there is no field of application
of term 'reverse engineering' especially under the licenses
'Free Libre Source Code' and 'Public Domain Source Code',
since there is nothing there to disassembly it.

Moreover, under these licenses, ethics impose to give in return
at least as much as you get. This is especially holds in VEMSA3D
case, in which we get the Source Code included in J.H.Richmond's
report:

"Computer program for thin-wire structures in a homogeneous
conducting medium"

or just

"Computer program for thin-wire structures"

from NASA Technical Reports Server at:
http://ntrs.nasa.gov/search.jsp

in the way already described in message:
```

| Sent.....: Tuesday, August 24, 2010 8:59 AM
| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator
| : for 3d antennas
| Newsgroups: sci.physics.electromag,rec.radio.amateur.antenna
| From.....: <pez@grnet.gr>

Well, this source code has 1,044 lines of code, in 16 routines:

(1,044 = 100 + 61 + 158 + 36 + 9 + 98 + 120 + 104 + 40 + 64 +
+ 45 + 22 + 22 + 40 + 87 + 38)

and in return, we give for now:

* only 3 comment lines less than *

those exist among these 1,044 lines -as one can easily find
them in SGANT routine, at page 22, of the aforementioned
report.

Best regards,

pez, SV7BAX

3584. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 13:26:31 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i535m8$ds4k$1@tr22n12.aset.psu.edu>
Source record: 7884

Peter O. Brackett wrote:
> Danny:
>
> Hey thanks! I read your reference. Nice piece of work!
>
> I guess I didn 't realize just how big those BC RF signals on the
> antenna element would actually be.
> And for that matter, how little front end selectivity the analog inputs
> of those amateur antenna analyzers contain. None!

It's a matter of how much you want to pay. If you want highly selective over the frequency range we generally use, you have to be prepared to pay and pay well.

> Hmmm... the amateur antenna analyzer sales literature I read don't
> mention this problem at all. The ads all 'brag' on the 'super features'
> of the devices. [smile]

> I presume there must be more than a few dissappointed antenna analyzer
> purchasers who find this fact out the hard way.

Could be. As for Amateur use, there are lots of options. There's even a bare bones MFJ SWR tester that will be fine for 90 percent of what most of us want to do. Most amateurs just want a low SWR so their rigs don't fold back on power - for good or bad, that is the case.

- 73 de Mike N3LI -

3585. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 13:55:27 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i537cl$53t$1@news.eternal-september.org>
Source record: 7885
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 8/25/2010 2:18 AM, pez@grnet.gr wrote:

> ...
> That's right! Since -as you already said- there are various
> aspects of "free". Therefore, there is no field of application
> of term 'reverse engineering' especially under the licenses
> 'Free Libre Source Code' and 'Public Domain Source Code',
> since there is nothing there to disassembly it.
>
> Moreover, under these licenses, ethics impose to give in return
> at least as much as you get. This is especially holds in VEMSA3D
> case, in which we get the Source Code included in J.H.Richmond's
> report:
>
> "Computer program for thin-wire structures in a homogeneous
> conducting medium"
>
> or just
>
> "Computer program for thin-wire structures"
>
> from NASA Technical Reports Server at:
> http://ntrs.nasa.gov/search.jsp
>
> in the way already described in message:
> Best regards,
>...
> pez, SV7BAX

Yes. Well, "reverse engineering", apparently, has many different meanings to many different people, as "free", also. However, all reverse engineering, done by engineers, does not involve a disassembler. Physical devices and concepts lend themselves well to reverse engineering, also.

I certainly have no interests in implementing any of this in a business/financial interest. And, since amateur radio itself demands the concept of "giving back"; It is a well known tradition. I see no conflicts with my directions, uses and interests.

NASA's contribution has already been paid for. NASA is the beneficiary of public funds ... I am sure the taxpayers say, "Thank you NASA;" I know I do.

Regards,
JS

3586. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 14:32:04 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i539hb$ej8$1@news.eternal-september.org>
Source record: 7886

On 8/16/2010 7:10 PM, Noskosteve wrote:

> ...
> It'd also be interesting to probe several points along the feed line.
>
> Anyone see anythhing wrong with this reasoning?
>
> 73, Steve
> PLEASE also respond via email
> K9DCI @ arrl dot net

I am sure you are already familiar with this, but never hurts to review when working with baluns/ununs:

"The maximum attenuation of a ferrite core is not where the inductance is maximum, but instead is where the magnitude of the impedance is maximum. This impedance peak may even be where the impedance has no inductive component nor capacitive component i.e. at resonance.

The frequencies that you are trying to attenuate determine the core that you should use."

One mans' experience and experiments here:
http://www.eham.net/articles/16319

Regards,
JS

3587. Re: Art Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 15:07:02 UTC
From: Steve Reinhardt <stevereinhardt@noearthspamlink.net>
Message-ID: <skado.30561$EF1.3512@newsfe14.iad>
Source record: 7887

On 8/24/2010 6:16 PM, Richard Fry wrote:
> Does anyone know the reason why Mr Unwin has not posted anything on
> this NG in quite a while...?
You correctly entered him in your killfile? Worked for me!

Steve
W1KF

3588. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 15:19:09 UTC
From: pstox <pstox.6baf688@radiobanter.com>
Message-ID: <pstox.6baf688@radiobanter.com>
Source record: 7888

As others have noted, it really is almost a case of you get what you pay for with antenna analyzers. Lesser models are prone to interference especially around high power installations and will give you only pieces of information you may need. One of my personal favorites is the TE-1000 'impedance analyzer' (http://www.lbagroup.com/technology/te1000-impedance-analyzer.php) made by TOMCO which measures pretty much everything you could hope for and has a high amount of protection from interference. I know several AM and even television broadcast guys that use this around towers without issues.

--
pstox

3589. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 16:40:27 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i53h1smdq1@news.jpl.nasa.gov>
Source record: 7890

Larry Coyle wrote:

> I have been thinking of an antenna impedance measurement setup using a
> HF bridge of some kind, driven by a high-level generator to swamp out
> the ambient junk. My 100 wattHF rig followed by a power attenuator
> (say, 10db?) would serve to drive the bridge, I would guess.
>
> Anybody have some thoughts on this approach - pro or con? What kind of
> bridge would be good?
>
>
You've got two basic approaches to dealing with strong interference:
1) Make the signal you're measuring huge, so the interference is small..
any detector works
2) Use a tuned narrow band detector.

I would think you could use a simple resistive bridge with option #1,
although the tricky part is getting phase measurements. The current
crop of PC based VNAs and the like rely on having a handy quadradure
source. You could probably use a TAPR VNA, with a linear amplifier on
the Tx port and pads on the Rx port, after calibrating out the amp/pads.

A narrow band detector would be easier. This is sort of how the "noise
bridge" schemes work.. they use your HF receiver as the narrow band
detector. Again, almost any bridge would work for scalar (non-phase)
measurements.

Another approach is the old "three voltmeter meter" technique, which is
essentially a broadband detector and half a bridge, and lends itself to
high power.

The real challenge isn't in making the measurement, but in automating it
so that you can do a "sweep" conveniently. For spot measurements,
almost anything works well enough, but if you want to make 100
measurements it gets real tedious.

3590. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 16:47:31 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i53hf3tjm1@news.jpl.nasa.gov>
Source record: 7889

pez@grnet.gr wrote:
> Please, note that I experimentally confirmed -once again- that
> NASA does not infinitely support direct linking to its
> Technical Reports Server (NTRS) contents. Therefore, the link
> given in article:
> -
> | Sent.....: Thursday, August 19, 2010 7:32 PM
> | Newsgroups: sci.physics.electromag,rec.radio.amateur.antenna
> | Subject...: Re: vemsa3d 1.1 - a floss visual em simulator for
> | 3d antennas
> | From.....: pez@grnet.gr
> |
> | ...
> | J. H. Richmond, Radiation and Scattering by Thin-Wire
> | Structures in the Complex Frequency Domain, (15), p.6
> | http://tinyurl.com/24zwycy
> | ...
> -
> is not a valid one anymore. One has to firstly connect to
> NTRS:
> http://ntrs.nasa.gov/search.jsp
>

I think the tinyurl got screwed up.. the url it maps to is a search
request, not the actual direct link to the document.
(http://ntrs.nasa.gov/search.jsp?R=875847&id=1&as=false&or=true&...
qs=Ntt%3DRadiation%2Band%2Bscattering%2Bby%2Bthin-wire%2Bstructures%26...
Ntk%3Dall%26Ntx%3Dmode%2Bmatchall%26Ns%3DHarvestDate%257c1%26N%3D0)

'
I would think that using the link by the the handle will remain fixed:
http://hdl.handle.net/2060/19740013743

but it's always useful to keep track of the NASA document number (that
won't change).. NASA-CR-2396 or TR-2902-10 and hopefully you can always
search on that, if the handle dies for some reason.

3591. Re: Art Unwin

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-25 22:31:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e854b0a3-6b8b-4e50-8dcd-1772fe78961b@q1g2000yqg.googlegroups.com>
Source record: 7891

On Aug 24, 10:16 pm, Richard Fry <r...@adams.net> wrote:
> Does anyone know the reason why Mr Unwin has not posted anything on
> this NG in quite a while...?

they finally got his meds dosed right?

3592. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-26 07:10:30 UTC
From: pez@grnet.gr
Message-ID: <i5541irus1@news.grnet.gr>
Source record: 7892

```
| "Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
| news:i53hf3$tjm$1@news.jpl.nasa.gov...
| pez@grnet.gr wrote:
|> Please, note that I experimentally confirmed -once again- that
|> NASA does not infinitely support direct linking to its
|> Technical Reports Server (NTRS) contents. Therefore, the link
|> given in article:
|> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|>| Sent......: Thursday, August 19, 2010 7:32 PM
|>| Newsgroups: sci.physics.electromag,rec.radio.amateur.antenna
|>| Subject...: Re: vemsa3d 1.1 - a floss visual em simulator for
|>| 3d antennas
|>| From......: pez@grnet.gr
|>|
|>| ...
|>| J. H. Richmond, Radiation and Scattering by Thin-Wire
|>| Structures in the Complex Frequency Domain, (15), p.6
|>| http://tinyurl.com/24zwycy
|>| ...
|> - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|> is not a valid one anymore. One has to firstly connect to
|> NTRS:
|> http://ntrs.nasa.gov/search.jsp
|>
|
| I think the tinyurl got screwed up.. the url it maps to is a search
| request, not the actual direct link to the document.
| (http://ntrs.nasa.gov/search.jsp?R=875847&id=1&as=false&or=true&...
| qs=Ntt%3DRadiation%2Band%2Bscattering%2Bby%2Bthin-wire%2Bstructures%26...
| Ntk%3Dall%26Ntx%3Dmode%2Bmatchall%26Ns%3DHarvestDate%257c1%26N%3D0)
|
| '
| I would think that using the link by the the handle will remain fixed:
| http://hdl.handle.net/2060/19740013743
|
| but it's always useful to keep track of the NASA document number (that
| won't change).. NASA-CR-2396 or TR-2902-10 and hopefully you can always
| search on that, if the handle dies for some reason.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Thank you very much to correct me on this issue!

I did know the DocID existence but I did not realise,
until now, how it can be proved helpful. From the URL
```

you gave us for Richmond's report:

| http://hdl.handle.net/2060/19740013743

I found that 'hdl.handle.net' is a 'Handle Server', and
from NTRS item for this paper, I see that 19740013743 is
its DocID. In this way, and by experimentally replacing
this DOcID with '19890004330', I got the report titled
"Radiation and scattering ...". May now I think that
'2060' is some kind of ID in this Handle System for NTRS?
Where can I find more such IDs? Would you please advise me
more on this interesting subject?

3593. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-26 10:38:22 UTC
From: KBa <kba@nic.fi>
Message-ID: <%wrdo.14863$136.13848@uutiset.elisa.fi>
Source record: 7893

On 16.06.2010 20:24, R.Scott wrote:
> I see all kinds of crazy matching sections in posts about 6 meter
> beams. How about direct connect. I have an A4S that has major issues
> in the traps and I cant find the problem (IE I opened them and cant
> find anything) SOOO I have a new A4S coming.
>
> Has anyone taken an old 3 elem tribander and converted it to 6 meter
> monobander using the direct connect.
>
> Any Issues.
>
> Would a 4 elem be better since its a long boom ?
>
> I'm pretty sure I know the answers. Just want to confirm and see if
> there is any reason not to direct connect rather than through a
> hairpin or a gamma match.
>
>
> Scotty W7PSK

Hi

Probably my comments are bit late... but OWA yagi's use direct feed to
driven element with a ferrite balun near the feedpoint.
OWA's give good impedance match in large bandwidth, this is based on
nearer driven element-first director spacing.
Otherwise gain, F/B etc. are very good.
I have constructed one 6m OWA yagi, with 20 ft boom as it was available,
using 7 elements in it, and finally with good match below
S 1.2 between 50...51 MHz.
Nothing critical in it, element dimensions were taken from NW3Z & WA3FET
article in OWA yagis, their 21MHz desing was re-scaled to 50MHz.
At least waterproofing is less critical in direct feed.

73's Kari

3594. Re: Antenna analyzers, opinions please...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-26 16:59:19 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <vl6d76p1a2bp1u6peq24mgplptc53ud6hl@4ax.com>
Source record: 7894

On Tue, 24 Aug 2010 11:25:08 -0400, "Peter O. Brackett"
<none@no-such-domain.nul> wrote:

>Danny:
>
>Hey thanks! I read your reference. Nice piece of work!
>
>I guess I didn 't realize just how big those BC RF signals on the antenna
>element would actually be.
>And for that matter, how little front end selectivity the analog inputs of
>those amateur antenna analyzers contain. None!
>
>Hmmm... the amateur antenna analyzer sales literature I read don't mention
>this problem at all. The ads all 'brag' on the 'super features' of the
>devices. [smile]

Actually, my MFJ catalog page for their antenna analyzers shows an
accessory, the mfj-731 "tunable analyzer filter." It's made for
operating an antenna analyzer in "presence of strong rf fields."

Personally, I have no experience with the filter -- my mfj-269 seems
to work okay, even with a 50-kw KTSA about a mile and a half away on
550 khz.

bob
k5qwg

>
>I presume there must be more than a few dissappointed antenna analyzer
>purchasers who find this fact out the hard way.
>
>Thanks again for the great reference.
>
>-- Pete k1po
>-- Indialantic By-the-Sea, FL
>
>
>"Danny" <dwr@k6mhe.com> wrote in message news:i4vakm0jk@news1.newsguy.com...
>> I've been pretty satisfied with the AIM 4170. Check this out.
>>
>> http://arraysolutions.com/images/Tuning_160m_Vertical.pdf
>>
>> 73,
>> Danny, K6MHE
>>
>> On Mon, 23 Aug 2010 17:53:33 -0400, Peter O. Brackett wrote:

>>
>>> Roy:
>>>
>>> Thanks for your input on the effects of interference from other
>>> transmitters, especially BC transmitters, point well taken.
>>>
>>> I suppose one might add some kind of carefully designed passive
>>> filtering to the devices to 'notch' out offending BC stations, etc...
>>>
>>> But... that would be messy and complicated.
>>>
>>> Using a bridge with a tuned detector seems a much better approach. I do
>>> have an old MFJ Rx resistance bridge at hand, but I was looking for a
>>> little bit better accuracy. I must check e-bay, etc... for prices for a
>>> used bridge of the GR class you have.
>>>
>>> My current problem could likly be solved by using one of my (so-called)
>>> VSWR meters, but I felt I might like to get a little more metrological
>>> capability for a few bucks.
>>>
>>> I've never had a vertical antenna before and currently I'm laying out a
>>> radial field under a new vertical antenna. I just wanted to know when
>>> to stop laying down radials.
>>>
>>> I figure that I just need to measure the input impedance of the antenna
>>> Zin at my frequencies of interest and record the (hopefully decreasing)
>>> impedance values as I lay down more radials. My assumption is that Zin
>>> = Zant + Rg. where Zant includes the reactance and radiation resistance
>>> of the radiator element at my frequency of interest and Rg is the ground
>>> resistance. Hopefully Rg should decrease as I add raials. I intend to
>>> quit adding radials when the impedance decrease becomes 'negligible' (
>>> In the sense of received S units [smile]).
>>>
>>> Thanks again!
>>>
>>> -- Pete k1po
>>> -- Indialantic By-the-Sea, FL
>>>
>>>
>>> "Roy Lewallen" <w7el@eznec.com> wrote in message
>>> news:X5mdnXbAaLNuW-_RnZ2dnUVZ_vKdnZ2d@giganews.com...
>>>>I have only one comment which applies to most if not all of the amateur
>>>>level products, as well as a very high quality HP impedance meter I used
>>>>years ago.
>>>>
>>>> I live about 15 miles from hilltops where the local AM, FM, and TV
>>>> broadcast towers are. The signals from those stations are strong enough
>>>> to overwhelm the broad bandwidth detection circuitry in the analyzers
>>>> (and HP vector impedance meter) I've used, resulting in meaningless
>>>> readings when connected to an antenna. I find that I grab my MFJ

>>>> antenna analyzer for a host of jobs like measuring a ferrite core
>>>> impedance, checking the length of a piece of coax, and so forth. But
>>>> for me it's just about useless for the job of analyzing actual
>>>> antennas. When I need to measure antenna impedance I dust off an old GR
>>>> bridge and use a portable receiver for the detector in order to reject
>>>> the strong ambient signals.
>>>>
>>>> Of course this isn't a problem for everyone, but it sure is for me and
>>>> I don't think my situation is unusual for an urban environment. I've
>>>> had to put common mode chokes on my thermometer thermocouple wire, my
>>>> light meter connecting wire, scope leads, and even in audio circuitry
>>>> to keep the RF out. But even one strong local station might be enough
>>>> to upset a typical antenna analyzer.
>>>>
>>>> Roy Lewallen, W7EL
>>>>
>>>> On 8/23/2010 11:15 AM, Peter O. Brackett wrote:
>>>>> Antenna Newsgroup Denizens:
>>>>>
>>>>> Apart from the professional 'lab grade' (and undoubtedly very
>>>>> expensive) devices made by the likes of Agilent, there are on the
>>>>> amateur market several antenna analyzers that are more reasonably
>>>>> priced.
>>>>>
>>>>> I'm currently considering the purchase of such a device, and so...
>>>>>
>>>>> I'm interested in hearing opinions, pro-con arguments, and/or
>>>>> receiving pointers to reviews of such devices.
>>>>>
>>>>> All thoughts and comments will be appreciated, unbiased or not.
>>>>>
>>>>> Thanks!
>>>>>
>>>>> -- Pete k1po
>>>>> -- Indialantic By-the-Sea, FL
>>

3595. Re: Direct connect 6 meter beam

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-26 18:35:57 UTC
From: Roger <Invalid@rogerhalstead.com>
Message-ID: <m5cd76lnlr580tj6cfpipr2ofh37t5vhsm@4ax.com>
Source record: 7895

On Thu, 26 Aug 2010 13:38:22 +0300, KBa <kba@nic.fi> wrote:

>On 16.06.2010 20:24, R.Scott wrote:
>> I see all kinds of crazy matching sections in posts about 6 meter
>> beams. How about direct connect.

Direct connect is used in a number of tribanders, but AFAIK it's not used in larger than 3L beams due to the low impedance. It can also distort the pattern, but with a 3L I doubt you'd notice. Just put 3 or 4 2.4", #32 mix toroids with 4 or 5 turns of feed line through them. It'll give the isolation and balance needed as long as the impedance at the feed point is correct.

>> I have an A4S that has major issues
>> in the traps and I cant find the problem (IE I opened them and cant

Problems in traps can be difficult to find. I had an ATB34 that appeared to have a trap problem but it turned out to be the feed line to driven element connection. They use 1/4-20 SS bolts through the insulators. The bolts simply press on the element inside the insulator. One was making a poor connection even though it felt tight. Taking it apart and cleaning the ends of the bolts and polishing the ends of the driven element where the bolts rested fixed it even though I could see nothing wrong at the time.

>> find anything) SOOO I have a new A4S coming.
>>
>> Has anyone taken an old 3 elem tribander and converted it to 6 meter
>> monobander using the direct connect.
>>
>> Any Issues.

Spacing is generally far more than a little too wide.

>>
>> Would a 4 elem be better since its a long boom ?

Long boom? Tribanders come in a wide variety of lengths. If it's the typical 19 or 20', you are probably looking at around 5 elements.

Use one of the modeling programs, or get some to run it for you.

>>
>> I'm pretty sure I know the answers. Just want to confirm and see if
>> there is any reason not to direct connect rather than through a
>> hairpin or a gamma match.

There's really nothing particularly complicated about a hairpin or
gamma match. There are probably lots of designs that could be copied.

>>
>>
>> Scotty W7PSK
>
>Hi
>
>Probably my comments are bit late... but OWA yagi's use direct feed to
>driven element with a ferrite balun near the feedpoint.
>OWA's give good impedance match in large bandwidth, this is based on
>nearer driven element-first director spacing.
>Otherwise gain, F/B etc. are very good.
>I have constructed one 6m OWA yagi, with 20 ft boom as it was available,
>using 7 elements in it, and finally with good match below

That's enough elements for a 30 foot boom.

>S 1.2 between 50...51 MHz.
>Nothing critical in it, element dimensions were taken from NW3Z & WA3FET
>article in OWA yagis, their 21MHz desing was re-scaled to 50MHz.
>At least waterproofing is less critical in direct feed.

Water proofing the coax is very important, particularly when you get
to 50 MHz.

73

Roger (K8RI)

>
>73's Kari
>

3596. Re: vemsa3d 1.1 - a floss visual em simulator for 3d antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 07:42:25 UTC
From: pez@grnet.gr
Message-ID: <i57q9f$794$1@news.grnet.gr>
Source record: 7896

```
| <pez@grnet.gr> wrote in message news:i5541i$rus$1@news.grnet.gr...
|| "Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
|| ...
|| news:i53hf3$tjm$1@news.jpl.nasa.gov...
|| I think the tinyurl got screwed up.. the url it maps to is a search
|| request, not the actual direct link to the document.
|| (http://ntrs.nasa.gov/search.jsp?R=875847&id=1&as=false&or=true&...
|| qs=Ntt%3DRadiation%2Band%2Bscattering%2Bby%2Bthin-wire%2Bstructures%26...
|| Ntk%3Dall%26Ntx%3Dmode%2Bmatchall%26Ns%3DHarvestDate%257c1%26N%3D0)
||
|| '
|| I would think that using the link by the the handle will remain fixed:
|| http://hdl.handle.net/2060/19740013743
||
|| but it's always useful to keep track of the NASA document number (that
|| won't change).. NASA-CR-2396 or TR-2902-10 and hopefully you can always
|| search on that, if the handle dies for some reason.
|
| - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
|
| Thank you very much to correct me on this issue!
|
| I did know the DocID existence but I did not realise,
| until now, how it can be proved helpful. From the URL
| you gave us for Richmond's report:
|
|| http://hdl.handle.net/2060/19740013743
|
| I found that 'hdl.handle.net' is a 'Handle Server', and
| from NTRS item for this paper, I see that 19740013743 is
| its DocID. In this way, and by experimentally replacing
| this DOcID with '19890004330', I got the report titled
| "Radiation and scattering ...". May now I think that
| '2060' is some kind of ID in this Handle System for NTRS?
| Where can I find more such IDs? Would you please advise me
| more on this interesting subject?

It seems that this is a somehow complicated matter...

Well, there is a basic FAQ here:
http://www.handle.net/faq.html
http://www.handle.net/overviews/handle-syntax.html

where I found that in the referenced by Jim Lux:
```

| http://hdl.handle.net/2060/19740013743

or in:

http://dx.doi.org/2060/19740013743

the couple of numbers '2060/19740013743' forms indeed
a unique 'handle' of which the two parts (numbers)
are known as:

<Handle Prefix>/<Handle Suffix>

or as

'unique naming authority'
/
'unique local name under this naming authority'.

Anyway, after I found
'The Internet Engineering Task Force (IETF)', of which:
'The goal of the IETF is to make the Internet work better':
http://www.ietf.org/

it made clearer that there is a registration procedure of
'naming authorities', as well as and this is definitely
a work which currently in progress, since on July 12, 2010,
the registered Name Assigning Authority Numbers (NAAN)
are only 54:
http://www.cdlib.org/services/uc3/naan_table.html

while among of them there is no NAAN for NASA or NTRS.

Anyway, this is really a very helpful reference system
for the Internet, but only *after* someone have search and
find the document which looked for, along with its unique
handle, of course.

Once again, thank you very much Mr. Lux for pointing out
this very interesting issue!

3597. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 09:48:10 UTC
From: Ian Wade G3NRW <g3nrw@yahoo.co.uk>
Message-ID: <$n4gryHan4dMFwGa@ntlworld.com>
Source record: 7897

From: John Smith <assemblywizard@gmail.com>
Date: Tue, 24 Aug 2010 Time: 13:20:44

>You could just pass the coax though a suitable toroid.

Like this:

http://www.ifwtech.co.uk/g3sek/clamp-on/clamp-on.htm

--
73
Ian, G3NRW

3598. Re: Measuring Balun effectiveness

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 15:25:05 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i58lcrufc1@news.eternal-september.org>
Source record: 7898

On 8/27/2010 2:48 AM, Ian Wade G3NRW wrote:
> From: John Smith <assemblywizard@gmail.com>
> Date: Tue, 24 Aug 2010 Time: 13:20:44
>
>> You could just pass the coax though a suitable toroid.
>
> Like this:
>
> http://www.ifwtech.co.uk/g3sek/clamp-on/clamp-on.htm

Just goes to show you, if you can think of it, most likely, someone else has already done it.

I would use a core with no air gap (but, if it was all I had, I'd use one such as the author of the article did.) If you have/like ferrite material, a FT114-43 (FT114-61, FT114-77, etc.) should work. If you like iron a T130-2, T130-6, etc. should work. I simply mention these because the ID would pass over a pl259 with a few turns of thin wire, larger ID toroids should be fine. I would think you can use whatever you have which will fit over the connectors you are using on your coax. Simply wrap the turns on the toroid, pull the connector off the tuner/rig, slip coax through, reconnect coax.

I just happened to have a T200-6 in a drawer here. So, I wrapped a few turns on, slipped it on the coax, ran the secondary through the 50ohm shut, diode/cap, and to a cheap VOM. With ~100w and the coax into a 50ohm dummy load, the reading I get is just reflecting the loss in the coax from the 95% braid I am using, most likely. With the coax from the ant, it appears it would be usable from 40 - 2m (bands limited to my antennas.) This should easily cover 160m to well below 2m. For SHF and EHF you may wish to choose a torid of differing material.

Thank you for finding and posting that article. It was a fun read!

Regards,
JS

3599. Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 15:54:39 UTC
From: Tim Shoppa <tshoppa@gmail.com>
Message-ID: <09d1ef76-c605-4fbd-af9c-2130c4ebb179@e14g2000yqe.googlegroups.com>
Source record: 7899

I've had a really nice 130-foot doublet fed by ladder line hanging between two trees for the past three years.

It's hung using 3/16" black UV-resistant polyester rope in the trees, and has a pulley and a 15-pound counterweight (plastic jug of sand) for tensioning at one end.

It's held up remarkably well over those three years, but I had noticed that the rope while still fundamentally flexible was kinda "hardening".

Where it went through the tree branches there was remarkably little wear over the three years. There was some black fluff where some chafing had occured but it still was holding up nicely.

But I went ahead and replaced all the rope anyway. With the tennis ball cannon I actually got the new rope hung a little bit higher than the old rope.

Just by touch, the new rope feels flexible and supple, and I contrast that with the old rope that isn't exactly "brittle" but does not feel nearly as flexible. The new rope felt kinda like a towel just having been washed and dried; the old rope felt kinda like a towel that had been used to mop the garage floor and then left lying there to dry. Maybe the feel was just grime and dirt that the rope had absorbed over the years?

I fixed a couple of broken ladder line insulators, and inspected the plastic end insulators too. The UV-rated polycarbonate that I had used for the insulators seemed to be holding up fine, although it was no longer crystal clear and had a good amount of grime and haze on it. Certainly didn't feel "brittle" yet.

I did replace the plastic jug of sand that's used as the counterweight. I had painted the jug brown and green to kinda blend in with the trees but even despite the paint layer I was a little worried about the plastic deteriorating there. On a previous antenna I had used a 1 gallon plastic milk container to hold the sand and that didn't even last a year before decaying. I'm using some darkroom container jugs now, with some extra reinforcement rope through the handle on the interior, and they seem to hold up OK.

Is three years a typical "good repair" replacement interval for ropes in trees? I think it probably could've stayed up another 10 to tell you the truth.

Re-hanging the antenna back up after replacing the rope felt so good.
It is beautiful to see it stretching from treetop to treetop one
hundred feet up.

Tim N3QE

3600. Re: Built In Telescopic Antenna In "cheap" sw Portables ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 15:59:21 UTC
From: Tim Shoppa <tshoppa@gmail.com>
Message-ID: <77cebafa-1042-456b-b343-5f63aeec7412@j8g2000yqd.googlegroups.com>
Source record: 7900

On Aug 8, 8:56 am, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> Not an antenna expert, so thought I'd ask here.
> I've gotten some great info. from you folks in the past, which I really
> appreciate.
>
> Will be buying a portable sw receiver for a gift.
>
> Many of them seem to come with a built in telescopic antenna.
> I guess the intent is to use fully extended, and vertically, although
> horiz. use also seems to be doable from the pictures, but would sure be
> awkward in a horiz. position I would think.
>
> How "good" can one receive <30 MHz (and the normal fm broadcast bands)
> using one of these antenna vertically ?
>
> Aren't most sw signals horiz. polarized, or, by the time they actually
> make it here, the polarization has become pretty much randomized ?
>
> Will try with a "lon'wire" of course, but thought I'd ask re how good
> the built in antennas, vert. oriented, are as a general question.
>
> BTW: anyone have any strong opinions on a good $ 250 max table top
> (preferred)or portable sw receiver for a very non-technical person ?
> Would want it to have memories. SSB not necessary.

The front end of many of these portable SW radios is typically "hot"
and has no problem hearing band noise with just the built-in antenna.
That doesn't mean that it's the world's most perfect antenna, it won't
hear nearly as good as something 100 feet up in the air, but it's fine
for the flamethrower SW stations.

But if you attach a longwire... you may find that you have intermod
issues with local AM/FM broadcasters. The front end in most of these
portable SW radios has very little preselection so they're susceptible
especially once you raise the local broadcasters to the level of
hundreds of millivolts. A tuner of some kind will help here.

Tim N3QE

3601. Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 16:10:09 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i58o11$bg5a$1@tr22n12.aset.psu.edu>
Source record: 7801

Afternoon everyone,

I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a bit of an accident last year when we had a big snowstorm, the leaves weighted down the limbs, and the antenna, which was strapped down, still managed to introduce itself to a limb.

Anyhow, the original antenna was mounted using 1 inch thick plexiglass, with holes drilled to run the mast through, and tapped screw holes to mount to the back up plate, in turn mounted to the spare tire holder.

I'm trying to make something a little prettier now that I'm rebuilding it.

But the thing is, I'm curious about the material. Is there any particular material to avoid? I know Plexi works, but what about PVC? Delrin? Bondo? 8^) Miiling, water absorption, etc?

- 73 de Mike N3LI -

3602. Antenna Drivers, the way they were meant to be built!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 16:12:19 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i58o5a$b1k$1@news.eternal-september.org>
Source record: 7802

http://www.om-power.com/om3500hf

Need I say more ...

Regards,
JS

3603. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 16:16:57 UTC
From: Tim Shoppa <tshoppa@gmail.com>
Message-ID: <f8f7057a-20e0-4372-a825-78d002f75b32@j8g2000yqd.googlegroups.com>
Source record: 7803

On Aug 27, 12:10 pm, Michael Coslo <m...@psu.edu> wrote:
> Afternoon everyone,
>
> I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a
> bit of an accident last year when we had a big snowstorm, the leaves
> weighted down the limbs, and the antenna, which was strapped down, still
> managed to introduce itself to a limb.
>
> Anyhow, the original antenna was mounted using 1 inch thick plexiglass,
> with holes drilled to run the mast through, and tapped screw holes to
> mount to the back up plate, in turn mounted to the spare tire holder.
>
> I'm trying to make something a little prettier now that I'm rebuilding it.
>
> But the thing is, I'm curious about the material. Is there any
> particular material to avoid? I know Plexi works, but what about PVC?
> Delrin? Bondo? 8^) Miiling, water absorption, etc?

Polycarbonate, polycarbonate, polycarbonate.

It is way less brittle than plexiglass and far easier to machine and
work with.

It is a little more expensive than plexiglass.

Plexiglass is also know as acrylic. Polycarbonate is also known as
Lexan.

Polycarbonate is truly a wonderful material. I don't care what all
those people complaining about bisphenol-A say, polycarbonate is king.

Tim.

3604. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 16:28:21 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i58p3ffar1@news.eternal-september.org>
Source record: 7804

On 8/27/2010 9:10 AM, Michael Coslo wrote:
> Afternoon everyone,
>
> I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a
> bit of an accident last year when we had a big snowstorm, the leaves
> weighted down the limbs, and the antenna, which was strapped down, still
> managed to introduce itself to a limb.
>
> Anyhow, the original antenna was mounted using 1 inch thick plexiglass,
> with holes drilled to run the mast through, and tapped screw holes to
> mount to the back up plate, in turn mounted to the spare tire holder.
>
> I'm trying to make something a little prettier now that I'm rebuilding it.
>
> But the thing is, I'm curious about the material. Is there any
> particular material to avoid? I know Plexi works, but what about PVC?
> Delrin? Bondo? 8^) Miiling, water absorption, etc?
>
> - 73 de Mike N3LI -
>
>

I have grown fond of nylon/teflon material, problem is, these materials
are difficult to find locally, and are expensive when found. In a
pinch, those plastic kitchen cutting boards are pressed into service
here. The are an opaque material, kind of "translucent white", softer
than plexiglass but hold up well under stress, will bend or warp rather
than break, seem to resist UV well enough, seem to exhibit good
insulation qualities up to VHF at least (highest freqs I have used them
at.) They can be cheaply had at used stores. They are usually 1/2
thick. Perhaps two sheets bonded or fastened together with brass/SS
hardware?

Regards,
JS

3605. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 17:34:13 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i58sul$bg58$1@tr22n12.aset.psu.edu>
Source record: 7805

John Smith wrote:
> On 8/27/2010 9:10 AM, Michael Coslo wrote:
>> Afternoon everyone,
>>
>> I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a
>> bit of an accident last year when we had a big snowstorm, the leaves
>> weighted down the limbs, and the antenna, which was strapped down, still
>> managed to introduce itself to a limb.
>>
>> Anyhow, the original antenna was mounted using 1 inch thick plexiglass,
>> with holes drilled to run the mast through, and tapped screw holes to
>> mount to the back up plate, in turn mounted to the spare tire holder.
>>
>> I'm trying to make something a little prettier now that I'm rebuilding
>> it.
>>
>> But the thing is, I'm curious about the material. Is there any
>> particular material to avoid? I know Plexi works, but what about PVC?
>> Delrin? Bondo? 8^) Miiling, water absorption, etc?
>>
>> - 73 de Mike N3LI -
>>
>>
>
> I have grown fond of nylon/teflon material, problem is, these materials
> are difficult to find locally, and are expensive when found. In a
> pinch, those plastic kitchen cutting boards are pressed into service
> here. The are an opaque material, kind of "translucent white", softer
> than plexiglass but hold up well under stress, will bend or warp rather
> than break, seem to resist UV well enough, seem to exhibit good
> insulation qualities up to VHF at least (highest freqs I have used them
> at.) They can be cheaply had at used stores. They are usually 1/2
> thick. Perhaps two sheets bonded or fastened together with brass/SS
> hardware?

Locally findable is good. I may pick up some and try some machining
experiments. Nylon is certainly tough. Thanks, John.

- - Mike -

3606. Re: Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 17:35:54 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <4ISdo.80436$zE6.40901@en-nntp-03.dc1.easynews.com>
Source record: 7806

My black UV resistant 'antenna rope' has been up 4 years and still feels very much like the 500' left on the spool. All is in our Gulf Coast sunlight except portions from the tree ends down from pulleys to hallard ties. Supports a G5RV 120' wire antenna. A second supports slopers for 40, 80 & 160. They stretch an inch or two between January (35') and August (96').

W5MTV

On 8/27/2010 10:54 AM, Tim Shoppa wrote:
> I've had a really nice 130-foot doublet fed by ladder line hanging
> between two trees for the past three years.
>
> It's hung using 3/16" black UV-resistant polyester rope in the trees,
> and has a pulley and a 15-pound counterweight (plastic jug of sand)
> for tensioning at one end.
>
> It's held up remarkably well over those three years, but I had noticed
> that the rope while still fundamentally flexible was kinda
> "hardening".
>
> Where it went through the tree branches there was remarkably little
> wear over the three years. There was some black fluff where some
> chafing had occured but it still was holding up nicely.
>
> But I went ahead and replaced all the rope anyway. With the tennis
> ball cannon I actually got the new rope hung a little bit higher than
> the old rope.
>
> Just by touch, the new rope feels flexible and supple, and I contrast
> that with the old rope that isn't exactly "brittle" but does not feel
> nearly as flexible. The new rope felt kinda like a towel just having
> been washed and dried; the old rope felt kinda like a towel that had
> been used to mop the garage floor and then left lying there to dry.
> Maybe the feel was just grime and dirt that the rope had absorbed over
> the years?
>
> I fixed a couple of broken ladder line insulators, and inspected the
> plastic end insulators too. The UV-rated polycarbonate that I had used
> for the insulators seemed to be holding up fine, although it was no
> longer crystal clear and had a good amount of grime and haze on it.
> Certainly didn't feel "brittle" yet.
>
> I did replace the plastic jug of sand that's used as the
> counterweight. I had painted the jug brown and green to kinda blend in

> with the trees but even despite the paint layer I was a little worried
> about the plastic deteriorating there. On a previous antenna I had
> used a 1 gallon plastic milk container to hold the sand and that
> didn't even last a year before decaying. I'm using some darkroom
> container jugs now, with some extra reinforcement rope through the
> handle on the interior, and they seem to hold up OK.
>
> Is three years a typical "good repair" replacement interval for ropes
> in trees? I think it probably could've stayed up another 10 to tell
> you the truth.
>
> Re-hanging the antenna back up after replacing the rope felt so good.
> It is beautiful to see it stretching from treetop to treetop one
> hundred feet up.
>
> Tim N3QE

3607. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 19:10:23 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <823g765iavbemavihtgjc4kojdb7ov06li@4ax.com>
Source record: 7807

On Fri, 27 Aug 2010 09:16:57 -0700 (PDT), Tim Shoppa
<tshoppa@gmail.com> wrote:

>On Aug 27, 12:10ï¿½pm, Michael Coslo <m...@psu.edu> wrote:
>> Afternoon everyone,
>>
>> ï¿½ ï¿½ ï¿½ ï¿½ I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a
>> bit of an accident last year when we had a big snowstorm, the leaves
>> weighted down the limbs, and the antenna, which was strapped down, still
>> managed to introduce itself to a limb.
>>
>> ï¿½ ï¿½ ï¿½ ï¿½ Anyhow, the original antenna was mounted using 1 inch thick plexiglass,
>> with holes drilled to run the mast through, and tapped screw holes to
>> mount to the back up plate, in turn mounted to the spare tire holder.
>>
>> ï¿½ ï¿½ ï¿½ ï¿½ I'm trying to make something a little prettier now that I'm rebuilding
it.
>>
>> But the thing is, I'm curious about the material. Is there any
>> particular material to avoid? I know Plexi works, but what about PVC?
>> Delrin? Bondo? 8^) Miiling, water absorption, etc?
>
>Polycarbonate, polycarbonate, polycarbonate.

Fiberglass, fiberglass, and more fiberglass. It bends, it can easily
be repaired with a surfboard repair kit. It tolerates impacts better
than polycarbonate or plexiglass tubing. It's also UV resistant (when
coated with Krylon):
<http://www.mgs4u.com/fiberglass-tube-rod.htm>
$10 for 8ft of 1" plus shipping.

>Polycarbonate is truly a wonderful material. I don't care what all
>those people complaining about bisphenol-A say, polycarbonate is king.

There's some BPA in the epoxy resins used to bond the fiberglass matt
together. Don't drink out of your antenna, and you'll be fine.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3608. Re: Antenna Drivers, the way they were meant to be built!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 20:15:14 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <8b51153c-79df-417f-8b2e-874374f93b38@j18g2000yqd.googlegroups.com>
Source record: 7808

On Aug 27, 12:12 pm, John Smith <assemblywiz...@gmail.com> wrote:
> http://www.om-power.com/om3500hf
>
> Need I say more ...
>
> Regards,
> JS

And I'm SURE that these are FCC type accepted. hahahahahaha.....

3609. Hy-Gain BN-86 balun for sale - new price

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 20:38:47 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <i597ohhlj1@news.eternal-september.org>
Source record: 7809

I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
asking $40 for it. The instruction manual can be viewed at:

http://www.thiecom.de/pdf/BN-86.pdf

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

3610. Re: Antenna Drivers, the way they were meant to be built!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 21:44:39 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <8a68bedb-cf6a-4583-8b9f-fd00549347ec@s17g2000prh.googlegroups.com>
Source record: 7810

On Aug 27, 1:15 pm, "cybri...@gmail.com" <cybri...@gmail.com> wrote:
> On Aug 27, 12:12 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> >http://www.om-power.com/om3500hf
>
> > Need I say more ...
>
> > Regards,
> > JS
>
> And I'm SURE that these are FCC type accepted. hahahahahaha.....

Doesn't matter, if you are no trying to get them through US Customs.

KD7HB

3611. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-27 23:36:55 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <i59i6s$21r$1@news.eternal-september.org>
Source record: 7811

"Michael Coslo" <mjc5@psu.edu> wrote in message
news:i58sul$bg58$1@tr22n12.aset.psu.edu...
> John Smith wrote:
>> On 8/27/2010 9:10 AM, Michael Coslo wrote:
>>> Afternoon everyone,
>>>
>>> I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a
>>> bit of an accident last year when we had a big snowstorm, the leaves
>>> weighted down the limbs, and the antenna, which was strapped down, still
>>> managed to introduce itself to a limb.
>>>
>>> Anyhow, the original antenna was mounted using 1 inch thick plexiglass,
>>> with holes drilled to run the mast through, and tapped screw holes to
>>> mount to the back up plate, in turn mounted to the spare tire holder.
>>>
>>> I'm trying to make something a little prettier now that I'm rebuilding
>>> it.
>>>
>>> But the thing is, I'm curious about the material. Is there any
>>> particular material to avoid? I know Plexi works, but what about PVC?
>>> Delrin? Bondo? 8^) Miiling, water absorption, etc?
>>>
>>> - 73 de Mike N3LI -
>>>
>>>
>>
>> I have grown fond of nylon/teflon material, problem is, these materials
>> are difficult to find locally, and are expensive when found. In a pinch,
>> those plastic kitchen cutting boards are pressed into service here. The
>> are an opaque material, kind of "translucent white", softer than
>> plexiglass but hold up well under stress, will bend or warp rather than
>> break, seem to resist UV well enough, seem to exhibit good insulation
>> qualities up to VHF at least (highest freqs I have used them at.) They
>> can be cheaply had at used stores. They are usually 1/2 thick. Perhaps
>> two sheets bonded or fastened together with brass/SS hardware?
>
> Locally findable is good. I may pick up some and try some machining
> experiments. Nylon is certainly tough. Thanks, John.
>
> - - Mike -

Mike,
I use Delrin exclusively, great machining capabilities, and excellent RF
properties, very strong with excellent wear qualities, but make sure you use

the white product ONLY. If unsure, test it in the microwave on full power
for a minute along with a cup of water, and see whether it warms.

I have used it on all antennas from HF to UHF with no problems.
Use only 316 stainless steel hardware as well, less grief later on!
73
John VK2KC

3612. U.S handsome tourist boys fuck the asian cute school girls in a beautiful beach & ship.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 04:50:42 UTC
From: school sex <thatiumeshchandra@gmail.com>
Message-ID: <51150b4d-3112-4bce-b1de-a6902f38093f@m17g2000prl.googlegroups.com>
Source record: 7812

US handsome tourist school boys sex with asian school girls.they most enjoyed in 2days. Due to heavy sex content, I have “HIDDEN” all (85) videos in “BIG IMAGES” at the “TOP RIGHT SIDE” of “MY WEBSITE”. “CLICK THAT BIG IMAGES”….then open all hidden videos…watch and download.

My website is http://everyoneneeds.co.cc/

3613. Re: Antenna Drivers, the way they were meant to be built!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 11:36:16 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5asbo$rb9$1@news.eternal-september.org>
Source record: 7813

On 8/27/2010 1:15 PM, cybrinjn@gmail.com wrote:
> On Aug 27, 12:12 pm, John Smith<assemblywiz...@gmail.com> wrote:
>> http://www.om-power.com/om3500hf
>>
>> Need I say more ...
>>
>> Regards,
>> JS
>
> And I'm SURE that these are FCC type accepted. hahahahahaha.....

Type accepted? You would only need that for citizens band ...

Regards,
JS

3614. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 12:46:02 UTC
From: Topaz305rk <navajomt@nemont.net>
Message-ID: <xaOdnTW1TuyXmOTRnZ2dnUVZ_t-dnZ2d@vnet-inc.com>
Source record: 7814

"Tim Shoppa" <tshoppa@gmail.com> wrote in message
news:f8f7057a-20e0-4372-a825-78d002f75b32@j8g2000yqd.googlegroups.com...
On Aug 27, 12:10 pm, Michael Coslo <m...@psu.edu> wrote:
> Afternoon everyone,
>
> I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a
> bit of an accident last year when we had a big snowstorm, the leaves
> weighted down the limbs, and the antenna, which was strapped down, still
> managed to introduce itself to a limb.
>
> Anyhow, the original antenna was mounted using 1 inch thick plexiglass,
> with holes drilled to run the mast through, and tapped screw holes to
> mount to the back up plate, in turn mounted to the spare tire holder.
>
> I'm trying to make something a little prettier now that I'm rebuilding it.
>
> But the thing is, I'm curious about the material. Is there any
> particular material to avoid? I know Plexi works, but what about PVC?
> Delrin? Bondo? 8^) Miiling, water absorption, etc?

Polycarbonate, polycarbonate, polycarbonate.

It is way less brittle than plexiglass and far easier to machine and
work with.

It is a little more expensive than plexiglass.

Plexiglass is also know as acrylic. Polycarbonate is also known as
Lexan.

Polycarbonate is truly a wonderful material. I don't care what all
those people complaining about bisphenol-A say, polycarbonate is king.

Tim.

Agree, Lexan is the way to go.
If it is good enough for the canopy of an F-16 it is just about good enough
for anything.

Sam - K7SAM

3615. Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 15:07:46 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a3a1b82d-9858-4d78-a547-18056b824b34@y11g2000yqm.googlegroups.com>
Source record: 7815

Superconductors have been used as antennas where the gain has been
much much more than ham antennas. It does this by removing or
resisting the external magnetic field thus allowing the current flow
to exit the material and travel along its surface. Thus we are able to
reduce material
true resistance or losses and contribute solely to radiation.
By the same token, coils can be wound where it is totally resistive by
removing reactive forces. This also means the disappearance of skin
depth where the external magnetic field gains a foot hold. Thus, as
with a superconductor, we have removed the presence of resistive skin
depth resistance by allowing the current flow to exit the metallic
material and travel on its surface.
There are two resistances that must be dealt with in determining
efficiency where one is controlled by radiation that requires a equal
and opposite effect thus leaving only the metallic resistance to
concentrate upon
to increase efficiency. In both of the above cases we have been able
to divert current flow to the surface of the radiator to avoid the
intrinsic resistance of the radiating element, thus allowing all
alternating current flow to devote itself to creating radiation.
Art Unwin

3616. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 16:44:24 UTC
From: Alejandro Lieber <alejandro@notvalid.com>
Message-ID: <i5bed9$2gek$1@adenine.netfront.net>
Source record: 7816

On 08/27/2010 01:10 PM, Michael Coslo wrote:
> Afternoon everyone,
>
> I'm rebuilding my Bugcatcher antenna. It works well, but the XYL had a
> bit of an accident last year when we had a big snowstorm, the leaves
> weighted down the limbs, and the antenna, which was strapped down, still
> managed to introduce itself to a limb.
>
> Anyhow, the original antenna was mounted using 1 inch thick plexiglass,
> with holes drilled to run the mast through, and tapped screw holes to
> mount to the back up plate, in turn mounted to the spare tire holder.
>
> I'm trying to make something a little prettier now that I'm rebuilding it.
>
> But the thing is, I'm curious about the material. Is there any
> particular material to avoid? I know Plexi works, but what about PVC?
> Delrin? Bondo? 8^) Miiling, water absorption, etc?
>
> - 73 de Mike N3LI -

Somewhere I read not to use PVC for coil forms. Is it so ?

--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

--- news://freenews.netfront.net/ - complaints: news@netfront.net ---

3617. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 17:19:28 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5bgfa$5lp$1@news.eternal-september.org>
Source record: 7817

On 8/28/2010 9:44 AM, Alejandro Lieber wrote:

> ...
> Somewhere I read not to use PVC for coil forms. Is it so ?

Having used it, I don't know why that statement would be made ... I have heard the same about PVC grey conduit, and wonder who has tested it and what problems they found ...

Regards,
JS

3618. Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 18:06:58 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <357a70ff-59b8-4570-b7f3-0b254bcb7022@x25g2000yqj.googlegroups.com>
Source record: 7818

One of the most perplexing aurguements in the history of Physics is
the supposed existence of the Aether. Or in other words
Aether is has to be considered as a media.
In radio terms it can be stated that communication can be carried by a
surface wave only if it travels along the line of different media
which in physics is unshakable. Thus many physists argued that
air itself must be considered as a medium in that surface radio waves
certainly exist and thus the case against the existance of an Aether
has not yet been proven, as the question of the two mediums involved
have yet to be identified.
As I have stated earlier the expansion of the laws of static particles
show that particles from the Sun settle upon Earth's diamagnetic
surfaces. Thus providing the medium that purists have searched for
which now can replace the undeniable required presence of a medium
instead of the former "Aether". Classical physics of Newton, Einstein
and others had the answers all along with the Gaussian law of Statics!
Regards
Art
notion of an Aether.

3619. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 18:33:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5815c680-affe-47ff-b640-2581a4756520@h19g2000yqb.googlegroups.com>
Source record: 7819

On Aug 28, 6:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
> One of the most perplexing aurguements in the history of Physics is
> the supposed existence of the Aether. Or in other words
> Aether is has to be considered as a media.
> In radio terms it can be stated that communication can be carried by a
> surface wave only if it travels along the line of different media
> which in physics is unshakable. Thus many physists argued that
> air itself must be considered as a medium in that surface radio waves
> certainly exist and thus the case against the existance of an Aether
> has not yet been proven, as the question of the two mediums involved
> have yet to be identified.
> As I have stated earlier the expansion of the laws of static particles
> show that particles from the Sun settle upon Earth's diamagnetic
> surfaces. Thus providing the medium that purists have searched for
> which now can replace the undeniable required presence of a medium
> instead of the former "Aether". Classical physics of Newton, Einstein
> and others had the answers all along with the Gaussian law of Statics!
> Regards
> Art
> notion of an Aether.

geez, all this time to think of something interesting and all you can
come up with is an outdated aether argument crossed with your magical
levitating diamagnetic neutrinos??? you could at least have tried to
latch onto this one and do something more original:
http://blogs.discovermagazine.com/80beats/2010/08/26/scientist-smackdown-are-solar-neutrinos-messing-with-matter/

3620. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 18:36:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <81fb2e9f-04e1-4b9d-b86e-7bb22aabdea5@f6g2000yqa.googlegroups.com>
Source record: 7820

On Aug 28, 3:07 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Superconductors have been used as antennas where the gain has been
> much much more than ham antennas. It does this by removing or
> resisting the external magnetic field thus allowing the current flow
> to exit the material and travel along its surface. Thus we are able to
> reduce material
> true resistance or losses and contribute solely to radiation.
> By the same token, coils can be wound where it is totally resistive by
> removing reactive forces. This also means the disappearance of skin
> depth where the external magnetic field gains a foot hold. Thus, as
> with a superconductor, we have removed the presence of resistive skin
> depth resistance by allowing the current flow to exit the metallic
> material and travel on its surface.
> There are two resistances that must be dealt with in determining
> efficiency where one is controlled by radiation that requires a equal
> and opposite effect thus leaving only the metallic resistance to
> concentrate upon
> to increase efficiency. In both of the above cases we have been able
> to divert current flow to the surface of the radiator to avoid the
> intrinsic resistance of the radiating element, thus allowing all
> alternating current flow to devote itself to creating radiation.
> Art Unwin

old hat, come on art, you can do better than try to latch onto someone
else's patent: http://www.freepatentsonline.com/5105200.html

3621. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 19:32:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <02184dd0-549b-4b2d-8a1f-78f8e287e675@a36g2000yqc.googlegroups.com>
Source record: 7821

On Aug 28, 1:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
> One of the most perplexing aurguements in the history of Physics is
> the supposed existence of the Aether.

It has been proven that "empty space" is indeed not empty and consists
of quantum particles that wink in and out of existence. Aether does
exist as a sort of quantum soup, just not in the limited form that was
earlier conceived in the past before quantum physics. The Casimir
effect is a manifestation of the quantum soup that exists in "empty
space". Some physicists think that's where the dark energy is hiding.
--
73, Cecil, w5dxp.com

3622. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 19:35:35 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <859fe953-f175-451b-a870-242fee2c7590@x42g2000yqx.googlegroups.com>
Source record: 7822

On Aug 28, 1:33 pm, K1TTT <k1...@arrl.net> wrote:
> On Aug 28, 6:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > One of the most perplexing aurguements in the history of Physics is
> > the supposed existence of the Aether. Or in other words
> > Aether is has to be considered as a media.
> > In radio terms it can be stated that communication can be carried by a
> > surface wave only if it travels along the line of different media
> > which in physics is unshakable. Thus many physists argued that
> > air itself must be considered as a medium in that surface radio waves
> > certainly exist and thus the case against the existance of an Aether
> > has not yet been proven, as the question of the two mediums involved
> > have yet to be identified.
> > As I have stated earlier the expansion of the laws of static particles
> > show that particles from the Sun settle upon Earth's diamagnetic
> > surfaces. Thus providing the medium that purists have searched for
> > which now can replace the undeniable required presence of a medium
> > instead of the former "Aether". Classical physics of Newton, Einstein
> > and others had the answers all along with the Gaussian law of Statics!
> > Regards
> > Art
> > notion of an Aether.
>
> geez, all this time to think of something interesting and all you can
> come up with is an outdated aether argument crossed with your magical
> levitating diamagnetic neutrinos??? you could at least have tried to
> latch onto this one and do something more
original:http://blogs.discovermagazine.com/80beats/2010/08/26/scientist-smackd...

The article is about disagreements between scientists and not
agreement, therefore nothing is conclusive. What is conclusive that
making a static field dynamic shows the presence of particles in
Maxwell's equations on radiation.If you do not have the knowledge to
refute that fact then you have at your disposal the Physics Forum
where the adjudicators are generally professors in the field who can
provide you with the answers that you cannot find out for yourself.
Intuition alone does not get the job done so go to the experts to
verify your approach to physics. Classical physics clearly state that
particles from the Sun is incorporated in the art of radiation via the
extension to the laws of Static. If you want to over rule the
professors knowledge of physics then do it directly on their forum.

3623. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 19:46:11 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9da390c9-b25b-4323-8642-d6b8db1ea9b6@i13g2000yqe.googlegroups.com>
Source record: 7823

On Aug 28, 1:36 pm, K1TTT <k1...@arrl.net> wrote:
> On Aug 28, 3:07 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > Superconductors have been used as antennas where the gain has been
> > much much more than ham antennas. It does this by removing or
> > resisting the external magnetic field thus allowing the current flow
> > to exit the material and travel along its surface. Thus we are able to
> > reduce material
> > true resistance or losses and contribute solely to radiation.
> > By the same token, coils can be wound where it is totally resistive by
> > removing reactive forces. This also means the disappearance of skin
> > depth where the external magnetic field gains a foot hold. Thus, as
> > with a superconductor, we have removed the presence of resistive skin
> > depth resistance by allowing the current flow to exit the metallic
> > material and travel on its surface.
> > There are two resistances that must be dealt with in determining
> > efficiency where one is controlled by radiation that requires a equal
> > and opposite effect thus leaving only the metallic resistance to
> > concentrate upon
> > to increase efficiency. In both of the above cases we have been able
> > to divert current flow to the surface of the radiator to avoid the
> > intrinsic resistance of the radiating element, thus allowing all
> > alternating current flow to devote itself to creating radiation.
> > Art Unwin
>
> old hat, come on art, you can do better than try to latch onto someone
> else's patent:http://www.freepatentsonline.com/5105200.html

Where is the beef? Where is the patent? What exactly do you think the
patent is claiming?
Is the claim legitimate? Has the ham community
agreed on the removal of an external magnetic field for maximum
efficiency? You have consistently denied over the years and now
miraculesly you rush to defend it. Why are you so evil? As I stated
earlier your intuitions are leading you astray in the absence of
physics teachings or classes. Go to the Physics forum and ask for the
truth.

3624. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 20:15:28 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5bqp9$d9j$1@news.eternal-september.org>
Source record: 7824

On 8/28/2010 11:06 AM, Art Unwin wrote:
> ...
> As I have stated earlier the expansion of the laws of static particles
> show that particles from the Sun settle upon Earth's diamagnetic
> surfaces. Thus providing the medium that purists have searched for
> which now can replace the undeniable required presence of a medium
> instead of the former "Aether". Classical physics of Newton, Einstein
> and others had the answers all along with the Gaussian law of Statics!
> Regards
> Art
> notion of an Aether.

... and that, of course, explains deep space propagation! Must have
been sleeping though that one ...

Regards,
JS

3625. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 20:19:32 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5br0ugcp1@news.eternal-september.org>
Source record: 7825

On 8/28/2010 12:32 PM, Cecil Moore wrote:
> On Aug 28, 1:06 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> One of the most perplexing aurguements in the history of Physics is
>> the supposed existence of the Aether.
>
> It has been proven that "empty space" is indeed not empty and consists
> of quantum particles that wink in and out of existence....
> --
> 73, Cecil, w5dxp.com

Well, "ether particles" would certainly be one suitable explanation ...
and, I must say, the word aether is growing on me, you suppose it is the
way art pronounces it? <grin>

Regards,
JS

3626. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 20:26:46 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bdf0c98a-f4f5-418a-a065-c643f618e65f@f42g2000yqn.googlegroups.com>
Source record: 7826

On Aug 28, 2:32 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Aug 28, 1:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > One of the most perplexing aurguements in the history of Physics is
> > the supposed existence of the Aether.
>
> It has been proven that "empty space" is indeed not empty and consists
> of quantum particles that wink in and out of existence. Aether does
> exist as a sort of quantum soup, just not in the limited form that was
> earlier conceived in the past before quantum physics. The Casimir
> effect is a manifestation of the quantum soup that exists in "empty
> space". Some physicists think that's where the dark energy is hiding.
> --
> 73, Cecil, w5dxp.com

Whoa!You are talking apples and oranges. The two mediums discussed is
in actuality mass and particles where as it was considered as mass and
the Aether. I am certainly aware of the term quantum soup outside of
the Earths confines!
The two mediums of a radiator and particles is what provides for
ground wave and connected to
propagation. I don't think the scientists of the day were considering
propagation in outer space but I am willing to read any article that
supports your position
There are many positions and counter positions on the subject given by
most of the masters of the day.
Art

3627. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 21:16:57 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5bucjhok1@news.eternal-september.org>
Source record: 7827

On 8/28/2010 1:26 PM, Art Unwin wrote:

>> ...
> There are many positions and counter positions on the subject given by
> most of the masters of the day.
> Art

Oh Art, this can be very taxing, but there is gravity, the method of the propagation of emf, and then there is dark matter, as Cecil threw in ... these are some of the last frontiers where discoveries will be finally be found.

I interpret Einsteins remarks on ether to be an admission that his theory of gravity would become undefined, if not for the "gravitational ether", not his exact words--his theory involving gravity depends up an ether. An ether composed of quantum particles would begin a solid discovery of how rf/light can behave both as particles and as waves. Gravity affects and can bend radio waves, obviously radio waves should have some effect on gravity, at sufficient energy levels. Dark mass appears to have an effect on gravity ... so in there is also a suggestion that these all have some profound form of relationship ... and it is here that "guesses", predictions, statements of bizarre magnitude and theories can abound ... I believe I can see your house, where you reside, down the street, just over there ... glad to see ya' still kickin', as long as you ain't breathing dirt, it is a good day.

Regards,
JS

3628. Re: Best plastic for antennas, machining

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 22:39:24 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <et2j769uaukdbvv3c0r3s49ge2khql3p64@4ax.com>
Source record: 7828

On Sat, 28 Aug 2010 13:44:24 -0300, Alejandro Lieber
<alejandro@notvalid.com> wrote:

>Somewhere I read not to use PVC for coil forms. Is it so ?

<http://www.tangram.co.uk/TI-Polymer-PVC.html>
Electrical properties
The insulation properties of rigid PVC are satisfactory and
those of plasticised PVC are poor. The values, which are
only mediocre in any case, are impaired still further by the
plasticisers. As a result of the high dissipation factor,
PVC is not suitable for high frequency applications.

PVC has a dissipation factor of about 0.0350 compared to about 0.00610
for Polycarbonate.
<http://www.matweb.com>

Black PVC is also loaded with a small amount of carbon pigment, which
likes to get warm/hot/melt when RF is applied.

PVC is also subject to dielectric absorption. Build a capacitor out
of two plates with some PVC in between. Apply some DC, remove the
power source, and short the plates for 2 seconds. Then measure the
residual voltage across the plates. PVC and vinyl are awful. Teflon,
polystyrene, and polypropylene don't have this problem.

--
Jeff Liebermann 150 Felker St #D Santa Cruz CA 95060
831-336-2558
http://802.11junk.com jeffl@cruzio.com
http://www.LearnByDestroying.com AE6KS

3629. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 23:15:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <07035501-be3b-4948-8799-3312b98a1082@i13g2000yqe.googlegroups.com>
Source record: 7829

On Aug 28, 7:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 28, 1:36 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Aug 28, 3:07 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > Superconductors have been used as antennas where the gain has been
> > > much much more than ham antennas. It does this by removing or
> > > resisting the external magnetic field thus allowing the current flow
> > > to exit the material and travel along its surface. Thus we are able to
> > > reduce material
> > > true resistance or losses and contribute solely to radiation.
> > > By the same token, coils can be wound where it is totally resistive by
> > > removing reactive forces. This also means the disappearance of skin
> > > depth where the external magnetic field gains a foot hold. Thus, as
> > > with a superconductor, we have removed the presence of resistive skin
> > > depth resistance by allowing the current flow to exit the metallic
> > > material and travel on its surface.
> > > There are two resistances that must be dealt with in determining
> > > efficiency where one is controlled by radiation that requires a equal
> > > and opposite effect thus leaving only the metallic resistance to
> > > concentrate upon
> > > to increase efficiency. In both of the above cases we have been able
> > > to divert current flow to the surface of the radiator to avoid the
> > > intrinsic resistance of the radiating element, thus allowing all
> > > alternating current flow to devote itself to creating radiation.
> > > Art Unwin
>
> > old hat, come on art, you can do better than try to latch onto someone
> > else's patent:http://www.freepatentsonline.com/5105200.html
>
> Where is the beef? Where is the patent? What exactly do you think the
> patent is claiming?
> Is the claim legitimate? Has the ham community
> agreed on the removal of an external magnetic field for maximum
> efficiency? You have consistently denied over the years and now
> miraculesly you rush to defend it. Why are you so evil? As I stated
> earlier your intuitions are leading you astray in the absence of
> physics teachings or classes. Go to the Physics forum and ask for the
> truth.

i just want to you say more silly stuff, i need a good laugh this
weekend.

3630. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 23:19:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <dcad8106-39be-4918-9299-1dc7c9111d27@g17g2000yqe.googlegroups.com>
Source record: 7830

On Aug 28, 8:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 28, 2:32 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Aug 28, 1:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > One of the most perplexing aurguements in the history of Physics is
> > > the supposed existence of the Aether.
>
> > It has been proven that "empty space" is indeed not empty and consists
> > of quantum particles that wink in and out of existence. Aether does
> > exist as a sort of quantum soup, just not in the limited form that was
> > earlier conceived in the past before quantum physics. The Casimir
> > effect is a manifestation of the quantum soup that exists in "empty
> > space". Some physicists think that's where the dark energy is hiding.
> > --
> > 73, Cecil, w5dxp.com
>
> Whoa!You are talking apples and oranges. The two mediums discussed is
> in actuality mass and particles where as it was considered as mass and
> the Aether. I am certainly aware of the term quantum soup outside of
> the Earths confines!
> The two mediums of a radiator and particles is what provides for
> ground wave and connected to
> propagation. I don't think the scientists of the day were considering
> propagation in outer space but I am willing to read any article that
> supports your position
> There are many positions and counter positions on the subject given by
> most of the masters of the day.
> Art

you should really talk with mr.b... he likes those old time scientists
and the stuff they wrote before all the real experiments disproved
aether and magnetic vortices and all that other stuff that you seem to
love. please write something new and funny about the magical
levitating diamagnetic neutrinos that explain how my ferromagnetic
antenna radiates.

3631. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 23:26:02 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b6b01c13-4140-4753-ad9e-f94b2ae73576@j18g2000yqd.googlegroups.com>
Source record: 7831

On Aug 28, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 28, 1:36 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Aug 28, 3:07 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > Superconductors have been used as antennas where the gain has been
> > > much much more than ham antennas. It does this by removing or
> > > resisting the external magnetic field thus allowing the current flow
> > > to exit the material and travel along its surface. Thus we are able to
> > > reduce material
> > > true resistance or losses and contribute solely to radiation.
> > > By the same token, coils can be wound where it is totally resistive by
> > > removing reactive forces. This also means the disappearance of skin
> > > depth where the external magnetic field gains a foot hold. Thus, as
> > > with a superconductor, we have removed the presence of resistive skin
> > > depth resistance by allowing the current flow to exit the metallic
> > > material and travel on its surface.
> > > There are two resistances that must be dealt with in determining
> > > efficiency where one is controlled by radiation that requires a equal
> > > and opposite effect thus leaving only the metallic resistance to
> > > concentrate upon
> > > to increase efficiency. In both of the above cases we have been able
> > > to divert current flow to the surface of the radiator to avoid the
> > > intrinsic resistance of the radiating element, thus allowing all
> > > alternating current flow to devote itself to creating radiation.
> > > Art Unwin
>
> > old hat, come on art, you can do better than try to latch onto someone
> > else's patent:http://www.freepatentsonline.com/5105200.html
>
> Where is the beef? Where is the patent? What exactly do you think the
> patent is claiming?
> Is the claim legitimate? Has the ham community
> agreed on the removal of an external magnetic field for maximum
> efficiency? You have consistently denied over the years and now
> miraculesly you rush to defend it. Why are you so evil? As I stated
> earlier your intuitions are leading you astray in the absence of
> physics teachings or classes. Go to the Physics forum and ask for the
> truth.

I finally got around to read that patent you were referring to. It
involves the increase in radiation that can be achieved by

superconductors in temperatures way below that seen by humans.
for hams and industry using this knowledge by far the biggest expense
is the extreme cooling equipment that is required as evidenced by MRI
costs which is more than the most avid ham could afford. There is no
doubt that the repelling of external magnetic fields removes the
formation
of resistive skin depth of these ultra cool materials.
I advocate the use of the Meissner effect with antennas that does not
require the extensive cooling costs equipment required by
superconductors to remove the presence of the resistive skin effect
that superconductors have shown is very advantageous when designing
antennas. These are differences in both of these methods in removing
the unnecessary losses of magnetic field generation but the
commonality
between them is the increased efficiency in radiation. A side issue is
that the idea of smaller radiators is a reality as the idea of
radiators must be straight is totally false. The bottom line being
that every inch of current flow produces radiation
whether we like it or not and cannot be suppressed.
Tom, you should avoid trying to give the impression that you are
skilled in physics. You are not an engineer and you only work under a
engineers supervision because of your lack of knowledge.

3632. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 23:36:31 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <abce0dc4-7fcd-4021-bc3c-7deab5ab8de7@z7g2000yqg.googlegroups.com>
Source record: 7832

On Aug 28, 6:19 pm, K1TTT <k1...@arrl.net> wrote:
> On Aug 28, 8:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Aug 28, 2:32 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > On Aug 28, 1:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > One of the most perplexing aurguements in the history of Physics is
> > > > the supposed existence of the Aether.
>
> > > It has been proven that "empty space" is indeed not empty and consists
> > > of quantum particles that wink in and out of existence. Aether does
> > > exist as a sort of quantum soup, just not in the limited form that was
> > > earlier conceived in the past before quantum physics. The Casimir
> > > effect is a manifestation of the quantum soup that exists in "empty
> > > space". Some physicists think that's where the dark energy is hiding.
> > > --
> > > 73, Cecil, w5dxp.com
>
> > Whoa!You are talking apples and oranges. The two mediums discussed is
> > in actuality mass and particles where as it was considered as mass and
> > the Aether. I am certainly aware of the term quantum soup outside of
> > the Earths confines!
> > The two mediums of a radiator and particles is what provides for
> > ground wave and connected to
> > propagation. I don't think the scientists of the day were considering
> > propagation in outer space but I am willing to read any article that
> > supports your position
> > There are many positions and counter positions on the subject given by
> > most of the masters of the day.
> > Art
>
> you should really talk with mr.b... he likes those old time scientists
> and the stuff they wrote before all the real experiments disproved
> aether and magnetic vortices and all that other stuff that you seem to
> love. please write something new and funny about the magical
> levitating diamagnetic neutrinos that explain how my ferromagnetic
> antenna radiates.

Every time you put pen to paper it is painfully evident that you are
totally lacking in the subject of physics. A ferromagnetic antenna
will certainly radiate but it totally swamps the Meissner effect

common with diamagnetic materials. They certainly do not duplicate in actions with respect to radiation.
Most hams build their antennas with diamagnetic materials like copper and aluminum as they do not portray the hysteresis effect common with ferromagnetic materials. As for diamagnetic materials that demonstrate levitation you can buy these on E bay or at Edmonds scientific if you have any doubts about their authenticity.

3633. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 23:49:55 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ca6ca6a6-7352-4821-ab06-efedeb4fbb62@d8g2000yqf.googlegroups.com>
Source record: 7833

On Aug 28, 11:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 28, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Aug 28, 1:36 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Aug 28, 3:07 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > Superconductors have been used as antennas where the gain has been
> > > > much much more than ham antennas. It does this by removing or
> > > > resisting the external magnetic field thus allowing the current flow
> > > > to exit the material and travel along its surface. Thus we are able to
> > > > reduce material
> > > > true resistance or losses and contribute solely to radiation.
> > > > By the same token, coils can be wound where it is totally resistive by
> > > > removing reactive forces. This also means the disappearance of skin
> > > > depth where the external magnetic field gains a foot hold. Thus, as
> > > > with a superconductor, we have removed the presence of resistive skin
> > > > depth resistance by allowing the current flow to exit the metallic
> > > > material and travel on its surface.
> > > > There are two resistances that must be dealt with in determining
> > > > efficiency where one is controlled by radiation that requires a equal
> > > > and opposite effect thus leaving only the metallic resistance to
> > > > concentrate upon
> > > > to increase efficiency. In both of the above cases we have been able
> > > > to divert current flow to the surface of the radiator to avoid the
> > > > intrinsic resistance of the radiating element, thus allowing all
> > > > alternating current flow to devote itself to creating radiation.
> > > > Art Unwin
>
> > > old hat, come on art, you can do better than try to latch onto someone
> > > else's patent:http://www.freepatentsonline.com/5105200.html
>
> > Where is the beef? Where is the patent? What exactly do you think the
> > patent is claiming?
> > Is the claim legitimate? Has the ham community
> > agreed on the removal of an external magnetic field for maximum
> > efficiency? You have consistently denied over the years and now
> > miraculesly you rush to defend it. Why are you so evil? As I stated
> > earlier your intuitions are leading you astray in the absence of
> > physics teachings or classes. Go to the Physics forum and ask for the
> > truth.
>

> I finally got around to read that patent you were referring to. It
> involves the increase in radiation that can be achieved by
> superconductors in temperatures way below that seen by humans.
> for hams and industry using this knowledge by far the biggest expense
> is the extreme cooling equipment that is required as evidenced by MRI
> costs which is more than the most avid ham could afford. There is no
> doubt that the repelling of external magnetic fields removes the
> formation
> of resistive skin depth of these ultra cool materials.
> I advocate the use of the Meissner effect with antennas that does not
> require the extensive cooling costs equipment required by
> superconductors to remove the presence of the resistive skin effect
> that superconductors have shown is very advantageous when designing
> antennas. These are differences in both of these methods in removing
> the unnecessary losses of magnetic field generation but the
> commonality
> between them is the increased efficiency in radiation. A side issue is
> that the idea of smaller radiators is a reality as the idea of
> radiators must be straight is totally false. The bottom line being
> that every inch of current flow produces radiation
> whether we like it or not and cannot be suppressed.
> Tom, you should avoid trying to give the impression that you are
> skilled in physics. You are not an engineer and you only work under a
> engineers supervision because of your lack of knowledge.

but of course you can't radiate without generating a magnetic field
and any current produces a magnetic field so everything you are saying
is junk.

3634. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-28 23:53:17 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4fdb1e80-4bc7-4b09-96c0-25836ecdceb0@k10g2000yqa.googlegroups.com>
Source record: 7834

On Aug 28, 11:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 28, 6:19 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Aug 28, 8:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Aug 28, 2:32 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > > > On Aug 28, 1:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > One of the most perplexing aurguements in the history of Physics is
> > > > > the supposed existence of the Aether.
>
> > > > It has been proven that "empty space" is indeed not empty and consists
> > > > of quantum particles that wink in and out of existence. Aether does
> > > > exist as a sort of quantum soup, just not in the limited form that was
> > > > earlier conceived in the past before quantum physics. The Casimir
> > > > effect is a manifestation of the quantum soup that exists in "empty
> > > > space". Some physicists think that's where the dark energy is hiding.
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > Whoa!You are talking apples and oranges. The two mediums discussed is
> > > in actuality mass and particles where as it was considered as mass and
> > > the Aether. I am certainly aware of the term quantum soup outside of
> > > the Earths confines!
> > > The two mediums of a radiator and particles is what provides for
> > > ground wave and connected to
> > > propagation. I don't think the scientists of the day were considering
> > > propagation in outer space but I am willing to read any article that
> > > supports your position
> > > There are many positions and counter positions on the subject given by
> > > most of the masters of the day.
> > > Art
>
> > you should really talk with mr.b... he likes those old time scientists
> > and the stuff they wrote before all the real experiments disproved
> > aether and magnetic vortices and all that other stuff that you seem to
> > love. please write something new and funny about the magical
> > levitating diamagnetic neutrinos that explain how my ferromagnetic
> > antenna radiates.
>
> Every time you put pen to paper it is painfully evident that you are

> totally lacking in the subject of physics. A ferromagnetic antenna
> will certainly radiate but it totally swamps the Meissner effect
> common with diamagnetic materials. They certainly do not duplicate in
> actions with respect to radiation.
> Most hams build their antennas with diamagnetic materials like copper
> and aluminum as they do not portray the hysteresis effect common with
> ferromagnetic materials. As for diamagnetic materials that demonstrate
> levitation you can buy these on E bay or at Edmonds scientific if you
> have any doubts about their authenticity.

but how can it radiate if it doesn't have your magical diamagnetic neutrinos to levitate?? oh and to bring in one of mr. b's favorites, how do diamagnetic neutrinos accumulate on copper wire antennas if they are insulated... i'm sure he will love to hear your answer. he thinks electrons jump off the antenna and require a dc source to keep the antenna charged, you would love to chat with him!

3635. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 01:26:00 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5ccvh$s9e$1@news.eternal-september.org>
Source record: 7835

On 8/28/2010 4:53 PM, K1TTT wrote:

>
> but how can it radiate if it doesn't have your magical diamagnetic
> neutrinos to levitate?? oh and to bring in one of mr. b's
> favorites, how do diamagnetic neutrinos accumulate on copper wire
> antennas if they are insulated... i'm sure he will love to hear your
> answer. he thinks electrons jump off the antenna and require a dc
> source to keep the antenna charged, you would love to chat with him!

You are pathetic, funny, but pathetic ... ROFLOL

Regards,
JS

3636. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 01:32:22 UTC
From: tom <news4792@taring.org>
Message-ID: <4c79b8a2$0$55708$8046368a@newsreader.iphouse.net>
Source record: 7836

On 8/28/2010 6:53 PM, K1TTT wrote:
> On Aug 28, 11:36 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> On Aug 28, 6:19 pm, K1TTT<k1...@arrl.net> wrote:
>>
>>> you should really talk with mr.b... he likes those old time scientists
>>> and the stuff they wrote before all the real experiments disproved
>>> aether and magnetic vortices and all that other stuff that you seem to
>>> love. please write something new and funny about the magical
>>> levitating diamagnetic neutrinos that explain how my ferromagnetic
>>> antenna radiates.
>>
>> Every time you put pen to paper it is painfully evident that you are
>> totally lacking in the subject of physics. A ferromagnetic antenna
>> will certainly radiate but it totally swamps the Meissner effect
>> common with diamagnetic materials. They certainly do not duplicate in
>> actions with respect to radiation.
>> Most hams build their antennas with diamagnetic materials like copper
>> and aluminum as they do not portray the hysteresis effect common with
>> ferromagnetic materials. As for diamagnetic materials that demonstrate
>> levitation you can buy these on E bay or at Edmonds scientific if you
>> have any doubts about their authenticity.
>
> but how can it radiate if it doesn't have your magical diamagnetic
> neutrinos to levitate?? oh and to bring in one of mr. b's
> favorites, how do diamagnetic neutrinos accumulate on copper wire
> antennas if they are insulated... i'm sure he will love to hear your
> answer. he thinks electrons jump off the antenna and require a dc
> source to keep the antenna charged, you would love to chat with him!

Ooo! Ooo! I know the answer!

But I'll let Art entertain you first.

tom
K0TAR

3637. Re: Antenna Drivers, the way they were meant to be built!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 01:55:52 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5cenh$1an$2@news.eternal-september.org>
Source record: 7837

On 8/27/2010 2:44 PM, pdrahn@coinet.com wrote:
> On Aug 27, 1:15 pm, "cybri...@gmail.com"<cybri...@gmail.com> wrote:
>> On Aug 27, 12:12 pm, John Smith<assemblywiz...@gmail.com> wrote:
>>
>>> http://www.om-power.com/om3500hf
>>
>>> Need I say more ...
>>
>>> Regards,
>>> JS
>>
>> And I'm SURE that these are FCC type accepted. hahahahahaha.....
>
> Doesn't matter, if you are no trying to get them through US Customs.
>
> KD7HB

Personally, I'd go the distance in obtaining one, here is a couple of
reviews, be the first on your block to own one!

http://www.eham.net/reviews/detail/7097

Regards,
JS

3638. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 02:05:05 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bc144b99-ee50-42bf-bcfb-87d2a46e30e8@x42g2000yqx.googlegroups.com>
Source record: 7838

On Aug 28, 6:49 pm, K1TTT <k1...@arrl.net> wrote:
> On Aug 28, 11:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Aug 28, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Aug 28, 1:36 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Aug 28, 3:07 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > Superconductors have been used as antennas where the gain has been
> > > > > much much more than ham antennas. It does this by removing or
> > > > > resisting the external magnetic field thus allowing the current flow
> > > > > to exit the material and travel along its surface. Thus we are able to
> > > > > reduce material
> > > > > true resistance or losses and contribute solely to radiation.
> > > > > By the same token, coils can be wound where it is totally resistive by
> > > > > removing reactive forces. This also means the disappearance of skin
> > > > > depth where the external magnetic field gains a foot hold. Thus, as
> > > > > with a superconductor, we have removed the presence of resistive skin
> > > > > depth resistance by allowing the current flow to exit the metallic
> > > > > material and travel on its surface.
> > > > > There are two resistances that must be dealt with in determining
> > > > > efficiency where one is controlled by radiation that requires a equal
> > > > > and opposite effect thus leaving only the metallic resistance to
> > > > > concentrate upon
> > > > > to increase efficiency. In both of the above cases we have been able
> > > > > to divert current flow to the surface of the radiator to avoid the
> > > > > intrinsic resistance of the radiating element, thus allowing all
> > > > > alternating current flow to devote itself to creating radiation.
> > > > > Art Unwin
>
> > > > old hat, come on art, you can do better than try to latch onto someone
> > > > else's patent:http://www.freepatentsonline.com/5105200.html
>
> > > Where is the beef? Where is the patent? What exactly do you think the
> > > patent is claiming?
> > > Is the claim legitimate? Has the ham community
> > > agreed on the removal of an external magnetic field for maximum
> > > efficiency? You have consistently denied over the years and now
> > > miraculesly you rush to defend it. Why are you so evil? As I stated
> > > earlier your intuitions are leading you astray in the absence of
> > > physics teachings or classes. Go to the Physics forum and ask for the

> > > truth.
>
> > I finally got around to read that patent you were referring to. It
> > involves the increase in radiation that can be achieved by
> > superconductors in temperatures way below that seen by humans.
> > for hams and industry using this knowledge by far the biggest expense
> > is the extreme cooling equipment that is required as evidenced by MRI
> > costs which is more than the most avid ham could afford. There is no
> > doubt that the repelling of external magnetic fields removes the
> > formation
> > of resistive skin depth of these ultra cool materials.
> > I advocate the use of the Meissner effect with antennas that does not
> > require the extensive cooling costs equipment required by
> > superconductors to remove the presence of the resistive skin effect
> > that superconductors have shown is very advantageous when designing
> > antennas. These are differences in both of these methods in removing
> > the unnecessary losses of magnetic field generation but the
> > commonality
> > between them is the increased efficiency in radiation. A side issue is
> > that the idea of smaller radiators is a reality as the idea of
> > radiators must be straight is totally false. The bottom line being
> > that every inch of current flow produces radiation
> > whether we like it or not and cannot be suppressed.
> > Tom, you should avoid trying to give the impression that you are
> > skilled in physics. You are not an engineer and you only work under a
> > engineers supervision because of your lack of knowledge.
>
> but of course you can't radiate without generating a magnetic field
> and any current produces a magnetic field so everything you are saying
> is junk.

Read, read again, then read again. The magnetic field referred to is
the EXTERNAL magnetic field.
A superconductor REJECTS any EXTERNAL magnetic field. With respect to
a "double helix" one can prevent the external magnetic field by
ensuring that the helix is resistive at all points along its length.
This results in a constant current along its length regardless of
frequency applied.
When amateurs in ham radio cling to the idea that radiators should be
straight they are advocating the generation of external magnetic
fields which only provides losses and less radiation. This is a spill
over from the old idea that waves produce
propagation instead of particles which is resisted
by the older generation who are adverse to change.
Tom you should not adopt the mantle which you have not earned as you
only are cheating yourself.
To others skilled in the art you are painfully transparent.

3639. Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 02:23:44 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <df2f1e81-dc54-4951-a3b6-5316b61281f9@j8g2000yqd.googlegroups.com>
Source record: 7839

A long time ago there was a arguement both on this group and on E ham
with respect to the function of a coil with respect to replacing
missing degrees of a wavelength.
Both Tom W8ji and Roy W7EL did experiments which apparently justified
an account written up by Tom under the subject.
You should look it up and read it.
Tom states that the double helix is totally resistive and antenna
elements should be straight reffering to spacial distance.,
He then came to the astonishing conclusion that for maximum efficiency
radiators should be straight and for some reason dismissed the double
helix to give strength to his claim that radiators must be straight
which is fraudulent. A straight radiator generates a external magnetic
field which introduces losses whereas the double helix supplies all
applied current to the generation of radiation. None of the experts on
either group challenged challenged the statement allegedly supported
by both Tom and Roy
and it still remains in print to this day
Art

3640. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 03:28:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <59ca9d23-7aa5-4a93-8906-ba4d5cd12dde@z28g2000yqh.googlegroups.com>
Source record: 7840

On Aug 28, 9:23 pm, Art Unwin <arthurun...@gmail.com> wrote:
> A long time ago there was a arguement both on this group and on E ham
> with respect to the function of a coil with respect to replacing
> missing degrees of a wavelength.
> Both Tom W8ji and Roy W7EL did experiments which apparently justified
> an account written up by Tom under the subject.
> You should look it up and read it.
> Tom states that the double helix is totally resistive and antenna
> elements should be straight reffering to spacial distance.,
> He then came to the astonishing conclusion that for maximum efficiency
> radiators should be straight and for some reason dismissed the double
> helix to give strength to his claim that radiators must be straight
> which is fraudulent. A straight radiator generates a external magnetic
> field which introduces losses whereas the double helix supplies all
> applied current to the generation of radiation. None of the experts on
> either group challenged challenged the statement allegedly supported
> by both Tom and Roy
> and it still remains in print to this day
> Art

I continued on reading Toms many dissertations on radiation and
antennas when I came across a lecture he gave at Dayton regarding
small antennas. Again he pushed his personal intuition with respect to
small antennas and spacial distance
and received no rebuttals from the audience or the ARRL . In addition
he always spouts his pet sentence on radiation is by the acceleration
of charge but never states what the charge carrier is
as he is still wedded to the idea of wave carriers which has no
justification what so ever. We desperately need the help from physics
majors to challenge the spread of old wives tales that are propagated
without technical justification and sucked in by the new generation of
which the hobby is now created or we lose the credibility obtained by
hams who foraged before us with respect to the state of the art.
Art Unwin

3641. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 04:03:21 UTC
From: tom <news4792@taring.org>
Message-ID: <4c79dc05$0$55707$8046368a@newsreader.iphouse.net>
Source record: 7841

On 8/28/2010 10:28 PM, Art Unwin wrote:
> On Aug 28, 9:23 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> A long time ago there was a arguement both on this group and on E ham
>> with respect to the function of a coil with respect to replacing
>> missing degrees of a wavelength.
>> Both Tom W8ji and Roy W7EL did experiments which apparently justified
>> an account written up by Tom under the subject.
>> You should look it up and read it.
>> Tom states that the double helix is totally resistive and antenna
>> elements should be straight reffering to spacial distance.,
>> He then came to the astonishing conclusion that for maximum efficiency
>> radiators should be straight and for some reason dismissed the double
>> helix to give strength to his claim that radiators must be straight
>> which is fraudulent. A straight radiator generates a external magnetic
>> field which introduces losses whereas the double helix supplies all
>> applied current to the generation of radiation. None of the experts on
>> either group challenged challenged the statement allegedly supported
>> by both Tom and Roy
>> and it still remains in print to this day
>> Art
>
> I continued on reading Toms many dissertations on radiation and
> antennas when I came across a lecture he gave at Dayton regarding
> small antennas. Again he pushed his personal intuition with respect to
> small antennas and spacial distance
> and received no rebuttals from the audience or the ARRL . In addition
> he always spouts his pet sentence on radiation is by the acceleration
> of charge but never states what the charge carrier is
> as he is still wedded to the idea of wave carriers which has no
> justification what so ever. We desperately need the help from physics
> majors to challenge the spread of old wives tales that are propagated
> without technical justification and sucked in by the new generation of
> which the hobby is now created or we lose the credibility obtained by
> hams who foraged before us with respect to the state of the art.
> Art Unwin

Thanks for those. I needed a good laugh.

tom
K0TAR

3642. aliance antenna rotor

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 06:58:05 UTC
From: rbtduckworth <rbtduckworth.6bfe828@radiobanter.com>
Message-ID: <rbtduckworth.6bfe828@radiobanter.com>
Source record: 7842

I have an old alanice antenna rotor that was given to me. I have a question the rotor has 5 wires but the control box has 4 connections how do i wire up the rotor to the box? The rotor might be a old 100 or 200 u rotor. thanks for any help Robert

--
rbtduckworth

3643. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 13:07:17 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2ce95fbd-4681-487d-906f-583973857f0b@f42g2000yqn.googlegroups.com>
Source record: 7843

On Aug 29, 2:05 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 28, 6:49 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Aug 28, 11:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Aug 28, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Aug 28, 1:36 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > > On Aug 28, 3:07 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > > Superconductors have been used as antennas where the gain has been
> > > > > > much much more than ham antennas. It does this by removing or
> > > > > > resisting the external magnetic field thus allowing the current flow
> > > > > > to exit the material and travel along its surface. Thus we are able to
> > > > > > reduce material
> > > > > > true resistance or losses and contribute solely to radiation.
> > > > > > By the same token, coils can be wound where it is totally resistive by
> > > > > > removing reactive forces. This also means the disappearance of skin
> > > > > > depth where the external magnetic field gains a foot hold. Thus, as
> > > > > > with a superconductor, we have removed the presence of resistive skin
> > > > > > depth resistance by allowing the current flow to exit the metallic
> > > > > > material and travel on its surface.
> > > > > > There are two resistances that must be dealt with in determining
> > > > > > efficiency where one is controlled by radiation that requires a equal
> > > > > > and opposite effect thus leaving only the metallic resistance to
> > > > > > concentrate upon
> > > > > > to increase efficiency. In both of the above cases we have been able
> > > > > > to divert current flow to the surface of the radiator to avoid the
> > > > > > intrinsic resistance of the radiating element, thus allowing all
> > > > > > alternating current flow to devote itself to creating radiation.
> > > > > > Art Unwin
>
> > > > > old hat, come on art, you can do better than try to latch onto someone
> > > > > else's patent:http://www.freepatentsonline.com/5105200.html
>
> > > > Where is the beef? Where is the patent? What exactly do you think the
> > > > patent is claiming?
> > > > Is the claim legitimate? Has the ham community
> > > > agreed on the removal of an external magnetic field for maximum
> > > > efficiency? You have consistently denied over the years and now
> > > > miraculesly you rush to defend it. Why are you so evil? As I stated

> > > > earlier your intuitions are leading you astray in the absence of
> > > > physics teachings or classes. Go to the Physics forum and ask for the
> > > > truth.
>
> > > I finally got around to read that patent you were referring to. It
> > > involves the increase in radiation that can be achieved by
> > > superconductors in temperatures way below that seen by humans.
> > > for hams and industry using this knowledge by far the biggest expense
> > > is the extreme cooling equipment that is required as evidenced by MRI
> > > costs which is more than the most avid ham could afford. There is no
> > > doubt that the repelling of external magnetic fields removes the
> > > formation
> > > of resistive skin depth of these ultra cool materials.
> > > I advocate the use of the Meissner effect with antennas that does not
> > > require the extensive cooling costs equipment required by
> > > superconductors to remove the presence of the resistive skin effect
> > > that superconductors have shown is very advantageous when designing
> > > antennas. These are differences in both of these methods in removing
> > > the unnecessary losses of magnetic field generation but the
> > > commonality
> > > between them is the increased efficiency in radiation. A side issue is
> > > that the idea of smaller radiators is a reality as the idea of
> > > radiators must be straight is totally false. The bottom line being
> > > that every inch of current flow produces radiation
> > > whether we like it or not and cannot be suppressed.
> > > Tom, you should avoid trying to give the impression that you are
> > > skilled in physics. You are not an engineer and you only work under a
> > > engineers supervision because of your lack of knowledge.
>
> > but of course you can't radiate without generating a magnetic field
> > and any current produces a magnetic field so everything you are saying
> > is junk.
>
> Read, read again, then read again. The magnetic field referred to is
> the EXTERNAL magnetic field.
> A superconductor REJECTS any EXTERNAL magnetic field. With respect to
> a "double helix" one can prevent the external magnetic field by
> ensuring that the helix is resistive at all points along its length.
> This results in a constant current along its length regardless of
> frequency applied.
> When amateurs in ham radio cling to the idea that radiators should be
> straight they are advocating the generation of external magnetic
> fields which only provides losses and less radiation. This is a spill
> over from the old idea that waves produce
> propagation instead of particles which is resisted
> by the older generation who are adverse to change.
> Tom you should not adopt the mantle which you have not earned as you
> only are cheating yourself.
> To others skilled in the art you are painfully transparent.

actually, probably none of my antennas are perfectly straight, all the yagi elements droop under their own weight. inverted V's follow a curved path and are of course not colinear, and in most cases not even in a plane. inverted L's aren't straight. my ferromagnetic radiators are probably the closest ones to straight, except for the one that was dropped on the way down one time and is a nice curved shape.

and you are wrong about superconductors rejecting external fields, they reject INTERNAL fields. you can have any field you want outside a superconductor. and double helixes are biological not electromagnetic, go take another basic calculus course if you think 'curl' is describing a vortex or helix.

3644. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 13:08:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <21098274-be1b-4797-ba88-138efa6f62b4@w30g2000yqw.googlegroups.com>
Source record: 7844

On Aug 29, 1:32 am, tom <news4...@taring.org> wrote:
> On 8/28/2010 6:53 PM, K1TTT wrote:
>
>
>
> > On Aug 28, 11:36 pm, Art Unwin<arthurun...@gmail.com> wrote:
> >> On Aug 28, 6:19 pm, K1TTT<k1...@arrl.net> wrote:
>
> >>> you should really talk with mr.b... he likes those old time scientists
> >>> and the stuff they wrote before all the real experiments disproved
> >>> aether and magnetic vortices and all that other stuff that you seem to
> >>> love. please write something new and funny about the magical
> >>> levitating diamagnetic neutrinos that explain how my ferromagnetic
> >>> antenna radiates.
>
> >> Every time you put pen to paper it is painfully evident that you are
> >> totally lacking in the subject of physics. A ferromagnetic antenna
> >> will certainly radiate but it totally swamps the Meissner effect
> >> common with diamagnetic materials. They certainly do not duplicate in
> >> actions with respect to radiation.
> >> Most hams build their antennas with diamagnetic materials like copper
> >> and aluminum as they do not portray the hysteresis effect common with
> >> ferromagnetic materials. As for diamagnetic materials that demonstrate
> >> levitation you can buy these on E bay or at Edmonds scientific if you
> >> have any doubts about their authenticity.
>
> > but how can it radiate if it doesn't have your magical diamagnetic
> > neutrinos to levitate??   oh and to bring in one of mr. b's
> > favorites, how do diamagnetic neutrinos accumulate on copper wire
> > antennas if they are insulated... i'm sure he will love to hear your
> > answer. he thinks electrons jump off the antenna and require a dc
> > source to keep the antenna charged, you would love to chat with him!
>
> Ooo! Ooo! I know the answer!
>
> But I'll let Art entertain you first.
>
> tom
> K0TAR

art will never figure it out, you might as well at least give him a
hint.

3645. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 13:11:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <16070de9-02fc-4100-8bdf-7c6ae4de96e6@i31g2000yqm.googlegroups.com>
Source record: 7845

On Aug 29, 2:23 am, Art Unwin <arthurun...@gmail.com> wrote:
> A long time ago there was a arguement both on this group and on E ham
> with respect to the function of a coil with respect to replacing
> missing degrees of a wavelength.
> Both Tom W8ji and Roy W7EL did experiments which apparently justified
> an account written up by Tom under the subject.
> You should look it up and read it.
> Tom states that the double helix is totally resistive and antenna
> elements should be straight reffering to spacial distance.,
> He then came to the astonishing conclusion that for maximum efficiency
> radiators should be straight and for some reason dismissed the double
> helix to give strength to his claim that radiators must be straight
> which is fraudulent. A straight radiator generates a external magnetic
> field which introduces losses whereas the double helix supplies all
> applied current to the generation of radiation. None of the experts on
> either group challenged challenged the statement allegedly supported
> by both Tom and Roy
> and it still remains in print to this day
> Art

so? many incorrect things are in print, do you believe all of them?
i think your double helixes are missing a few turns here and there.

3646. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 13:12:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2e41bc63-cf2f-4f8e-ba0f-4a920c31f0b7@f6g2000yqa.googlegroups.com>
Source record: 7846

On Aug 29, 3:28 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 28, 9:23 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > A long time ago there was a arguement both on this group and on E ham
> > with respect to the function of a coil with respect to replacing
> > missing degrees of a wavelength.
> > Both Tom W8ji and Roy W7EL did experiments which apparently justified
> > an account written up by Tom under the subject.
> > You should look it up and read it.
> > Tom states that the double helix is totally resistive and antenna
> > elements should be straight reffering to spacial distance.,
> > He then came to the astonishing conclusion that for maximum efficiency
> > radiators should be straight and for some reason dismissed the double
> > helix to give strength to his claim that radiators must be straight
> > which is fraudulent. A straight radiator generates a external magnetic
> > field which introduces losses whereas the double helix supplies all
> > applied current to the generation of radiation. None of the experts on
> > either group challenged challenged the statement allegedly supported
> > by both Tom and Roy
> > and it still remains in print to this day
> > Art
>
> I continued on reading Toms many dissertations on radiation and
> antennas when I came across a lecture he gave at Dayton regarding
> small antennas. Again he pushed his personal intuition with respect to
> small antennas and spacial distance
> and received no rebuttals from the audience or the ARRL . In addition
> he always spouts his pet sentence on radiation is by the acceleration
> of charge but never states what the charge carrier is
> as he is still wedded to the idea of wave carriers which has no
> justification what so ever. We desperately need the help from physics
> majors to challenge the spread of old wives tales that are propagated
> without technical justification and sucked in by the new generation of
> which the hobby is now created or we lose the credibility obtained by
> hams who foraged before us with respect to the state of the art.
> Art Unwin

its all up to you art, i suggest you write the definitive expose on
antenna myths... it should find a good spot in the humor section of
the book stores.

3647. Re: aliance antenna rotor

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 15:16:57 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <i5dtlc$29q$1@news.eternal-september.org>
Source record: 7847

rbtduckworth wrote:

> I have an old alanice antenna rotor that was given to me. I have a
> question the rotor has 5 wires but the control box has 4 connections how
> do i wire up the rotor to the box? The rotor might be a old 100 or 200 u
> rotor. thanks for any help Robert
>

You need to get a different control box. What you have is not
compatible. For example a T-20 rotor used a 4 wire connection and a
T-45 used a 5 wire.

Henry WA0GOZ

3648. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 16:45:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <854c9310-0a21-4f05-97b8-ccd002f13d89@t2g2000yqe.googlegroups.com>
Source record: 7848

On Aug 28, 9:23 pm, Art Unwin <arthurun...@gmail.com> wrote:
> A long time ago there was a arguement both on this group and on E ham
> with respect to the function of a coil with respect to replacing
> missing degrees of a wavelength.
> Both Tom W8ji and Roy W7EL did experiments which apparently justified
> an account written up by Tom under the subject.

I am completely ignorant of your "double helix" so I cannot comment on
that subject. I always thought a double helix was a strand of DNA.

On the subject of the number of degrees occupied by a loading coil,
both Tom and Roy made an incorrect assumption that rendered their
conclusions at best moot, and at worst false. Roy reported no
measurable phase shift in the current through a loading coil and
seemed to support the misconception that the phase shift is
proportional to the delay through the coil, which it is not.

Both Tom and Roy seemed to assume that the antenna current changes
phase by one electrical degree for each physical degree of antenna.
But EZNEC easily proves that to be an incorrect assumption for the
current in a standing-wave antenna which includes dipoles, monopoles,
and loaded mobile antennas. The following applies to 1/2WL dipoles and
1/4WL monopoles including loaded mobile antennas.

THE PHASE OF THE NET CURRENT IN A STANDING-WAVE ANTENNA CHANGES VERY
LITTLE BETWEEN THE FEEDPOINT AND THE TIP END OF THE ANTENNA.

*The phase of that current cannot be used to calculate the delay
through a wire or through a loading coil.* The phase of the net
current in a thin-wire 1/4WL monopole changes by ~3 degrees over a 90
degree physical length. The same is true for a loaded mobile antenna.
Anyone assuming that signal delay is proportional to current phase
shift in a standing wave antenna is off by a magnitude or more. Tom's
reported 3 ns delay through his coil is about 12% of the actual value
of the delay at 4MHz.

The following inductance calculator can be used to estimate the delay
through a loading coil. The parameter to use is the "Beta = rad/m,
Axial propagation factor of n=0 sheath helix waveguide mode at design
frequency[1,8]'

http://hamwaves.com/antennas/inductance.html

The rad/m of the axial propagation factor can be used to calculate the
number of degrees occupied by the specified loading coil and the
velocity factor of the loading coil. The 100T, 10" coil that Tom used
for his "measurements" has a delay of ~30 degrees at 4 MHz, virtually

unrelated to the phase-shift in the standing-wave current that he reported. Delay is NOT proportional to current phase-shift on a standing-wave antenna and certainly not for the loading coils on a standing wave antenna. However, delay is proportional to current phase-shift on a traveling-wave antenna.
--
73, Cecil, w5dxp.com

3649. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 17:11:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <38e9c540-7ca3-4e74-92f6-4de6dd7c99f4@l20g2000yqm.googlegroups.com>
Source record: 7849

On Aug 28, 3:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Whoa!You are talking apples and oranges.

Of course, but apples and oranges are both particles. The old masters were correct about the aether consisting of particles - they were just wrong about the nature of the particles.

If someone hits you in the head with a frozen apple or a frozen orange in the dark on a winter night, it is difficult to tell the difference. Quantum physics has turned on the light.
--
73, Cecil, w5dxp.com

3650. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 17:17:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a5bc3dda-b526-4fab-8297-1ecf8f85d863@z28g2000yqh.googlegroups.com>
Source record: 7850

On Aug 28, 6:49 pm, K1TTT <k1...@arrl.net> wrote:
> but of course you can't radiate without generating a magnetic field
> and any current produces a magnetic field so everything you are saying
> is junk.

Here's a quote from "Fields and Waves ...", by Ramo and Whinnery:

"A perfect conductor is usually understood to be a material in which
there is no electric field at any frequency. Maxwell's equations
ensure that there is then also no time-varying magnetic field in the
perfect conductor."
--
73, Cecil, w5dxp.com

3651. VHF relays and VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 17:47:47 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <i5e6g3$7h6$1@news.eternal-september.org>
Source record: 7751

I have two NEC 536300 relays for sale. The specs are:

50 ohms input and output
150 Watts to 470 MHz
VSWR 1.25:1
Crosstalk 40 dB
12 VDC coil
Shown in August 1965 VHFer if you still have it. I don't.

They can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

I'm asking $10 each plus shipping.
==========
I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Very good condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

3652. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 19:46:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6118c7c6-5d6d-4a37-8d1e-eae659b0c350@a36g2000yqc.googlegroups.com>
Source record: 7752

On Aug 29, 4:45 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Aug 28, 9:23 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > A long time ago there was a arguement both on this group and on E ham
> > with respect to the function of a coil with respect to replacing
> > missing degrees of a wavelength.
> > Both Tom W8ji and Roy W7EL did experiments which apparently justified
> > an account written up by Tom under the subject.
>
> I am completely ignorant of your "double helix" so I cannot comment on
> that subject. I always thought a double helix was a strand of DNA.
>
> On the subject of the number of degrees occupied by a loading coil,
> both Tom and Roy made an incorrect assumption that rendered their
> conclusions at best moot, and at worst false. Roy reported no
> measurable phase shift in the current through a loading coil and
> seemed to support the misconception that the phase shift is
> proportional to the delay through the coil, which it is not.
>
> Both Tom and Roy seemed to assume that the antenna current changes
> phase by one electrical degree for each physical degree of antenna.
> But EZNEC easily proves that to be an incorrect assumption for the
> current in a standing-wave antenna which includes dipoles, monopoles,
> and loaded mobile antennas. The following applies to 1/2WL dipoles and
> 1/4WL monopoles including loaded mobile antennas.
>
> THE PHASE OF THE NET CURRENT IN A STANDING-WAVE ANTENNA CHANGES VERY
> LITTLE BETWEEN THE FEEDPOINT AND THE TIP END OF THE ANTENNA.
>
> *The phase of that current cannot be used to calculate the delay
> through a wire or through a loading coil.* The phase of the net
> current in a thin-wire 1/4WL monopole changes by ~3 degrees over a 90
> degree physical length. The same is true for a loaded mobile antenna.
> Anyone assuming that signal delay is proportional to current phase
> shift in a standing wave antenna is off by a magnitude or more. Tom's
> reported 3 ns delay through his coil is about 12% of the actual value
> of the delay at 4MHz.
>
> The following inductance calculator can be used to estimate the delay
> through a loading coil. The parameter to use is the "Beta = rad/m,
> Axial propagation factor of n=0 sheath helix waveguide mode at design
> frequency[1,8]'
>
> http://hamwaves.com/antennas/inductance.html

>
> The rad/m of the axial propagation factor can be used to calculate the
> number of degrees occupied by the specified loading coil and the
> velocity factor of the loading coil. The 100T, 10" coil that Tom used
> for his "measurements" has a delay of ~30 degrees at 4 MHz, virtually
> unrelated to the phase-shift in the standing-wave current that he
> reported. Delay is NOT proportional to current phase-shift on a
> standing-wave antenna and certainly not for the loading coils on a
> standing wave antenna. However, delay is proportional to current phase-
> shift on a traveling-wave antenna.
> --
> 73, Cecil, w5dxp.com

but of course we all know that a standing wave is a figment of your
instrumentation!

3653. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 20:04:44 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <cb5ed3b0-2e22-4878-af9f-61fe9e4eae13@z7g2000yqg.googlegroups.com>
Source record: 7753

On Aug 28, 9:23 pm, Art Unwin <arthurun...@gmail.com> wrote:
> A long time ago there was a arguement both on this group and on
> E ham with respect to the function of a coil with respect to replacing
> missing degrees of a wavelength.

The purpose and function of a loading coil used with an electrically short antenna is to offset the capacitive reactance of the short radiating section. Otherwise it will not accept much power from a transmitter or deliver much power to a receiver, due to a very high mismatch to common types of transmission line connected to its terminals.

Check this using a simple NEC model. The model will have ~ the same radiation resistance, radiation pattern, and gain in dBi whether or not a loading coil at the feedpoint makes the antenna system resonant, other things equal.

J. Kraus states in the link below that the radiation resistance of a loaded vertical (for instance) is nearly the same as that of an unloaded vertical of the same height.

That a loading coil contributes "missing degrees" to resonate a short antenna is rather a specious concept.

http://i62.photobucket.com/albums/h85/rfry-100/Helically-woundVertical.gif

RF

3654. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 20:37:53 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5egf3$ai7$1@news.eternal-september.org>
Source record: 7754

On 8/29/2010 9:45 AM, Cecil Moore wrote:

>
> I am completely ignorant of your "double helix" so I cannot comment on
> that subject. I always thought a double helix was a strand of DNA.
>

> 73, Cecil, w5dxp.com

On the helix coil, of any helical wound loading coil, or even a linear loaded monopole/dipole, you can wind another helix, in between the turns of the first helix, both ends are open and not connected. This tends to expand the antennas' bandwidth, "normalize" ant impedance, etc.

That is the only thing I can figure he is referring to ...

Regards,
JS

3655. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 20:45:41 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5egto$co8$1@news.eternal-september.org>
Source record: 7755

On 8/28/2010 7:23 PM, Art Unwin wrote:
>> ...
> Art

Having locked myself away for months, wife will claim years, and searching for the "best" shortened stealth antenna(s), I have been forced to employ coils. In any loaded antenna (hide the JD!) the coil is best at the bottom with a .62 L/D ratio. I currently use DLM's from Robert Vincents' patent, it allows me to break the laws ... others research and mileage may vary.

The loading coil adds +J to compensate the -J from a short antenna ... however, old hams taught me that the coil adds electrical degrees, God bless them ...

Regards,
JS

3656. Re: aliance antenna rotor

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 21:48:36 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <3a68a83f-ed57-4766-b3d0-93772a1fc733@b4g2000pra.googlegroups.com>
Source record: 7756

On Aug 28, 11:58 pm, rbtduckworth <rbtduckworth.
6bfe...@radiobanter.com> wrote:
> I have an old alanice antenna rotor that was given to me. I have a
> question the rotor has 5 wires but the control box has 4 connections how
> do i wire up the rotor to the box? The rotor might be a old 100 or 200 u
> rotor. thanks for any help Robert
>
> --
> rbtduckworth

You can make it work but it will be Full Manual -- no indicator. The
motor has two coils; the high side of each coil has its own terminal;
the low sides are tied together to another terminal. These three
terminals are powered from a corresponding trio of terminals on the
box, two hots and a common.

The trick to CW or CCW rotation is that one of the hot terminals is
driven directly and the other is driven through a capacitor. The
control box switches the capacitor into one lead or the other,
according to which way you twisted the knob or pressed the lever.

A clever fellow with a multimeter could identify which terminals
belong to which function (on each unit) and connect accordingly.

"Sal"

3657. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 22:26:23 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <10331416-31e6-4970-92ca-220048a9b27f@x25g2000yqj.googlegroups.com>
Source record: 7757

On Aug 29, 2:46 pm, K1TTT <k1...@arrl.net> wrote:
> but of course we all know that a standing wave is a figment of your
> instrumentation!

Tom and Roy both measured *net* current - they did not use a
directional coupler. If they had used a directional coupler to measure
the current, they would have measured ~30 degrees shift in both the
forward current and reflected current through an 80m loading coil.

Let's talk about the net current in a 1/4WL lossless shorted stub.
Have you never looked at that equation? What is the phase-shift in the
net current from end to end in that stub? Exactly how do you
rationalize zero degrees phase-shift in the current in a stub known to
be 90 degrees in length?
--
73, Cecil, w5dxp.com

3658. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 22:34:37 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a466ffdf-a9b2-48ee-8274-f49d9fb543c3@i13g2000yqe.googlegroups.com>
Source record: 7758

On Aug 29, 3:04 pm, Richard Fry <r...@adams.net> wrote:
> The purpose and function of a loading coil used with an electrically
> short antenna is to offset the capacitive reactance of the short
> radiating section.

Uh Richard, how does it accomplish that feat without a phase shift?
Aren't -jX and +jX, 180 degrees out of phase? Exactly how is a -jX
offset without a 180 degree phase shift?

In an electrical 1/4WL standing-wave antenna, like an 80m mobile
antenna, the phase shift between the forward wave at the feedpoint and
the incident reflected wave at the feedpoint is obviously 180 degrees.
Exactly how is that accomplished without a phase shift in the loading
coil?

There is a logical intuitive way to arrive at the phase shift through
a loading coil. Would you like to hear about it?
--
73, Cecil, w5dxp.com

3659. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 22:54:02 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <b918a519-cca0-47ee-a54d-8ad291a7a840@t2g2000yqe.googlegroups.com>
Source record: 7759

On Aug 29, 5:34 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Aug 29, 3:04 pm, Richard Fry <r...@adams.net> wrote:
>
> > The purpose and function of a loading coil used with an electrically
> > short antenna is to offset the capacitive reactance of the short
> > radiating section.
>
> Uh Richard, (clip)

If the loading coil used to resonate an electrically short vertical really contributed '"electrical degrees" arising from some attribute(s) of the coil that made the short antenna system the full electrical equivalent of an unloaded, 1/4-wave vertical, then please explain why the loaded version does not have the radiation resistance, and typically the radiation efficiency of the unloaded version.

RF

3660. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-29 23:34:05 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f4829b1a-ccd2-4699-b1da-a350d3c28220@z7g2000yqg.googlegroups.com>
Source record: 7760

On Aug 29, 5:54 pm, Richard Fry <r...@adams.net> wrote:
> If the loading coil used to resonate an electrically short vertical
> really contributed '"electrical degrees" arising from some
> attribute(s) of the coil that made the short antenna system the full
> electrical equivalent of an unloaded, 1/4-wave vertical, then please
> explain why the loaded version does not have the radiation resistance,
> and typically the radiation efficiency of the unloaded version.

The radiation resistance and radiation efficiency of a short antenna,
like any other antenna, depends upon the *physical* length of the
antenna. Nothing can be done about that fact of physics where bigger
is generally better. Short resonant antennas have a lower radiation
resistance and therefore lower efficiency. Please do not confuse
radiation resistance and antenna efficiency with feedpoint impedance
where the reflected wave must arrive 180/360 deg in phase with the
forward wave for the feedpoint impedance to be resistive and resonant.
There is simply no other possibility.

The *feedpoint impedance* of a standing-wave antenna depends upon the
electrical length of the antenna. If it is resistive, the reflected
wave has undergone at least a 180 degree phase shift referenced to the
forward wave. Otherwise, the feedpoint impedance would not be purely
resistive. Make no mistake, a typical loaded mobile antenna is 90
degrees long and part of that 90 degrees is furnished by the loading
coil. Note that I said "part", not *all* of the "missing" degrees.
W8JI is correct about approximately half of the phase shift between
the coil and the stinger. He is 100% wrong about the other half of the
phase shift which occurs within the coil.

Here's a question for you: If the feedpoint impedance of a loaded
standing-wave (mobile) antenna is purely resistive, how could the
reflected wave arriving at the feedpoint have undergone anything
except a 180 degree phase shift?

Why is the feedpoint impedance of a resonant short loaded antenna
usually less than that of a 1/4WL antenna? Because the radiation
resistance is lower and the I^2*R losses are lower. But all resonant
shortened monopoles are 90 degrees in electrical length. Anyone
arguing against that fact of physics is just ignorant of how standing-
wave antennas work. That includes some otherwise knowledgeable
"gurus", incapable of admitting a mortal mistake, who post to this
newsgroup.
--
73, Cecil, w5dxp.com

3661. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 01:26:50 UTC
From: tom <news4792@taring.org>
Message-ID: <4c7b08d5$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7761

On 8/29/2010 12:17 PM, Cecil Moore wrote:
> On Aug 28, 6:49 pm, K1TTT<k1...@arrl.net> wrote:
>> but of course you can't radiate without generating a magnetic field
>> and any current produces a magnetic field so everything you are saying
>> is junk.
>
> Here's a quote from "Fields and Waves ...", by Ramo and Whinnery:
>
> "A perfect conductor is usually understood to be a material in which
> there is no electric field at any frequency. Maxwell's equations
> ensure that there is then also no time-varying magnetic field in the
> perfect conductor."
> --
> 73, Cecil, w5dxp.com

Depends on what your definition of "is" is.

Sorry, I meant "in".

tom
K0TAR

3662. Re: VHF relays and VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 01:34:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4c7b0a9d$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7762

On 8/29/2010 12:47 PM, Henry wrote:
> I have two NEC 536300 relays for sale. The specs are:
>
> 50 ohms input and output
> 150 Watts to 470 MHz
> VSWR 1.25:1
> Crosstalk 40 dB
> 12 VDC coil
> Shown in August 1965 VHFer if you still have it. I don't.
>
> They can be viewed at:
>
>
http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf
>
>
> or
>
> http://tinyurl.com/yktwxpz click on photo to enlarge it.
>
> I'm asking $10 each plus shipping.
> ==
> I have a Heath HM-2102 VHF SWR meter 50-160 MHz
> 0-25 and 0-250 watts. Very good condition.
>
> I'm *asking* $40 plus shipping.
>
>
> It can be viewed at:
>
>
http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf
>
>
> or
>
> http://tinyurl.com/yktwxpz click on photo to enlarge it.
>
> Henry WA0GOZ
>
>

Selling items on this newsgroup is contra-indicated.

As in you're not supposed to.

tom
K0TAR

3663. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 01:47:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v23m769ogh6e2okpau4c4d4bji3t7p17qv@4ax.com>
Source record: 7763

On Sun, 29 Aug 2010 20:26:50 -0500, tom <news4792@taring.org> wrote:

>Depends on what your definition of "is" is.
>
>Sorry, I meant "in".

As discontinuities are abhorred in nature, then "in" (in reality)
negates the sophist's intellectualized "in." Fields (in reality) do
reside with"in" a conductor.

The problem is how far "in" not if "in."

73's
Richard Clark, KB7QHC

3664. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 01:56:49 UTC
From: tom <news4792@taring.org>
Message-ID: <4c7b0fdc$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7764

On 8/29/2010 8:47 PM, Richard Clark wrote:
> On Sun, 29 Aug 2010 20:26:50 -0500, tom<news4792@taring.org> wrote:
>
>> Depends on what your definition of "is" is.
>>
>> Sorry, I meant "in".
>
> As discontinuities are abhorred in nature, then "in" (in reality)
> negates the sophist's intellectualized "in." Fields (in reality) do
> reside with"in" a conductor.
>
> The problem is how far "in" not if "in."
>
> 73's
> Richard Clark, KB7QHC

You are so picky. Can't you allow abbreviation at all?

tom
K0TAR

3665. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 03:29:05 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5f8i2$hp8$1@news.eternal-september.org>
Source record: 7765

On 8/29/2010 10:17 AM, Cecil Moore wrote:

>
> Here's a quote from "Fields and Waves ...", by Ramo and Whinnery:
>
> "A perfect conductor is usually understood to be a material in which
> there is no electric field at any frequency. Maxwell's equations
> ensure that there is then also no time-varying magnetic field in the
> perfect conductor."
> --
> 73, Cecil, w5dxp.com

Yeah, like a superconductor would be able to "speak" to the ether
directly ... as, I think, Art is implying ...

Regards,
JS

3666. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 03:38:56 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <Ir-dndNFeqFJuubRnZ2dnUVZ_r6dnZ2d@giganews.com>
Source record: 7766

On 8/29/2010 1:04 PM, Richard Fry wrote:
>
> The purpose and function of a loading coil used with an electrically
> short antenna is to offset the capacitive reactance of the short
> radiating section. Otherwise it will not accept much power from a
> transmitter or deliver much power to a receiver, due to a very high
> mismatch to common types of transmission line connected to its
> terminals.
> . . .

Difficulty in getting power to an antenna is due to the mismatch between the transmitter and the impedance it sees, rather than between the transmission line and antenna.

As a simple example, consider a 75 ohm dipole connected to a transmitter through a half wavelength of 600 ohm transmission line. The transmitter sees 75 ohms. Most transmitters will deliver full power to a load of that impedance and, except for line loss, all that power is delivered to the antenna in spite of a 12:1 mismatch between the transmitter and transmission line (assuming a 50 ohm output transmitter) and 8:1 mismatch between the transmission line and antenna. If you change the transmission line impedance to 75 ohms, the transmitter can't tell the difference -- it still sees 75 ohms and delivers the same amount of power, even though the line and antenna are now perfectly matched.

Roy Lewallen, W7EL

3667. Re: Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 04:19:48 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <ZpadnV7s5Mb1rObRnZ2dnUVZ_hidnZ2d@giganews.com>
Source record: 7767

On 8/27/2010 8:54 AM, Tim Shoppa wrote:
> I've had a really nice 130-foot doublet fed by ladder line hanging
> between two trees for the past three years.
>
> It's hung using 3/16" black UV-resistant polyester rope in the trees,
> and has a pulley and a 15-pound counterweight (plastic jug of sand)
> for tensioning at one end.

>. . .

> But I went ahead and replaced all the rope anyway. With the tennis
> ball cannon I actually got the new rope hung a little bit higher than
> the old rope.

> . . .

For many years I've used a slingshot to put up antennas on Field Day. Even after just a day or two, they can sometimes be hard to get down, the twine having dug its way into the tree and gotten gummed up with sap. After those experiences, I've never been willing to put an antenna up permanently or semi-permanently by just getting a rope over a branch -- I've climbed and put a pulley part way up which I've had to replace every few years as the tree grows out over it.

Of course, larger diameter rope wouldn't cut into the tree as badly as the heavy twine I use for FD. But I'm sure it would still cut in and get stuck after even a fairly short period of chafing under tension, and the tree would grow over and around the rope before long. The result would be a rope permanently stuck in the tree.

So I'm curious how this ends up working for you. My trees are nearly all confers -- Douglas Fir, hemlock, sequoia. Are yours hardwood? Are other folks able to get away with this?

Roy Lewallen, W7EL

3668. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 07:52:12 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c7b6330$0$27030$65785112@news.neostrada.pl>
Source record: 7768

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:f4829b1a-ccd2-4699-b1da-a350d3c28220@z7g2000yqg.googlegroups.com...
>
>Here's a question for you: If the feedpoint impedance of a loaded
standing-wave (mobile) antenna is purely resistive, how could the
reflected wave arriving at the feedpoint have undergone anything
except a 180 degree phase shift?

There are the two possibilities: See:
http://paws.kettering.edu/~drussell/Demos/reflect/reflect.html

1.Reflection from a HARD boundary "at a fixed (hard) boundary, the
displacement remains zero and the reflected wave changes its polarity
(undergoes a 180o phase change) "

2. Reflection from a SOFT boundary " at a free (soft) boundary, the
restoring force is zero and the reflected wave has the same polarity (no
phase change) as the incident wave "

So if the feedpoint is in distance 1/4 WL from the end you have 0 or 180
degree phase shift.

Which case is in antennas?
S*

>Why is the feedpoint impedance of a resonant short loaded antenna
usually less than that of a 1/4WL antenna? Because the radiation
resistance is lower and the I^2*R losses are lower. But all resonant
shortened monopoles are 90 degrees in electrical length. Anyone
arguing against that fact of physics is just ignorant of how standing-
wave antennas work. That includes some otherwise knowledgeable
"gurus", incapable of admitting a mortal mistake, who post to this
newsgroup.
--
>73, Cecil, w5dxp.com

3669. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 08:05:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c7b666e$0$27037$65785112@news.neostrada.pl>
Source record: 7769

"K1TTT" <k1ttt@arrl.net> wrote
news:4fdb1e80-4bc7-4b09-96c0-25836ecdceb0@k10g2000yqa.googlegroups.com...
>
>oh and to bring in one of mr. b's
favorites, how do diamagnetic neutrinos accumulate on copper wire
antennas if they are insulated... i'm sure he will love to hear your
answer. he thinks electrons jump off the antenna and require a dc
source to keep the antenna charged, you would love to chat with him!

I will love to hear your description of the Art's idea.
Your description of my idea is perfect: " he thinks electrons jump off the
antenna and require a dc
source to keep the antenna charged".

I try unerstand Art's post, but without effect.
Could you do a perfect Summary.
S*

3670. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 08:16:39 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c7b68ed$0$22798$65785112@news.neostrada.pl>
Source record: 7770

"Art Unwin" <arthurunwin@gmail.com> wrote
news:859fe953-f175-451b-a870-242fee2c7590@x42g2000yqx.googlegroups.com...
On Aug 28, 1:33 pm, K1TTT <k1...@arrl.net> wrote:
> >
> > One of the most perplexing aurguements in the history of Physics is
> > the supposed existence of the Aether. Or in other words
> > Aether is has to be considered as a media.
> > In radio terms it can be stated that communication can be carried by a
> > surface wave only if it travels along the line of different media
> > which in physics is unshakable. Thus many physists argued that
> > air itself must be considered as a medium in that surface radio waves
> > certainly exist and thus the case against the existance of an Aether
> > has not yet been proven, as the question of the two mediums involved
> > have yet to be identified.

In metals and plazma are the acoustic waves and the electric waves. In the
both are the two media: ions and electrons.
S*

3671. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 10:12:40 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <a55be432-2ce5-46a2-8e1e-5bee16fa6ea0@j8g2000yqd.googlegroups.com>
Source record: 7771

On Aug 29, 6:34 pm, Cecil Moore <w5...@hotmail.com> wrote:

> The *feedpoint impedance* of a standing-wave antenna depends upon
> the *electrical* length of the antenna. If it is resistive, the reflected
> wave has undergone at least a 180 degree phase shift referenced to
> the forward wave. Otherwise, the feedpoint impedance would not
> be purely resistive. etc

However an assumption might be taken from some posts here that a short vertical radiator loaded to resonance is the full electrical equivalent of an unloaded, resonant vertical of about 1/4-wavelength, while it is not. That is my point.

RF

3672. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 10:44:44 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <4a5e44c1-4902-4fd1-b188-408bcbc58cae@t20g2000yqa.googlegroups.com>
Source record: 7772

On Aug 29, 10:38 pm, Roy Lewallen <w...@eznec.com> wrote:

> Difficulty in getting power to an antenna is due to the mismatch between
> the transmitter and the impedance it sees, rather than between the
> transmission line and antenna.
>
> As a simple example, consider a 75 ohm dipole connected to a transmitter
> through a half wavelength of 600 ohm transmission line. /etc

Rather than using an example of a balanced antenna having reasonably high radiation resistance and zero or low reactance at its input terminals, let us consider a base-fed 10 foot whip at 3.8 MHz -- which is more along the lines of this thread.

Without using a loading coil, the input Z of that whip is about 0.6 -j 1250 ohms. The SWR that this antenna input Z presents to unmatched 50 to 600 ohm transmission line ranges from 52,167:1 to 5,340:1.

Not much power will be transferred through such a match, which is the reason for the statements in my quote which you referred to.

RF

3673. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 13:15:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <38860520-fcf3-4aae-957f-c5002518e560@z28g2000yqh.googlegroups.com>
Source record: 7773

On Aug 30, 5:12 am, Richard Fry <r...@adams.net> wrote:
> On Aug 29, 6:34 pm, Cecil Moore <w5...@hotmail.com> wrote:
> However an assumption might be taken from some posts here that a short
> vertical radiator loaded to resonance is the full electrical
> equivalent of an unloaded, resonant vertical of about 1/4-wavelength,
> while it is not. That is my point.

The short vertical radiator loaded to resonance *IS* the full *electrical* length of an unloaded, resonant vertical of about 1/4WL, which is related to the feedpoint impedance. It is NOT the full *physical* length which is related to radiation resistance and efficiency.

The feedpoint impedance of any electrically long 90 degree standing-wave antenna, including resonant loaded mobile antennas, is:

Zfp = (Vfor-Vref)/(Ifor+Iref) on the antenna, not on the feedline.

The reflected voltage has undergone a 180 degree phase shift. The reflected current has undergone a 360 degree phase shift. Part of the phase shift occurs in the loading coil. A typical resonant mobile antenna is *electrically* 90 degrees long. If it was less than 90 degrees long *electrically* it would exhibit capacitive reactance at the feedpoint.

Let's discuss a base-loaded configuration which is less complicated than a center-loaded configuration. (1) The delay through the loading coil is part of that 90 degrees. (2) The delay through the stinger is part of that 90 degrees. (3) The phase shift at the coil to stinger junction is part of the 90 degrees. Tom, W8JI, assumes a lumped inductor for calculating the phase shift at the coil to stinger junction but a 75m bugcatcher loading coil is NOT a lumped inductor - it is a distributed network existing in the real world with an associated real-world delay through the coil.

The other rail of the argument assumes all of the "missing degrees" come from the coil and none from the coil to stinger junction. Both sides are wrong. All three phase shift components listed above exist in a base-loaded mobile antenna.

(There are four phase shift components in a center-loaded mobile antenna. Degrees of electrical length are actually lost at the low Z0 base section to high Z0 loading coil junction. That's why the inductance (coil delay) has to increase for center-loaded configurations.)

Interestingly enough, a base-loaded mobile antenna functions like the dual-Z0 stubs covered on my web page and can be analyzed in the same manner:

http://www.w5dxp.com/shrtstub.htm

Here is a simplified approximate representation of what a base-loaded mobile antenna looks like electrically:

FP------Z01=5000 ohms------+------Z02=500 ohms------

The Z01 portion is the base loading coil and the Z02 portion is the stinger. The Z0 of the loading coil can be obtained from the inductance calculator at:

http://hamwaves.com/antennas/inductance.html
--
73, Cecil, w5dxp.com

3674. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 13:31:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <16d44f71-f7fc-4aed-bc1c-24ec9abaabee@t20g2000yqa.googlegroups.com>
Source record: 7774

On Aug 30, 5:44 am, Richard Fry <r...@adams.net> wrote:
>... let us consider a base-fed 10 foot whip at 3.8 MHz ...
> Without using a loading coil, the input Z of that whip is about 0.6 -j
> 1250 ohms.

A 10 foot whip at 3.8 MHz is about 0.0386 wavelength or about 14
degrees. That's about -j4.0 on a Smith Chart. Can we say that -j1250/
Z0 = -j4.0? such that the Z0 characteristic impedance of the whip at
that input Z is ~312.5 ohms?
--
73, Cecil, w5dxp.com

3675. Re: Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 14:33:34 UTC
From: Tim Shoppa <tshoppa@gmail.com>
Message-ID: <ff7df1db-bd82-457d-ac74-797348e85f65@s9g2000yqd.googlegroups.com>
Source record: 7775

On Aug 30, 12:19 am, Roy Lewallen <w...@eznec.com> wrote:
> For many years I've used a slingshot to put up antennas on Field Day.
> Even after just a day or two, they can sometimes be hard to get down,
> the twine having dug its way into the tree and gotten gummed up with
> sap. After those experiences, I've never been willing to put an antenna
> up permanently or semi-permanently by just getting a rope over a branch
> -- I've climbed and put a pulley part way up which I've had to replace
> every few years as the tree grows out over it.
>
> Of course, larger diameter rope wouldn't cut into the tree as badly as
> the heavy twine I use for FD. But I'm sure it would still cut in and get
> stuck after even a fairly short period of chafing under tension, and the
> tree would grow over and around the rope before long. The result would
> be a rope permanently stuck in the tree.
>
> So I'm curious how this ends up working for you. My trees are nearly all
> confers -- Douglas Fir, hemlock, sequoia. Are yours hardwood? Are other
> folks able to get away with this?
>
> Roy Lewallen, W7EL

Roy -
Let me tell you, I could never be good enough with a slingshot to get a line over a 120 foot tree! But the tennis ball cannon has served quite nicely for sending a line over any tree I could find. We could probably agree to disagree on this - you're good with the slingshot, and I'm an ace with the cannon.

I find that even in non-conifer trees that it's likely for a 1/4" or 3/16" rope to get stuck after a year or more. If there's a single crotch with a tight angle in it (e.g. 90 degrees) as opposed to a number of turns of smaller angles it seems more likely to get stuck. I don't see how twine could hold up for nearly that long. My installations are Dacron/polyester rope with pulleys and a counterweight; the counterweight is IMHO absolutely essential to having the antenna survive a thunderstorm.

There are also fast-growing pine trees in my neighborhood but they are "new" and not the giant old-growth trees. In the February snowstorms (4 feet of snow! Snowpocalypse!) a *lot* of the medium height pines came down under the weight of the 4 foot snowfall. Non-evergreen trees also came down but not nearly at the rate that the conifers did.

Tim N3QE

3676. Tube vs Rod Steel/Copper/Aluminum

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 15:12:41 UTC
From: InfRes <infres0@gmail.com>
Message-ID: <1dc0e576-8963-4dcd-9de1-07bb5580d6a5@h19g2000yqb.googlegroups.com>
Source record: 7776

Hi,

I've noticed most homebuilt amateur antennas use tubing and usually copper,
whereas commercial antennas typically use round bar, either steel or Aluminum.

I understand the advantages of the materials in terms of electrical conductivity and weather resistance,
however I dont understand the pro's and cons of using tube vs round bar? Can you point me to
a book that may discuss this?

Have studies been done re the effect of a layer of oxidation on the performance of the antenna?

Finally, there is plenty of material about designing antennae for a band, but every little about designing it at a particular impedence,
can you point me to a discussion on this too?

Thanks

Steven

3677. Re: Tube vs Rod Steel/Copper/Aluminum

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 15:23:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <9pin7698u94mrjhnkanon5rn9thkj0s41g@4ax.com>
Source record: 7777

On Mon, 30 Aug 2010 08:12:41 -0700 (PDT), InfRes <infres0@gmail.com>
wrote:

>I dont understand the pro's and cons of using tube vs round
>bar? Can you point me to
>a book that may discuss this?

Hi Steven,

No book necessary. Walk into a store that sells any of this and you
will tell several things immediately:
1. what is available;
2. what is affordable;
3. which weighs more for no increase in performance.

>Have studies been done re the effect of a layer of oxidation on the
>performance of the antenna?

Oxidation is another form of insulation. Lots of antennas are
insulated. They have been studied galore. If the oxidation becomes
as thick as a vinyl jacket on your coax, then the antenna is going to
resonate at a lower frequency.

>Finally, there is plenty of material about designing antennae for a
>band, but every little about designing it at a particular impedence,
>can you point me to a discussion on this too?

Those references are too numerous to recite in one place - that is
what google is for. To the nature of your question, there is no
reliable "formula" for all styles of antenna that can provide a
satisfactory answer. Even simple antennas have complex relationships.

73's
Richard Clark, KB7QHC

3678. Re: Tube vs Rod Steel/Copper/Aluminum

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 15:30:26 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <tsadnZP0yZkIU-bRnZ2dnUVZ_t6dnZ2d@earthlink.com>
Source record: 7778

"InfRes" <infres0@gmail.com> wrote in message
news:1dc0e576-8963-4dcd-9de1-07bb5580d6a5@h19g2000yqb.googlegroups.com...
> Hi,
>
> I've noticed most homebuilt amateur antennas use tubing and usually
> copper,
> whereas commercial antennas typically use round bar, either steel or
> Aluminum.
>
> I understand the advantages of the materials in terms of electrical
> conductivity and weather resistance,
> however I dont understand the pro's and cons of using tube vs round
> bar? Can you point me to
> a book that may discuss this?
>
> Have studies been done re the effect of a layer of oxidation on the
> performance of the antenna?
>
> Finally, there is plenty of material about designing antennae for a
> band, but every little about designing it at a particular impedence,
> can you point me to a discussion on this too?
>
> Thanks
>
> Steven
>
>

Electrically there is not much differance in using tubing or rods. It is
mainly about the cost, weight and strength.

Copper is used by many at home because you can get it at the local stores
where aluminum is often hard to come by in lots of towns. Also you can
solder to copper where not many can solder or weld aluminum.

The impedance is not usually that much concern, Just design for gain and
f/b ratio and then match whatever impedance you have to the transmission
line you are going to use.

3679. Re: Tube vs Rod Steel/Copper/Aluminum

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 16:03:42 UTC
From: Tim Shoppa <tshoppa@gmail.com>
Message-ID: <5675e300-2857-4cc7-b369-fe51bf79b9f6@l6g2000yqb.googlegroups.com>
Source record: 7779

On Aug 30, 11:12 am, InfRes <infr...@gmail.com> wrote:
> Hi,
>
> I've noticed most homebuilt amateur antennas use tubing and usually
> copper,
> whereas commercial antennas typically use round bar, either steel or
> Aluminum.
>
> I understand the advantages of the materials in terms of electrical
> conductivity and weather resistance,
> however I dont understand the pro's and cons of using tube vs round
> bar? Can you point me to
> a book that may discuss this?
>
> Have studies been done re the effect of a layer of oxidation on the
> performance of the antenna?
>
> Finally, there is plenty of material about designing antennae for a
> band, but every little about designing it at a particular impedence,
> can you point me to a discussion on this too?

Copper has the advantages that copper pipe and fittings are available at any hardware store or home improvement store. Aluminum isn't exactly rare but it's not so easy to find in your hometown on a Sunday afternoon at a retail store.

Copper is also easily joined with solder by just about anyone using very simple tools. Aluminum can be welded but this requires more skill and a welding machine.

Aluminum is a superior antenna material in terms of strength per dollar or strength per weight, but not quite as readily available.

Very few aluminum antenna designs use solid bar, with the exception of VHF/UHF or tips where the elements are so skinny that there's no point to making them hollow. The vast majority of HF aluminum antennas are not solid bar but nested sections of aluminum tubing. The ham radio magazines have lots of ads in the back from places that sell nesting aluminum tubing sections.

I don't think there is any substantial electrical difference in copper vs aluminum oxidation. Play with EZNEC varying the conductivities and you'll find that the conductivity changes are in the noise.

One important thread in these antenna designs, is not that they are numerically superior in performance to some other technique. It's that

they're buildable by average hams using readily available materials.

Tim.

3680. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 16:39:21 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i5gmrp$ls2a$1@tr22n12.aset.psu.edu>
Source record: 7780

Cecil Moore wrote:
> On Aug 28, 3:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>> Whoa!You are talking apples and oranges.
>
> Of course, but apples and oranges are both particles. The old masters
> were correct about the aether consisting of particles - they were just
> wrong about the nature of the particles.
>
> If someone hits you in the head with a frozen apple or a frozen orange
> in the dark on a winter night, it is difficult to tell the difference.
> Quantum physics has turned on the light.

You people are all barking up the wrong tree. Phlogiston theory is where it is at. Everything since then is nothing but gobbldygook. Including that Johnny come lately, Aether theory.

-73 de Mike N3LI -

3681. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 17:26:47 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5gpkomcc1@news.eternal-september.org>
Source record: 7781

On 8/30/2010 3:12 AM, Richard Fry wrote:
> On Aug 29, 6:34 pm, Cecil Moore<w5...@hotmail.com> wrote:
>
>> The *feedpoint impedance* of a standing-wave antenna depends upon
>> the *electrical* length of the antenna. If it is resistive, the reflected
>> wave has undergone at least a 180 degree phase shift referenced to
>> the forward wave. Otherwise, the feedpoint impedance would not
>> be purely resistive. etc
>
> However an assumption might be taken from some posts here that a short
> vertical radiator loaded to resonance is the full electrical
> equivalent of an unloaded, resonant vertical of about 1/4-wavelength,
> while it is not. That is my point.
>
> RF

In the above "equivalent" is used in an interesting way. If equivalent
is used as a term of efficiency, you are absolutely correct. If you are
saying my transmitter still knows the difference between a "straight"
1/4 wave and an "equivalent loaded" antenna, the use becomes false ...
i.e., when I dip the loaded antenna with my GDO, and the antenna is
properly constructed, it tells me I have the "true" equivalent of a 1/4
wave.

Regards,
JS

3682. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 17:41:32 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5gqgdmcc2@news.eternal-september.org>
Source record: 7782

On 8/30/2010 1:05 AM, Szczepan Bialek wrote:

> ...
> I will love to hear your description of the Art's idea.
> Your description of my idea is perfect: " he thinks electrons jump off the
> antenna and require a dc
> source to keep the antenna charged".
>
> I try unerstand Art's post, but without effect.
> Could you do a perfect Summary.
> S*
>
>

Yeah. Art and "something about" some dc current/voltage and the ac current/voltage, (some dc voltage) + (some ac voltage) = peaks of ac raised to the combined potential of both is ... well, it is something, I guess ...

Regards,
JS

3683. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 17:57:03 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <25ab9ac0-be50-4e79-986f-3a02ed0ef31d@i13g2000yqd.googlegroups.com>
Source record: 7783

On Aug 30, 11:39 am, Michael Coslo <m...@psu.edu> wrote:
> Cecil Moore wrote:
> > On Aug 28, 3:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
> >> Whoa!You are talking apples and oranges.
>
> > Of course, but apples and oranges are both particles. The old masters
> > were correct about the aether consisting of particles - they were just
> > wrong about the nature of the particles.
>
> > If someone hits you in the head with a frozen apple or a frozen orange
> > in the dark on a winter night, it is difficult to tell the difference.
> > Quantum physics has turned on the light.
>
> You people are all barking up the wrong tree. Phlogiston theory is where
> it is at. Everything since then is nothing but gobbldygook. Including
> that Johnny come lately, Aether theory.
>
> -73 de Mike N3LI -

Mike as I understand it Aether theory started with the motion that if
two mediums meet then a electron
can pass thru both mediums OR travel between two mediums. I suppose
you can look at the Universe that way starting

and then going thru a progression of different mediums until you come
to the end or the last medium. If you put together two pieces of glass
in sandwich fashion a electron, say light, may travel thru both pieces
of glass AND/OR along the path
between the two pieces of glass.
Thus the exercise starts with Earth itself and then one determines the
next medium and so on until one reaches the outer Galaxy. Now in a
particular case scientists came across a dilemma where a path of light
existed parallel to a medium but they could not determine exactly what
the next medium was. Thus was brought forward the term Aether
as a stop gap term until the medium could be truely determined.

3684. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 19:35:35 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <fac19bdd-77f3-40fb-b0b5-cd897f520064@f42g2000yqn.googlegroups.com>
Source record: 7784

On Aug 30, 12:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Thus the exercise starts with Earth itself and then one determines the
> next medium and so on until one reaches the outer Galaxy.

Visible energy/matter can occupy the same space as dark energy/matter,
much like solid salt and water can occupy the same space. Just as the
salt contributes to the mass contained in the water, visible mass
contributes to the mass occupied by dark matter.
--
73, Cecil, w5dxp.com

3685. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 20:19:00 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <kpudnRnpGI6kj-HRnZ2dnUVZ_vqdnZ2d@giganews.com>
Source record: 7785

On 8/30/2010 3:44 AM, Richard Fry wrote:
> On Aug 29, 10:38 pm, Roy Lewallen<w...@eznec.com> wrote:
>
>> Difficulty in getting power to an antenna is due to the mismatch between
>> the transmitter and the impedance it sees, rather than between the
>> transmission line and antenna.
>>
>> As a simple example, consider a 75 ohm dipole connected to a transmitter
>> through a half wavelength of 600 ohm transmission line. /etc
>
> Rather than using an example of a balanced antenna having reasonably
> high radiation resistance and zero or low reactance at its input
> terminals, let us consider a base-fed 10 foot whip at 3.8 MHz -- which
> is more along the lines of this thread.
>
> Without using a loading coil, the input Z of that whip is about 0.6 -j
> 1250 ohms. The SWR that this antenna input Z presents to unmatched 50
> to 600 ohm transmission line ranges from 52,167:1 to 5,340:1.
>
> Not much power will be transferred through such a match, which is the
> reason for the statements in my quote which you referred to.
>
> RF

Power will indeed be transferred through such a match. Using your antenna as an example, suppose that a transmitter with output Z of 50 ohms is connected to a tuner that transforms its output impedance to 0.6 + j1250 ohms. Connect the output of the tuner to a half wavelength 600 ohm transmission line to the antenna. The transmitter will see 50 + j0 ohms, the antenna will see an impedance of 0.6 + j1250 ohms, and full power will be transferred. Power transfer has nothing to do with the SWR on the line or the match between the line and antenna.

In practice, the line loss will increase some due to the very high SWR, but the loss increase won't be much if the matched line loss is low.

I chose a half wavelength for simplicity, but it's not necessary. Other lengths of line will transform the antenna impedance to different values. All that's necessary is to readjust the tuner accordingly to match the different impedance.

Amateurs have successfully been using this method to feed nonresonant and multi-band antennas for decades.

Roy Lewallen, W7EL

3686. Re: Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 20:26:14 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <et-dnW8ndM93juHRnZ2dnUVZ_sOdnZ2d@giganews.com>
Source record: 7786

On 8/30/2010 7:33 AM, Tim Shoppa wrote:
>
> Roy -
> Let me tell you, I could never be good enough with a slingshot to
> get a line over a 120 foot tree! But the tennis ball cannon has
> served quite nicely for sending a line over any tree I could find. We
> could probably agree to disagree on this - you're good with the
> slingshot, and I'm an ace with the cannon.
>
> I find that even in non-conifer trees that it's likely for a 1/4" or
> 3/16" rope to get stuck after a year or more. If there's a single
> crotch with a tight angle in it (e.g. 90 degrees) as opposed to a
> number of turns of smaller angles it seems more likely to get stuck. I
> don't see how twine could hold up for nearly that long. My
> installations are Dacron/polyester rope with pulleys and a
> counterweight; the counterweight is IMHO absolutely essential to
> having the antenna survive a thunderstorm.
>
> There are also fast-growing pine trees in my neighborhood but they
> are "new" and not the giant old-growth trees. In the February
> snowstorms (4 feet of snow! Snowpocalypse!) a *lot* of the medium
> height pines came down under the weight of the 4 foot snowfall. Non-
> evergreen trees also came down but not nearly at the rate that the
> conifers did.
>
> Tim N3QE

I wasn't intending to argue about the best method to put a line over a tree -- I backpack my portable station as well as camping equipment on Field Day, which is why my choice of a slingshot and twine. My best height with it is about 100 feet, but I usually choose my FD sites for sloping terrain to the east so I don't need much height. My question is only about the problem of a line getting stuck after a short while. I've assumed that conifers are more of a problem because of the sticky pitch and relatively soft wood. What are the experiences others have had with moderately sized line?

Roy Lewallen, W7EL

3687. Re: Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 20:46:13 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <kv5o76hsnck6448h1514efv5uia4jdnfns@4ax.com>
Source record: 7787

On Fri, 27 Aug 2010 08:54:39 -0700 (PDT), Tim Shoppa
<tshoppa@gmail.com> wrote:

>I've had a really nice 130-foot doublet fed by ladder line hanging
>between two trees for the past three years.
>
>It's hung using 3/16" black UV-resistant polyester rope in the trees,
>and has a pulley and a 15-pound counterweight (plastic jug of sand)
>for tensioning at one end.
>
>It's held up remarkably well over those three years, but I had noticed
>that the rope while still fundamentally flexible was kinda
>"hardening".
>
>Where it went through the tree branches there was remarkably little
>wear over the three years. There was some black fluff where some
>chafing had occured but it still was holding up nicely.
>
>But I went ahead and replaced all the rope anyway. With the tennis
>ball cannon I actually got the new rope hung a little bit higher than
>the old rope.
>
>Just by touch, the new rope feels flexible and supple, and I contrast
>that with the old rope that isn't exactly "brittle" but does not feel
>nearly as flexible. The new rope felt kinda like a towel just having
>been washed and dried; the old rope felt kinda like a towel that had
>been used to mop the garage floor and then left lying there to dry.
>Maybe the feel was just grime and dirt that the rope had absorbed over
>the years?
>
>I fixed a couple of broken ladder line insulators, and inspected the
>plastic end insulators too. The UV-rated polycarbonate that I had used
>for the insulators seemed to be holding up fine, although it was no
>longer crystal clear and had a good amount of grime and haze on it.
>Certainly didn't feel "brittle" yet.
>
>I did replace the plastic jug of sand that's used as the
>counterweight. I had painted the jug brown and green to kinda blend in
>with the trees but even despite the paint layer I was a little worried
>about the plastic deteriorating there. On a previous antenna I had
>used a 1 gallon plastic milk container to hold the sand and that
>didn't even last a year before decaying. I'm using some darkroom
>container jugs now, with some extra reinforcement rope through the
>handle on the interior, and they seem to hold up OK.

>
>Is three years a typical "good repair" replacement interval for ropes
>in trees? I think it probably could've stayed up another 10 to tell
>you the truth.
>
>Re-hanging the antenna back up after replacing the rope felt so good.
>It is beautiful to see it stretching from treetop to treetop one
>hundred feet up.
>
>Tim N3QE

Try this.

When you replace the rope, put up an extra length of rope with nothing attached to it. I have a rope over the limbs to two trees; trees are about 160 feet apart, which accommodates a 135-foot doublet fed with open-wire line.

I installed, over each tree limb, next to the ropes that hold the antenna, another rope that is simply a long loop -- goes from the ground to the limb, over the limb, and back down to the ground. There's no strain on this rope -- actually, two ropes, one over each limb where the antenna is supported. That way, if the rope holding the antenna breaks, I already have a spare rope installed -- just use it to haul up a new antenna support rope -- no need to haul out the slingshot.

3688. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 21:22:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <OcedndB7rN2avOHRnZ2dnUVZ_s6dnZ2d@giganews.com>
Source record: 7788

The lack of comprehension of fundamental physics on this newsgroup is astounding, so it's no surprise that a less-known fact has been missed:

A superconductor has zero resistance only at DC. The resistance at RF depends, among other things, the frequency and the material's temperature. Because the resistivity of copper drops dramatically at cryogenic temperatures, it can be difficult to make a superconductor with resistance as low as copper at the same temperature.

Very small superconducting antennas have been demonstrated, but they still have a very large near field which sustains loss by coupling to nearby objects, and a large reactance which necessitates potentially lossy matching networks.

Roy Lewallen, W7EL

3689. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 22:19:46 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <34df5e34-8e07-4f8b-a131-6f4825bbc7b7@a36g2000yqc.googlegroups.com>
Source record: 7789

On Aug 30, 3:19 pm, Roy Lewallen <w...@eznec.com> wrote:
> Using your antenna as an example, suppose that a transmitter
> with output Z of 50 ohms is connected to a tuner that transforms
> its output impedance to 0.6 + j1250 ohms. /etc

Note that my post stated "UNMATCHED."

RF

3690. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 22:22:52 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b6fe0e6d-e99e-410c-b7ef-146c80617eaa@f6g2000yqa.googlegroups.com>
Source record: 7790

On Aug 30, 2:35 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Aug 30, 12:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Thus the exercise starts with Earth itself and then one determines the
> > next medium and so on until one reaches the outer Galaxy.
>
> Visible energy/matter can occupy the same space as dark energy/matter,
> much like solid salt and water can occupy the same space. Just as the
> salt contributes to the mass contained in the water, visible mass
> contributes to the mass occupied by dark matter.
> --
> 73, Cecil, w5dxp.com

Since you are so familiar with the concept why not start from Earth
with a progression until you get to Aether. I don't think you will get
to your favorite "dark matter" For that matter explain what a "medium"
is in physics terms.

3691. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 22:48:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DE55986D83B2nonenowhere@61.9.134.55>
Source record: 7791

Roy,

The mention of reactance means we are talking in the frequency domain,
and a steady state solution is being discussed.

Roy Lewallen <w7el@eznec.com> wrote in
news:kpudnRnpGI6kj-HRnZ2dnUVZ_vqdnZ2d@giganews.com:

...
> Power will indeed be transferred through such a match. Using your
> antenna as an example, suppose that a transmitter with output Z of 50
> ohms is connected to a tuner that transforms its output impedance to
> 0.6 + j1250 ohms. Connect the output of the tuner to a half wavelength

Does the use of "output impedance" here mean that he transmitter can be
validly represented by a Thevenin equivalent circuit, and that "output
impedance" is the Thevenin equivalent source impedance.

Without getting into that arguable postion and reinforcing the notion
that a transmitter rated for a nominal 50 ohm load has a source impedance
of 50+j0, you could say:

... Using your antenna as an example, suppose that a transmitter designed
to operate into a load Z of 50+j0 ohms is connected to a tuner that
transforms the antenna (0.5-j1250) to its preferred load impedance (50
+j0). Connect ...

> 600 ohm transmission line to the antenna. The transmitter will see 50
> + j0 ohms, the antenna will see an impedance of 0.6 + j1250 ohms, and
> full power will be transferred. Power transfer has nothing to do with
> the SWR on the line or the match between the line and antenna.
>
> In practice, the line loss will increase some due to the very high
> SWR, but the loss increase won't be much if the matched line loss is
> low.
>
> I chose a half wavelength for simplicity, but it's not necessary.
> Other lengths of line will transform the antenna impedance to
> different values. All that's necessary is to readjust the tuner
> accordingly to match the different impedance.

And:

All that's necessary is to readjust the tuner accordingly to deliver the
transmitter its rated load impedance.

>
> Amateurs have successfully been using this method to feed nonresonant
> and multi-band antennas for decades.
>
> Roy Lewallen, W7EL
>

As you will have noted, some band the term 'match' around with abandon, and it means different things in different contexts, and to different readers.

Take a transmitter designed for a 50+j0 load, connected by an electrical half wave of 70 ohm coax to a 50 ohm load. Is it 'matched'? Well, from the information, it is correctly loaded, it is designed for a 50+j0 load, and it has a 50+j0 (approximately) load. We don't actually know the source impedance, and even if we did, it this case, whether the transmitter is 'matched' to the line, and whether the line is 'matched' to the load is unimportant.

'Output impedance' is another term that is used differently, some use it to mean the equivalent source impedance, some to mean the required load, and some insist the foregoing are naturally the same, or will be if the transmitter is 'matched' for maximum power output.

Owen

3692. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 22:52:30 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <JqWdnR0Aj9Svq-HRnZ2dnUVZ_tGdnZ2d@giganews.com>
Source record: 7792

On 8/30/2010 3:19 PM, Richard Fry wrote:
> On Aug 30, 3:19 pm, Roy Lewallen<w...@eznec.com> wrote:
>> Using your antenna as an example, suppose that a transmitter
>> with output Z of 50 ohms is connected to a tuner that transforms
>> its output impedance to 0.6 + j1250 ohms. /etc
>
> Note that my post stated "UNMATCHED."
>
> RF

I did. You stated:

> Without using a loading coil, the input Z of that whip is about 0.6 -j
> 1250 ohms. The SWR that this antenna input Z presents to unmatched 50
> to 600 ohm transmission line ranges from 52,167:1 to 5,340:1.

In my example, the antenna is not matched to the transmission line. Nor, for that matter, is the transmitter matched to the transmission line. My point is that power transfer doesn't depend on either of these points being matched.

Roy Lewallen, W7EL

3693. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 23:06:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c4674ba6-97f8-450c-b49c-27dc6c83fba7@d8g2000yqf.googlegroups.com>
Source record: 7793

On Aug 30, 5:22 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Since you are so familiar with the concept why not start from Earth
> with a progression until you get to Aether. I don't think you will get
> to your favorite "dark matter" For that matter explain what a "medium"
> is in physics terms.

Art, you don't seem to understand that there is a quantum base medium
to which some other medium may or may not be added. The base medium
exists throughout all of universal space and is the only medium that
exists in otherwise empty space. Any other added medium, e.g. air or
water, is just mixed with that base medium. Please stop thinking with
a concrete brain.
--
73, Cecil, w5dxp.com

3694. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 23:36:00 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <85CdnaYwFs6g3eHRnZ2dnUVZ_uGdnZ2d@bright.net>
Source record: 7794

Dear Group:

I add a vote for avoiding the arguable position about the "output Z" of
a transmitter (note, transmitter) and instead using words similar to those
used by Mr. Owen Duffy: a transmitter designed to operate into a load Z of
50+j0 ohms

Conclusions reached with a minimum of needed assumptions are preferred.
Roy's observations do not require a particular output Z and are true.

A signal generator with an emitter-follower output stage having a 50 ohm
resistor in series with the output port can have an output Z of very close
to 50 ohms over a broad frequency range.

73, Mac N8TT
--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"Owen Duffy" <none@no.where> wrote in message
news:Xns9DE55986D83B2nonenowhere@61.9.134.55...
> Roy,
>
> The mention of reactance means we are talking in the frequency domain,
> and a steady state solution is being discussed.
>
>
> Roy Lewallen <w7el@eznec.com> wrote in
> news:kpudnRnpGI6kj-HRnZ2dnUVZ_vqdnZ2d@giganews.com:
>
> ...
>> Power will indeed be transferred through such a match. Using your
>> antenna as an example, suppose that a transmitter with output Z of 50
>> ohms is connected to a tuner that transforms its output impedance to
>> 0.6 + j1250 ohms. Connect the output of the tuner to a half wavelength
>
> Does the use of "output impedance" here mean that he transmitter can be
> validly represented by a Thevenin equivalent circuit, and that "output
> impedance" is the Thevenin equivalent source impedance.
>
> Without getting into that arguable postion and reinforcing the notion
> that a transmitter rated for a nominal 50 ohm load has a source impedance
> of 50+j0, you could say:
>
> ... Using your antenna as an example, suppose that a transmitter designed
> to operate into a load Z of 50+j0 ohms is connected to a tuner that

> transforms the antenna (0.5-j1250) to its preferred load impedance (50
> +j0). Connect ...
>
>
>> 600 ohm transmission line to the antenna. The transmitter will see 50
>> + j0 ohms, the antenna will see an impedance of 0.6 + j1250 ohms, and
>> full power will be transferred. Power transfer has nothing to do with
>> the SWR on the line or the match between the line and antenna.
>>
>> In practice, the line loss will increase some due to the very high
>> SWR, but the loss increase won't be much if the matched line loss is
>> low.
>>
>> I chose a half wavelength for simplicity, but it's not necessary.
>> Other lengths of line will transform the antenna impedance to
>> different values. All that's necessary is to readjust the tuner
>> accordingly to match the different impedance.
>
> And:
>
> All that's necessary is to readjust the tuner accordingly to deliver the
> transmitter its rated load impedance.
>
>>
>> Amateurs have successfully been using this method to feed nonresonant
>> and multi-band antennas for decades.
>>
>> Roy Lewallen, W7EL
>>
>
> As you will have noted, some band the term 'match' around with abandon,
> and it means different things in different contexts, and to different
> readers.
>
> Take a transmitter designed for a 50+j0 load, connected by an electrical
> half wave of 70 ohm coax to a 50 ohm load. Is it 'matched'? Well, from
> the information, it is correctly loaded, it is designed for a 50+j0 load,
> and it has a 50+j0 (approximately) load. We don't actually know the
> source impedance, and even if we did, it this case, whether the
> transmitter is 'matched' to the line, and whether the line is 'matched'
> to the load is unimportant.
>
> 'Output impedance' is another term that is used differently, some use it
> to mean the equivalent source impedance, some to mean the required load,
> and some insist the foregoing are naturally the same, or will be if the
> transmitter is 'matched' for maximum power output.
>
> Owen

3695. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 23:39:59 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <78c16b69-cdfb-4c79-8c89-ac865431ac6a@e14g2000yqe.googlegroups.com>
Source record: 7795

On Aug 30, 6:06 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Aug 30, 5:22 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Since you are so familiar with the concept why not start from Earth
> > with a progression until you get to Aether. I don't think you will get
> > to your favorite "dark matter" For that matter explain what a "medium"
> > is in physics terms.
>
> Art, you don't seem to understand that there is a quantum base medium
> to which some other medium may or may not be added. The base medium
> exists throughout all of universal space and is the only medium that
> exists in otherwise empty space. Any other added medium, e.g. air or
> water, is just mixed with that base medium. Please stop thinking with
> a concrete brain.
> --
> 73, Cecil, w5dxp.com

Concrete brain ! What are you referring to ?
Frankly I just do not understand your response.

3696. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 23:40:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4d826a5a-e451-4517-8b18-4ee672695b34@k10g2000yqa.googlegroups.com>
Source record: 7796

On Aug 29, 8:45 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/28/2010 7:23 PM, Art Unwin wrote:
>
> >> ...
> > > Art
>
> Having locked myself away for months, wife will claim years, and
> searching for the "best" shortened stealth antenna(s), I have been
> forced to employ coils. In any loaded antenna (hide the JD!) the coil
> is best at the bottom with a .62 L/D ratio. I currently use DLM's from
> Robert Vincents' patent, it allows me to break the laws ... others
> research and mileage may vary.
>
> The loading coil adds +J to compensate the -J from a short antenna ...
> however, old hams taught me that the coil adds electrical degrees, God
> bless them ...
>
> Regards,
> JS

this one sounds like a religious argument to me... to phase shift or
not to phase shift, that is the degrees of shortening... weather tis
nobler to count the degrees or accept the time delay traveling waves,
one way or another there is still high voltage at the top and high
current at the bottom, and never the twain shall meet.

3697. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 23:44:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8d2e613f-b164-4e04-8859-447f135c988d@y11g2000yqm.googlegroups.com>
Source record: 7797

On Aug 30, 11:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 30, 6:06 pm, Cecil Moore <w5...@hotmail.com> wrote:
>
> > On Aug 30, 5:22 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > Since you are so familiar with the concept why not start from Earth
> > > with a progression until you get to Aether. I don't think you will get
> > > to your favorite "dark matter" For that matter explain what a "medium"
> > > is in physics terms.
>
> > Art, you don't seem to understand that there is a quantum base medium
> > to which some other medium may or may not be added. The base medium
> > exists throughout all of universal space and is the only medium that
> > exists in otherwise empty space. Any other added medium, e.g. air or
> > water, is just mixed with that base medium. Please stop thinking with
> > a concrete brain.
> > --
> > 73, Cecil, w5dxp.com
>
> Concrete brain ! What are you referring to ?
> Frankly I just do not understand your response.

he's telling you that you are right but you are just so smart that you
can't understand your own solution!

3698. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-30 23:45:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0276ca9e-868c-457e-8421-23d4c14e2bd9@d8g2000yqf.googlegroups.com>
Source record: 7798

On Aug 30, 8:05 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:4fdb1e80-4bc7-4b09-96c0-25836ecdceb0@k10g2000yqa.googlegroups.com...
>
> >oh and to bring in one of mr. b's
>
> favorites, how do diamagnetic neutrinos accumulate on copper wire
> antennas if they are insulated... i'm sure he will love to hear your
> answer. he thinks electrons jump off the antenna and require a dc
> source to keep the antenna charged, you would love to chat with him!
>
> I will love to hear your description of the Art's idea.
> Your description of my idea is perfect: " he thinks electrons jump off the
> antenna and require a dc
> source to keep the antenna charged".
>
> I try unerstand Art's post, but without effect.
> Could you do a perfect Summary.
> S*

instead of electrons jumping off the antenna art charges it with
magical levitating diamagnetic neutrinos that flow out from the sun
during sunspots to fly off the antenna. that would be the same
mechanism that those other scientist dream of for affecting
radioactive decay.

3699. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 00:05:00 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5hgvd$1eo$1@news.eternal-september.org>
Source record: 7799

On 8/30/2010 4:40 PM, K1TTT wrote:

> ...
> this one sounds like a religious argument to me... to phase shift or
> not to phase shift, that is the degrees of shortening... weather tis
> nobler to count the degrees or accept the time delay traveling waves,
> one way or another there is still high voltage at the top and high
> current at the bottom, and never the twain shall meet.

From your posts here, over many subjects, I would deduce everything here sounds religious to you. Or, as if it comes from evil spirits. Or, it comes from an oracle sniffing the vapors of petroleum. Or, some drug which has affected the mind ... etc.

Regards,
JS

3700. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 00:13:15 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5hhes$1eo$2@news.eternal-september.org>
Source record: 7800

On 8/30/2010 4:39 PM, Art Unwin wrote:
> ...

Simply put, the ether has been in existence before God ... well, wait, they may cause a big debate ... change that to, "... in existence since God." ROFLOL

Regards,
JS

3701. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 00:48:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r4io7652c2kpi68o05ruum9pj0o2d4tc94@4ax.com>
Source record: 7701

On Mon, 30 Aug 2010 14:22:11 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>The lack of comprehension of fundamental physics on this newsgroup is
>astounding, so it's no surprise that a less-known fact has been missed:
>
>A superconductor has zero resistance only at DC. The resistance at RF
>depends, among other things, the frequency and the material's
>temperature. Because the resistivity of copper drops dramatically at
>cryogenic temperatures, it can be difficult to make a superconductor
>with resistance as low as copper at the same temperature.

Zero resistance is not strictly a function of direct current. It is simply the most often reported experimental characteristic in the popular press. Impracticality of the additional RF characteristic (which I presume in this forum to be confined to UHF and below) is unwarranted in materials research at this point, but EHF/IR and above results are frequently reported in association with other research - plasmonics and phonon/electron interaction.

The resistivity of copper falls with temperature, true, but we encounter diminishing returns as we approach absolute zero: the drop fails to follow through to the expected final zero resistance. This was an experimental dissappointment decades ago. Silver and gold are rarely chosen for their electrical properties in the nano-dimension - chilled or otherwise (although gold is suitable, gold is far more useful in association with thiols). In fact, what are typically poor conductors exhibit less low temperature resistance than copper (cold or warm). I won't go into that list, it is enough to consider that such "wires" would be confined to thin film depositions on a flexible tape substrate - pretty exotic.

Going further, it isn't even necessary to drive temperatures to the basement for improved conduction. Carbon nanotubes are exemplars of high conductivity (several orders of magnitude better than what we consider good metals) at room temperature where a carbon macrotube would be called a resistor. Conductivity and superconductivity research has long ago left the realm of temperature and has entered the realm of crystal alignment.

However, even this academic. Carbon Nanotube construction at a scale to compete with standard copper wire is off by a scale of a million to billions (of dollars, much less practicability).

73's
Richard Clark, KB7QHC

3702. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 02:37:59 UTC
From: tom <news4792@taring.org>
Message-ID: <4c7c6b02$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7702

On 8/30/2010 11:39 AM, Michael Coslo wrote:
> Cecil Moore wrote:
>> On Aug 28, 3:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>>> Whoa!You are talking apples and oranges.
>>
>> Of course, but apples and oranges are both particles. The old masters
>> were correct about the aether consisting of particles - they were just
>> wrong about the nature of the particles.
>>
>> If someone hits you in the head with a frozen apple or a frozen orange
>> in the dark on a winter night, it is difficult to tell the difference.
>> Quantum physics has turned on the light.
>
>
> You people are all barking up the wrong tree. Phlogiston theory is where
> it is at. Everything since then is nothing but gobbldygook. Including
> that Johnny come lately, Aether theory.
>
> -73 de Mike N3LI -

Are you sure? I heard it was Orgone Energy. It has cool antenna-like
thingies that gather the Energy, too!

tom
K0TAR

3703. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 07:52:54 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c7cb4d9$0$21010$65785112@news.neostrada.pl>
Source record: 7703

"Michael Coslo" <mjc5@psu.edu> wrote
news:i5gmrp$ls2a$1@tr22n12.aset.psu.edu...
> >
> You people are all barking up the wrong tree. Phlogiston theory is where
> it is at. Everything since then is nothing but gobbldygook. Including that
> Johnny come lately, Aether theory.

Are many of Aether theories:
http://en.wikipedia.org/wiki/Timeline_of_luminiferous_aether

Some of them were erroneous.
But the question what is the medium for radio waves remain.

There are the two issues. Is it movable or not and what is made of.

The first was judged by Michelson:

"1925 - the Michelson-Gale-Pearson experiment produces a positive result while attempting to detect the effect of Earth's rotation on the velocity of light. The significance of the experiment remains debated to this day, but this planetary Sagnac effect is measured by ring laser gyros and taken into account by the GPS system."

So we know that the aether rotate with the Sun but not rotate with The Earth.

The last proposition for the second was made by Dirac. In space is en electron see. So the medium for radio waves are free electrons. In the space are also ions, atoms and dust. It has name Interstellar Medium (ISM).
S*

3704. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 08:04:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c7cb79f$0$20998$65785112@news.neostrada.pl>
Source record: 7704

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:c4674ba6-97f8-450c-b49c-27dc6c83fba7@d8g2000yqf.googlegroups.com...
On Aug 30, 5:22 pm, Art Unwin <arthurun...@gmail.com> wrote:
>> Since you are so familiar with the concept why not start from Earth
> > with a progression until you get to Aether. I don't think you will get
> > to your favorite "dark matter" For that matter explain what a "medium"
> > is in physics terms.

>Art, you don't seem to understand that there is a quantum base medium
to which some other medium may or may not be added. The base medium
exists throughout all of universal space and is the only medium that
exists in otherwise empty space. Any other added medium, e.g. air or
water, is just mixed with that base medium. Please stop thinking with
a concrete brain.

In the "physics terms" the base medium is Dirac electrons see.
The "added medium" are ions, atoms and dust. All are produced by Stars.

The same mixture is in metals. In metals the free electrons are medium for
the electric waves and ions and atoms for the acoustic waves.

Maxwell-Heaviside ether was like the dielectric.
The todays ether is like rare plasma. Plasma is a conductor.
S*

3705. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 11:50:59 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0f12ce07-b295-4b88-acb8-c4f05b36ba1d@g17g2000yqe.googlegroups.com>
Source record: 7705

On Aug 30, 6:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Frankly I just do not understand your response.

Outside of the space-volume of the universe, there is no structure.
Inside the space-volume of the universe, there is an invisible quantum
structure everywhere. You live and function within that structure
without being aware of it. That quantum structure may or may not
contain visible matter/energy which can modify the electromagnetic
characteristics of the medium, but does NOT replace the quantum
structure as you appear to think. The quantum structure is the
container of everything that exists. Nothing exists outside of the
container (unless there are more unconnected containers somewhere
else).

Air, water, or earth does not displace the quantum structure but
gravity can warp it, e.g. black holes. Everything that exists in our
universe is contained within the invisible quantum structure which
appears to consist of dark matter interacting with dark energy. It is
believed that the pressure of the dark energy is overwhelming gravity
and is causing the expansion of the universe.
--
73, Cecil, w5dxp.com

3706. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 12:13:06 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2cb63b22-a6c8-4486-8f5f-1e195997f130@f42g2000yqn.googlegroups.com>
Source record: 7706

On Aug 30, 6:36 pm, "J. Mc Laughlin" <j...@power-net.net> wrote:
> I add a vote for avoiding the arguable position about the "output Z" of
> a transmitter (note, transmitter) and instead using words similar to those
> used by Mr. Owen Duffy: a transmitter designed to operate into a load Z of
> 50+j0 ohms

I'll drink to that. Consider a transmitter connected to an antenna
tuner by a piece of 50 ohm coax where the SWR is an ideal 1:1 on that
short piece of coax. There are no reflected waves on the coax.
Therefore, no reflected energy reaches the source. Energy transfer is
a one-way process on that flat piece of coax. Except for efficiency,
the source impedance doesn't matter. Whether the source impedance is
10 ohms, or 50 ohms, or 200 ohms, dissipative or non-dissipative,
reactive or resistive - just doesn't matter. All that matters is the
voltage delivered to the 50 ohm Z0-match at the tuner input.
--
73, Cecil, w5dxp.com

3707. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 13:36:47 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ca204a0d-c8a2-46a5-a0c4-84eefe3e274c@e14g2000yqe.googlegroups.com>
Source record: 7707

On Aug 31, 6:50 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Aug 30, 6:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Frankly I just do not understand your response.
>
> Outside of the space-volume of the universe, there is no structure.
> Inside the space-volume of the universe, there is an invisible quantum
> structure everywhere. You live and function within that structure
> without being aware of it. That quantum structure may or may not
> contain visible matter/energy which can modify the electromagnetic
> characteristics of the medium, but does NOT replace the quantum
> structure as you appear to think. The quantum structure is the
> container of everything that exists. Nothing exists outside of the
> container (unless there are more unconnected containers somewhere
> else).
>
> Air, water, or earth does not displace the quantum structure but
> gravity can warp it, e.g. black holes. Everything that exists in our
> universe is contained within the invisible quantum structure which
> appears to consist of dark matter interacting with dark energy. It is
> believed that the pressure of the dark energy is overwhelming gravity
> and is causing the expansion of the universe.
> --
> 73, Cecil, w5dxp.com
Cecil as I stated before a electron can travel thru
two mediums OR along the path between the two mediums. The presence of
surface wave of propagation points to another medium whether it be
between Earth and the atmosphere OR the atmosphere is a medium itself.
It is because of this
electron travel along the surface of Earth that scientists come to the
conclusion that the atmosphere is a medium which they name.
This is not accepted by mainstream but to be fair mainstream has not
named or explained the medium that allowed for over the surface
electron travel.
From my point of view the "missing" medium is a carpet of free
electrons that are bound in a skin as seen on surface tension on water
and it is this skin
or carpet upon Earth is the medium that explains the surface travel of
electrons, a missing medium that satisfies both sides of the puzzle.
Regards
Art

3708. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 13:46:51 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5j14e$d02$1@news.eternal-september.org>
Source record: 7708

On 8/31/2010 4:50 AM, Cecil Moore wrote:

> ...
> Outside of the space-volume of the universe, there is no structure.
> Inside the space-volume of the universe, there is an invisible quantum
> structure everywhere. You live and function within that structure
> without being aware of it. That quantum structure may or may not
> contain visible matter/energy which can modify the electromagnetic
> characteristics of the medium, but does NOT replace the quantum
> structure as you appear to think. The quantum structure is the
> container of everything that exists. Nothing exists outside of the
> container (unless there are more unconnected containers somewhere
> else).
>
> Air, water, or earth does not displace the quantum structure but
> gravity can warp it, e.g. black holes. Everything that exists in our
> universe is contained within the invisible quantum structure which
> appears to consist of dark matter interacting with dark energy. It is
> believed that the pressure of the dark energy is overwhelming gravity
> and is causing the expansion of the universe.
> --
> 73, Cecil, w5dxp.com

Beautiful, Morpheus, when he explains the Matrix, to Neo, could have
done no better ... ROFLOL

Regards,
JS

3709. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 13:54:46 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5j1ja$l98$1@news.eternal-september.org>
Source record: 7709

On 8/31/2010 6:36 AM, Art Unwin wrote:

>> ...
> Cecil as I stated before a electron can travel thru
> two mediums OR along the path between the two mediums. The presence of
> surface wave of propagation points to another medium whether it be
> between Earth and the atmosphere OR the atmosphere is a medium itself.
> It is because of this
> electron travel along the surface of Earth that scientists come to the
> conclusion that the atmosphere is a medium which they name.
> This is not accepted by mainstream but to be fair mainstream has not
> named or explained the medium that allowed for over the surface
> electron travel.
> From my point of view the "missing" medium is a carpet of free
> electrons that are bound in a skin as seen on surface tension on water
> and it is this skin
> or carpet upon Earth is the medium that explains the surface travel of
> electrons, a missing medium that satisfies both sides of the puzzle.
> Regards
> Art

By golly, I believe you are getting it ... except for you focus on "a surface." We have a medium to test all this with, which is quite suitable. Water; No surface is needed to produce sound within a body of water, itself, water serving as the example of "ether." A very strong, varying, magnetic field, in the audio range, can work upon the slightly magnetic atoms producing the sound. In passing, "pumps", which may someday propel vessels, can also use this effect to "pump" water though a coil and propel the vessel. Ether should be able to be manipulated in a like manner ... now, unless you show up upon my doorstep with a workable model of an "ether antenna", this all has, and will remain, of little use. However, I think you are just the man to do it, Art. <wink>

Regards,
JS

3710. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 14:03:31 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5j23losf1@news.eternal-september.org>
Source record: 7710

On 8/31/2010 1:04 AM, Szczepan Bialek wrote:

>> ...
> In the "physics terms" the base medium is Dirac electrons see.
> The "added medium" are ions, atoms and dust. All are produced by Stars.
>
> The same mixture is in metals. In metals the free electrons are medium for
> the electric waves and ions and atoms for the acoustic waves.
>
> Maxwell-Heaviside ether was like the dielectric.
> The todays ether is like rare plasma. Plasma is a conductor.
> S*

Just when I thought you were getting it too ... you need no dust, no matter which you can touch, to have emf produced and transverse-ing the universe(s.) See, you are still focused on that "surface."

Regards,
JS

3711. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 14:29:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5be346e4-aeda-4d8d-9f14-51ef5fcd7e35@m1g2000yqo.googlegroups.com>
Source record: 7711

On Aug 31, 8:54 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/31/2010 6:36 AM, Art Unwin wrote:
>
> >> ...
>
>
>
> > Cecil as I stated before a electron can travel thru
> > two mediums OR along the path between the two mediums. The presence of
> > surface wave of propagation points to another medium whether it be
> > between Earth and the atmosphere OR the atmosphere is a medium itself.
> > It is because of this
> > electron travel along the surface of Earth that scientists come to the
> > conclusion that the atmosphere is a medium which they name.
> > This is not accepted by mainstream but to be fair mainstream has not
> > named or explained the medium that allowed for over the surface
> > electron travel.
> > From my point of view the "missing" medium is a carpet of free
> > electrons that are bound in a skin as seen on surface tension on water
> > and it is this skin
> > or carpet upon Earth is the medium that explains the surface travel of
> > electrons, a missing medium that satisfies both sides of the puzzle.
> > Regards
> > Art
>
> By golly, I believe you are getting it ... except for you focus on "a
> surface." We have a medium to test all this with, which is quite
> suitable. Water; No surface is needed to produce sound within a body
> of water, itself, water serving as the example of "ether." A very
> strong, varying, magnetic field, in the audio range, can work upon the
> slightly magnetic atoms producing the sound. In passing, "pumps", which
> may someday propel vessels, can also use this effect to "pump" water
> though a coil and propel the vessel. Ether should be able to be
> manipulated in a like manner ... now, unless you show up upon my
> doorstep with a workable model of an "ether antenna", this all has, and
> will remain, of little use. However, I think you are just the man to do
> it, Art. <wink>
>
> Regards,
> JS

John
Cecils interpretation of a double helix was what is termed as the
secret of life with is the combination

of two vectors direct an circular or spin which generated the double helix. This can also be explained as the secret of everything in the scientific world whether it be the two vectors created by the BIG BANG or the two vectors of gravity and rotation and on to the two vectors as an electron travels between two mediums. All this was proposed centuries ago purely by observations.
Think of a piece of caramel being moved outwards
along its length, necking occures and bingo you have the other vector pushing in from the sides.
When Newton stated every action has an equal and opposite reaction he was not thinking of a singular force or vectors but of two.
The two vectors can be seen in action when caramel is being pulled.
You have an equal force
as a reaction to the initial pull and you also have another vector generated on the other or opposite side of the caramel that creates the necking or thinning where opposite in OLDE ENGLISH terms
was a 90 degree change in direction and not one that is actually opposing the initial vector.
This approach is the same as that of Einstein with the STANDARD MODEL which eventually comes down to just the combined action of the said two vectors which again supports the action of a ground wave between two mediums. Maxwell pointed to the same thing when he recognized that is law on radiation required a second vector(displacement current) which finally put the mathematical expression into the "must have" requirement of EQUILIBRIUM. Now both supporters of the AETHER and its deniers can be satisfied by labeling the particle carpet as the missing medium, which by the way was identified by Gauss with his laws on static particles. So Cecil
is quite correct on his explanation of quantum soup
which in itself is not a medium as required by the two vector system but by the identification of the missing medium which is the carpet layer from the Galaxy resting as a mantel upon Earth.
Regards
Art

3712. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 15:03:23 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f84354e6-faf2-42ab-b53b-c1b96034fb4d@n3g2000yqb.googlegroups.com>
Source record: 7712

On Aug 31, 8:54 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/31/2010 6:36 AM, Art Unwin wrote:
>
> >> ...
>
>
>
> > Cecil as I stated before a electron can travel thru
> > two mediums OR along the path between the two mediums. The presence of
> > surface wave of propagation points to another medium whether it be
> > between Earth and the atmosphere OR the atmosphere is a medium itself.
> > It is because of this
> > electron travel along the surface of Earth that scientists come to the
> > conclusion that the atmosphere is a medium which they name.
> > This is not accepted by mainstream but to be fair mainstream has not
> > named or explained the medium that allowed for over the surface
> > electron travel.
> > From my point of view the "missing" medium is a carpet of free
> > electrons that are bound in a skin as seen on surface tension on water
> > and it is this skin
> > or carpet upon Earth is the medium that explains the surface travel of
> > electrons, a missing medium that satisfies both sides of the puzzle.
> > Regards
> > Art
>
> By golly, I believe you are getting it ... except for you focus on "a
> surface." We have a medium to test all this with, which is quite
> suitable. Water; No surface is needed to produce sound within a body
> of water, itself, water serving as the example of "ether." A very
> strong, varying, magnetic field, in the audio range, can work upon the
> slightly magnetic atoms producing the sound. In passing, "pumps", which
> may someday propel vessels, can also use this effect to "pump" water
> though a coil and propel the vessel. Ether should be able to be
> manipulated in a like manner ... now, unless you show up upon my
> doorstep with a workable model of an "ether antenna", this all has, and
> will remain, of little use. However, I think you are just the man to do
> it, Art. <wink>
>
> Regards,
> JS

John
We now come down to the question as to whether the two vector
explanation is of any use by applying it to antennas.

Let me come back to the double helix or the "genome" of life
Science views a coil as a load with respect to antennas or a dummy load again with respect to radiators. We all know that a coil can be made where it is totally resistive and completly absent of reactive forces because with the about turn of direction of current flow stops the formation of both
capacitive and inductive vectors.
When the current flows thru the coil tradition points to science as seeing this as the metallic resistance
of say aluminum. This is false in that the resistance
seen is the resistance to the skin depth anomally
created by the foot hold of a external magnetic field.
In this case there cannot be an external magnetic field ie no reactances and therefore no skin resistance. Now it is this resistance that was keeping current flow from rising to the SURFACE
of the radiator such that the radiator is not now the path that the current takes which is now BETWEEN the two mediums such that its two vectors direct current and displacement current can devote itself to purely producing radiation by ejection of particles with spin. So in other words
the external magnetic field by creating skin depth is the worst enemy of radiation which is the creation
of a wastefull friction component. Removing that magnetic field is the same as what superconductors do except in radiation current flow by passes the subject mass regardess of its resident friction where as a superconductor actually reduces the mass friction instead of by passing it.
When applying this to computor program the radiation patter evolves into two separate patterns merged into one wher the axis reflects the two vectors of gravity and rotation.
As a side note the radiatin member is never totally devoid of resistance ans it now takes on a vibratory action from the levitating vector on its surface, so ohms law stays intact by virtue of the change over to pendulum mathermatics
Regards
Art Unwin.....KB9MZ....xg

3713. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 15:41:26 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7b40e937-e896-46f3-b843-edd95ec2b50f@d8g2000yqf.googlegroups.com>
Source record: 7713

On Aug 31, 10:03 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 31, 8:54 am, John Smith <assemblywiz...@gmail.com> wrote:
>
>
>
> > On 8/31/2010 6:36 AM, Art Unwin wrote:
>
> > >> ...
>
> > >   Cecil as I stated before a electron can travel thru
> > > two mediums OR along the path between the two mediums. The presence of
> > > surface wave of propagation points to another medium whether it be
> > > between Earth and the atmosphere OR the atmosphere is a medium itself.
> > > It is because of this
> > > electron travel along the surface of Earth that scientists come to the
> > > conclusion that the atmosphere is a medium which they name.
> > > This is not accepted by mainstream but to be fair mainstream has not
> > > named or explained the medium that allowed for over the surface
> > > electron travel.
> > > From my point of view the "missing" medium is a carpet of free
> > > electrons that are bound in a skin as seen on surface tension on water
> > > and it is this skin
> > > or carpet upon Earth is the medium that explains the surface travel of
> > > electrons, a missing medium that satisfies both sides of the puzzle.
> > > Regards
> > > Art
>
> > By golly, I believe you are getting it ... except for you focus on "a
> > surface." We have a medium to test all this with, which is quite
> > suitable. Water; No surface is needed to produce sound within a body
> > of water, itself, water serving as the example of "ether." A very
> > strong, varying, magnetic field, in the audio range, can work upon the
> > slightly magnetic atoms producing the sound. In passing, "pumps", which
> > may someday propel vessels, can also use this effect to "pump" water
> > though a coil and propel the vessel. Ether should be able to be
> > manipulated in a like manner ... now, unless you show up upon my
> > doorstep with a workable model of an "ether antenna", this all has, and
> > will remain, of little use. However, I think you are just the man to do
> > it, Art. <wink>
>
> > Regards,
> > JS
>
> John

> We now come down to the question as to whether the two vector
> explanation is of any use by applying it to antennas.
> Let me come back to the double helix or the "genome" of life
> Science views a coil as a load with respect to antennas or a dummy
> load again with respect to radiators. We all know that a coil can be
> made where it is totally resistive and completly absent of
> reactive forces because with the about turn of direction of current
> flow stops the formation of both
> capacitive and inductive vectors.
> When the current flows thru the coil tradition points to science as
> seeing this as the metallic resistance
> of say aluminum. This is false in that the resistance
> seen is the resistance to the skin depth anomally
> created by the foot hold of a external magnetic field.
> In this case there cannot be an external magnetic field ie no
> reactances and therefore no skin resistance. Now it is this resistance
> that was keeping current flow from rising to the SURFACE
> of the radiator such that the radiator is not now the path that the
> current takes which is now BETWEEN the two mediums such that its two
> vectors direct current and displacement current can devote itself to
> purely producing radiation by ejection of particles with spin. So in
> other words
> the external magnetic field by creating skin depth is the worst enemy
> of radiation which is the creation
> of a wastefull friction component. Removing that magnetic field is the
> same as what superconductors do except in radiation current flow by
> passes the subject mass regardess of its resident friction where as a
> superconductor actually reduces the mass friction instead of by
> passing it.
> When applying this to computor program the radiation patter evolves
> into two separate patterns merged into one wher the axis reflects the
> two vectors of gravity and rotation.
> As a side note the radiatin member is never totally devoid of
> resistance ans it now takes on a vibratory action from the levitating
> vector on its surface, so ohms law stays intact by virtue of the
> change over to pendulum mathermatics
> Regards
> Art Unwin.....KB9MZ....xg

So John we now get to the final portion that closes the loop with
respect to radiation. The method of winding the coil is similar to a
solenoid without the central plunger. Around a solenoid is a shield to
retain the external magnetic field. This very arrangement is exactly
that of a Faraday shield but with two openings top and bottom and the
Faraday shield has the unique property of separating electric,magnetic
and time varying current into separate parts such that it is in effect
both a transmitter and receiver where as lternating current can be
used to form a tank circuit or alternatively
separate the time varying current back to drive a receiver. So the
same as what is required for a Faraday shield is also required for a

radiater which is a bleed line between the outside of the shield to ground to remove static from the system. If one puts the solenoid or Faraday shield over a
reflsector then we have two patterns each on a separate axis but superimposed upon each other where the center plume relates to gravity.
The above in no way violates existing laws for electrical components and in fact support those in existence made by the Masters. All the above enfolded by reviewing existing laws and expanding
thbe Gaussian static laws into dynamic form as the leader in the resulting trail. Remember a vertical antenna must be tipped with respect to Earth to reflect two vectors so it attains equilibrium.
Regards
Art Unwin KB9MZ.....xg
then one has a directional antenna which has two

3714. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 15:49:00 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5j89g$9db$1@news.eternal-september.org>
Source record: 7714

On 8/31/2010 7:29 AM, Art Unwin wrote:

>
> John
>> ...
> Cecils interpretation of a double helix was what is termed as the
> secret of life with is the combination
>> ...
> Regards
> Art

Yes, it was a nice description ...

Uh, huh, so that is what "... created man in Gods' image ..." means, the double helix! I'll be looking for one descending from Heaven soon!

Keep up the good work,
stiff lip and all that,
regards,
JS

3715. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 16:03:40 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5j950$d5e$1@news.eternal-september.org>
Source record: 7715

On 8/31/2010 8:03 AM, Art Unwin wrote:

>> ...
> Regards
> Art Unwin.....KB9MZ....xg

Art,

You waste your words on me. I will only cop to a few things:

1) I believe the ether is real and it exists about us, in us, everywhere.
2) All our "real matter" was ripped from the ether and is just ether existing in an altered state, "this all" is not "normal."
3) Although we can't "see" the ether (yet), we can make guesses from its' apparent properties. One important one, it is a superconductor. EMF can, apparently, transverse it forever with no "loss" (some will mention a "red shift", or "slowing", here.)
4) "Discovering" it will boost our economy, flood our markets with uncountable new devices exploiting its' properties and raise mans' scientific knowledge to unfathomable heights ...

Beyond that? Who knows ... I think, at this time, your ramblings are just as valid as any I could make, about it, the ether ... since yours sounds so "crazy", I hesitate to go into such depths ... sorry ... remember, "fools" (well, Einstein did) run where brave men fear to go ...

The "double helix", as it involves antennas, is only a trick to me. And, use to coax certain actions/behaviors from an antenna. It is physical in existence and can affect antenna fields and other properties ... it is no more profound or magical than a gamma match, capacitive hat, etc., sorry ... at this point, this is all I want to know.

Regards,
JS

3716. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 16:04:56 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5j97a$d5e$2@news.eternal-september.org>
Source record: 7716

On 8/31/2010 8:41 AM, Art Unwin wrote:

> ...
> So John we now get to the final portion that closes the loop with
> respect to radiation. The method of winding the coil is similar to a
> solenoid without the central plunger. Around a solenoid is a shield to
> retain the external magnetic field. This very arrangement is exactly
> that of a Faraday shield but with two openings top and bottom and the
> Faraday shield has the unique property of separating electric,magnetic
> and time varying current into separate parts such that it is in effect
> both a transmitter and receiver where as lternating current can be
> used to form a tank circuit or alternatively
> separate the time varying current back to drive a receiver. So the
> same as what is required for a Faraday shield is also required for a
> radiater which is a bleed line between the outside of the shield to
> ground to remove static from the system. If one puts the solenoid or
> Faraday shield over a
> reflsector then we have two patterns each on a separate axis but
> superimposed upon each other where the center plume relates to
> gravity.
> The above in no way violates existing laws for electrical components
> and in fact support those in existence made by the Masters. All the
> above enfolded by reviewing existing laws and expanding
> thbe Gaussian static laws into dynamic form as the leader in the
> resulting trail. Remember a vertical antenna must be tipped with
> respect to Earth to reflect two vectors so it attains equilibrium.
> Regards
> Art Unwin KB9MZ.....xg
> then one has a directional antenna which has two

Did anyone ever mention, you are a very prolific and productive writer?
And, I mean that in a good way, I do.

Regards,
JS

3717. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 16:41:01 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <43c04166-c57e-49af-a6d4-504b9856b62c@n3g2000yqb.googlegroups.com>
Source record: 7717

On Aug 31, 11:04 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/31/2010 8:41 AM, Art Unwin wrote:
>
>
>
> > ...
> > So John we now get to the final portion that closes the loop with
> > respect to radiation. The method of winding the coil is similar to a
> > solenoid without the central plunger. Around a solenoid is a shield to
> > retain the external magnetic field. This very arrangement is exactly
> > that of a Faraday shield but with two openings top and bottom and the
> > Faraday shield has the unique property of separating electric,magnetic
> > and time varying current into separate parts such that it is in effect
> > both a transmitter and receiver where as lternating current can be
> > used to form a tank circuit or alternatively
> > separate the time varying current back to drive a receiver. So the
> > same as what is required for a Faraday shield is also required for a
> > radiater which is a bleed line between the outside of the shield to
> > ground to remove static from the system. If one puts the solenoid or
> > Faraday shield over a
> > reflsector then we have two patterns each on a separate axis but
> > superimposed upon each other where the center plume relates to
> > gravity.
> > The above in no way violates existing laws for electrical components
> > and in fact support those in existence made by the Masters. All the
> > above enfolded by reviewing existing laws and expanding
> > thbe Gaussian static laws into dynamic form as the leader in the
> > resulting trail. Remember a vertical antenna must be tipped with
> > respect to Earth to reflect two vectors so it attains equilibrium.
> > Regards
> > Art Unwin KB9MZ.....xg
> > then one has a directional antenna which has two
>
> Did anyone ever mention, you are a very prolific and productive writer?
> And, I mean that in a good way, I do.
>
> Regards,
> JS

John We live in a World that is not of our making.
It is us who search for the release of energy from that around us so
we can live the life we live. We have used electricity to create light
we did not generate the initial supply. Same goes for oil gas and wind
which uses the same two vectors supplied to us. But these energy

supplies are not enough to sustain the future and science cannot produce new energy only to understand what is around us so that we can then make the most of it.
Yes we use magnetic power to move friction to conserve energy by levitation and what goes with that knowledge is the solenoid that really is a double acting single cylinder that converts knowledge of what we know into energy. The windmill uses the two vectors of the weather straight and rotational and we know what the energy does there. Now we have a faulty electrical grid system that must be replaced and ideally Ac current is best for that but for the losses. Now I point to a way of bypassing those same losses, a new ladder to climb. By the way if you decide to make the antenna put a 20db anttennuator in the line first to avoid destruction of the front end. When I first connected up to 10 meters it wasn't open but the meter shot over S9 forcing me to shut down quickly. When experiments with superconductors for antennas 20 db improvement was noticed so one has to be careful. A MRI can project a personal object being worn by a patient
out of his clothing and thru a substantial wall so tread carefully. Remember a lightning strike is nothing more than the static energy of a particle seeking a place on Earth that it can rest after losing its resting space created by updraft and temperature change. We know the energy is there
the trick is to harness it.
Regards
Art

3718. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 16:59:34 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ad55ea29-b9bd-4461-ae1e-920ca6eb4d7f@l20g2000yqm.googlegroups.com>
Source record: 7718

On Aug 31, 11:41 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 31, 11:04 am, John Smith <assemblywiz...@gmail.com> wrote:
>
>
>
> > On 8/31/2010 8:41 AM, Art Unwin wrote:
>
> > > ...
> > > So John we now get to the final portion that closes the loop with
> > > respect to radiation. The method of winding the coil is similar to a
> > > solenoid without the central plunger. Around a solenoid is a shield to
> > > retain the external magnetic field. This very arrangement is exactly
> > > that of a Faraday shield but with two openings top and bottom and the
> > > Faraday shield has the unique property of separating electric,magnetic
> > > and time varying current into separate parts such that it is in effect
> > > both a transmitter and receiver where as lternating current can be
> > > used to form a tank circuit or alternatively
> > > separate the time varying current back to drive a receiver. So the
> > > same as what is required for a Faraday shield is also required for a
> > > radiater which is a bleed line between the outside of the shield to
> > > ground to remove static from the system. If one puts the solenoid or
> > > Faraday shield over a
> > > reflsector then we have two patterns each on a separate axis but
> > > superimposed upon each other where the center plume relates to
> > > gravity.
> > > The above in no way violates existing laws for electrical components
> > > and in fact support those in existence made by the Masters. All the
> > > above enfolded by reviewing existing laws and expanding
> > > thbe Gaussian static laws into dynamic form as the leader in the
> > > resulting trail. Remember a vertical antenna must be tipped with
> > > respect to Earth to reflect two vectors so it attains equilibrium.
> > > Regards
> > > Art Unwin KB9MZ.....xg
> > > then one has a directional antenna which has two
>
> > Did anyone ever mention, you are a very prolific and productive writer?
> > And, I mean that in a good way, I do.
>
> > Regards,
> > JS
>
> John We live in a World that is not of our making.
> It is us who search for the release of energy from that around us so
> we can live the life we live. We have used electricity to create light

> we did not generate the initial supply. Same goes for oil gas and wind
> which uses the same two vectors supplied to us. But these energy
> supplies are not enough to sustain the future and science cannot
> produce new energy only to understand what is around us so that we can
> then make the most of it.
> Yes we use magnetic power to move friction to conserve energy by
> levitation and what goes with that knowledge is the solenoid that
> really is a double acting single cylinder that converts knowledge of
> what we know into energy. The windmill uses the two vectors of the
> weather straight and rotational and we know what the energy does
> there. Now we have a faulty electrical grid system that must be
> replaced and ideally Ac current is best for that but for the losses.
> Now I point to a way of bypassing those same losses, a new ladder to
> climb. By the way if you decide to make the antenna put a 20db
> anttennuator in the line first to avoid destruction of the front end.
> When I first connected up to 10 meters it wasn't open but the meter
> shot over S9 forcing me to shut down quickly. When experiments with
> superconductors for antennas 20 db improvement was noticed so one has
> to be careful. A MRI can project a personal object being worn by a
> patient
> out of his clothing and thru a substantial wall so tread carefully.
> Remember a lightning strike is nothing more than the static energy of
> a particle seeking a place on Earth that it can rest after losing its
> resting space created by updraft and temperature change. We know the
> energy is there
> the trick is to harness it.
> Regards
> Art

John
If we follow the pied piper on a well trodden trail then education is
plagerism at its worst.
Being like Jack with the bean stalk means curiousity leads you on a
path that is not well trodden but produces surprises and new vistas
never seen by man!
Heh I like how that sounds, very profound.

3719. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 17:06:58 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5jcrm$t9e$1@news.eternal-september.org>
Source record: 7719

On 8/31/2010 9:59 AM, Art Unwin wrote:

>> ...
> John
> If we follow the pied piper on a well trodden trail then education is
> plagerism at its worst.
> Being like Jack with the bean stalk means curiousity leads you on a
> path that is not well trodden but produces surprises and new vistas
> never seen by man!
> Heh I like how that sounds, very profound.

Art,

You play to the choir.

Everyone who has found something new, has first had to surmount and defeat ridicule and/or worse, before all claim him to be a genius. But, doing such, surmounting/defeating ridicule, does not guarantee finding something new.

There are many more men sitting in "nut houses", and "searching," than there are discoveries to be made ... a wise man would tread the grounds cautiously, as I have mentioned ... LOL

Regards,
JS

3720. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 17:24:10 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9853e6f6-d986-46b7-b368-9d23530526fd@i31g2000yqm.googlegroups.com>
Source record: 7720

On Aug 31, 11:03 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/31/2010 8:03 AM, Art Unwin wrote:
>
> >> ...
>
> > Regards
> > Art Unwin.....KB9MZ....xg
>
> Art,
>
> You waste your words on me. I will only cop to a few things:
>
> 1) I believe the ether is real and it exists about us, in us, everywhere.
> 2) All our "real matter" was ripped from the ether and is just ether
> existing in an altered state, "this all" is not "normal."
> 3) Although we can't "see" the ether (yet), we can make guesses from
> its' apparent properties. One important one, it is a superconductor.
> EMF can, apparently, transverse it forever with no "loss" (some will
> mention a "red shift", or "slowing", here.)
> 4) "Discovering" it will boost our economy, flood our markets with
> uncountable new devices exploiting its' properties and raise mans'
> scientific knowledge to unfathomable heights ...
>
> Beyond that? Who knows ... I think, at this time, your ramblings are
> just as valid as any I could make, about it, the ether ... since yours
> sounds so "crazy", I hesitate to go into such depths ... sorry ...
> remember, "fools" (well, Einstein did) run where brave men fear to go ...
>
> The "double helix", as it involves antennas, is only a trick to me.
> And, use to coax certain actions/behaviors from an antenna. It is
> physical in existence and can affect antenna fields and other properties
> ... it is no more profound or magical than a gamma match, capacitive
> hat, etc., sorry ... at this point, this is all I want to know.
>
> Regards,
> JS

John the question you raise with regard to the tank circuit is very
valid. But when a superconductor is used as a radiator removal of the
time varying current is consumed by losses
Let me propose the following, presently it is assumed that the super
conductor resistance goes to zero which embraces perpetual motion if
losses disappear. What if the current rose to the surface
like my antenna which is determined as the "Meissner effect". The

material is being bypassed
and replaced in the circuit by resistance traveling along the surface
which gives you the analogy of the long pendulum. One has to be wary
of embracing perpetual motion as in itself it destroys all we have
determined in physics.

3721. If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 17:32:54 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <dfa04421-25e6-4d13-aa4f-0e59e2614737@i31g2000yqm.googlegroups.com>
Source record: 7721

After Jesus "died" he appeared three days later where he spoke to Mary Madelyn.
He had to caution Mary not to touch him as he had not yet prepared himself to levitate into the heavens. This was akin to changing himself into water such as with a frog that scientists have shown to be levitated and life has shown the appearance of fish and frogs in roads miles away from ponds after a storm. Something to ponder over.

3722. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 19:50:21 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5jme0$k80$1@news.eternal-september.org>
Source record: 7722

On 8/31/2010 10:24 AM, Art Unwin wrote:

> ...
> John the question you raise with regard to the tank circuit is very
> valid. But when a superconductor is used as a radiator removal of the
> time varying current is consumed by losses
> Let me propose the following, presently it is assumed that the super
> conductor resistance goes to zero which embraces perpetual motion if
> losses disappear. What if the current rose to the surface
> like my antenna which is determined as the "Meissner effect". The
> material is being bypassed
> and replaced in the circuit by resistance traveling along the surface
> which gives you the analogy of the long pendulum. One has to be wary
> of embracing perpetual motion as in itself it destroys all we have
> determined in physics.

Art,

My buss travels another direction, I must leave you here ... good-day!

Regards,
JS

3723. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 19:54:43 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5jmm6$p2l$1@news.eternal-september.org>
Source record: 7723

On 8/31/2010 10:32 AM, Art Unwin wrote:
> After Jesus "died" he appeared three days later where he spoke to Mary
> Madelyn.
> He had to caution Mary not to touch him as he had not yet prepared
> himself to levitate into the heavens. This was akin to changing
> himself into water such as with a frog that scientists have shown to
> be levitated and life has shown the appearance of fish and frogs in
> roads miles away from ponds after a storm. Something to ponder over.

Uh, Art, it is called a waterspout and/or tornado. It sucks 'em up at
one point and drops 'em at another, can't blame the aliens this time!

Regards,
JS

3724. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 20:06:11 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5jnbn$4s3$1@news.eternal-september.org>
Source record: 7724

On 8/31/2010 10:32 AM, Art Unwin wrote:

>> ...

Paging my Mr. Art Artstein, Mr. Art Artstein, paging Mr. Art Artstein
... <chuckle>

Regards,
JS

3725. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 20:54:01 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <37e7d900-20a6-45a4-bf76-67caf7a657bc@l20g2000yqe.googlegroups.com>
Source record: 7725

On Aug 31, 3:06 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/31/2010 10:32 AM, Art Unwin wrote:
>
> >> ...
>
> Paging my Mr. Art Artstein, Mr. Art Artstein, paging Mr. Art Artstein
> ... <chuckle>
>
> Regards,
> JS

No John I am not jewish! But there are other instances as per the
parting or updraft of the Red sea which later came back down to reseal
the path.
I am not making this up as it was written well before I came along but
there is some similarity even tho I cannot explain it. One thing that
was also written at the time that only a few jewish people continued
on the journey while the majority
stayed enjoying their former bad ways. These were not receipients of
the "promise" so what is going to happen to them when they lose out on
judgement day?

3726. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 20:56:30 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b4a3bffe-edc1-4e0b-94b5-069a6f9cbc49@n3g2000yqb.googlegroups.com>
Source record: 7726

On Aug 31, 2:54 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 8/31/2010 10:32 AM, Art Unwin wrote:
>
> > After Jesus "died" he appeared three days later where he spoke to Mary
> > Madelyn.
> > He had to caution Mary not to touch him as he had not yet prepared
> > himself to levitate into the heavens. This was akin to changing
> > himself into water such as with a frog that scientists have shown to
> > be levitated and life has shown the appearance of fish and frogs in
> > roads miles away from ponds after a storm. Something to ponder over.
>
> Uh, Art, it is called a waterspout and/or tornado. It sucks 'em up at
> one point and drops 'em at another, can't blame the aliens this time!
>
> Regards,
> JS

No you can't blame aliens but you can blame those two vectors that
demonstrated their strength. grin

3727. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 21:26:04 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5js1f$80g$1@news.eternal-september.org>
Source record: 7727

On 8/31/2010 1:54 PM, Art Unwin wrote:

> ...
> No John I am not jewish! But there are other instances as per the
> parting or updraft of the Red sea which later came back down to reseal
> the path.
> I am not making this up as it was written well before I came along but
> there is some similarity even tho I cannot explain it. One thing that
> was also written at the time that only a few jewish people continued
> on the journey while the majority
> stayed enjoying their former bad ways. These were not receipients of
> the "promise" so what is going to happen to them when they lose out on
> judgement day?

OK. Since the real Art Artstein has been missing for quite sometime, and
has been replaced with a cleaver alien clone ... it leaves me no choice
other than to involve the authorities in this.

Will the real Art Artstein please stand up? Else, you give me no
recourse! <straight faced>

Regards,
JS
(thinks to himself: "The real Art Artstein is mooselum, isn't he?)

3728. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 22:09:34 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <ef53d328-6590-4fd2-9793-710e684eb4b8@i31g2000yqm.googlegroups.com>
Source record: 7728

On Aug 30, 5:52 pm, Roy Lewallen <w...@eznec.com> wrote:

> In my example, the antenna is not matched to the transmission line. Nor,
> for that matter, is the transmitter matched to the transmission line. My
> point is that power transfer doesn't depend on either of these points
> being matched.

Roy:

My post showing very high input SWR at the base of an unloaded, base-driven, 10 foot vertical on 3.8 MHz described an UNMATCHED system resulting from its connection to transmission lines of typical impedance values. It did not include matching networks, whether located at the base of the vertical radiator, the output connector of the transmitter, or wherever.

Then you posted, "Using your antenna as an example, suppose that a transmitter with output Z of 50 ohms is connected to a tuner that transforms its output impedance to 0.6 + j1250 ohms. ... The transmitter will see 50 + j0 ohms, the antenna will see an impedance of 0.6 + j1250 ohms, and full power will be transferred."

That configuration you posted is a MATCHED system, and its performance does not disprove the accuracy of my post.

RF

3729. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 22:25:58 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <m9KdnRB7ddrlHODRnZ2dnUVZ_i2dnZ2d@giganews.com>
Source record: 7729

On 8/31/2010 3:09 PM, Richard Fry wrote:
> On Aug 30, 5:52 pm, Roy Lewallen<w...@eznec.com> wrote:
>
>> In my example, the antenna is not matched to the transmission line. Nor,
>> for that matter, is the transmitter matched to the transmission line. My
>> point is that power transfer doesn't depend on either of these points
>> being matched.
>
> Roy:
>
> My post showing very high input SWR at the base of an unloaded, base-
> driven, 10 foot vertical on 3.8 MHz described an UNMATCHED system
> resulting from its connection to transmission lines of typical
> impedance values. It did not include matching networks, whether
> located at the base of the vertical radiator, the output connector of
> the transmitter, or wherever.
>
> Then you posted, "Using your antenna as an example, suppose that a
> transmitter with output Z of 50 ohms is connected to a tuner that
> transforms its output impedance to 0.6 + j1250 ohms. ... The
> transmitter will see 50 + j0 ohms, the antenna will see an impedance
> of 0.6 + j1250 ohms, and full power will be transferred."
>
> That configuration you posted is a MATCHED system, and its performance
> does not disprove the accuracy of my post.
>
> RF

So you're saying that the mismatch between the impedance of an antenna and the transmission line connected to it doesn't inhibit power flow when there's a matching network anywhere in the system. But it does interfere with power flow when there's no matching network?

What if the antenna is 50 ohms and the transmission line is a half wavelength of 600 ohms, for a 12:1 mismatch? There's no matching network. The transmitter sees 50 ohms. The antenna sees 50 ohms. What will interfere with the power flow?

Roy Lewallen, W7EL

3730. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 22:30:48 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ffb2e65c-1e3b-43bb-aa5a-574f5eb1de58@x25g2000yqj.googlegroups.com>
Source record: 7730

On Aug 31, 3:54 pm, Art Unwin <arthurun...@gmail.com> wrote:
> But there are other instances as per the
> parting or updraft of the Red sea which later came back down to reseal
> the path.

Art, google "Reed Sea" and see what difference one mistranslated
letter can make.
--
73, Cecil, w5dxp.com

3731. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 22:54:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0aae343a-a7a0-4564-a230-a6b5ff6cc225@z28g2000yqh.googlegroups.com>
Source record: 7731

On Aug 31, 10:49 am, John Smith <assemblywiz...@gmail.com> wrote:
> Uh, huh, so that is what "... created man in Gods' image ..." means, the
> double helix! I'll be looking for one descending from Heaven soon!

Does God have DNA? If not, where did Jesus' Y DNA come from? If yes,
can God be killed?
--
73, Cecil, w5dxp.com

3732. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 22:56:34 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5b2ec29a-391c-4173-acca-4de8f6c3ff5f@t20g2000yqa.googlegroups.com>
Source record: 7732

On Aug 31, 11:41 am, Art Unwin <arthurun...@gmail.com> wrote:
> John We live in a World that is not of our making.

Some of us exceptions seem to create our own reality. :)
--
73, Cecil, w5dxp.com

3733. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 23:05:19 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <de29ded7-f019-41ba-bb82-e54176dde1c8@z28g2000yqh.googlegroups.com>
Source record: 7733

On Aug 31, 5:25 pm, Roy Lewallen <w...@eznec.com> wrote:

> What if the antenna is 50 ohms and the transmission line is a half
> wavelength of 600 ohms, for a 12:1 mismatch? There's no matching
> network. The transmitter sees 50 ohms. The antenna sees 50 ohms.
> What will interfere with the power flow ?

This, and your other what ifs describe a system *different* than the
one in my post.

The performance of the systems you described does not apply to the
system I described, and vise-versa..

RF

3734. Re: Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-08-31 23:06:55 UTC
From: Tim Shoppa <tshoppa@gmail.com>
Message-ID: <0de627c0-d33d-40fc-b3d4-6c3197b97e06@g17g2000yqe.googlegroups.com>
Source record: 7734

On Aug 30, 4:26 pm, Roy Lewallen <w...@eznec.com> wrote:
> My question is
> only about the problem of a line getting stuck after a short while. I've
> assumed that conifers are more of a problem because of the sticky pitch
> and relatively soft wood. What are the experiences others have had with
> moderately sized line?

I've definitely gotten lines of various sizes stuck in tree crotches
if left unmoved for an extended time.

I have been advised, (but have not take the advice!) that running the
rope through a garden hose, which is sitting in the crotch, is the way
to prevent this from happening.

If I were climbing the tree to get the line up there, that'd be easy
enough to do, but using a cannon to send the line over it's not so
obvious. I'm thinking right now, with my 1/4" rope, that maybe I could
use the rope to pull a hose (not as thick as a garden hose maybe) up
itself.

Tim N3QE

3735. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 00:02:18 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f7dfcea8-3d5f-4723-a865-325e4cec515e@a36g2000yqc.googlegroups.com>
Source record: 7735

On Aug 31, 5:24 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 31, 11:03 am, John Smith <assemblywiz...@gmail.com> wrote:
>
>
>
> > On 8/31/2010 8:03 AM, Art Unwin wrote:
>
> > >> ...
>
> > > Regards
> > > Art Unwin.....KB9MZ....xg
>
> > Art,
>
> > You waste your words on me. I will only cop to a few things:
>
> > 1) I believe the ether is real and it exists about us, in us, everywhere.
> > 2) All our "real matter" was ripped from the ether and is just ether
> > existing in an altered state, "this all" is not "normal."
> > 3) Although we can't "see" the ether (yet), we can make guesses from
> > its' apparent properties. One important one, it is a superconductor.
> > EMF can, apparently, transverse it forever with no "loss" (some will
> > mention a "red shift", or "slowing", here.)
> > 4) "Discovering" it will boost our economy, flood our markets with
> > uncountable new devices exploiting its' properties and raise mans'
> > scientific knowledge to unfathomable heights ...
>
> > Beyond that? Who knows ... I think, at this time, your ramblings are
> > just as valid as any I could make, about it, the ether ... since yours
> > sounds so "crazy", I hesitate to go into such depths ... sorry ...
> > remember, "fools" (well, Einstein did) run where brave men fear to go ...
>
> > The "double helix", as it involves antennas, is only a trick to me.
> > And, use to coax certain actions/behaviors from an antenna. It is
> > physical in existence and can affect antenna fields and other properties
> > ... it is no more profound or magical than a gamma match, capacitive
> > hat, etc., sorry ... at this point, this is all I want to know.
>
> > Regards,
> > JS
>
> John the question you raise with regard to the tank circuit is very
> valid. But when a superconductor is used as a radiator removal of the
> time varying current is consumed by losses

> Let me propose the following, presently it is assumed that the super
> conductor resistance goes to zero which embraces perpetual motion if
> losses disappear. What if the current rose to the surface
> like my antenna which is determined as the "Meissner effect". The
> material is being bypassed
> and replaced in the circuit by resistance traveling along the surface
> which gives you the analogy of the long pendulum. One has to be wary
> of embracing perpetual motion as in itself it destroys all we have
> determined in physics.

boy, i'm sorry i've been too busy to read this whole thread, sounds
like some great stuff... keep up the laughs, maybe by this weekend
i'll be able to catch up and enjoy it!

3736. Art, buddy, hang in there ...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 03:45:52 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5ki9j$80r$1@news.eternal-september.org>
Source record: 7736

Help is on the way, attempt to hold out! I'd be there sooner, but the
morons are baaaaccccck! :-(

Regards,
JS

3737. Re: Art, buddy, hang in there ...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 04:41:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <477f245e-cba0-44c6-9cc2-95a7d34fff46@l20g2000yqe.googlegroups.com>
Source record: 7737

On Aug 31, 10:45 pm, John Smith <assemblywiz...@gmail.com> wrote:
> Help is on the way, attempt to hold out! I'd be there sooner, but the
> morons are baaaaccccck! :-(
>
> Regards,
> JS

John he doesn't bother me. The more he posts the more people
understand what a child he is.
Soon somebody will go to a modeling program and try it out and it will
all be over. I am not fully familiar
with Eznec but I understand it already has a sample
of a coil which makes it easy to duplicate to try out above UHF. A
condensed antenna with extremely high gain is very desirable to the
ham community and elsewhere so interest will win over in the end.
Thanks anyway for the support, you can't be an engineer for very long
if the bridges you build keep falling down and I worked as a senior
engineer with G.E. for most of my life so I have walked the walk.
I forgot to mention that this antenna does not have a formal bandwidth
as it is resonant on all frequencies up to the length of wire used for
the lowest frequency.As the wire only carries a minimum of current it
can be quite thin and resistance is so small it is not a problem to
use
loads of wire and still maintain a condensed antenna. Mine is light
enough to hold up with one hand and place it in the rotor on the tower
top and is good down to top band. Sounds crazy but I have provided the
physics which is supported by my actual antennas as well as the
computer programs.
Regards
Art

3738. Re: Art, buddy, hang in there ...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 05:57:18 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5kq03$4j1$1@news.eternal-september.org>
Source record: 7738

On 8/31/2010 9:41 PM, Art Unwin wrote:
> On Aug 31, 10:45 pm, John Smith<assemblywiz...@gmail.com> wrote:
>> Help is on the way, attempt to hold out! I'd be there sooner, but the
>> morons are baaaacccck! :-(
>>
>> Regards,
>> JS
>
> John he doesn't bother me. The more he posts the more people
> understand what a child he is.
>> ...
> Regards
> Art

I had some spare time today, to just let my mind wander. You know how mooselums must face mecca each day? I wonder if moohamad ever gave any advise what direction mooselums should face their antenna? A sloper, facing mecca would seem to be suitable; Indeed, the antenna would almost be in a "praying conformation!" I mean, surely, no fault could be found with a mooselum utilizing one of those babies!

You ever given much thought to that?

Regards,
JS

3739. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1283320800@panix.com>
Source record: 7739
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

3740. Re: Antenna rope replacement interval

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 07:03:45 UTC
From: Ian White GM3SEK <gm3sek@ifwtech.co.uk>
Message-ID: <67PLrJGRrffMFAWg@ifwtech.co.uk>
Source record: 7740

Tim Shoppa wrote:
>On Aug 30, 4:26ï¿½pm, Roy Lewallen <w...@eznec.com> wrote:
>> My question is
>> only about the problem of a line getting stuck after a short while. I've
>> assumed that conifers are more of a problem because of the sticky pitch
>> and relatively soft wood. What are the experiences others have had with
>> moderately sized line?
>
>I've definitely gotten lines of various sizes stuck in tree crotches
>if left unmoved for an extended time.
>
>I have been advised, (but have not take the advice!) that running the
>rope through a garden hose, which is sitting in the crotch, is the way
>to prevent this from happening.
>
>If I were climbing the tree to get the line up there, that'd be easy
>enough to do, but using a cannon to send the line over it's not so
>obvious. I'm thinking right now, with my 1/4" rope, that maybe I could
>use the rope to pull a hose (not as thick as a garden hose maybe) up
>itself.
>
>Tim N3QE

Apparently, tree climbers use a wide strap called a "cambium saver" to protect the bark and allow lines to run freely. The following link shows how it may be positioned in the crotch of a branch, and even retrieved after use, working only from ground level:

<http://www.instructables.com/id/How-to-get-a-rope-into-a-tree-without-climbing-it/>

Roy, you may have a chance to try this, sooner than you think!

--

73 from Ian GM3SEK
http://www.ifwtech.co.uk/g3sek

3741. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 09:11:42 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <IDfoyyOOjhfMFwGw@g3ohx.demon.co.uk>
Source record: 7741

In message <m9KdnRB7ddrlHODRnZ2dnUVZ_i2dnZ2d@giganews.com>, Roy Lewallen
<w7el@eznec.com> writes
>On 8/31/2010 3:09 PM, Richard Fry wrote:
>> On Aug 30, 5:52 pm, Roy Lewallen<w...@eznec.com> wrote:
>>
>>> In my example, the antenna is not matched to the transmission line. Nor,
>>> for that matter, is the transmitter matched to the transmission line. My
>>> point is that power transfer doesn't depend on either of these points
>>> being matched.
>>
>> Roy:
>>
>> My post showing very high input SWR at the base of an unloaded, base-
>> driven, 10 foot vertical on 3.8 MHz described an UNMATCHED system
>> resulting from its connection to transmission lines of typical
>> impedance values. It did not include matching networks, whether
>> located at the base of the vertical radiator, the output connector of
>> the transmitter, or wherever.
>>
>> Then you posted, "Using your antenna as an example, suppose that a
>> transmitter with output Z of 50 ohms is connected to a tuner that
>> transforms its output impedance to 0.6 + j1250 ohms. ... The
>> transmitter will see 50 + j0 ohms, the antenna will see an impedance
>> of 0.6 + j1250 ohms, and full power will be transferred."
>>
>> That configuration you posted is a MATCHED system, and its performance
>> does not disprove the accuracy of my post.
>>
>> RF
>
>So you're saying that the mismatch between the impedance of an antenna
>and the transmission line connected to it doesn't inhibit power flow
>when there's a matching network anywhere in the system. But it does
>interfere with power flow when there's no matching network?
>
>What if the antenna is 50 ohms and the transmission line is a half
>wavelength of 600 ohms, for a 12:1 mismatch? There's no matching
>network. The transmitter sees 50 ohms. The antenna sees 50 ohms. What
>will interfere with the power flow?
>

In my simplistic world, this is how I understand things:

Provided the TX is followed by a tuner/matcher, which matches whatever
is attached to the tuner output to 50 ohms at the tuner input, the TX

will be happy.

The power loss in the feeder is essentially a function of its inherent loss (when matched) per unit length, and the SWR on it.

The SWR is a function of the mismatch between the load on the antenna end of the feeder, and the feeder characteristic impedance. The greater the SWR and the longer the feeder, the higher will be the loss on the feeder. 'Lossless' feeder have no loss, regardless of length and SWR. However, with real-world feeders, the losses rise increasingly rapidly with increasing SWR.

The impedance looking into the tuner end of the feeder is the impedance of the load, transformed by length of the feeder, and is also modified by the loss of the feeder.

The higher the feeder loss, the closer the impedance seen at the tuner end will approach the characteristic impedance of the feeder. [Long lengths of lossy feeder - maybe with a nominal termination on the far end - can make good dummy loads at VHF and UHF.]
--
Ian

3742. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 10:09:49 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DE6CD1DCDA37nonenowhere@61.9.134.55>
Source record: 7742

Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
news:lDfoyyOOjhfMFwGw@g3ohx.demon.co.uk:

...
> In my simplistic world, this is how I understand things:
>
> Provided the TX is followed by a tuner/matcher, which matches whatever
> is attached to the tuner output to 50 ohms at the tuner input, the TX
> will be happy.

"Happey" eh!
>
> The power loss in the feeder is essentially a function of its inherent
> loss (when matched) per unit length, and the SWR on it.

Wrong.

>
> The SWR is a function of the mismatch between the load on the antenna
> end of the feeder, and the feeder characteristic impedance. The

Well, the SWR at the load end is a function of Zl and Zo (both complex
quantities)... but the 'notional' SWR varies along the line as accounted
for by the complex propagation coefficient, in most practical cases at
HF, SWR decreases smoothly from load to source.

> greater the SWR and the longer the feeder, the higher will be the loss
> on the feeder. 'Lossless' feeder have no loss, regardless of length
> and SWR. However, with real-world feeders, the losses rise
> increasingly rapidly with increasing SWR.

See your earlier misconception regarding loss being a simple function of
SWR.

>
> The impedance looking into the tuner end of the feeder is the
> impedance of the load, transformed by length of the feeder, and is
> also modified by the loss of the feeder.

You got that right.

>
> The higher the feeder loss, the closer the impedance seen at the tuner
> end will approach the characteristic impedance of the feeder. [Long
> lengths of lossy feeder - maybe with a nominal termination on the far
> end - can make good dummy loads at VHF and UHF.]

Yes, but is it of practical application in a transmit scenario? If the input impedance due to a severly mismatched load is at all close to Zo, then you have lost most of the transmitter power in the line.

The "make a good dummy load" recipe doesn't address the power rating, especially where most of the power is dissipated in a very short length of cable.

Owen

3743. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 10:24:05 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DE6CF88CB646nonenowhere@61.9.134.55>
Source record: 7743

Owen Duffy <none@no.where> wrote in news:Xns9DE6CD1DCDA37nonenowhere@61.9.134.55:

> "Happey" eh!

How did that e get in there...

"Happy", a new dumbed down attribute of a transmitter. Everyone loves a happy transmittter.

What happens if they are not happy? Well, everyone knows you will let the smoke out of them (AKA reflected power is dissipated in the PA and kills transmitters).

Yep, a simple world... even if wrong.

Owen

3744. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 11:56:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1b8b02db-7063-4bce-84e4-4ddc4e77ebfe@l20g2000yqm.googlegroups.com>
Source record: 7744

On Sep 1, 4:11 am, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> The impedance looking into the tuner end of the feeder is the impedance
> of the load, transformed by length of the feeder, and is also modified
> by the loss of the feeder.

That's the result of the 50 ohm Z0-match achieved at the input of the
tuner which is responsible for the transmitter's "happiness". A Z0-
match causes the incident reflected energy to be redistributed back
toward the antenna through a combination of reflection and destructive
interference.
--
73, Cecil, w5dxp.com

3745. Re: Superconductors and Ham antennas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 13:54:25 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i5lluj$bg4g$1@tr22n12.aset.psu.edu>
Source record: 7745

Richard Clark wrote:

> Going further, it isn't even necessary to drive temperatures to the
> basement for improved conduction. Carbon nanotubes are exemplars of
> high conductivity (several orders of magnitude better than what we
> consider good metals) at room temperature where a carbon macrotube
> would be called a resistor. Conductivity and superconductivity
> research has long ago left the realm of temperature and has entered
> the realm of crystal alignment.
>
> However, even this academic. Carbon Nanotube construction at a scale
> to compete with standard copper wire is off by a scale of a million to
> billions (of dollars, much less practicability).

This may have changed also, I'm no expert in superconductors (though I do play one on TV) Don't the high temperature superconductors have issues with current capacity, and does this translate into problems with impedance?

- 73 de Mike N3LI -

3746. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 14:30:38 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i5lo2e$fg56$1@tr22n12.aset.psu.edu>
Source record: 7746

Cecil Moore wrote:
> On Aug 31, 10:49 am, John Smith <assemblywiz...@gmail.com> wrote:
>> Uh, huh, so that is what "... created man in Gods' image ..." means, the
>> double helix! I'll be looking for one descending from Heaven soon!
>
> Does God have DNA? If not, where did Jesus' Y DNA come from? If yes,
> can God be killed?

Can God make a burrito so hot that he can't eat it?

- Mike -

3747. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 14:32:28 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i5lo5s$fg56$2@tr22n12.aset.psu.edu>
Source record: 7747

tom wrote:
> On 8/30/2010 11:39 AM, Michael Coslo wrote:
>> Cecil Moore wrote:
>>> On Aug 28, 3:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>>>> Whoa!You are talking apples and oranges.
>>>
>>> Of course, but apples and oranges are both particles. The old masters
>>> were correct about the aether consisting of particles - they were just
>>> wrong about the nature of the particles.
>>>
>>> If someone hits you in the head with a frozen apple or a frozen orange
>>> in the dark on a winter night, it is difficult to tell the difference.
>>> Quantum physics has turned on the light.
>>
>>
>> You people are all barking up the wrong tree. Phlogiston theory is where
>> it is at. Everything since then is nothing but gobbldygook. Including
>> that Johnny come lately, Aether theory.
>>
>> -73 de Mike N3LI -
>
> Are you sure? I heard it was Orgone Energy. It has cool antenna-like
> thingies that gather the Energy, too!

Careful, with blasphemy like that Cthlulu is a gonna getchya! 8^)

- Mike -

3748. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 15:28:10 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5lree$h55$1@news.eternal-september.org>
Source record: 7748

On 8/31/2010 3:54 PM, Cecil Moore wrote:

> ...
> Does God have DNA? If not, where did Jesus' Y DNA come from? If yes,
> can God be killed?
> --
> 73, Cecil, w5dxp.com

Sorry, missed this earlier, must have hit, "mark newsgroup as read" a bit prematurely ...

Well, just guessing, I'd say, it came from the "immaculate conception", and Mary contributed ... but hey, mankinds DNA came form God ... I find it a much better question to ask, "Is God a "true God" or an alien, or alien race?"; And, "Would I be able to tell the difference if I ran into either?" And then, there is the question, "Where did God/alien-race come from?"

It ain't easy being human ...

Regards,
JS

3749. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 15:29:52 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <PnwiLBGwFnfMFwgI@g3ohx.demon.co.uk>
Source record: 7749

In message <Xns9DE6CD1DCDA37nonenowhere@61.9.134.55>, Owen Duffy
<none@no.where> writes
>Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
>news:lDfoyyOOjhfMFwGw@g3ohx.demon.co.uk:
>
>...
>> In my simplistic world, this is how I understand things:
>>
>> Provided the TX is followed by a tuner/matcher, which matches whatever
>> is attached to the tuner output to 50 ohms at the tuner input, the TX
>> will be happy.
>
>"Happey" eh!

Your later correction is noted!
>>
>> The power loss in the feeder is essentially a function of its inherent
>> loss (when matched) per unit length, and the SWR on it.
>
>Wrong.
>
OK, the loss may not be uniform if the SWR is greater at the load end.
But when is the power loss* NOT a function of its matched loss per unit
length, and the SWR on it. [*Should I have said 'in dB'?]
>>
>> The SWR is a function of the mismatch between the load on the antenna
>> end of the feeder, and the feeder characteristic impedance. The
>
>Well, the SWR at the load end is a function of Zl and Zo (both complex
>quantities)... but the 'notional' SWR varies along the line as accounted
>for by the complex propagation coefficient, in most practical cases at
>HF, SWR decreases smoothly from load to source.
>
>> greater the SWR and the longer the feeder, the higher will be the loss
>> on the feeder. 'Lossless' feeder have no loss, regardless of length
>> and SWR. However, with real-world feeders, the losses rise
>> increasingly rapidly with increasing SWR.
>
>See your earlier misconception regarding loss being a simple function of
>SWR.
>
I didn't say 'simple'. I said 'essentially'.
>>
>> The impedance looking into the tuner end of the feeder is the

>> impedance of the load, transformed by length of the feeder, and is
>> also modified by the loss of the feeder.
>
>You got that right.
>
Yes, I know I did.
>>
>> The higher the feeder loss, the closer the impedance seen at the tuner
>> end will approach the characteristic impedance of the feeder. [Long
>> lengths of lossy feeder - maybe with a nominal termination on the far
>> end - can make good dummy loads at VHF and UHF.]
>
>Yes, but is it of practical application in a transmit scenario?

As a termination, I've used a fairly long piece of coax plus, for good
luck, a low-power termination hung on the end.

> If the
>input impedance due to a severly mismatched load is at all close to Zo,
>then you have lost most of the transmitter power in the line.
>
Quite.

>The "make a good dummy load" recipe doesn't address the power rating,
>especially where most of the power is dissipated in a very short length
>of cable.
>
Oh, indeed. But I have to confess that I've realised that I'm suddenly
unsure of where, on a long, lossy, feeder with a mismatched load, most
of the absolute power is actually lost. I'm assuming that it is at the
TX end, where the power is greatest - even though that's where the SWR
is best. Please advise!
--
Ian

3750. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 16:20:15 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <0677b904-1c14-4497-8a74-fa5288971a6e@q2g2000yqq.googlegroups.com>
Source record: 7750

On Sep 1, 10:29 am, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> Oh, indeed. But I have to confess that I've realised that I'm suddenly
> unsure of where, on a long, lossy, feeder with a mismatched load, most
> of the absolute power is actually lost. I'm assuming that it is at the
> TX end, where the power is greatest - even though that's where the SWR
> is best. Please advise!

It seems logical that the highest I^2*R losses would be where the
standing-wave current is maximum and the highest dielectric losses
wold be where the the standing-wave voltage is maximum. As Owen is
fond of pointing out, the locations of those points are very
important. If a current maximum point exists at the load and a voltage
maximum point exists at the source, the losses at the load are
probably higher than the losses at the source on HF. If a voltage
maximum point exists at the load and a current maximum point exists at
the source, the losses at the load are probably lower than the losses
at the source on HF (assuming that losses due to SWR are mostly I^2*R
losses on HF).
--
73, Cecil, w5dxp.com

3751. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 16:43:45 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5lvs6$f1v$1@news.eternal-september.org>
Source record: 7651

On 9/1/2010 9:20 AM, Cecil Moore wrote:

> ...
> It seems logical that the highest I^2*R losses would be where the
> standing-wave current is maximum and the highest dielectric losses
> wold be where the the standing-wave voltage is maximum. As Owen is
> fond of pointing out, the locations of those points are very
> important. If a current maximum point exists at the load and a voltage
> maximum point exists at the source, the losses at the load are
> probably higher than the losses at the source on HF. If a voltage
> maximum point exists at the load and a current maximum point exists at
> the source, the losses at the load are probably lower than the losses
> at the source on HF (assuming that losses due to SWR are mostly I^2*R
> losses on HF).
> --
> 73, Cecil, w5dxp.com

Uhhh, sorry to pose this question to you here but, doesn't a "tuner"
really just "shorten" and "lengthen" the feed line? I mean, not
physically, of course. But, it would seem to me that, this is exactly
what my xmitter and ant are "seeing."

Regards,
JS

3752. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 18:35:53 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <84b14f8d-246f-4a27-a04a-4303ab6bdf8e@a36g2000yqc.googlegroups.com>
Source record: 7652

On Sep 1, 11:43 am, John Smith <assemblywiz...@gmail.com> wrote:
> Uhhh, sorry to pose this question to you here but, doesn't a "tuner"
> really just "shorten" and "lengthen" the feed line? I mean, not
> physically, of course. But, it would seem to me that, this is exactly
> what my xmitter and ant are "seeing."

If all the tuner did was shorten and lengthen the feedline, there would be only one purely resistive low resistance available on the SWR circle on the Smith Chart and it wouldn't be exactly 50 ohms. So a tuner does one other thing - it transforms the non-50 ohm resistive impedance to a 50 ohm resistive impedance. It is not only the equivalent of shortening and lengthening the transmission line but also performs an N:1 transformer function. Of course, it does that seamlessly, i.e. it is not actually a two-step process.

When I vary the length of my ladder-line to obtain system resonance, I have to be satisfied with purely resistive impedances between 35 ohms and 85 ohms. I cannot achieve a perfect 50 ohms on all HF bands with my matching method. That would require the addition of an actual N:1 transformer which is certainly possible but probably not worth the effort. Since 35-85 ohms is perfectly acceptable to my SC-500 amp, I don't need a high-power tuner. And since the SC-500 is spec'ed to handle an SWR of 6:1, I doubt that an 35-85 ohm load makes it "unhappy". If my SC-500 has ever been "unhappy", I failed to observe that "unhappiness" but maybe I am just oblivious to such? :)
--
73, Cecil, w5dxp.com

3753. Re: Superconductors and Ham antennas - Split-ring_resonator_array_10K_sq_nm.jpg (0/1)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 18:53:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6c7t7614g54nao38l8lh3m2itau5lv6f79@4ax.com>
Source record: 7653

On Wed, 01 Sep 2010 09:54:25 -0400, Michael Coslo <mjc5@psu.edu>
wrote:

>Richard Clark wrote:
>
>> Going further, it isn't even necessary to drive temperatures to the
>> basement for improved conduction. Carbon nanotubes are exemplars of
>> high conductivity (several orders of magnitude better than what we
>> consider good metals) at room temperature where a carbon macrotube
>> would be called a resistor. Conductivity and superconductivity
>> research has long ago left the realm of temperature and has entered
>> the realm of crystal alignment.
>>
>> However, even this academic. Carbon Nanotube construction at a scale
>> to compete with standard copper wire is off by a scale of a million to
>> billions (of dollars, much less practicability).
>
>This may have changed also, I'm no expert in superconductors (though I
>do play one on TV) Don't the high temperature superconductors have
>issues with current capacity, and does this translate into problems with
>impedance?

Hi Mike,

High temperature is a relative thing (being it is measured in the 10s
of Kelvins for high temperature superconductivity).

However, Impedance? In the convetional application here in this
forum, it is a remote consideration for research. Afterall, nothing
has changed about the usual characterisitics of conduction,
inductance, or capacitance except for conduction's magnitude/density.

Aside from the conventional discussion here, researchers do tons of
work in the realm of superconductivity that employs radiation. That
body of research is called Plasmonics and Excitonics. Phononics
doesn't strictly apply because it is, by definition, high temperature.

Most of the research into subresonant structures is done in the
nanoscale. What is discussed here as possibilities in that same
regard is sheer nonsense. However, there have been glimmers of
nanoscale research reaching out into the macro dimension.

I've posted such items from Boeing's skunk works on negative
refractive index material research. It is something that could be
modeled in NEC - but only at a vastly expansive scale with hours of

computer time to run.

I am going to broach a taboo and see if an attachment of a split-ring resonator would be supported.

73's
Richard Clark, KB7QHC

3754. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 18:54:46 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <DJxBQxK2FqfMFwzd@g3ohx.demon.co.uk>
Source record: 7654

In message
<0677b904-1c14-4497-8a74-fa5288971a6e@q2g2000yqq.googlegroups.com>,
Cecil Moore <w5dxp@hotmail.com> writes
>On Sep 1, 10:29 am, Ian Jackson
><ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
>> Oh, indeed. But I have to confess that I've realised that I'm suddenly
>> unsure of where, on a long, lossy, feeder with a mismatched load, most
>> of the absolute power is actually lost. I'm assuming that it is at the
>> TX end, where the power is greatest - even though that's where the SWR
>> is best. Please advise!
>
>It seems logical that the highest I^2*R losses would be where the
>standing-wave current is maximum and the highest dielectric losses
>wold be where the the standing-wave voltage is maximum. As Owen is
>fond of pointing out, the locations of those points are very
>important. If a current maximum point exists at the load and a voltage
>maximum point exists at the source, the losses at the load are
>probably higher than the losses at the source on HF. If a voltage
>maximum point exists at the load and a current maximum point exists at
>the source, the losses at the load are probably lower than the losses
>at the source on HF (assuming that losses due to SWR are mostly I^2*R
>losses on HF).
>--
The SWR on a feeder will always be greatest at the load end. However,
because of the feeder losses, the power will also be lowest at the load
end.

So, although the power loss per unit length (in dB) due to SWR will
steadily increase as you approach the load end, because of the feeder
loss, there will be less absolute power (in watts) to lose as you
approach the load end.

The question is, at which end of the feeder is the most absolute power
lost per unit length?
--
Ian

3755. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 19:05:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1654ec88-7ad2-4c7f-a36d-2fe531b63862@f42g2000yqn.googlegroups.com>
Source record: 7655

On Sep 1, 10:28 am, John Smith <assemblywiz...@gmail.com> wrote:
> It ain't easy being human ...

Yep, conceptually knowing that one is going to die was so hard on our ancestors that they had to invent the concept of an immortal soul with an after-life, which is denied to our primate cousins who share 98% of our DNA but don't know that they are going to die. My take is that it is better to have lived and died (loved and lost) than never to have lived (loved) at all.

Reminds me of the song, "Midnight Choir", by the Gatlin Brothers:

Will they have Mogen David in Heaven?
Dear Lord, we'd all like to know,
Will they have Mogen Davin in Heaven, sweet Jesus?
If they don't, who the hell wants to go?
--
73, Cecil, w5dxp.com

3756. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 19:19:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4be40226-bc36-4832-84fc-3ac13d626de2@s9g2000yqd.googlegroups.com>
Source record: 7656

On Sep 1, 1:54 pm, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> The question is, at which end of the feeder is the most absolute power
> lost per unit length?

I already explained that. On HF, maximum losses depend upon where the current/voltage-nodes/loops are located on the transmission line. One cannot answer the above question without knowing that information and the answer is different depending upon the conditions.

Owen has previously proved that on HF, a higher SWR can result in lower losses than a flat line when that high SWR is near a current node and the feedline is less than a quarter wavelength long simply because the average standing-wave current is *lower* than the flat line current.
--
73, Cecil, w5dxp.com

3757. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 19:43:28 UTC
From: John Gilmer <jlgilmer@localnet.com>
Message-ID: <2cadna2vRsrvLePRnZ2dnUVZ_vOdnZ2d@posted.localnet>
Source record: 7657

>The NEC only requires 5.261 (mm)2 for the protective down conductor
and 13.30 (mm)2 for the bonding conductor between electrodes. Since
those sizes are at best a bad joke I was hoping to elicit best
practice advise on what size the conductors should actually be as well
as advise on how to accomplish the bonding of the interior single
point grounding buss bar to the exterior grounding conductors and
Grounding Electrode System.
--

In what way is #6 a "bad joke?"

Do you expect it to vaporize and set your roof on fire?

3758. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 20:21:13 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <v6y6sNB5WrfMFwFN@g3ohx.demon.co.uk>
Source record: 7658

In message
<4be40226-bc36-4832-84fc-3ac13d626de2@s9g2000yqd.googlegroups.com>,
Cecil Moore <w5dxp@hotmail.com> writes
>On Sep 1, 1:54ï¿½pm, Ian Jackson
><ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
>> The question is, at which end of the feeder is the most absolute power
>> lost per unit length?
>
>I already explained that. On HF, maximum losses depend upon where the
>current/voltage-nodes/loops are located on the transmission line. One
>cannot answer the above question without knowing that information and
>the answer is different depending upon the conditions.
>
>Owen has previously proved that on HF, a higher SWR can result in
>lower losses than a flat line when that high SWR is near a current
>node and the feedline is less than a quarter wavelength long simply
>because the average standing-wave current is *lower* than the flat
>line current.
>
Ah, I see what you mean. I was thinking in terms of an 'electrically
long' feeder (many wavelengths long).

I can see that, for a 'short' feeder (for example, if you were feeding a
halfwave dipole via a quarterwave of 300 ohm line), at the antenna
feedpoint you will have a current node (high I^2*R loss), and at the
TX/tuner end, where there is a voltage node, you will have a low I^2*R
loss. It could be that the loss of a matched relatively low-impedance
feeder of 50 or 75 ohms (being inherently higher than that of higher
impedance feeders with similar conductors etc) could be higher than the
average loss of the 300 ohm - even though the antenna will present an
SWR to the feeder of around 4 or 6 to 1.

That still leaves the question of which end of a long feeder has the
greater absolute power loss. Using 'reductio ad absurdum' and 'rule of
thumb' (two very dangerous principles!), I feel that it can only be at
the TX end. If the cable is really long, any power left to be dissipated
at the load end must be negligible compared with that available at the
TX end.
--
Ian

3759. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 20:22:49 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DE740E78AAA2nonenowhere@61.9.134.55>
Source record: 7659

Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
news:DJxBQxK2FqfMFwzd@g3ohx.demon.co.uk:

> The question is, at which end of the feeder is the most absolute power
> lost per unit length?

In response to your two posts...

You might be informed of the traditional graphs (or simple underlying formulas) of "Additional loss due to VSWR" that appear in some publications including several ARRL publications.

The formulas on which these graphs usually depend rely on a set of assumptions that are often, if not usually, not stated.

You could be forgiven for interpreting these things to mean that loss per unit length (in dB) is constant along a transmission line independent of VSWR.

The traditional RLGC model of a transmission line does give constant loss per unit length when VSWR=1.

For most practical lines at HF, most of the loss is due to conductor loss (the R term in RLGC) and very little due to dielectric loss (G in RLGC). The result of that is that line loss in any incremental length is very dependent on current, higher in regions of higher current, and lower in regions of lower current.

Consider the loss in 1m of RG58 at 3.5MHz with a 500+j0 load. It is a very short line electrically so current is almost uniform. VSWR=10 and current is approximately 1/3 of that for a matched line for the same transferred power.

Why should loss be greater than a matched line when I^2 is one tenth the matched line case? Well, it isn't. The formulas and graphs do not apply because the (often unstated) underlying assumptions are not met.

Regarding the dummy load, it might seem intuitive that loss is highest where the VSWR is worst, but that is not correct. The correct answer is found by calculating the loss along the line.

If you consider the case of 100m of RG58C/U with O/C termination as a dummy load for 1296MHz...

Lets section the 100m into 10+90m.

Using TLLC (http://www.vk1od.net/calc/tl/tllc.php), the input impedance of the last 90m is 50.00-j0.01.

Now lets look at the first 10m of our 100m, it has a termination of 50.00-j0.01 and the loss is 8.5dB, only 14% of the input power flows into the last 90m, 86% if the input power is lost somewhere in the first 10m.

By the same method, you could find that almost 20% of input power is loss in the first metre, even though the VSWR in that section is almost perfect.

Owen

3760. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 20:55:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DE74678E2F8Dnonenowhere@61.9.134.55>
Source record: 7660

"John Gilmer" <jlgilmer@localnet.com> wrote in
news:2cadna2vRsrvLePRnZ2dnUVZ_vOdnZ2d@posted.localnet:

> Do you expect it to vaporize and set your roof on fire?

Well, engineering of lightning protection is about design of a protection system that will, amongst other things, survive most events so as to continue to provide protection, and to minimise incidental damage.

So, yes, down conductors adequately sized to manage the risk of the conductor "vapourising" is part of the scope, and physical design to minimise the risk of side flash causing damage is also part of the scope.

It is interesting, no confusing, that you have two guides that give such different guidance. In Australia, we too have a standard for house wiring, and another standard for lightning protection, but they are not in conflict and our standard for lightning protection is well aligned with NFPA 780 on the downconductor size issue.

Owen

3761. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 21:00:34 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <DLwhAJFy7rfMFwjY@g3ohx.demon.co.uk>
Source record: 7661

In message <Xns9DE740E78AAA2nonenowhere@61.9.134.55>, Owen Duffy
<none@no.where> writes
>Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
>news:DJxBQxK2FqfMFwzd@g3ohx.demon.co.uk:
>
>
>> The question is, at which end of the feeder is the most absolute power
>> lost per unit length?
>
>In response to your two posts...
>
>You might be informed of the traditional graphs (or simple underlying
>formulas) of "Additional loss due to VSWR" that appear in some
>publications including several ARRL publications.
>
>The formulas on which these graphs usually depend rely on a set of
>assumptions that are often, if not usually, not stated.
>
>You could be forgiven for interpreting these things to mean that loss per
>unit length (in dB) is constant along a transmission line independent of
>VSWR.
>
>The traditional RLGC model of a transmission line does give constant loss
>per unit length when VSWR=1.
>
>For most practical lines at HF, most of the loss is due to conductor loss
>(the R term in RLGC) and very little due to dielectric loss (G in RLGC).
>The result of that is that line loss in any incremental length is very
>dependent on current, higher in regions of higher current, and lower in
>regions of lower current.
>
>Consider the loss in 1m of RG58 at 3.5MHz with a 500+j0 load. It is a
>very short line electrically so current is almost uniform. VSWR=10 and
>current is approximately 1/3 of that for a matched line for the same
>transferred power.
>
>Why should loss be greater than a matched line when I^2 is one tenth the
>matched line case? Well, it isn't. The formulas and graphs do not apply
>because the (often unstated) underlying assumptions are not met.
>
>Regarding the dummy load, it might seem intuitive that loss is highest
>where the VSWR is worst, but that is not correct. The correct answer is
>found by calculating the loss along the line.
>

>If you consider the case of 100m of RG58C/U with O/C termination as a
>dummy load for 1296MHz...
>
>Lets section the 100m into 10+90m.
>
>Using TLLC (http://www.vk1od.net/calc/tl/tllc.php), the input impedance
>of the last 90m is 50.00-j0.01.
>
>Now lets look at the first 10m of our 100m, it has a termination of
>50.00-j0.01 and the loss is 8.5dB, only 14% of the input power flows into
>the last 90m, 86% if the input power is lost somewhere in the first 10m.
>
>By the same method, you could find that almost 20% of input power is loss
>in the first metre, even though the VSWR in that section is almost
>perfect.
>
That is indeed very interesting - and illuminating. I've always assumed that, for electrically long feeders, most of the power got lost at the input end - but I didn't realise that the effect was so dramatic. I must do a few calculations for myself!

And as for electrically short feeders, I do see how the greatest power loss is where there are current nodes etc (although, presumably, averaged over a halfwavelength, the power loss will still be greater towards the TX end). But I now recall that some time ago, there was a lengthy discussion (in this NG, I'm sure) about how a matched low-impedance feeder could actually have more loss than a mismatched relatively high-impedance feeder.
--
Ian

3762. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 21:56:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DE750B52424nonenowhere@61.9.134.55>
Source record: 7662

Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
news:DLwhAJFy7rfMFwjY@g3ohx.demon.co.uk:

> That is indeed very interesting - and illuminating. I've always
> assumed that, for electrically long feeders, most of the power got
> lost at the input end - but I didn't realise that the effect was so
> dramatic. I must do a few calculations for myself!

I chose a case that would be clear. When the line loss is low, it is not
so dramatic. Trying to find Rules of Thumb in all of this is fraught
with problems.

>
> And as for electrically short feeders, I do see how the greatest power
> loss is where there are current nodes etc (although, presumably,
> averaged over a halfwavelength, the power loss will still be greater
> towards the TX end). But I now recall that some time ago, there was a
> lengthy discussion (in this NG, I'm sure) about how a matched
> low-impedance feeder could actually have more loss than a mismatched
> relatively high-impedance feeder.

Well, if you do some calcs yourself, what you learn will stick in your
mind. Just be sure that your study is reasonably comprehensive so you
don't come away with some new, but flawed, Rules of Thumb (RoT).

You could persue the dummy load example a little further. How long does
the line need to be for VSWR<1.1, and if the continuous dissipation
limit of RG58 is say 6W/m, what is the continuous power rating?

Owen

3763. Re: Grounding for Gable end bracket & mast.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 22:08:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i5mishvaq1@news.jpl.nasa.gov>
Source record: 7664

Owen Duffy wrote:
> "John Gilmer" <jlgilmer@localnet.com> wrote in
> news:2cadna2vRsrvLePRnZ2dnUVZ_vOdnZ2d@posted.localnet:
>
>> Do you expect it to vaporize and set your roof on fire?
>
> Well, engineering of lightning protection is about design of a protection
> system that will, amongst other things, survive most events so as to
> continue to provide protection, and to minimise incidental damage.
>
> So, yes, down conductors adequately sized to manage the risk of the
> conductor "vapourising" is part of the scope, and physical design to
> minimise the risk of side flash causing damage is also part of the scope.
>
> It is interesting, no confusing, that you have two guides that give such
> different guidance. In Australia, we too have a standard for house wiring,
> and another standard for lightning protection, but they are not in conflict
> and our standard for lightning protection is well aligned with NFPA 780 on
> the downconductor size issue.
>
> Owen
>

The thing is, AWG 6 wire won't vaporize or even melt or even get warm to the touch. There's not enough "action" (I^2 T) in a lightning stroke to do it. Remember that the current is high, but only lasts a matter of a 50-100 microseconds.

Say you are using AWG 10 wire which has a resistance of 1 milliohm per foot. a 50 kA strike will dissipate 50E3^2*1E-3 = 2.5 MegaWatts.. which is big.. but for 50 microseconds, that's only 150 joules. That same foot of wire weighs about 1/2 an ounce (I'm sorry for the customary units, but they are what I remember off the top of my head AWG 10 is 1/10th inch in diameter, 1 ohm/kft, and 32 ft/lb).. or about 14 grams.

Specific heat of copper is 0.38, so we have deltaT = 150/14 * 0.38 let's call it about 4 degrees C.

I should note that this is a bit optimistic.. the AC resistance for a 50 microsecond pulse will be higher than for DC because of skin effect (skin depth at 1 MHz is 65 microns, 2.5E-3 inches, and it goes as the square root, so even at 100kHz, it's still not much more).. so the dissipation will be higher.

But, you've got a long ways from 30C to 1000C (melting point of copper) and even farther to "vaporization"...

(as a practical matter, you need kiloJoules to explode a 1 meter AWG 30 copper wire.. hundreds of joules just "melts" it.)

(note also that while the peak current might be 50kA or 100kA, the average current is substantially less..)

Mechanical stresses from magnetic fields are a bigger concern, as well as "sideflash".

3764. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-01 22:37:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1725bacf-20b0-4257-b6f0-54fe6565674e@q2g2000yqq.googlegroups.com>
Source record: 7663

On Sep 1, 3:21 pm, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> Ah, I see what you mean. I was thinking in terms of an 'electrically
> long' feeder (many wavelengths long).

Even then, the same principle applies, at least on HF. If the standing wave current maximum point is located near the load and the standing wave current minimum is located near the source, the maximum transmission line losses due to SWR will be near the load. If one reverses those conditions, the results will reverse. As Owen suggests, plot a graph of I^2 along the line - pick your particular load point and particular source point and almost any outcome is possible.
--
73, Cecil, w5dxp.com

3765. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 01:20:09 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5mu4e$de3$1@news.eternal-september.org>
Source record: 7665

On 9/1/2010 11:35 AM, Cecil Moore wrote:

> ...
> When I vary the length of my ladder-line to obtain system resonance, I
> have to be satisfied with purely resistive impedances between 35 ohms
> and 85 ohms. I cannot achieve a perfect 50 ohms on all HF bands with
> my matching method. That would require the addition of an actual N:1
> transformer which is certainly possible but probably not worth the
> effort. Since 35-85 ohms is perfectly acceptable to my SC-500 amp, I
> don't need a high-power tuner. And since the SC-500 is spec'ed to
> handle an SWR of 6:1, I doubt that an 35-85 ohm load makes it
> "unhappy". If my SC-500 has ever been "unhappy", I failed to observe
> that "unhappiness" but maybe I am just oblivious to such? :)
> --
> 73, Cecil, w5dxp.com

No, I got you. Soon as you stepped though the logic, the match became quite clear as a "third leg" ... glad you have a "happy amp" ... but if the amp goes overboard, escalates its' state of happiness and goes into the "gay zone", DUMP IT at the nearest swap! <stoopid grin>

Regards,
JS

3766. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 01:31:30 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5mupnmor1@news.eternal-september.org>
Source record: 7666

On 9/1/2010 12:05 PM, Cecil Moore wrote:

> ...
> Yep, conceptually knowing that one is going to die was so hard on our
> ancestors that they had to invent the concept of an immortal soul with
> an after-life, which is denied to our primate cousins who share 98% of
> our DNA but don't know that they are going to die. My take is that it
> is better to have lived and died (loved and lost) than never to have
> lived (loved) at all.
>
> Reminds me of the song, "Midnight Choir", by the Gatlin Brothers:
>
> Will they have Mogen David in Heaven?
> Dear Lord, we'd all like to know,
> Will they have Mogen Davin in Heaven, sweet Jesus?
> If they don't, who the hell wants to go?
> --
> 73, Cecil, w5dxp.com

Cecil,

As you have presented this argument in the past, it cannot either be proven, nor dis-proven--and must be considered.

If it were not for the fact that life is the sole "thing" which possesses such unique qualities as to behave as something from a conscious mind, something requiring more than nature to create it, requiring more than accident to have achieved its' present state, I'd have to give what you present much more weight. We must agree that "things" look different to us, at least on this one subject.

As I stated, in slight different words, it is H*LL to be human ...

Regards,
JS

3767. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 01:43:23 UTC
From: tom <news4792@taring.org>
Message-ID: <4c7f0135$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7667

On 9/1/2010 9:32 AM, Michael Coslo wrote:
> tom wrote:
>> On 8/30/2010 11:39 AM, Michael Coslo wrote:
>>> Cecil Moore wrote:
>>>> On Aug 28, 3:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>>>>> Whoa!You are talking apples and oranges.
>>>>
>>>> Of course, but apples and oranges are both particles. The old masters
>>>> were correct about the aether consisting of particles - they were just
>>>> wrong about the nature of the particles.
>>>>
>>>> If someone hits you in the head with a frozen apple or a frozen orange
>>>> in the dark on a winter night, it is difficult to tell the difference.
>>>> Quantum physics has turned on the light.
>>>
>>>
>>> You people are all barking up the wrong tree. Phlogiston theory is where
>>> it is at. Everything since then is nothing but gobbldygook. Including
>>> that Johnny come lately, Aether theory.
>>>
>>> -73 de Mike N3LI -
>>
>> Are you sure? I heard it was Orgone Energy. It has cool antenna-like
>> thingies that gather the Energy, too!
>
> Careful, with blasphemy like that Cthlulu is a gonna getchya! 8^)
>
> - Mike -

Well, that's not a problem anymore. My dog killed him a couple months
ago. It was an accident. And even if it wasn't, after you've seen your
dog kill Cthulhu what is there left to fear?

tom
K0TAR

3768. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 02:51:23 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <OZqdnWzqutyzjOLRnZ2dnUVZ_q2dnZ2d@giganews.com>
Source record: 7668

On 9/1/2010 11:54 AM, Ian Jackson wrote:
> The SWR on a feeder will always be greatest at the load end. However,
> because of the feeder losses, the power will also be lowest at the load
> end.
>
> So, although the power loss per unit length (in dB) due to SWR will
> steadily increase as you approach the load end, because of the feeder
> loss, there will be less absolute power (in watts) to lose as you
> approach the load end.
>
> The question is, at which end of the feeder is the most absolute power
> lost per unit length?

At the transmitter end. Suppose you have a 100 watt transmitter and a
cable with 3 dB loss per 100 feet.

50 watts is lost in the first 100 feet
25 watts is lost in the next 100 feet
12.5 watts is lost in the next 100 feet

and so forth. If you were to divide this up more finely and plot it,
you'd find an exponential decay of watts loss per unit length versus
distance from the transmitter.

Roy Lewallen, W7EL

3769. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 03:21:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DE787DC8537nonenowhere@61.9.134.55>
Source record: 7669

Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
news:DJxBQxK2FqfMFwzd@g3ohx.demon.co.uk:

> The question is, at which end of the feeder is the most absolute power
> lost per unit length?

You might find Fig 10 at
http://vk1od.net/transmissionline/VSWR/displacement.htm interesting. It
is a plot of the power along a length of mismatched line.

The plot doesn't answer your question directly, but the slope of the line
in Fig 10 is the answer to your question for the scenario modelled. The
slope is steepest around the current maximum nearest the source.

Fig 9 is interesting as it shows the loss for a mismatched line can dip
below the loss line for VSWR=1.

The thing that becomes apparent from Fig 9 is that the common practice of
doubling loss for double the line length works for the VSWR=1 case, but
not for the general case. As a mismatched line is lengthed, the
increased loss for each *extra* metre of length *approaches* the
matched line loss and the line length approaches infinity.

Owen

3770. Re: Whip antennas with coils

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 04:42:59 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <316b1b6e-2a4c-47d0-84e9-47653eb92240@i31g2000yqm.googlegroups.com>
Source record: 7670

On Aug 29, 12:45 pm, Cecil Moore <w5...@hotmail.com> wrote:

> I am completely ignorant of your "double helix" so I cannot comment on
> that subject. I always thought a double helix was a strand of DNA.

Could be a self-replicating antenna...

3771. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 05:23:26 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5nccj$d4$1@news.eternal-september.org>
Source record: 7671

On 8/31/2010 10:32 AM, Art Unwin wrote:
> After Jesus "died" he appeared three days later where he spoke to Mary
> Madelyn.
> He had to caution Mary not to touch him as he had not yet prepared
> himself to levitate into the heavens. This was akin to changing
> himself into water such as with a frog that scientists have shown to
> be levitated and life has shown the appearance of fish and frogs in
> roads miles away from ponds after a storm. Something to ponder over.

What is it? Am I the only one here to realize that Art Artstein is
really John Hutchison in disguise? That his tesla coils bend reality
and turn steel to rubber? I was just joking around about him being a
mooselum ... or that he is zealot in the following of moo-ham-ad ...

Regards,
JS

3772. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 17:34:14 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <k5nv76l79ucmj6lacs4e7d3ncggk3rhpm9@4ax.com>
Source record: 7672

On Tue, 31 Aug 2010 13:54:01 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:

>No John I am not jewish!

Thank God. For a moment, I was worried.

>One thing that
>was also written at the time that only a few jewish people continued
>on the journey while the majority
>stayed enjoying their former bad ways.

Sorta. The old testament says (somewhere) that about 600,000 left
Egypt. No clue how many followed Moses into the desert as most just
wanted to leave the scene of the disaster (10 plagues). 40 years
later, about 25,000 entered the promised land with Joshua. Most of
the 40 years was probably spend building and training an army, so
there must have been a major reduction in followers in the desert. The
actual numbers are highly debatable.

As for "bad ways", that's also debatable. For example, what's the
difference between a bribe and a commission? The only difference is
when it's paid. A bribe in advance, a commission after. In most
middle east cultures, bribes are necessary to secure ones profit.
Anyone taking a commission is usually deemed a fool. Yet, western
culture defines taking a bribe as evil, and a commission as desirable.
So, who's acting badly, and from who's perspective?

>These were not receipients of
>the "promise" so what is going to happen to them when they lose out on
>judgement day?

Same as what we do today.... bribe the judge and pay off his cronies.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3773. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 19:14:57 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <0523e642-7638-4535-b7ca-7a6f1c40cd78@m1g2000yqo.googlegroups.com>
Source record: 7673

On Sep 2, 12:34 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Tue, 31 Aug 2010 13:54:01 -0700 (PDT), Art Unwin
>
> <arthurun...@gmail.com> wrote:
> >No John I am not jewish!
>
> Thank God. For a moment, I was worried.
>
> >One thing that
> >was also written at the time that only a few jewish people continued
> >on the journey while the majority
> >stayed enjoying their former bad ways.
>
> Sorta. The old testament says (somewhere) that about 600,000 left
> Egypt. No clue how many followed Moses into the desert as most just
> wanted to leave the scene of the disaster (10 plagues). 40 years
> later, about 25,000 entered the promised land with Joshua. Most of
> the 40 years was probably spend building and training an army, so
> there must have been a major reduction in followers in the desert. The
> actual numbers are highly debatable.
>
> As for "bad ways", that's also debatable. For example, what's the
> difference between a bribe and a commission? The only difference is
> when it's paid. A bribe in advance, a commission after. In most
> middle east cultures, bribes are necessary to secure ones profit.
> Anyone taking a commission is usually deemed a fool. Yet, western
> culture defines taking a bribe as evil, and a commission as desirable.
> So, who's acting badly, and from who's perspective?
>
> >These were not receipients of
> >the "promise" so what is going to happen to them when they lose out on
> >judgement day?
>
> Same as what we do today.... bribe the judge and pay off his cronies.
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

Hmmm
Then it would appear that the promised land was only given to less
than 10% of those that left in the first place! Maybe Gaza will be

large enough for those that followed thru. Grin. I would imagine that decimation could avoid that strip of coastal area.
Maybe agreement will come after all, but not this or the next time around as Israel has not stopped gaining ground.

3774. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 19:21:08 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <db1ae975-43ed-4a66-8f75-e03cbfd0aa0c@d8g2000yqf.googlegroups.com>
Source record: 7674

On Sep 2, 12:34 pm, Jeff Liebermann <je...@cruzio.com> wrote:
> On Tue, 31 Aug 2010 13:54:01 -0700 (PDT), Art Unwin
>
> <arthurun...@gmail.com> wrote:
> >No John I am not jewish!
>
> Thank God. For a moment, I was worried.
>
> >One thing that
> >was also written at the time that only a few jewish people continued
> >on the journey while the majority
> >stayed enjoying their former bad ways.
>
> Sorta. The old testament says (somewhere) that about 600,000 left
> Egypt. No clue how many followed Moses into the desert as most just
> wanted to leave the scene of the disaster (10 plagues). 40 years
> later, about 25,000 entered the promised land with Joshua. Most of
> the 40 years was probably spend building and training an army, so
> there must have been a major reduction in followers in the desert. The
> actual numbers are highly debatable.
>
> As for "bad ways", that's also debatable. For example, what's the
> difference between a bribe and a commission? The only difference is
> when it's paid. A bribe in advance, a commission after. In most
> middle east cultures, bribes are necessary to secure ones profit.
> Anyone taking a commission is usually deemed a fool. Yet, western
> culture defines taking a bribe as evil, and a commission as desirable.
> So, who's acting badly, and from who's perspective?
>
> >These were not receipients of
> >the "promise" so what is going to happen to them when they lose out on
> >judgement day?
>
> Same as what we do today.... bribe the judge and pay off his cronies.
>
> --
> Jeff Liebermann   je...@cruzio.com
> 150 Felker St #D   http://www.LearnByDestroying.com
> Santa Cruz CA 95060http://802.11junk.com
> Skype: JeffLiebermann   AE6KS   831-336-2558

Profit! Well it wasn't money which is the pursuit of the day. An old
woman gave up her only coin, a farthing, and got the jackpot !

3775. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 20:18:04 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <rc108615eia0d99iaf4676bnlo7insuimv@4ax.com>
Source record: 7675

On Thu, 2 Sep 2010 12:21:08 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:

>Profit! Well it wasn't money which is the pursuit of the day. An old
>woman gave up her only coin, a farthing, and got the jackpot !

Well, it does take a bit more than a farthing, but it's still
possible:
"Israel's biggest lottery winner claims prize after 4 months"
<http://www.haaretz.com/news/israel-s-biggest-lottery-winner-claims-prize-after-4-months-1
.284172>

After crossing the Red Sea, the next step was to setup an antenna and
make some contacts on the other side, which would certainly have
qualified as a new country. Not having any wire antennas handy, we
used the next best thing:
"Sea Water Antenna"
<http://www.youtube.com/watch?v=9tIZUhu21sQ>

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3776. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-02 20:27:15 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <8o1086dhu67e40gk80e35vubsbuv8ig656@4ax.com>
Source record: 7676

On Thu, 2 Sep 2010 12:14:57 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:

>Then it would appear that the promised land was only given to less
>than 10% of those that left in the first place!

We claimed abandonment by the other interested parties.

While enforcing a 3000 year old land claim might seem a bit odd, we do have some of the best documented evidence (i.e. the Old and New Testaments) which have stood up in the courts for at least 2000 years. The only problems have been when deconstructionist academics and movie producers attempt to reverse engineer the intent of God. This might have succeeded had they been successful at issuing a subpoena asking for explanations and corroboration of the land claim.

>Maybe Gaza will be
>large enough for those that followed thru. Grin. I would imagine that
>decimation could avoid that strip of coastal area.

Decimation means 1 out of 10. That's been deemed politically inexpedient after the Romans tried it, and found it useless. These days, we just build a wall down the center of the country.

>Maybe agreement will come after all, but not this or the next time
>around as Israel has not stopped gaining ground.

Agreement has always been easy. Keeping the agreements has been the main problem. It isn't just the Arabs. We have the same problem. Get 10 Jews together to form a minion, and instead of agreement, we have an argument. It's a miracle that we've gotten this far, being so screwed up, but that's just evidence that God is on our side.

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3777. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 02:30:30 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5pmkd$lr3$1@news.eternal-september.org>
Source record: 7677

On 9/2/2010 1:18 PM, Jeff Liebermann wrote:

> ...
> After crossing the Red Sea, the next step was to setup an antenna and
> make some contacts on the other side, which would certainly have
> qualified as a new country. Not having any wire antennas handy, we
> used the next best thing:
> "Sea Water Antenna"
> <http://www.youtube.com/watch?v=9tIZUhu21sQ>
>
>

The losses and problems with that will keep a tinkerer quite happy for a lifetime. Reminds me of an old antenna I seen which used a thick quartz tube and was filled to appropriate heights to tune resonance. Was very interesting, and a fun toy for the owner, but I am waiting to see it in mass production.

Regards,
JS

3778. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 03:35:36 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <3ip086ljukle3v9cnpacq4uqgusvvd4fhi@4ax.com>
Source record: 7678

On Thu, 02 Sep 2010 19:30:30 -0700, John Smith
<assemblywizard@gmail.com> wrote:

>On 9/2/2010 1:18 PM, Jeff Liebermann wrote:
>
>> ...
>> After crossing the Red Sea, the next step was to setup an antenna and
>> make some contacts on the other side, which would certainly have
>> qualified as a new country. Not having any wire antennas handy, we
>> used the next best thing:
>> "Sea Water Antenna"
>> <http://www.youtube.com/watch?v=9tIZUhu21sQ>

>The losses and problems with that will keep a tinkerer quite happy for a
>lifetime. Reminds me of an old antenna I seen which used a thick quartz
>tube and was filled to appropriate heights to tune resonance. Was very
>interesting, and a fun toy for the owner, but I am waiting to see it in
>mass production.

For some, no proof in possible, even with YouTube videos.

Let's pretend you just marched across the Red Sea, on sea urchin and
coral encrusted sandals. You follow Moses until you get to Mt Sinai.
The boss then disappears up the mountain, and comes back with some
rather draconian rules and regulations. He then grabs all the metal
he can find and uses it to build the Ark of the Covenant, which was
suppose to be some kind of transmitter to talk to God or perhaps
aliens in their flying saucers. With all the metal used, what do you
use for an antenna? Of course, salt water.... and you wonder why part
of the Passover ritual is dipping just about everything into salt
water.
<http://en.wikipedia.org/wiki/Ark_of_the_Covenant>
God was said to have communicated with Moses "from between
the two cherubim" on the Ark's cover (Exodus 25:22).
One theory has it that the Ark was an arc lamp, which is close enough
to a spark gap xmitter to qualify as a transmitter:
<http://einhornpress.com/holyark.aspx>

Ok, let's forget the salt water antenna. Maybe an inflatable antenna
would be more practical. An inflatable antenna certainly would be
more useful for getting cell phone coverage for the multitudes in the
middle of the desert:
<http://www.youtube.com/user/ltaprojects#p/u>
<http://towers.ltaprojects.com/LTA_Towers/LTA_Tower_Home.html>
(formerly Bosch Aerospace). Can you hear me now?

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

3779. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 04:44:21 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <398a8451-ada5-4bf5-ada2-13010698b530@x18g2000pro.googlegroups.com>
Source record: 7679

On Aug 31, 10:32 am, Art Unwin <arthurun...@gmail.com> wrote:
> After Jesus "died" he appeared three days later where he spoke to Mary
> Madelyn.
> He had to caution Mary not to touch him as he had not yet prepared
> himself to levitate into the heavens. This was akin to changing
> himself into water such as with a frog that scientists have shown to
> be levitated and life has shown the appearance of fish and frogs in
> roads miles away from ponds after a storm. Something to ponder over.

I am an atheist.
You are a dope.
That settles it.

3780. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 05:20:04 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5q0i9nnr1@news.eternal-september.org>
Source record: 7680

On 9/2/2010 9:44 PM, Sal M. Onella wrote:

> ...
> I am an atheist.
> You are a dope.
> That settles it.

Far from it, atheist ain't worth a hoot, if what is really needed is a therapist ... :-(

Regards,
JS

3781. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 12:31:25 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i5qpqt$ls0i$1@tr22n12.aset.psu.edu>
Source record: 7681

tom wrote:
> On 9/1/2010 9:32 AM, Michael Coslo wrote:
>> tom wrote:
>>> On 8/30/2010 11:39 AM, Michael Coslo wrote:
>>>> Cecil Moore wrote:
>>>>> On Aug 28, 3:26 pm, Art Unwin <arthurun...@gmail.com> wrote:
>>>>>> Whoa!You are talking apples and oranges.
>>>>>
>>>>> Of course, but apples and oranges are both particles. The old masters
>>>>> were correct about the aether consisting of particles - they were just
>>>>> wrong about the nature of the particles.
>>>>>
>>>>> If someone hits you in the head with a frozen apple or a frozen orange
>>>>> in the dark on a winter night, it is difficult to tell the difference.
>>>>> Quantum physics has turned on the light.
>>>>
>>>>
>>>> You people are all barking up the wrong tree. Phlogiston theory is
>>>> where
>>>> it is at. Everything since then is nothing but gobbldygook. Including
>>>> that Johnny come lately, Aether theory.
>>>>
>>>> -73 de Mike N3LI -
>>>
>>> Are you sure? I heard it was Orgone Energy. It has cool antenna-like
>>> thingies that gather the Energy, too!
>>
>> Careful, with blasphemy like that Cthlulu is a gonna getchya! 8^)
>>
>> - Mike -
>
> Well, that's not a problem anymore. My dog killed him a couple months
> ago. It was an accident. And even if it wasn't, after you've seen your
> dog kill Cthulhu what is there left to fear?

Your dog is da man, Tom!

- Mike -

3782. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 12:43:22 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i5qqha$8k7m$1@tr22n12.aset.psu.edu>
Source record: 7682

John Smith wrote:

> As you have presented this argument in the past, it cannot either be
> proven, nor dis-proven--and must be considered.

Looking into the modern theories of Aether, your statement is correct.

The problem I have with the new Aether theories is that they take the intellectually inexpensive leap from science to something else.

Quote from Wikipedia

"John Bell suggests the aether was wrongly rejected on purely philosophical grounds: "what is unobservable does not exist""

By which this time, we might as well fold the tents and go back to the easy answer, because if we take that tack we already have all the answers for everything in the universe.

There's an old New Yorker cartoon with a couple of scientists standing at a blackboard. The blackboard is covered with aequations, and right in the middle of them in paren is "And something really awesome happens", folled by more equations. That to me is Aether theory.

Might as well just say the answer is because God wants it that way.

- Mike -

3783. Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 15:07:28 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7ff4d0db-5d7f-454f-aba0-97ced0daa931@o7g2000prg.googlegroups.com>
Source record: 7683

On TV news last night they showed a video of a police officer talking
to a man resting on a sofa in his own home. His wife had called
saying that he had a heart attack and should go to hospital. The man
refused to go
preferring to rest rather than go to hospital for treatment as he
could not afford it. The police officer then tazered him to make him
go to hospital! The chief of Police said that standard protocol had
been followed.
Only in America!!!!
I wonder if he is still married to the woman
or he cancelled his insurance policy?

3784. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 15:19:04 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5r3lfflu1@news.eternal-september.org>
Source record: 7684

On 9/3/2010 5:43 AM, Michael Coslo wrote:

> ...
> There's an old New Yorker cartoon with a couple of scientists standing
> at a blackboard. The blackboard is covered with aequations, and right in
> the middle of them in paren is "And something really awesome happens",
> folled by more equations. That to me is Aether theory.
>
> Might as well just say the answer is because God wants it that way.
>
>
> - Mike -

A "leap of faith" is required for a belief in God, the beginning of a religion. So, to me, most atheists look "religious" to me. Their religion is akin to having two men walking along in some far flung universe when they stumble upon a man-made car. The appraise it, toy with it, climb in and take off.

Now, down the road, one man says to the other, This appears as if it was made by god," the other mans says, "That is ridiculous, this obviously evolved from the elements around, and simply natural laws seen to its' creation."

The whole universe, everything we see, I must wonder if "it always was." Or, if a thinking mind constructed it all, even down to constructing the laws for it to exist in, then the bizarre question of my own existence enters this wonderment. It is easy to say that the ether was, is and always will be--we are born into it.

Atheists just have an easy way of accepting things. They look at all of this/these "MIND-BLOWING MIRACLES", and just say, "Oh yeah, it is natural for all this to exist, there is no such thing as an "absolute nothing", it is a law that if you universe sized space, it is filled with matter in an altered state from the ether."

And, even worse than that, many can't/don't even recognize an ether for the matter to have been created from and exist within. I do admit, my mind finds such simple acceptance shocking ...

Regards,
JS

3785. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 15:24:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5r3vsjmb1@news.eternal-september.org>
Source record: 7685

On 9/3/2010 8:07 AM, Art Unwin wrote:
> On TV news last night they showed a video of a police officer talking
> to a man resting on a sofa in his own home. His wife had called
> saying that he had a heart attack and should go to hospital. The man
> refused to go
> preferring to rest rather than go to hospital for treatment as he
> could not afford it. The police officer then tazered him to make him
> go to hospital! The chief of Police said that standard protocol had
> been followed.
> Only in America!!!!
> I wonder if he is still married to the woman
> or he cancelled his insurance policy?

Art,

Was he holding an antenna?

Anyway, if I'd been present, I would have been arrested. I would have considered force, up to the point and including lethal, would have been justified in stopping such a revolting display. Somehow, tazing an ill man having, apparently, a heart attack/pains puts that individual preforming the action below chit, in my world ... sad, so very, very sad ... it is why the wife and I are considering a move to Montana; I just hate the cold.

Regards,
JS

3786. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 15:34:28 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <441f9464-8c37-4ab9-8167-a48d4d92f717@a4g2000prm.googlegroups.com>
Source record: 7686

On Sep 2, 2:14 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 2, 12:34 pm, Jeff Liebermann <je...@cruzio.com> wrote:
>
>
>
> > On Tue, 31 Aug 2010 13:54:01 -0700 (PDT), Art Unwin
>
> > <arthurun...@gmail.com> wrote:
> > >No John I am not jewish!
>
> > Thank God. For a moment, I was worried.
>
> > >One thing that
> > >was also written at the time that only a few jewish people continued
> > >on the journey while the majority
> > >stayed enjoying their former bad ways.
>
> > Sorta. The old testament says (somewhere) that about 600,000 left
> > Egypt. No clue how many followed Moses into the desert as most just
> > wanted to leave the scene of the disaster (10 plagues). 40 years
> > later, about 25,000 entered the promised land with Joshua. Most of
> > the 40 years was probably spend building and training an army, so
> > there must have been a major reduction in followers in the desert. The
> > actual numbers are highly debatable.
>
> > As for "bad ways", that's also debatable. For example, what's the
> > difference between a bribe and a commission? The only difference is
> > when it's paid. A bribe in advance, a commission after. In most
> > middle east cultures, bribes are necessary to secure ones profit.
> > Anyone taking a commission is usually deemed a fool. Yet, western
> > culture defines taking a bribe as evil, and a commission as desirable.
> > So, who's acting badly, and from who's perspective?
>
> > >These were not receipients of
> > >the "promise" so what is going to happen to them when they lose out on
> > >judgement day?
>
> > Same as what we do today.... bribe the judge and pay off his cronies.
>
> > --
> > Jeff Liebermann   je...@cruzio.com
> > 150 Felker St #D   http://www.LearnByDestroying.com
> > Santa Cruz CA 95060http://802.11junk.com
> > Skype: JeffLiebermann   AE6KS   831-336-2558

>
> Hmmm
> Then it would appear that the promised land was only given to less
> than 10% of those that left in the first place! Maybe Gaza will be
> large enough for those that followed thru. Grin. I would imagine that
> decimation could avoid that strip of coastal area.
> Maybe agreement will come after all, but not this or the next time
> around as Israel has not stopped gaining ground.

Non jews in Israel will never accept expulsion to the
new palestinian State in Gaza so that the land of Israel can be
totally segregated and jewish. Yet until that happens the opening of
the heavens cannot happen without involving the destruction of non
jews!
A predicament has been written!

3787. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 15:40:34 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <JxfD+iHybRgMFw4Z@g3ohx.demon.co.uk>
Source record: 7687

In message <i5r3vsjmb1@news.eternal-september.org>, John Smith
<assemblywizard@gmail.com> writes
>On 9/3/2010 8:07 AM, Art Unwin wrote:
>> On TV news last night they showed a video of a police officer talking
>> to a man resting on a sofa in his own home. His wife had called
>> saying that he had a heart attack and should go to hospital. The man
>> refused to go
>> preferring to rest rather than go to hospital for treatment as he
>> could not afford it. The police officer then tazered him to make him
>> go to hospital! The chief of Police said that standard protocol had
>> been followed.
>> Only in America!!!!
>> I wonder if he is still married to the woman
>> or he cancelled his insurance policy?
>
>Art,
>
>Was he holding an antenna?
>
>Anyway, if I'd been present, I would have been arrested. I would have
>considered force, up to the point and including lethal, would have been
>justified in stopping such a revolting display. Somehow, tazing an ill
>man having, apparently, a heart attack/pains puts that individual
>preforming the action below chit, in my world ... sad, so very, very
>sad ... it is why the wife and I are considering a move to Montana; I
>just hate the cold.
>

I'm sure it was all done with the best intentions. What probably
happened was that the police officer suspected that the husband's heart
rhythms had gone all twitchy, and he needed to apply a spot of instant
defibrillation to save his life.

But rest assured that this sort of thing doesn't only happen in America.
In the UK, where the police still, for the most part, do not carry
firearms, they now carry a veritable arsenal of supposedly non-lethal
devices (including tasers). While these are only supposed to be used as
a last resort, when a miscreant cannot be subdued by the more
traditional methods, they are increasingly being used, as in America, to
ensure instant compliance.
--
Ian

3788. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 15:52:19 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <39b54b97-ca56-4b93-9887-a8b2e6399903@l38g2000pro.googlegroups.com>
Source record: 7688

On Sep 3, 8:34 am, Art Unwin <arthurun...@gmail.com> wrote:

>
> Non jews in Israel will never accept expulsion to the
> new palestinian State in Gaza so that the land of Israel can be
> totally segregated and jewish. Yet until that happens the opening of
> the heavens cannot happen without involving the destruction of non
> jews!
> A predicament has been written!

You are confused, again, Art. The promise was to the Hebrew people,
not the "Jews". Very few of the "Jews" in Israel today are Hebrew.

Paul

3789. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 15:54:14 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5r5nc$a9r$1@news.eternal-september.org>
Source record: 7689

On 9/3/2010 8:40 AM, Ian Jackson wrote:

>
> I'm sure it was all done with the best intentions. What probably
> happened was that the police officer suspected that the husband's heart
> rhythms had gone all twitchy, and he needed to apply a spot of instant
> defibrillation to save his life.
>

Oh man, am I embarrassed. Just shows my negativity!

Your satire is greatly enjoyed. LOL

Regards,
JS

3790. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:01:58 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a53b6bf2-6f05-4766-a64b-1f48832d8f05@v35g2000prn.googlegroups.com>
Source record: 7690

On Sep 3, 10:07 am, Art Unwin <arthurun...@gmail.com> wrote:
> On TV news last night they showed a video of a police officer talking
> to a man resting on a sofa in his own home. His wife had called
> saying that he had a heart attack and should go to hospital. The man
> refused to go
> preferring to rest rather than go to hospital for treatment as he
> could not afford it. The police officer then tazered him to make him
> go to hospital! The chief of Police said that standard protocol had
> been followed.
> Only in America!!!!
> I wonder if he is still married to the woman
> or he cancelled his insurance policy?

AFTERMATH.
The judge dismissed charges against the police officer after being
shown police rules that recipients of a tazer gun MUST be taken to
hospital prior to internment.
The same judge dismissed divorce proceedings stating irreconcilable
differences had not been proven and the husband was to pay all court
costs.
The above part anticipates what is yet to happen.

3791. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:06:07 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5r6dljad1@news.eternal-september.org>
Source record: 7691

On 9/3/2010 9:01 AM, Art Unwin wrote:

> ...
> AFTERMATH.
> The judge dismissed charges against the police officer after being
> shown police rules that recipients of a tazer gun MUST be taken to
> hospital prior to internment.
> The same judge dismissed divorce proceedings stating irreconcilable
> differences had not been proven and the husband was to pay all court
> costs.
> The above part anticipates what is yet to happen.

Yeah, may even be looking at our next president, the cop.

That kind of judgment, logic and actions seem popular with our
criminal/treasonous public servants, these days ...

Regards,
JS

3792. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:12:37 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <3C+8iSK15RgMFw9l@g3ohx.demon.co.uk>
Source record: 7692

In message
<a53b6bf2-6f05-4766-a64b-1f48832d8f05@v35g2000prn.googlegroups.com>, Art
Unwin <arthurunwin@gmail.com> writes
>On Sep 3, 10:07ï¿½am, Art Unwin <arthurun...@gmail.com> wrote:
>> On TV news last night they showed a video of a police officer talking
>> to a man resting on a sofa in his own home. His wife had called
>> saying that he had a heart attack and should go to hospital. The man
>> refused to go
>> preferring to rest rather than go to hospital for treatment as he
>> could not afford it. The police officer then tazered him to make him
>> go to hospital! The chief of Police said that standard protocol had
>> been followed.
>> Only in America!!!!
>> I wonder if he is still married to the woman
>> or he cancelled his insurance policy?
>
>AFTERMATH.
>The judge dismissed charges against the police officer after being
>shown police rules that recipients of a tazer gun MUST be taken to
>hospital prior to internment.

I first read that as 'interment', and thought, "How inconvenient!".

>The same judge dismissed divorce proceedings stating irreconcilable
>differences had not been proven and the husband was to pay all court
>costs.
>The above part anticipates what is yet to happen.
--
Ian

3793. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:26:04 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5r7j3$6jv$1@news.eternal-september.org>
Source record: 7693

On 9/3/2010 9:12 AM, Ian Jackson wrote:

>> ...
>> AFTERMATH.
>> The judge dismissed charges against the police officer after being
>> shown police rules that recipients of a tazer gun MUST be taken to
>> hospital prior to internment.
>
> I first read that as 'interment', and thought, "How inconvenient!".
>

Well, I did jump to a conclusion, based on insufficient data.

This cops' heart might have been in the right place. He needs a caution given to him and partnered with a more level headed officer. He may actually have what the public wants/needs ...

It speaks horribly of Amerika though, we need a "kinder/gentler" way of providing assistance to those unable to afford it ...

Regards,
JS

3794. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:29:24 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <16e047d7-781a-424e-97bc-ecff5a8403a3@l25g2000prn.googlegroups.com>
Source record: 7694

On Sep 3, 11:12 am, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> In message
> <a53b6bf2-6f05-4766-a64b-1f48832d8...@v35g2000prn.googlegroups.com>, Art
> Unwin <arthurun...@gmail.com> writes
>
>
>
> >On Sep 3, 10:07 am, Art Unwin <arthurun...@gmail.com> wrote:
> >> On TV news last night they showed a video of a police officer talking
> >> to a man resting on a sofa in his own home. His wife had called
> >> saying that he had a heart attack and should go to hospital. The man
> >> refused to go
> >> preferring to rest rather than go to hospital for treatment as he
> >> could not afford it. The police officer then tazered him to make him
> >> go to hospital! The chief of Police said that standard protocol had
> >> been followed.
> >> Only in America!!!!
> >> I wonder if he is still married to the woman
> >> or he cancelled his insurance policy?
>
> >AFTERMATH.
> >The judge dismissed charges against the police officer after being
> >shown police rules that recipients of a tazer gun MUST be taken to
> >hospital prior to internment.
>
> I first read that as 'interment', and thought, "How inconvenient!".
>
> >The same judge dismissed divorce proceedings stating irreconcilable
> >differences had not been proven and the husband was to pay all court
> >costs.
> >The above part anticipates what is yet to happen.
>
> --
> Ian

AFTER AFTERMATH
The husband on hearing the judge speak fell to the ground gasping and
clutching his chest. He was taken to hospital with his wife by his
side and who stayed at his bedside where further enquires listed his
condition as ..."grave".

3795. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:34:28 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5r82qacn2@news.eternal-september.org>
Source record: 7695

On 9/3/2010 9:29 AM, Art Unwin wrote:

> ...
> AFTER AFTERMATH
> The husband on hearing the judge speak fell to the ground gasping and
> clutching his chest. He was taken to hospital with his wife by his
> side and who stayed at his bedside where further enquires listed his
> condition as ..."grave".

Did he have an antenna in his hand in the courtroom? Did anyone mistake
it for a weapon? Was it a loaded antenna?

Art, supply all the data so we can make proper statements!

Regards,
JS

3796. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:41:58 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <8a6be3d2-a9db-483e-bfbc-11414e9790d4@k17g2000prf.googlegroups.com>
Source record: 7696

On Sep 3, 11:34 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/3/2010 9:29 AM, Art Unwin wrote:
>
> > ...
> > AFTER AFTERMATH
> > The husband on hearing the judge speak fell to the ground gasping and
> > clutching his chest. He was taken to hospital with his wife by his
> > side and who stayed at his bedside where further enquires listed his
> > condition as ..."grave".
>
> Did he have an antenna in his hand in the courtroom? Did anyone mistake
> it for a weapon? Was it a loaded antenna?
>
> Art, supply all the data so we can make proper statements!
>
> Regards,
> JS

Heh, this group is so full of negativety and poor judgement so I
thought that Katie Curic news story
yesterday should be jollied up a bit, so that instead of laughing at
others we should try being the recipient to see if our actions hurts
others.
Have a great week end.

3797. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:44:09 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5r8kvacn3@news.eternal-september.org>
Source record: 7697

On 9/3/2010 9:41 AM, Art Unwin wrote:

> ...
> Heh, this group is so full of negativety and poor judgement so I
> thought that Katie Curic news story
> yesterday should be jollied up a bit, so that instead of laughing at
> others we should try being the recipient to see if our actions hurts
> others.
> Have a great week end.

Nice try. But, I ain't stoopid, yanno'? You avoided the part of if the
antenna was loaded, or not!

Regards,
JS

3798. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 16:47:14 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d29287ff-3aaf-4209-9879-21559365e9f9@o7g2000prg.googlegroups.com>
Source record: 7698

On Sep 3, 10:52 am, "pdr...@coinet.com" <co_far...@yahoo.com> wrote:
> On Sep 3, 8:34 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > Non jews in Israel will never accept expulsion to the
> > new palestinian State in Gaza so that the land of Israel can be
> > totally segregated and jewish. Yet until that happens the opening of
> > the heavens cannot happen without involving the destruction of non
> > jews!
> > A predicament has been written!
>
> You are confused, again, Art. The promise was to the Hebrew people,
> not the "Jews". Very few of the "Jews" in Israel today are Hebrew.
>
> Paul

Why thank you for that titbit! I had never heard that before today.
Maybe I should back off and go back to physics where I can give
titbits to others and fill in their gaps of knowledge
Regards
Art

3799. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 17:10:50 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d7200f5c-6d4b-4e9a-8042-bee48389b295@p22g2000pre.googlegroups.com>
Source record: 7699

On Sep 3, 11:44 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/3/2010 9:41 AM, Art Unwin wrote:
>
> > ...
> > Heh, this group is so full of negativety and poor judgement so I
> > thought that Katie Curic news story
> > yesterday should be jollied up a bit, so that instead of laughing at
> > others we should try being the recipient to see if our actions hurts
> > others.
> > Have a great week end.
>
> Nice try. But, I ain't stoopid, yanno'? You avoided the part of if the
> antenna was loaded, or not!
>
> Regards,
> JS

FLASH
News release
Husband momentarily opened his eyes. Turned and saw his wife and
immediately lapsed into a self induced deep coma.

3800. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 17:33:42 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5rbhs$rm5$1@news.eternal-september.org>
Source record: 7700

On 9/3/2010 10:10 AM, Art Unwin wrote:

> ...
> FLASH
> News release
> Husband momentarily opened his eyes. Turned and saw his wife and
> immediately lapsed into a self induced deep coma.

Was the wife loaded; Was he?

Regards,
JS

3801. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 17:39:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4d5f14c2-5cc7-4da4-859b-6d0a7d44f44c@p22g2000pre.googlegroups.com>
Source record: 7601

On Sep 3, 7:43 am, Michael Coslo <m...@psu.edu> wrote:
> Might as well just say the answer is because God wants it that way.

Please note: As ignorance is slowly alleviated (over the centuries)
that option slowly disappears. Did you see this?

http://www.foxnews.com/scitech/2010/09/02/stephen-hawking-picks-physics-god-big-bang/
--
73, Cecil, w5dxp.com

3802. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 17:44:53 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6609965b-2364-4bc7-9a59-52b86109af1b@a4g2000prm.googlegroups.com>
Source record: 7602

On Sep 3, 10:19 am, John Smith <assemblywiz...@gmail.com> wrote:
> They look at all of this/these "MIND-BLOWING MIRACLES", ...

What if faith and belief in "MIND-BLOWING MIRACLES" is simply the
result of ignorance?
--
73, Cecil, w5dxp.com

3803. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 17:54:55 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <cd683d10-9c79-4b92-a8f8-d98e2b7e8952@h40g2000pro.googlegroups.com>
Source record: 7603

On Sep 3, 12:33 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/3/2010 10:10 AM, Art Unwin wrote:
>
> > ...
> > FLASH
> > News release
> > Husband momentarily opened his eyes. Turned and saw his wife and
> > immediately lapsed into a self induced deep coma.
>
> Was the wife loaded; Was he?
>
> Regards,
> JS

No. I turned the "truth" into a "joke". The same as others did with my
antenna design where they turned it into a massive joke so that they
could apply judgement with a lazer for laughs and nothing being meant
to hurt me as a person.
Lets move on

3804. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:10:15 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5rdmd$o65$1@news.eternal-september.org>
Source record: 7604

On 9/3/2010 10:44 AM, Cecil Moore wrote:

> ...
> What if faith and belief in "MIND-BLOWING MIRACLES" is simply the
> result of ignorance?
> --
> 73, Cecil, w5dxp.com

Let me look around a bit ... hmm, well, ignorance seems to be bliss, and
in vogue! Public servants have even made it stylish! ROFLOL

Regards,
JS

3805. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:10:49 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <iCp5SDCpoTgMFw$V@g3ohx.demon.co.uk>
Source record: 7605

In message
<cd683d10-9c79-4b92-a8f8-d98e2b7e8952@h40g2000pro.googlegroups.com>, Art
Unwin <arthurunwin@gmail.com> writes
>

>Lets move on

Art, just before you move on too far, note that 'laser' and 'taser' are
actually spelt with 'esses' - even in the USA!
--
Ian

3806. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:14:06 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <36fc83b5-9e9e-43ee-b164-75de247061ae@w15g2000pro.googlegroups.com>
Source record: 7606

On Sep 3, 5:54 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 3, 12:33 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> > On 9/3/2010 10:10 AM, Art Unwin wrote:
>
> > > ...
> > > FLASH
> > > News release
> > > Husband momentarily opened his eyes. Turned and saw his wife and
> > > immediately lapsed into a self induced deep coma.
>
> > Was the wife loaded; Was he?
>
> > Regards,
> > JS
>
> No. I turned the "truth" into a "joke". The same as others did with my
> antenna design where they turned it into a massive joke so that they
> could apply judgement with a lazer for laughs and nothing being meant
> to hurt me as a person.
> Lets move on

we don't have to turn your design into a joke, it starts that way and
you try to pretend its the truth.

3807. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:14:42 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5rduo$o65$2@news.eternal-september.org>
Source record: 7607

On 9/3/2010 10:44 AM, Cecil Moore wrote:

>> ...
> --
> 73, Cecil, w5dxp.com

Seriously, though, the real question is "Where did the ether come from?" (and, everything else which is composed of it.) You can see how far we are from even being able to pose that question; We have to "discover it" first. It is actually a little premature to be having intelligent conversations, debates, discussions, etc. until there is something to have them about!

Regards,
JS

3808. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:17:47 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5re4h$o65$3@news.eternal-september.org>
Source record: 7608

On 9/3/2010 10:54 AM, Art Unwin wrote:

> ...
> No. I turned the "truth" into a "joke". The same as others did with my
> antenna design where they turned it into a massive joke so that they
> could apply judgement with a lazer for laughs and nothing being meant
> to hurt me as a person.
> Lets move on

Darnit man! And, you notice, we have been treating your little joke so
seriously. You know that makes me feel like an idiot, don't cha'?
<blank look>

Regards,
JS

3809. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:35:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5rf5u$8mo$1@news.eternal-september.org>
Source record: 7609

On 9/3/2010 10:39 AM, Cecil Moore wrote:
> On Sep 3, 7:43 am, Michael Coslo<m...@psu.edu> wrote:
>> Might as well just say the answer is because God wants it that way.
>
> Please note: As ignorance is slowly alleviated (over the centuries)
> that option slowly disappears. Did you see this?
>
> http://www.foxnews.com/scitech/2010/09/02/stephen-hawking-picks-physics-god-big-bang/
> --
> 73, Cecil, w5dxp.com

Excellent article. States my premise well, especially:

"Because there is a law such as gravity, the universe can and will
create itself from nothing," the professor said in his new book, in a
challenge to traditional religious beliefs.

I am aware of no such proofs of such a law; And, Hawkings only presents
another religion for us to join-- "The Order of the Law of Spontaneous
Creation."

Don't need more religions, need answers here. Don't need to convert
science to a "football game" where you choose your side and root for it
... Hawkings proposes I make a leap of faith not even I can stomach ...

Regards,
JS

3810. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:38:19 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <eklWbYHbCUgMFwKt@g3ohx.demon.co.uk>
Source record: 7610

In message <i5re4h$o65$3@news.eternal-september.org>, John Smith
<assemblywizard@gmail.com> writes
>On 9/3/2010 10:54 AM, Art Unwin wrote:
>
>> ...
>> No. I turned the "truth" into a "joke". The same as others did with my
>> antenna design where they turned it into a massive joke so that they
>> could apply judgement with a lazer for laughs and nothing being meant
>> to hurt me as a person.
>> Lets move on
>
>Darnit man! And, you notice, we have been treating your little joke so
>seriously. You know that makes me feel like an idiot, don't cha'?
><blank look>
>
Unfortunately, reports of such incidents are eminently believable. In
the UK, the police are as trigger-happy as in the USA. They twice
tasered one guy sitting in a bus, because he failed to respond to them.
http://www.dailymail.co.uk/news/article-494199/Police-shot-diabetic-coma-
Taser--thought-suicide-bomber.html

And it appears that it's not just in the UK!
http://www.theregister.co.uk/2007/06/20/diabteic_tasering/
--
Ian

3811. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 18:44:40 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5rfmuhmf1@news.eternal-september.org>
Source record: 7611

On 9/3/2010 11:38 AM, Ian Jackson wrote:

>> ...
> Unfortunately, reports of such incidents are eminently believable. In
> the UK, the police are as trigger-happy as in the USA. They twice
> tasered one guy sitting in a bus, because he failed to respond to them.
> http://www.dailymail.co.uk/news/article-494199/Police-shot-diabetic-coma-
> Taser--thought-suicide-bomber.html
>
> And it appears that it's not just in the UK!
> http://www.theregister.co.uk/2007/06/20/diabteic_tasering/

Ian,

I am not making light of the reality of bad judgment, and the seeming explosion of it recently. These situations and the efforts being applied by our public servants, from the president on down, I follow closely ... frequently in utter amazement.

I am just having a bit of fun, as I am sure you were and even Art is, in his own way.

Regards,
JS

3812. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 19:32:39 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a1d2d9ea-ae06-49a1-9170-14a1ad755a51@k13g2000vbq.googlegroups.com>
Source record: 7612

On Sep 3, 1:44 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/3/2010 11:38 AM, Ian Jackson wrote:
>
> >> ...
>
> > Unfortunately, reports of such incidents are eminently believable. In
> > the UK, the police are as trigger-happy as in the USA. They twice
> > tasered one guy sitting in a bus, because he failed to respond to them.
> >http://www.dailymail.co.uk/news/article-494199/Police-shot-diabetic-c...
> > Taser--thought-suicide-bomber.html
>
> > And it appears that it's not just in the UK!
> >http://www.theregister.co.uk/2007/06/20/diabteic_tasering/
>
> Ian,
>
> I am not making light of the reality of bad judgment, and the seeming
> explosion of it recently. These situations and the efforts being
> applied by our public servants, from the president on down, I follow
> closely ... frequently in utter amazement.
>
> I am just having a bit of fun, as I am sure you were and even Art is, in
> his own way.
>
> Regards,
> JS

Heh Katie Curic showed the film clip on the evening news last night
and closed with the police chief had defended the officer for
following protocol

3813. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 19:55:20 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <af73af73-b439-4262-88d5-9b8298567441@k36g2000vbl.googlegroups.com>
Source record: 7613

On Sep 3, 1:35 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/3/2010 10:39 AM, Cecil Moore wrote:
>
> > On Sep 3, 7:43 am, Michael Coslo<m...@psu.edu> wrote:
> >> Might as well just say the answer is because God wants it that way.
>
> > Please note: As ignorance is slowly alleviated (over the centuries)
> > that option slowly disappears. Did you see this?
>
> >http://www.foxnews.com/scitech/2010/09/02/stephen-hawking-picks-physi...
> > --
> > 73, Cecil, w5dxp.com
>
> Excellent article. States my premise well, especially:
>
> "Because there is a law such as gravity, the universe can and will
> create itself from nothing," the professor said in his new book, in a
> challenge to traditional religious beliefs.
>
> I am aware of no such proofs of such a law; And, Hawkings only presents
> another religion for us to join-- "The Order of the Law of Spontaneous
> Creation."
>
> Don't need more religions, need answers here. Don't need to convert
> science to a "football game" where you choose your side and root for it
> ... Hawkings proposes I make a leap of faith not even I can stomach ...
>
> Regards,
> JS

John. Some are looking for an explanation for the existance of the
horizontal vector between two mediums. I do not know the originality
of that particular finding. I do know that a horizontal vector exists
in radio ie surface wave. Naturally some scientists would want to know
the other medium that allows this to happen and others have not
provided an explanation, so there is scientific reasoning on both
sides
Now Art came along and expanded Gaussian static law to make it dynamic
and equal to Maxwells equations on radiation. Thus was established the
presence of galactic particles resting on all diamagnetic surfaces on
earth, bearing in mind that diamagnetic material composes 99% as well
as the mantle of Earth of Earth (Bismuth). Now that I have described
the other "medium" in question I will leave it to scientists to
determine and understand the questions arising from the double slit

experiment
which in these days of denial may take another 100 years. Remember,
the presence of particles is well established outside classical
physics and partical physics and now we can all agree that what can be
accellerated must consist of mass.
This thus dismisses the silliness of radiation being created by a wave
which is only an adjective decribing the movement of same in
abundance.
Like the "o" ring in the space vehicle scientists deride what
engineers accept as normal.

3814. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 21:02:37 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b78275d5-e139-4424-b581-41ffa5e5819a@a19g2000vbi.googlegroups.com>
Source record: 7614

On Sep 3, 1:14 pm, John Smith <assemblywiz...@gmail.com> wrote:
> Seriously, though, the real question is "Where did the ether come from?"

Apparently, human intelligence and logic has not yet evolved to be able to handle such questions although Ayn Rand came close decades ago.

John, since you asked that question about what caused the ether, you obviously must believe in the principle of "first cause", i.e. everything has to have a cause. To avoid being a hypocrite, you must also asked yourself, "What caused God?" - and what caused the cause of God? - and what caused the cause of the cause of God? ... ad infinitum.

I suspect Hawking is thinking: If everything has to have a cause, what caused God? And if God doesn't need to have a cause, then why does the cause of the Big Bang need to have a cause?
--
73, Cecil, w5dxp.com

3815. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 21:43:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5566593f-bfd1-4335-9b8c-4909a86efb23@t3g2000vbb.googlegroups.com>
Source record: 7615

On Sep 3, 7:55 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 3, 1:35 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
>
>
> > On 9/3/2010 10:39 AM, Cecil Moore wrote:
>
> > > On Sep 3, 7:43 am, Michael Coslo<m...@psu.edu> wrote:
> > >> Might as well just say the answer is because God wants it that way.
>
> > > > Please note: As ignorance is slowly alleviated (over the centuries)
> > > > that option slowly disappears. Did you see this?
>
> > > >http://www.foxnews.com/scitech/2010/09/02/stephen-hawking-picks-physi...
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > Excellent article. States my premise well, especially:
>
> > > "Because there is a law such as gravity, the universe can and will
> > > create itself from nothing," the professor said in his new book, in a
> > > challenge to traditional religious beliefs.
>
> > > I am aware of no such proofs of such a law; And, Hawkings only presents
> > > another religion for us to join-- "The Order of the Law of Spontaneous
> > > Creation."
>
> > > Don't need more religions, need answers here. Don't need to convert
> > > science to a "football game" where you choose your side and root for it
> > > ... Hawkings proposes I make a leap of faith not even I can stomach ...
>
> > > Regards,
> > > JS
>
> John. Some are looking for an explanation for the existance of the
> horizontal vector between two mediums. I do not know the originality
> of that particular finding. I do know that a horizontal vector exists
> in radio ie surface wave. Naturally some scientists would want to know
> the other medium that allows this to happen and others have not
> provided an explanation, so there is scientific reasoning on both
> sides
> Now Art came along and expanded Gaussian static law to make it dynamic
> and equal to Maxwells equations on radiation. Thus was established the

writing in the 3rd person now art? you are the only one who didn't understand that gauss's law was dynamic to start with. and has always been a part of maxwell's equations.

> presence of galactic particles resting on all diamagnetic surfaces on
> earth, bearing in mind that diamagnetic material composes 99% as well

ah yes, the magical mystery levitating neutrinos that we are all swimming in now.

3816. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-03 22:31:58 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5rt14$5sf$1@news.eternal-september.org>
Source record: 7616

On 9/3/2010 2:02 PM, Cecil Moore wrote:

> ...
> John, since you asked that question about what caused the ether, you
> obviously must believe in the principle of "first cause", i.e.
> everything has to have a cause. To avoid being a hypocrite, you must
> also asked yourself, "What caused God?" - and what caused the cause of
> God? - and what caused the cause of the cause of God? ... ad
> infinitum.
>
> I suspect Hawking is thinking: If everything has to have a cause, what
> caused God? And if God doesn't need to have a cause, then why does the
> cause of the Big Bang need to have a cause?
> --
> 73, Cecil, w5dxp.com

Yes, yes I do see cause and effect--in everything which is real ... indeed, if someone comes up with an amazing story which leaves one out, cause or effect, I am highly suspicious. And, which I am of God, which, obviously, must exist!

As I have stated, I see nothing ordered, which is highly complex, unless a thinking mind has created it. When someone says, "Well, here, here is that "something" which breaks all the rules and it "just happened by accident" or it "just is, has been and always will be", I think, "They/he/she has to be kidding", even if Hawkings advances it. And, yes, logic dictates there must be one thing which did get "the ball rolling." That is God, whatever God is? If you want to make the ether God, well, great, let's explore that possibility. However, all anyone does is pose the "circular logic" which brings yours/mine/everyones mind back to the beginning and you must ask, "What is the God." Or, "What is the God event", etc.

It is un-win-able ... I suspect, better minds than Hawkings has pondered it down though the millennias.

Regards,
JS

3817. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 00:38:39 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <02421612-e7b8-4aa9-a07d-9aa9a169ad10@f26g2000vbm.googlegroups.com>
Source record: 7617

On Sep 3, 5:31 pm, John Smith <assemblywiz...@gmail.com> wrote:
> Yes, yes I do see cause and effect--in everything which is real ...

But do you appreciate the first cause contradiction? What caused the first cause? e.g., what caused God?

I had an epiphany today. I realized why God is missing in action so much of the time. The Bible says that 1000 years in the life of God is like a day in the life of man. Man sleeps 1/3 of ever day. So God must sleep for 333 years out of every 1000 years. Bad things happen during the 333 years that God is asleep. Witness the present.
--
73, Cecil, w5dxp.com

3818. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 00:52:36 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5s58q$4tu$1@news.eternal-september.org>
Source record: 7618

On 9/3/2010 5:38 PM, Cecil Moore wrote:
> On Sep 3, 5:31 pm, John Smith<assemblywiz...@gmail.com> wrote:
>> Yes, yes I do see cause and effect--in everything which is real ...
>
> But do you appreciate the first cause contradiction? What caused the
> first cause? e.g., what caused God?
>
> I had an epiphany today. I realized why God is missing in action so
> much of the time. The Bible says that 1000 years in the life of God is
> like a day in the life of man. Man sleeps 1/3 of ever day. So God must
> sleep for 333 years out of every 1000 years. Bad things happen during
> the 333 years that God is asleep. Witness the present.
> --
> 73, Cecil, w5dxp.com

Well, first of all, I don't insist the bible be taken literally ... I do accept, that parts, i.e., Genesis for example, which happened before man could create written records. These stories had to be passed father to son, mother to daughter, etc. until mans ability to record these stories on non-verbal media came into existence. And, God sleeping? Naaa ...

Your first point points out why Hawkings seems to be "losing it," to me. He thinks everything began with the big bang ... the beginning was before then, it was when the ether came into existence, immediately raising the question, "Who/what created the ether?" And, perhaps the creator of the ether has a creator ... so, this is why I think we need to know more about the ether ... like I suggested, why even begin "making guesses" until you have enough data to make them intelligently? And, I over-emphasize that, of course, we may guess, but we need to remain honest and admit they are only ballpark guess on only the limited knowledge we now possess. Unfortunately, as you see, a guess can quickly become a religious order ...

So, to summarize, Hawkings is two steps ahead of creation (and God) already, he ignores, "Who created the ether?" and "Who created the ethers' creator?"

Regards,
JS

3819. Re: OFF TOPIC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 02:05:54 UTC
From: david <none@nospam.com>
Message-ID: <i5s9i2$m15$1@news.eternal-september.org>
Source record: 7619

On Fri, 03 Sep 2010 08:07:28 -0700, Art Unwin rearranged some electrons to say:

> On TV news last night they showed a video of a police officer talking to
> a man resting on a sofa in his own home. His wife had called saying that
> he had a heart attack and should go to hospital. The man refused to go
> preferring to rest rather than go to hospital for treatment as he could
> not afford it. The police officer then tazered him to make him go to
> hospital! The chief of Police said that standard protocol had been
> followed.
> Only in America!!!!
> I wonder if he is still married to the woman or he cancelled his
> insurance policy?

And what does this have to do with amateur radio?

3820. Re: OFF TOPIC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 02:07:13 UTC
From: david <none@nospam.com>
Message-ID: <i5s9kh$m15$2@news.eternal-september.org>
Source record: 7620

On Tue, 31 Aug 2010 10:32:54 -0700, Art Unwin rearranged some electrons to say:

> After Jesus "died" he appeared three days later where he spoke to Mary
> Madelyn.
> He had to caution Mary not to touch him as he had not yet prepared
> himself to levitate into the heavens. This was akin to changing himself
> into water such as with a frog that scientists have shown to be
> levitated and life has shown the appearance of fish and frogs in roads
> miles away from ponds after a storm. Something to ponder over.

And what does this have to do with amateur radio?

3821. Re: OFF TOPIC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 03:45:39 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5sfda$3kk$1@news.eternal-september.org>
Source record: 7621

On 9/3/2010 7:05 PM, david wrote:

> ...
> And what does this have to do with amateur radio?

Next question, please?

3822. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 11:59:52 UTC
From: Rob <nomail@example.com>
Message-ID: <slrni84d5n.eh5.nomail@xs8.xs4all.nl>
Source record: 7622

Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
> I'm sure it was all done with the best intentions. What probably
> happened was that the police officer suspected that the husband's heart
> rhythms had gone all twitchy, and he needed to apply a spot of instant
> defibrillation to save his life.

Yes, very clever. When you only have a tazer at hand it probably is
a good choice. Over here one finds special-purpose electroshock devices
in many public places, and police officers often carry one in their car,
but not on their belt. So he must have figured the tazer was better
than nothing in this case.

3823. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 12:34:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6d2ce012-cff1-4d58-a042-e4bd7dacb4cd@g17g2000yqe.googlegroups.com>
Source record: 7623

On Sep 3, 7:52 pm, John Smith <assemblywiz...@gmail.com> wrote:
> Your first point points out why Hawkings seems to be "losing it," to me.
> He thinks everything began with the big bang ... the beginning was
> before then, it was when the ether came into existence, immediately
> raising the question, "Who/what created the ether?"

"Before the Big Bang" is an oxymoron. Our present big bang originated
from a mass/energy plasma singularity. There was no ether in our
universe before the big bang. There was no space in our universe
before the big bang. There was no time in our universe before the big
bang. There were no particles or EM waves in our universe before the
big bang. Our present universe did not exist before the big bang.
Consider that our universe may have originated from a black hole that
exploded as it reached some critical mass/energy threshold and
detached itself from a parallel parent universe as it winked out of
existence in the parent universe. I use the geometric term,
"parallel", rather loosely simply to indicate that the multiple
universes never touch after the separation.
--
73, Cecil, w5dxp.com

3824. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 14:43:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <8feceedc-c5a3-414e-a790-65bfab2a672d@i13g2000yqd.googlegroups.com>
Source record: 7624

On Sep 4, 6:59 am, Rob <nom...@example.com> wrote:
> Ian Jackson <ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> > I'm sure it was all done with the best intentions. What probably
> > happened was that the police officer suspected that the husband's heart
> > rhythms had gone all twitchy, and he needed to apply a spot of instant
> > defibrillation to save his life.
>
> Yes, very clever. When you only have a tazer at hand it probably is
> a good choice. Over here one finds special-purpose electroshock devices
> in many public places, and police officers often carry one in their car,
> but not on their belt. So he must have figured the tazer was better
> than nothing in this case.

See the video for yourself
abc.com

3825. Re: Legitimate use of a Tazer gun

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 17:03:01 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <ueu486de8pnd5k4dpiqj9balgfjo6k6s8r@4ax.com>
Source record: 7625

On Sat, 4 Sep 2010 07:43:43 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:
>
>See the video for yourself
>abc.com

On Fri, 3 Sep 2010 09:41:58 -0700 (PDT), Art Unwin
<arthurunwin@gmail.com> wrote:
>
>Heh, this group is so full of negativety and poor judgement so I
>thought that Katie Curic news story
>yesterday should be jollied up a bit, so that instead of laughing at
>others we should try being the recipient to see if our actions hurts
>others.

Did Katie Couric leave CBS for ABC or is Art jollying up fact with
fiction again?

3826. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 18:06:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c828ac2$0$22802$65785112@news.neostrada.pl>
Source record: 7626

"Cecil Moore" <w5dxp@hotmail.com>wrote
news:b78275d5-e139-4424-b581-41ffa5e5819a@a19g2000vbi.googlegroups.com...
On Sep 3, 1:14 pm, John Smith <assemblywiz...@gmail.com> wrote:
>> Seriously, though, the real question is "Where did the ether come from?"

>Apparently, human intelligence and logic has not yet evolved to be
able to handle such questions although Ayn Rand came close decades
ago.

Always were the two ethers. Normal for the normal electric waves and the
"special" for the EM waves.

The normal is that by Ludwig Lorenz and the second by H. Lorentz.

The normal is the rare plazma (electrons, ions, atoms and dust).
The special is in many forms.

The normal is produced by the Sun. The special - I do not know.
S*

3827. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-04 22:57:55 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i5uitqldk1@news.eternal-september.org>
Source record: 7627

On 9/4/2010 5:34 AM, Cecil Moore wrote:

>
> "Before the Big Bang" is an oxymoron. Our present big bang originated
> from a mass/energy plasma singularity. There was no ether in our
> universe before the big bang. There was no space in our universe
> before the big bang.

Here we differ, I think the ether existed long before the "big bang" (indeed, it could be the was, is and has always been in God.) Whatever the big bang was, all it did was rip our observable matter, into an altered state, from the fabric of the ether itself, and we look back and record "the beginning" from that event.

>> There was no time in our universe before the big
> bang. There were no particles or EM waves in our universe before the
> big bang.

That statement is right on one account, there was not "time" in our universe ... but then, there still isn't. There is only movement ... I do believe the ether is composed of some type of particles, and I do believe the ether accounts for the transmission of our EM waves ... so I imagine that some type of "disturbances" were occurring in the ether, even before the big bang ... but, proofs, or disproofs, lie in the future ... I would drop everything and work to prove, or disprove, the ether ...

>> ...
> --
> 73, Cecil, w5dxp.com

3828. Re: If you are a believer..

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-05 05:54:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrni86c16.dbo.gsm@cable.mendelson.com>
Source record: 7628

pdrahn@coinet.com wrote:
> You are confused, again, Art. The promise was to the Hebrew people,
> not the "Jews". Very few of the "Jews" in Israel today are Hebrew.

There is DNA evidence to the contrary:

http://reformjudaismmag.org/Articles/index.cfm?id=1321

Geoff.
--
Geoffrey S. Mendelson N3OWJ/4X1GM
To help restaurants, as part of the "stimulus package", everyone must order
dessert. As part of the socialized health plan, you are forbidden to eat it. :-)

3829. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-05 11:32:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <56bbae47-9dc4-493f-9041-3c0d1488a14c@d8g2000yqf.googlegroups.com>
Source record: 7629

On Sep 4, 6:06 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>wrotenews:b78275d5-e139-4424-b581-41ffa5e5819a@a19g2000vbi.googlegroups.com...
> On Sep 3, 1:14 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> >> Seriously, though, the real question is "Where did the ether come from?"
> >Apparently, human intelligence and logic has not yet evolved to be
>
> able to handle such questions although Ayn Rand came close decades
> ago.
>
> Always were the two ethers. Normal for the normal electric waves and the
> "special" for the EM waves.
>
> The normal is that by Ludwig Lorenz and the second by H. Lorentz.
>
> The normal is the rare plazma (electrons, ions, atoms and dust).
> The special is in many forms.
>
> The normal is produced by the Sun. The special - I do not know.
> S*

'normally' when something has to be called 'special' it means that it doesn't represent the real world... not 'special' relativity is just a subset of 'general' relativity. if the 'normal' is created by the sun and we now know that there is a discontinuity at the edge of the solar system where our solar wind is deflected by the galactic plasma... and indeed there are major discontinuities around the earth due to our magnetic field... why are there not distortions in the waves traveling in the plasma? if waves travel in water and the water is moving the waves move with the water, why can we not measure the difference in speed or direction of waves carried in the moving solar plasma, especially when it moves around planets with magnetic fields? why are light waves not affected by magnetic or electric fields??

3830. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-05 17:16:35 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c83d079$0$21004$65785112@news.neostrada.pl>
Source record: 7630

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:56bbae47-9dc4-493f-9041-3c0d1488a14c@d8g2000yqf.googlegroups.com...
On Sep 4, 6:06 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore"
> <w5...@hotmail.com>wrotenews:b78275d5-e139-4424-b581-41ffa5e5819a@a19g2000vbi.googlegrou
ps.com...
> On Sep 3, 1:14 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
>> >> Seriously, though, the real question is "Where did the ether come
>> >> from?"
> >Apparently, human intelligence and logic has not yet evolved to be
>
>> able to handle such questions although Ayn Rand came close decades
> ago.
>
>> Always were the two ethers. Normal for the normal electric waves and the
> "special" for the EM waves.
>
>> The normal is that by Ludwig Lorenz and the second by H. Lorentz.
>
>> The normal is the rare plazma (electrons, ions, atoms and dust).
>> The special is in many forms.
>
>> The normal is produced by the Sun. The special - I do not know.

>'normally' when something has to be called 'special' it means that it
doesn't represent the real world... not 'special' relativity is just a
subset of 'general' relativity. if the 'normal' is created by the sun
and we now know that there is a discontinuity at the edge of the solar
system where our solar wind is deflected by the galactic plasma... and
indeed there are major discontinuities around the earth due to our
magnetic field... why are there not distortions in the waves traveling
in the plasma?

All is like with the sound waves in the wind.

> if waves travel in water and the water is moving the
waves move with the water, why can we not measure the difference in
speed or direction of waves carried in the moving solar plasma,

We do: "
"1925 - the Michelson-Gale-Pearson experiment produces a positive result
while attempting to detect the effect of Earth's rotation on the velocity of
light. The significance of the experiment remains debated to this day, but
this planetary Sagnac effect is measured by ring laser gyros and taken into

account by the GPS system."

>especially when it moves around planets with magnetic fields? why are light waves not affected by magnetic or electric fields??

They are. Faraday effect, electrooptic effect and so on.
S*

3831. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-05 17:44:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <582c975a-1f51-4fee-84b0-34a4f07591a9@z28g2000yqh.googlegroups.com>
Source record: 7631

On Sep 5, 6:32 am, K1TTT <k1...@arrl.net> wrote:
> why are
> light waves not affected by magnetic or electric fields??

Light waves (electromagnetic fields) are photons. Magnetic and
electric fields are also photons. Photons do not affect each other
unless they are coherent in which case interference can take place.
Photons have no rest mass and no charge. Any number of photons can
occupy the same "space". Photons are affected by the curvature of
space through which they travel.
--
73, Cecil, w5dxp.com

3832. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-05 23:37:27 UTC
From: tom <news4792@taring.org>
Message-ID: <4c8429b7$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7632

On 9/5/2010 12:16 PM, Szczepan Bialek wrote:
> Uzytkownik "K1TTT"<k1ttt@arrl.net> napisal w wiadomosci
> news:56bbae47-9dc4-493f-9041-3c0d1488a14c@d8g2000yqf.googlegroups.com...
> On Sep 4, 6:06 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> "Cecil Moore"
>> <w5...@hotmail.com>wrotenews:b78275d5-e139-4424-b581-41ffa5e5819a@a19g2000vbi.googlegro
ups.com...
>> On Sep 3, 1:14 pm, John Smith<assemblywiz...@gmail.com> wrote:
>>
>>>>> Seriously, though, the real question is "Where did the ether come
>>>>> from?"
>>> Apparently, human intelligence and logic has not yet evolved to be
>>
>>> able to handle such questions although Ayn Rand came close decades
>> ago.
>>
>>> Always were the two ethers. Normal for the normal electric waves and the
>> "special" for the EM waves.
>>
>>> The normal is that by Ludwig Lorenz and the second by H. Lorentz.
>>
>>> The normal is the rare plazma (electrons, ions, atoms and dust).
>>> The special is in many forms.
>>
>>> The normal is produced by the Sun. The special - I do not know.
>
>> 'normally' when something has to be called 'special' it means that it
> doesn't represent the real world... not 'special' relativity is just a
> subset of 'general' relativity. if the 'normal' is created by the sun
> and we now know that there is a discontinuity at the edge of the solar
> system where our solar wind is deflected by the galactic plasma... and
> indeed there are major discontinuities around the earth due to our
> magnetic field... why are there not distortions in the waves traveling
> in the plasma?
>
> All is like with the sound waves in the wind.
>
>> if waves travel in water and the water is moving the
> waves move with the water, why can we not measure the difference in
> speed or direction of waves carried in the moving solar plasma,
>
> We do: "
> "1925 - the Michelson-Gale-Pearson experiment produces a positive result
> while attempting to detect the effect of Earth's rotation on the velocity of

> light. The significance of the experiment remains debated to this day, but
> this planetary Sagnac effect is measured by ring laser gyros and taken into
> account by the GPS system."
>
>> especially when it moves around planets with magnetic fields? why are
> light waves not affected by magnetic or electric fields??
>
> They are. Faraday effect, electrooptic effect and so on.
> S*
>
>
>

What a maroon.

tom
K0TAR

3833. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 00:02:44 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i61b34$aj0$1@news.eternal-september.org>
Source record: 7633

On 9/5/2010 4:37 PM, tom wrote:

>> ...
>> We do: "
>> "1925 - the Michelson-Gale-Pearson experiment produces a positive result
>> while attempting to detect the effect of Earth's rotation on the
>> velocity of
>> light. The significance of the experiment remains debated to this day,
>> but
>> this planetary Sagnac effect is measured by ring laser gyros and taken
>> into
>> account by the GPS system."
>>
>>> especially when it moves around planets with magnetic fields? why are
>> light waves not affected by magnetic or electric fields??
>>
>> They are. Faraday effect, electrooptic effect and so on.
>> S*
>>
>>
>>
>
> What a maroon.
>
> tom
> K0TAR

In deep space, light should go 100% unimpeded by any magnetic fields.
In an atmosphere, plasma, or other media, I would think light can be
affected, fiber optics can even bend light using a physical force acting
on the media carrying the light, instead of a magnetic field.

In deep space, there is almost nothing but ether, and ether, the
gravitational ether of Einstein, needs to be bent with gravity, and when
the ether is bent, some distortion of the path of light should certainly
be detected ... but that debated experiment, someone already mentioned,
carries on.

Regards,
JS

3834. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 00:50:29 UTC
From: K <K@spam.net>
Message-ID: <i61dsr$8au$1@speranza.aioe.org>
Source record: 7634

I wonder if ether and dark energy are related?

K

"John Smith" <assemblywizard@gmail.com> wrote in message
news:i61b34$aj0$1@news.eternal-september.org...
> On 9/5/2010 4:37 PM, tom wrote:
>
> >> ...
>>> We do: "
>>> "1925 - the Michelson-Gale-Pearson experiment produces a positive result
>>> while attempting to detect the effect of Earth's rotation on the
>>> velocity of
>>> light. The significance of the experiment remains debated to this day,
>>> but
>>> this planetary Sagnac effect is measured by ring laser gyros and taken
>>> into
>>> account by the GPS system."
>>>
>>>> especially when it moves around planets with magnetic fields? why are
>>> light waves not affected by magnetic or electric fields??
>>>
>>> They are. Faraday effect, electrooptic effect and so on.
>>> S*
>>>
>>>
>>>
>>
>> What a maroon.
>>
>> tom
>> K0TAR
>
> In deep space, light should go 100% unimpeded by any magnetic fields. In
> an atmosphere, plasma, or other media, I would think light can be
> affected, fiber optics can even bend light using a physical force acting
> on the media carrying the light, instead of a magnetic field.
>
> In deep space, there is almost nothing but ether, and ether, the
> gravitational ether of Einstein, needs to be bent with gravity, and when
> the ether is bent, some distortion of the path of light should certainly
> be detected ... but that debated experiment, someone already mentioned,
> carries on.
>
> Regards,

> JS

3835. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 01:06:23 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i61eqfpng1@news.eternal-september.org>
Source record: 7635

On 9/5/2010 5:50 PM, K wrote:
> I wonder if ether and dark energy are related?
>
> K
>

Cecil would be the one to help you there. I can tell he has done much
more research into that than I ...

Regards,
JS

3836. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 01:08:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4c843f10$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7636

```
On 9/5/2010 7:50 PM, K wrote:
> I wonder if ether and dark energy are related?
>
> K
>
> "John Smith" <assemblywizard@gmail.com> wrote in message
> news:i61b34$aj0$1@news.eternal-september.org...
>> On 9/5/2010 4:37 PM, tom wrote:
>>
>> >> ...
>>>> We do: "
>>>> "1925 - the Michelson-Gale-Pearson experiment produces a positive
>>>> result
>>>> while attempting to detect the effect of Earth's rotation on the
>>>> velocity of
>>>> light. The significance of the experiment remains debated to this day,
>>>> but
>>>> this planetary Sagnac effect is measured by ring laser gyros and taken
>>>> into
>>>> account by the GPS system."
>>>>
>>>>> especially when it moves around planets with magnetic fields? why are
>>>> light waves not affected by magnetic or electric fields??
>>>>
>>>> They are. Faraday effect, electrooptic effect and so on.
>>>> S*
>>>>
>>>>
>>>>
>>>
>>> What a maroon.
>>>
>>> tom
>>> K0TAR
>>
>> In deep space, light should go 100% unimpeded by any magnetic fields.
>> In an atmosphere, plasma, or other media, I would think light can be
>> affected, fiber optics can even bend light using a physical force
>> acting on the media carrying the light, instead of a magnetic field.
>>
>> In deep space, there is almost nothing but ether, and ether, the
>> gravitational ether of Einstein, needs to be bent with gravity, and
>> when the ether is bent, some distortion of the path of light should
>> certainly be detected ... but that debated experiment, someone already
```

>> mentioned, carries on.
>>
>> Regards,
>> JS
>

Ditto on maroon.

tom
K0TAR

3837. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 01:19:49 UTC
From: tom <news4792@taring.org>
Message-ID: <4c8441b5$0$24414$8046368a@newsreader.iphouse.net>
Source record: 7637

```
On 9/5/2010 8:08 PM, tom wrote:
> On 9/5/2010 7:50 PM, K wrote:
>> I wonder if ether and dark energy are related?
>>
>> K
>>
>> "John Smith" <assemblywizard@gmail.com> wrote in message
>> news:i61b34$aj0$1@news.eternal-september.org...
>>> On 9/5/2010 4:37 PM, tom wrote:
>>>
>>> >> ...
>>>>> We do: "
>>>>> "1925 - the Michelson-Gale-Pearson experiment produces a positive
>>>>> result
>>>>> while attempting to detect the effect of Earth's rotation on the
>>>>> velocity of
>>>>> light. The significance of the experiment remains debated to this day,
>>>>> but
>>>>> this planetary Sagnac effect is measured by ring laser gyros and taken
>>>>> into
>>>>> account by the GPS system."
>>>>>
>>>>>> especially when it moves around planets with magnetic fields? why are
>>>>> light waves not affected by magnetic or electric fields??
>>>>>
>>>>> They are. Faraday effect, electrooptic effect and so on.
>>>>> S*
>>>>>
>>>>>
>>>>>
>>>>
>>>> What a maroon.
>>>>
>>>> tom
>>>> K0TAR
>>>
>>> In deep space, light should go 100% unimpeded by any magnetic fields.
>>> In an atmosphere, plasma, or other media, I would think light can be
>>> affected, fiber optics can even bend light using a physical force
>>> acting on the media carrying the light, instead of a magnetic field.
>>>
>>> In deep space, there is almost nothing but ether, and ether, the
>>> gravitational ether of Einstein, needs to be bent with gravity, and
>>> when the ether is bent, some distortion of the path of light should
```

>>> certainly be detected ... but that debated experiment, someone already
>>> mentioned, carries on.
>>>
>>> Regards,
>>> JS
>>
>
> Ditto on maroon.
>
> tom
> K0TAR
>

Due to top posting, I responded to the previous person. Sorry.

I prefer top posting myself, but this group does not.

tom
K0TAR

3838. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 01:47:49 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i61h84png2@news.eternal-september.org>
Source record: 7638

On 9/5/2010 6:19 PM, tom wrote:

>
> Due to top posting, I responded to the previous person. Sorry.
>
> I prefer top posting myself, but this group does not.
>
> tom
> K0TAR
>

Us maroons think you are missing something:
http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=12673

Is you license the highest degree you possess? ROFLOL

Don't even worry about looking like a non-conforming idiot; That is the least of your problems. :-(

Regards,
JS

3839. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 01:49:56 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i61hc4png3@news.eternal-september.org>
Source record: 7639

On 9/5/2010 6:47 PM, John Smith wrote:

> ...
> Us maroons think you are missing something:
> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=12673
>
> Is you license the highest degree you possess? ROFLOL
>
> Don't even worry about looking like a non-conforming idiot; That is the
> least of your problems. :-(
>
> Regards,
> JS

Uh, this link, instead:
http://en.wikipedia.org/wiki/Magneto-optic_effect

And, I'll worry about looking like a URL-post bungling idiot! ROFLOL

Regards,
JS

3840. Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 02:05:05 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i61i8hpng4@news.eternal-september.org>
Source record: 7640

http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=16722

I don't know why? But, I seem to remember you asking or something about windom baluns ... or, maybe I just have to worry about being a maroon idiot with an imagination!

Darn, I just hate that reference to "purplish" though ... purple is a homosexual symbol here, at least in California, bad association yanno'? ... <straight face>

Regards,
JS

3841. Frequency independent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 02:30:02 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7593e9b5-2d0a-43ea-bb3f-86bcecdfb662@b34g2000yqm.googlegroups.com>
Source record: 7641

It is getting close to winter times when decisions have to be made
for the seasonal antenna. My antenna is frequency independent with a
cavity / reflector and I have been feeding it via coax direct ie
unbalanced because of the constant impedance, therefore unbalanced to
balanced should not be a problem.
Anybody see an error in thinking here.
The antenna will be on a tower as the antenna picks up all
transmission modes so I need to get away from ground noise. I will be
adding an elevation changer if I have the time other wise it will be
parallel to ground or zero elevation.
Many thanks for your inputs
Art

3842. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 03:17:01 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i61mfdocj1@news.eternal-september.org>
Source record: 7642

On 8/31/2010 3:54 PM, Cecil Moore wrote:

> ...
> Does God have DNA? If not, where did Jesus' Y DNA come from? If yes,
> can God be killed?
> --
> 73, Cecil, w5dxp.com

OK, Cecil, you asked the question, and we did not sleep until we had
your answer. I believe this is an answer to that question:

http://www.youtube.com/watch?v=EGLPADW_kUw&feature=player_embedded

Sunday, September fifth, two-thousand and ten ... and you were there!

Regards,
JS

3843. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 03:24:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i61mtlocj2@news.eternal-september.org>
Source record: 7643

On 9/5/2010 8:17 PM, John Smith wrote:

> ...
> OK, Cecil, you asked the question, and we did not sleep until we had
> your answer. I believe this is an answer to that question:
>
> http://www.youtube.com/watch?v=EGLPADW_kUw&feature=player_embedded
>
> Sunday, September fifth, two-thousand and ten ... and you were there!
>
> Regards,
> JS

AND!!! LORDY, LORDY, LORDY!

There is MORE! (get it while it is hot! <grin>)
http://www.youtube.com/watch?v=4TIpfbBdLXU&NR=1&feature=fvwp

Regards,
JS

3844. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 07:19:46 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c849615$0$21006$65785112@news.neostrada.pl>
Source record: 7644

"John Smith" <assemblywizard@gmail.com> wrote
news:i61b34$aj0$1@news.eternal-september.org...
> On 9/5/2010 4:37 PM, tom wrote:
>
> >> ...
>>> We do: "
>>> "1925 - the Michelson-Gale-Pearson experiment produces a positive result
>>> while attempting to detect the effect of Earth's rotation on the
>>> velocity of
>>> light. The significance of the experiment remains debated to this day,
>>> but
>>> this planetary Sagnac effect is measured by ring laser gyros and taken
>>> into
>>> account by the GPS system."
>>>
>>>> especially when it moves around planets with magnetic fields? why are
>>> light waves not affected by magnetic or electric fields??
>>>
>>> They are. Faraday effect, electrooptic effect and so on.
>
> In deep space, light should go 100% unimpeded by any magnetic fields. In
> an atmosphere, plasma, or other media,

No deep space. Everywhere is the Interstellar Medium. There happens the
interesting things with the light.:
http://csep10.phys.utk.edu/astr162/lect/milkyway/ism.html

> I would think light can be affected, fiber optics can even bend light
> using a physical force acting on the media carrying the light, instead of
> a magnetic field.
>
> In deep space, there is almost nothing but ether, and ether, the
> gravitational ether of Einstein, needs to be bent with gravity, and when
> the ether is bent, some distortion of the path of light should certainly
> be detected ... but that debated experiment, someone already mentioned,
> carries on.

In "deep space" are also stars so the electroms, ions, atoms and dust have
the different temperatures and density. Speed of all waves are the
temperature dependent. The refraction index also.
S*

3845. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 08:16:49 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <d0315f08-fa46-49cb-9011-3c99af8d4df8@y11g2000yqm.googlegroups.com>
Source record: 7645

On 6 sep, 04:05, John Smith <assemblywiz...@gmail.com> wrote:
> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=16722
>
> I don't know why? But, I seem to remember you asking or something about
> windom baluns ... or, maybe I just have to worry about being a maroon
> idiot with an imagination!
>
> Darn, I just hate that reference to "purplish" though ... purple is a
> homosexual symbol here, at least in California, bad association yanno'?
> ... <straight face>
>
> Regards,
> JS

Hello John,

For me this is just a Guanella balun, 1:4 impedance transformation
with common mode suppression. I didn't do the math to see whether
common mode impedance is sufficient for OCF dipoles (to avoid feed
line radiation).

Regarding color use (purple/pink), that isn't limited to California
only.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely

3846. "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 09:56:49 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <623f5c0d-57ab-408a-9b94-88d83ec65321@e14g2000yqe.googlegroups.com>
Source record: 7646

Below is a link to a video describing the development work on an interesting concept for an antenna:

http://www.youtube.com/watch?v=9tIZUhu21sQ

RF

3847. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 12:04:55 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i62ld7$393$2@news.eternal-september.org>
Source record: 7647

On 9/6/2010 1:16 AM, Wimpie wrote:

> ...
> Hello John,
>
> For me this is just a Guanella balun, 1:4 impedance transformation
> with common mode suppression. I didn't do the math to see whether
> common mode impedance is sufficient for OCF dipoles (to avoid feed
> line radiation).
>

At this point, I can't even remember why the reference of "balun to windom to Cecil" holds a relationship in my mind ... I didn't pay any attention to the core material/turns/etc. of the baluns which I posted either ... just seeing if it related to what has stuck in my mind and tossed it at Cecil to see.

> Regarding color use (purple/pink), that isn't limited to California
> only.
>

I had wondered about that! P*ssed me off when I had to give up wearing purple ... I had always let the wife "wear the pink" in the family. lol

> Best regards,
>
>
> Wim
> PA3DJS
> www.tetech.nl
> without abc, PM will reach me very likely

Regards,
JS

3848. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 12:08:49 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ceb5471a-4db6-4545-a223-37db99162241@d8g2000yqf.googlegroups.com>
Source record: 7648

On Sep 5, 9:05 pm, John Smith <assemblywiz...@gmail.com> wrote:
> I don't know why? But, I seem to remember you asking or something about
> windom baluns ...

The one I remember was about the Carolina Windom 4:1 voltage balun at
the feedpoint and the 1:1 choke-isolator 20' down the coax. The
original Windom was fed, Marconi style, against ground.
--
73, Cecil, w5dxp.com

3849. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 12:09:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b370a6cd-0bde-4e38-8c0e-dc1b0942edad@l20g2000yqm.googlegroups.com>
Source record: 7649

On Sep 5, 5:16 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:56bbae47-9dc4-493f-9041-3c0d1488a14c@d8g2000yqf.googlegroups.com...
> On Sep 4, 6:06 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "Cecil Moore"
> > <w5...@hotmail.com>wrotenews:b78275d5-e139-4424-b581-41ffa5e5819a@a19g2000vbi.googlegr
oups.com...
> > On Sep 3, 1:14 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> >> >> Seriously, though, the real question is "Where did the ether come
> >> >> from?"
> > >Apparently, human intelligence and logic has not yet evolved to be
>
> >> able to handle such questions although Ayn Rand came close decades
> > ago.
>
> >> Always were the two ethers. Normal for the normal electric waves and the
> > "special" for the EM waves.
>
> >> The normal is that by Ludwig Lorenz and the second by H. Lorentz.
>
> >> The normal is the rare plazma (electrons, ions, atoms and dust).
> >> The special is in many forms.
>
> >> The normal is produced by the Sun. The special - I do not know.
> >'normally' when something has to be called 'special' it means that it
>
> doesn't represent the real world... not 'special' relativity is just a
> subset of 'general' relativity. if the 'normal' is created by the sun
> and we now know that there is a discontinuity at the edge of the solar
> system where our solar wind is deflected by the galactic plasma... and
> indeed there are major discontinuities around the earth due to our
> magnetic field... why are there not distortions in the waves traveling
> in the plasma?
>
> All is like with the sound waves in the wind.
>
> > if waves travel in water and the water is moving the
>
> waves move with the water, why can we not measure the difference in
> speed or direction of waves carried in the moving solar plasma,

>
> We do: "
> "1925 - the Michelson-Gale-Pearson experiment produces a positive result
> while attempting to detect the effect of Earth's rotation on the velocity of
> light. The significance of the experiment remains debated to this day, but
> this planetary Sagnac effect is measured by ring laser gyros and taken into
> account by the GPS system."

of course, but this was not detecting aether movement, it was
detecting acceleration from the rotation of the earth as predicted by
special relativity.

>
> >especially when it moves around planets with magnetic fields? why are
>
> light waves not affected by magnetic or electric fields??
>
> They are. Faraday effect, electrooptic effect and so on.
> S*

those effect require a material that is sensitive to the field. it is
not the fields themselves that are interacting it is the fields and
the materials.

3850. Re: Frequency independent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 12:13:06 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <eac1b3eb-a4b8-460c-935f-b113e65a1cd3@l20g2000yqm.googlegroups.com>
Source record: 7650

On Sep 6, 2:30 am, Art Unwin <arthurun...@gmail.com> wrote:
> It is getting close to winter times when decisions have to be made
> for the seasonal antenna. My antenna is frequency independent with a
> cavity / reflector and I have been feeding it via coax direct ie
> unbalanced because of the constant impedance, therefore unbalanced to
> balanced should not be a problem.
> Anybody see an error in thinking here.
> The antenna will be on a tower as the antenna picks up all
> transmission modes so I need to get away from ground noise. I will be
> adding an elevation changer if I have the time other wise it will be
> parallel to ground or zero elevation.
> Many thanks for your inputs
> Art

a dummy load up on the tower will work as well as one on the ground.

3851. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 12:30:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1ed39d35-f3f5-4b42-9ddb-7eac06f49519@n3g2000yqb.googlegroups.com>
Source record: 7552

On Sep 5, 7:50 pm, "K" <K...@spam.net> wrote:
> I wonder if ether and dark energy are related?

Let's call it "quantum ether" to distinguish it from the earlier
obsolete concepts. Yes, dark energy seems to make up ~70% of the
universe which is mostly space so there is little doubt that quantum
ether space is related to dark energy in some way.

http://map.gsfc.nasa.gov/universe/uni_matter.html
--
73, Cecil, w5dxp.com

3852. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 12:30:41 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i62mth$393$3@news.eternal-september.org>
Source record: 7551

On 9/6/2010 5:08 AM, Cecil Moore wrote:

> ...
> The one I remember was about the Carolina Windom 4:1 voltage balun at
> the feedpoint and the 1:1 choke-isolator 20' down the coax. The
> original Windom was fed, Marconi style, against ground.
> --
> 73, Cecil, w5dxp.com

I have a "weird thing" about windoms ... I just don't trust an antenna which "manipulates" RF on the feedline in "beneficial" ways and has a religious cult following ... insane quirk of mine, really. lol Now I don't have the room ... moved again.

If the wife had her way, we would move to Montana next to a favorite sister and brother ... there we would have the room! lol

Regards,
JS

3853. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 14:07:10 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <U-adnXvNwvwTaBnRnZ2dnUVZ_s6dnZ2d@earthlink.com>
Source record: 7553

"John Smith" <assemblywizard@gmail.com> wrote in message
news:i62mth$393$3@news.eternal-september.org...
> On 9/6/2010 5:08 AM, Cecil Moore wrote:
>
>> ...
>> The one I remember was about the Carolina Windom 4:1 voltage balun at
>> the feedpoint and the 1:1 choke-isolator 20' down the coax. The
>> original Windom was fed, Marconi style, against ground.
>> --
>> 73, Cecil, w5dxp.com
>
> I have a "weird thing" about windoms ... I just don't trust an antenna
> which "manipulates" RF on the feedline in "beneficial" ways and has a
> religious cult following ... insane quirk of mine, really. lol Now I
> don't have the room ... moved again.
>
> If the wife had her way, we would move to Montana next to a favorite
> sister and brother ... there we would have the room! lol
>
> Regards,
> JS

Just throwing in my comments on the so called Carolina Windom like Cecil
described.
I have one up like that and also an 80 meter dipole and triband beam up to
compare signals with.
Not all cases, but many times the Windom is as good or better than the other
antennas. The beam does beat the Windom by about double the microvolt
signals on the very long signal path.

The balun I am using is suppose to be able to handle the power I am running,
but around 1 kw to the antenna the 4:1 balun overheats after about 5 minuets
and the swr starts going up. There is some current coming down the feedline
as the choke balun 20 feet down the coax is getting warm. It does not do
that with about 1200 watts going into it while connected to a dummy load.

Like most any simple antenna, you throw RF at it and hope the signal goes in
a direction that lets you make contacts. The antenna can be set so that it
is most favorable in one or two directions, but when making contacts all
around, it is difficult to change the direction of the dipole.

3854. Re: Frequency independent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 15:12:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <8f86a7c8-0ef8-4e8e-b379-81aaa3b407a5@f6g2000yqa.googlegroups.com>
Source record: 7554

On Sep 6, 7:13 am, K1TTT <k1...@arrl.net> wrote:
> On Sep 6, 2:30 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > It is getting close to winter times when decisions have to be made
> > for the seasonal antenna. My antenna is frequency independent with a
> > cavity / reflector and I have been feeding it via coax direct ie
> > unbalanced because of the constant impedance, therefore unbalanced to
> > balanced should not be a problem.
> > Anybody see an error in thinking here.
> > The antenna will be on a tower as the antenna picks up all
> > transmission modes so I need to get away from ground noise. I will be
> > adding an elevation changer if I have the time other wise it will be
> > parallel to ground or zero elevation.
> > Many thanks for your inputs
> > Art
>
> a dummy load up on the tower will work as well as one on the ground.

I was referring to the feed line. But since you brought up the antenna
I just noticed that it had only a portion of top band when resting on
the ground so I have to check it out on the tower before I move on.
Maybe just lifting it up a couple of feet will do the trick.
Eat your heart out dummy !

3855. Re: Frequency independent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 15:54:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b1fb2436-34e3-41a0-8c6c-d0537e2f0b14@m15g2000yqm.googlegroups.com>
Source record: 7555

On Sep 6, 3:12 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 6, 7:13 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Sep 6, 2:30 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > It is getting close to winter times when decisions have to be made
> > > for the seasonal antenna. My antenna is frequency independent with a
> > > cavity / reflector and I have been feeding it via coax direct ie
> > > unbalanced because of the constant impedance, therefore unbalanced to
> > > balanced should not be a problem.
> > > Anybody see an error in thinking here.
> > > The antenna will be on a tower as the antenna picks up all
> > > transmission modes so I need to get away from ground noise. I will be
> > > adding an elevation changer if I have the time other wise it will be
> > > parallel to ground or zero elevation.
> > > Many thanks for your inputs
> > > Art
>
> > a dummy load up on the tower will work as well as one on the ground.
>
> I was referring to the feed line. But since you brought up the antenna
> I just noticed that it had only a portion of top band when resting on
> the ground so I have to check it out on the tower before I move on.
> Maybe just lifting it up a couple of feet will do the trick.
> Eat your heart out dummy !

wow, only 2 posts till name calling started... must be a bad day for
art.

3856. Re: Recognit... Dark Matter via Hubble & computer enhancement

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 15:57:16 UTC
From: MTV <volztexas@comcast.net>
Message-ID: <lb8ho.129199$Ua4.34836@en-nntp-09.dc1.easynews.com>
Source record: 7556

http://antwrp.gsfc.nasa.gov/apod/ap100824.html

On 9/6/2010 7:30 AM, Cecil Moore wrote:
> On Sep 5, 7:50 pm, "K"<K...@spam.net> wrote:
>> I wonder if ether and dark energy are related?
>
> Let's call it "quantum ether" to distinguish it from the earlier
> obsolete concepts. Yes, dark energy seems to make up ~70% of the
> universe which is mostly space so there is little doubt that quantum
> ether space is related to dark energy in some way.
>
> http://map.gsfc.nasa.gov/universe/uni_matter.html
> --
> 73, Cecil, w5dxp.com

3857. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 15:59:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a0541373-b060-4c84-97c6-43ddb3893e04@x42g2000yqx.googlegroups.com>
Source record: 7557

On Sep 6, 9:56 am, Richard Fry <r...@adams.net> wrote:
> Below is a link to a video describing the development work on an
> interesting concept for an antenna:
>
> http://www.youtube.com/watch?v=9tIZUhu21sQ
>
> RF

magnetic coupling to the stream seems kind of odd, but it appears to
work for him. i wonder what happens if you go qro? i would expect
some heating of the water and maybe even some ionization or corona
that might cause instability in the stream. i would also guess the
tuning would be difficult in high winds.

3858. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 16:14:57 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <dce0c2ba-6631-48e7-8190-116544ffbff6@t20g2000yqa.googlegroups.com>
Source record: 7558

On 6 sep, 14:30, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/6/2010 5:08 AM, Cecil Moore wrote:
>
> > ...
> > The one I remember was about the Carolina Windom 4:1 voltage balun at
> > the feedpoint and the 1:1 choke-isolator 20' down the coax. The
> > original Windom was fed, Marconi style, against ground.
> > --
> > 73, Cecil, w5dxp.com
>
> I have a "weird thing" about windoms ... I just don't trust an antenna
> which "manipulates" RF on the feedline in "beneficial" ways and has a
> religious cult following ... insane quirk of mine, really. lol Now I
> don't have the room ... moved again.
>
> If the wife had her way, we would move to Montana next to a favorite
> sister and brother ... there we would have the room! lol
>
> Regards,
> JS

Hello John,

When the feed line goes to a clean environment (for example a ground provision far from the shack feed line radiation may not be a problem, but it isn't my favorite. When the feed line goes directly to the shack (and equipment), I don't want such an antenna.

When you are working NVIS on 75/80m, you don't want the vertical component as this leads to radiation under low elevation, hence stronger reception of ground based interference.

In case of DX, the vertical component may help you as this may result in lower elevation of main lobe; over here we have much soil with better then average conductivity. If I would like vertical polarization, I prefer 100% of that, so no windom or OCF dipoles for me.

Depending on the design, allowing vertically polarized radiation may result in worse or better VSWR.

Regarding the color, many straight people wear it over here (especially in summer days), so you can't judge on color only....

Regarding the balun/transformer, you need a very good one with OCF dipoles as common mode voltage at feed point can be in the 300V range

with 100W input. just some pF stray capacitance in a transformer will
provoke feed line radiation.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc in the address, PM will reach me.

3859. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 17:28:27 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5d0874fa-4bfc-4b24-aca1-866264bbd31e@b34g2000yqm.googlegroups.com>
Source record: 7559

On Sep 6, 10:59 am, K1TTT <k1...@arrl.net> wrote:
> On Sep 6, 9:56 am, Richard Fry <r...@adams.net> wrote:
>
> > Below is a link to a video describing the development work on an
> > interesting concept for an antenna:
>
> > http://www.youtube.com/watch?v=9tIZUhu21sQ
>
> > RF
>
> magnetic coupling to the stream seems kind of odd, but it appears to
> work for him. i wonder what happens if you go qro? i would expect
> some heating of the water and maybe even some ionization or corona
> that might cause instability in the stream. i would also guess the
> tuning would be difficult in high winds.

If anything is to occur it would be at the toroid which the water is
flowing thru. In this case the
diamagnetic material is the prime mover with respect to toroidal
field.
What the feed line is doing is not mentioned and it could well be the
toroid windings alone is doing all the radiating

3860. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 17:35:05 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i638oa$t62$1@news.eternal-september.org>
Source record: 7560

On 9/6/2010 10:28 AM, Art Unwin wrote:

>> ...
> What the feed line is doing is not mentioned and it could well be the
> toroid windings alone is doing all the radiating

Watch the video again. If we can believe that the video has not been
manipulated then, the signals are not present until the water flows ...

I seen this done many moons ago with a thick quartz tube(s) and a column
of mercury, mercury height varied to tune ... I'll bet the "mercury"
antenna is/was immensely more efficient ... the magnetic coupling would
be a great aid in NOT having to tune the match constantly ...

Regards,
JS

3861. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 18:52:08 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <s3ba865h2q4i3chl00f5l4p28583q5oiii@4ax.com>
Source record: 7561

On Mon, 6 Sep 2010 02:56:49 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>interesting concept for an antenna:

"How's my signal?"

"You've got a strong signal in, 5X5."

....this through a repeater - DUH.

An HF antenna would need to put up a water stream "about 60 feet."

Hmmm, about 3kPa for each foot of water or about 200kPa. At Walmart,
for $320 you can buy a pump with a 2HP motor to do the job:
230V @ 11.2A

2.5KW to erect the antenna for a 100W HF rig. If you stacked 50 HF
rigs (end to end for more length), you would have both the same size
antenna, plus ALL of the 2.5KW of power going to RF and not water.

Very interesting indeed.

73's
Richard Clark, KB7QHC

3862. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 19:00:11 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <-OCdneq0xtWjpxjRnZ2dnUVZ_sydnZ2d@giganews.com>
Source record: 7562

On 9/6/2010 8:59 AM, K1TTT wrote:
> magnetic coupling to the stream seems kind of odd, but it appears to
> work for him. i wonder what happens if you go qro? i would expect
> some heating of the water and maybe even some ionization or corona
> that might cause instability in the stream. i would also guess the
> tuning would be difficult in high winds.

Wind would seem to be a weak point. The top of the conductive stream would dissipate at different heights depending on the wind velocity, so a gusty wind would be constantly altering the effective antenna length.

Roy Lewallen, W7EL

3863. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-06 23:41:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bbf8780a-0c36-49fc-9308-cfa84969d363@j18g2000yqd.googlegroups.com>
Source record: 7563

On Sep 6, 2:00 pm, Roy Lewallen <w...@eznec.com> wrote:
> On 9/6/2010 8:59 AM, K1TTT wrote:
>
> > magnetic coupling to the stream seems kind of odd, but it appears to
> > work for him. i wonder what happens if you go qro? i would expect
> > some heating of the water and maybe even some ionization or corona
> > that might cause instability in the stream. i would also guess the
> > tuning would be difficult in high winds.
>
> Wind would seem to be a weak point. The top of the conductive stream
> would dissipate at different heights depending on the wind velocity, so
> a gusty wind would be constantly altering the effective antenna length.
>
> Roy Lewallen, W7EL

Part of the speal given talked about the scarecity of real estate for
the many antennas on ships! Why don't they use non frequency dependent
antennas so antennas can be shared, especially when in combat? And
what do submarines use for antennas
when in the stealth mode?

3864. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 00:06:02 UTC
From: Frank <frank@spamfree.telus.net>
Message-ID: <Klfho.583$89.146@edtnps83>
Source record: 7564

"Richard Fry" <rfry@adams.net> wrote in message
news:623f5c0d-57ab-408a-9b94-88d83ec65321@e14g2000yqe.googlegroups.com...
> Below is a link to a video describing the development work on an
> interesting concept for an antenna:
>
> http://www.youtube.com/watch?v=9tIZUhu21sQ
>

On 7 MHz a dipole constructed of salt water: Er = 81,
conductivity 5 S/m, and 0.5" diameter has a free
space efficiency of 0.08%. i.e. with 100 W input
the total radiated power = 80 mW.

Frank
(VE6CB)

3865. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 00:53:40 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i642el$nb7$1@news.eternal-september.org>
Source record: 7565

On 9/6/2010 4:41 PM, Art Unwin wrote:

> ...
> Part of the speal given talked about the scarecity of real estate for
> the many antennas on ships! Why don't they use non frequency dependent
> antennas so antennas can be shared, especially when in combat? And
> what do submarines use for antennas
> when in the stealth mode?

Antennas which pop up out of the deck plating would be something. That idiot has just developed a very expensive toy ... and a very poor one at that.

Regards,
JS

3866. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 06:05:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1283839501@panix.com>
Source record: 7566
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

3867. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 10:06:25 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c860ea8$0$27043$65785112@news.neostrada.pl>
Source record: 7567

"K1TTT" <k1ttt@arrl.net>wrote
news:b370a6cd-0bde-4e38-8c0e-dc1b0942edad@l20g2000yqm.googlegroups.com...
On Sep 5, 5:16 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> We do: "
>> "1925 - the Michelson-Gale-Pearson experiment produces a positive result
> while attempting to detect the effect of Earth's rotation on the velocity
> of
> light. The significance of the experiment remains debated to this day, but
> this planetary Sagnac effect is measured by ring laser gyros and taken
> into
> account by the GPS system."

>of course, but this was not detecting aether movement, it was
detecting acceleration from the rotation of the earth as predicted by
special relativity.

In 1905 Einstein wrote: "Examples of this sort, together with the
unsuccessful attempts to discover any motion of the earth relatively to the
``light medium,'' suggest that the phenomena of electrodynamics as well as
of mechanics possess no properties corresponding to the idea of absolute
rest."

In "1925 - the Michelson-Gale-Pearson experiment produces a positive result"
(motion of the earth relatively to the ``light medium,'')

As you see after 1925 all predictions of SR and EM are the tales used in
schools to teach the math.
S*

3868. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 16:32:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i65pfl$4tb$1@news.jpl.nasa.gov>
Source record: 7568

Richard Clark wrote:
> On Mon, 6 Sep 2010 02:56:49 -0700 (PDT), Richard Fry <rfry@adams.net>
> wrote:
>
>> interesting concept for an antenna:
>
> "How's my signal?"
>
> "You've got a strong signal in, 5X5."
>
> ....this through a repeater - DUH.
>
> An HF antenna would need to put up a water stream "about 60 feet."
>
> Hmmm, about 3kPa for each foot of water or about 200kPa. At Walmart,
> for $320 you can buy a pump with a 2HP motor to do the job:
> 230V @ 11.2A
>

Takes a lot more HP to make a free flowing fountain that high.
Jet d'Eau in Geneva is 500 liter/sec with 2 500kW pumps (of course it is
140 meters tall)..(And yes, it is very impressive from a distance..)

The Buckingham fountain in Chicago is shorter (ca 50 meters) and has
much lower power pumps: 75,190 and 250 HP

> 2.5KW to erect the antenna for a 100W HF rig. If you stacked 50 HF
> rigs (end to end for more length), you would have both the same size
> antenna, plus ALL of the 2.5KW of power going to RF and not water.

You can recover the energy in the water coming back down. If you have a
tube, you can either just feed the conductive fluid up the tube and fill
it (a sort of liquid SteppIR vertical), or, for fixed height, you could
have a recirculation.

This isn't particularly new or novel, by the way. The idea has been
around for decades (I think I saw some papers from the 60s analyzing
it). What's new is that the surrounding technology might have changed,
and what was impractical back then might be more practical now.

3869. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 17:36:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rktc86d483t6b7gp15d23tofgrkemvdav6@4ax.com>
Source record: 7569

On Tue, 07 Sep 2010 09:32:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>> An HF antenna would need to put up a water stream "about 60 feet."
>>
>> Hmmm, about 3kPa for each foot of water or about 200kPa. At Walmart,
>> for $320 you can buy a pump with a 2HP motor to do the job:
>> 230V @ 11.2A
>>
>
>Takes a lot more HP to make a free flowing fountain that high.

60 feet is not in the league of 140 meters or the shorter 50 meters.

However, to other comments, keeping it a column of water instead of
spray would certainly add to the pump load.

>You can recover the energy in the water coming back down.

Something like Hero's fountain? The proportions of this is growing by
leaps and bounds.

>If you have a
>tube, you can either just feed the conductive fluid up the tube and fill
>it (a sort of liquid SteppIR vertical), or, for fixed height, you could
>have a recirculation.

Which argues why not fill the tube with a tape measure instead?

>This isn't particularly new or novel, by the way. The idea has been
>around for decades (I think I saw some papers from the 60s analyzing
>it). What's new is that the surrounding technology might have changed,
>and what was impractical back then might be more practical now.

The surrounding technology, literally, is the ferrite ring enclosing
the column. In 1960's dollars, cheaper perhaps but nothing newer. And
cheaper is relative - not particularly affordable.

73's
Richard Clark, KB7QHC

3870. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 19:22:06 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <0cKdnYuqUbd8DRvRnZ2dnUVZ_hKdnZ2d@giganews.com>
Source record: 7570

On 9/6/2010 5:06 PM, Frank wrote:
>
> On 7 MHz a dipole constructed of salt water: Er = 81,
> conductivity 5 S/m, and 0.5" diameter has a free
> space efficiency of 0.08%. i.e. with 100 W input
> the total radiated power = 80 mW.
>
> Frank
> (VE6CB)

That looked so bad I had to run an analysis to see for myself. Sure enough, it's that bad. And even with a 0.25 inch diameter column at 146 MHz, the efficiency is only on the order of 1%. A foot and a half of wire vs. a pump, power source, and ferrite transformer? No contest.

Roy Lewallen, W7EL

3871. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 20:24:16 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <i6671h$7l1$1@news.eternal-september.org>
Source record: 7571

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:0cKdnYuqUbd8DRvRnZ2dnUVZ_hKdnZ2d@giganews.com...
> On 9/6/2010 5:06 PM, Frank wrote:
>>
>> On 7 MHz a dipole constructed of salt water: Er = 81,
>> conductivity 5 S/m, and 0.5" diameter has a free
>> space efficiency of 0.08%. i.e. with 100 W input
>> the total radiated power = 80 mW.
>>
>> Frank
>> (VE6CB)
>
> That looked so bad I had to run an analysis to see for myself. Sure
> enough, it's that bad. And even with a 0.25 inch diameter column at 146
> MHz, the efficiency is only on the order of 1%. A foot and a half of wire
> vs. a pump, power source, and ferrite transformer? No contest.
>
> Roy Lewallen, W7EL
-
Finally, something to make a T2FD look good :)
Wayne W5GIE

3872. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 22:03:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ef712393-f0a6-46df-9299-cf3c31787ed2@z28g2000yqh.googlegroups.com>
Source record: 7572

On Sep 6, 11:41 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 6, 2:00 pm, Roy Lewallen <w...@eznec.com> wrote:
>
> > On 9/6/2010 8:59 AM, K1TTT wrote:
>
> > > magnetic coupling to the stream seems kind of odd, but it appears to
> > > work for him. i wonder what happens if you go qro? i would expect
> > > some heating of the water and maybe even some ionization or corona
> > > that might cause instability in the stream. i would also guess the
> > > tuning would be difficult in high winds.
>
> > Wind would seem to be a weak point. The top of the conductive stream
> > would dissipate at different heights depending on the wind velocity, so
> > a gusty wind would be constantly altering the effective antenna length.
>
> > Roy Lewallen, W7EL
>
> Part of the speal given talked about the scarecity of real estate for
> the many antennas on ships! Why don't they use non frequency dependent
> antennas so antennas can be shared, especially when in combat? And
> what do submarines use for antennas
> when in the stealth mode?

i would tell you, but then i would have to kill you!

3873. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 22:08:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <19557129-bfb2-4fa4-9f20-b575acd2d0d1@q2g2000yqq.googlegroups.com>
Source record: 7573

On Sep 7, 10:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>wrotenews:b370a6cd-0bde-4e38-8c0e-dc1b0942edad@l20g2000yqm.goog
legroups.com...
> On Sep 5, 5:16 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> We do: "
> >> "1925 - the Michelson-Gale-Pearson experiment produces a positive result
> > while attempting to detect the effect of Earth's rotation on the velocity
> > of
> > light. The significance of the experiment remains debated to this day, but
> > this planetary Sagnac effect is measured by ring laser gyros and taken
> > into
> > account by the GPS system."
> >of course, but this was not detecting aether movement, it was
>
> detecting acceleration from the rotation of the earth as predicted by
> special relativity.
>
> In 1905 Einstein wrote: "Examples of this sort, together with the
>
> unsuccessful attempts to discover any motion of the earth relatively to the
> ``light medium,'' suggest that the phenomena of electrodynamics as well as
> of mechanics possess no properties corresponding to the idea of absolute
> rest."
>
> In "1925 - the Michelson-Gale-Pearson experiment produces a positive result"
> (motion of the earth relatively to the ``light medium,'')

no, its positive result was the acceleration caused by the rotation of
the earth, as in the michelson-morley experiment they detected no
motion with respect to a fix or any other aether... otherwise the
result would have had a predictable variation due to time of day or
year, which was not detected.

3874. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-07 22:46:29 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i66fc7$t2k$1@news.eternal-september.org>
Source record: 7574

On 9/7/2010 3:08 PM, K1TTT wrote:

> ...
> no, its positive result was the acceleration caused by the rotation of
> the earth, as in the michelson-morley experiment they detected no
> motion with respect to a fix or any other aether... otherwise the
> result would have had a predictable variation due to time of day or
> year, which was not detected.

On the surface, that statement simply sounds insane. It is always noon
on some portion of the planet and it is always summer somewhere ...

Regards,
JS

3875. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 00:03:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i66jt7$h1k$1@news.jpl.nasa.gov>
Source record: 7576

K1TTT wrote:
> On Sep 6, 11:41 pm, Art Unwin <arthurun...@gmail.com> wrote:
>> On Sep 6, 2:00 pm, Roy Lewallen <w...@eznec.com> wrote:
>>
>>> On 9/6/2010 8:59 AM, K1TTT wrote:
>>>> magnetic coupling to the stream seems kind of odd, but it appears to
>>>> work for him. i wonder what happens if you go qro? i would expect
>>>> some heating of the water and maybe even some ionization or corona
>>>> that might cause instability in the stream. i would also guess the
>>>> tuning would be difficult in high winds.
>>> Wind would seem to be a weak point. The top of the conductive stream
>>> would dissipate at different heights depending on the wind velocity, so
>>> a gusty wind would be constantly altering the effective antenna length.
>>> Roy Lewallen, W7EL
>> Part of the speal given talked about the scarecity of real estate for
>> the many antennas on ships! Why don't they use non frequency dependent
>> antennas so antennas can be shared, especially when in combat? And
>> what do submarines use for antennas
>> when in the stealth mode?
>
> i would tell you, but then i would have to kill you!

Naahhh.. everyone knows they drag an insulated wire, which is why NEC was updated some years ago to handle insulated wires in a conductive medium.

Now.. when their periscope is up, indeed, there's a lot of special stuff that goes into shared apertures. Look to the work of Jaumann in WWII..

And with sharing apertures.. it's not so much non-frequency dependent radiators that is the problem, it's isolation between the Tx and Rx. Multimegawatt pulses from your radar tend to raise cain with your sensitive receiver, even if your diplexer does have 100dB isolation.

Finally, it is challenging to make something that can efficiently radiate at a frequency while not reflecting that same frequency (i.e. re-radiating). Brings a whole new meaning to "match at the feedpoint" when your RCS has to be a tiny, tiny fraction of the physical size. (for reference, the RCS of a resonant dipole with shorted feed is about 0.2 lambda^2)

3876. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 00:05:12 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i66jvo$h1k$2@news.jpl.nasa.gov>
Source record: 7575

John Smith wrote:
and it is always summer somewhere ...
>
"summer" is kind of ill defined..
but what about at the instant of the equinox? precisely the same amount
of north and south hemispheres are illuminated, etc.

3877. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 02:04:15 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d2861922-5c0c-417e-b511-d50871d14bfc@d8g2000yqf.googlegroups.com>
Source record: 7577

On Sep 7, 7:03 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> K1TTT wrote:
> > On Sep 6, 11:41 pm, Art Unwin <arthurun...@gmail.com> wrote:
> >> On Sep 6, 2:00 pm, Roy Lewallen <w...@eznec.com> wrote:
>
> >>> On 9/6/2010 8:59 AM, K1TTT wrote:
> >>>> magnetic coupling to the stream seems kind of odd, but it appears to
> >>>> work for him. i wonder what happens if you go qro? i would expect
> >>>> some heating of the water and maybe even some ionization or corona
> >>>> that might cause instability in the stream. i would also guess the
> >>>> tuning would be difficult in high winds.
> >>> Wind would seem to be a weak point. The top of the conductive stream
> >>> would dissipate at different heights depending on the wind velocity, so
> >>> a gusty wind would be constantly altering the effective antenna length.
> >>> Roy Lewallen, W7EL
> >> Part of the speal given talked about the scarecity of real estate for
> >> the many antennas on ships! Why don't they use non frequency dependent
> >> antennas so antennas can be shared, especially when in combat? And
> >> what do submarines use for antennas
> >> when in the stealth mode?
>
> > i would tell you, but then i would have to kill you!
>
> Naahhh.. everyone knows they drag an insulated wire, which is why NEC
> was updated some years ago to handle insulated wires in a conductive medium.
>
> Now.. when their periscope is up, indeed, there's a lot of special stuff
> that goes into shared apertures. Look to the work of Jaumann in WWII..
>
> And with sharing apertures.. it's not so much non-frequency dependent
> radiators that is the problem, it's isolation between the Tx and Rx.
> Multimegawatt pulses from your radar tend to raise cain with your
> sensitive receiver, even if your diplexer does have 100dB isolation.
>
> Finally, it is challenging to make something that can efficiently
> radiate at a frequency while not reflecting that same frequency (i.e.
> re-radiating). Brings a whole new meaning to "match at the feedpoint"
> when your RCS has to be a tiny, tiny fraction of the physical size.
> (for reference, the RCS of a resonant dipole with shorted feed is about
> 0.2 lambda^2)

As it happens I bought a nuclear submarine radio transmitter with only
a few hours on it. It is a tube version so I assume the reason that it
saw so little service was when they determined solid state was not an

issue. Just for kicks today I put together 3 rolls of 50 conductor tape in series without unrolling them so the assembly was about 12 inches tall and 8 inches dia where as the antenna on the tower is about the size of a bow and arrow target and good for all bands without being frequency sensitive. Now the quick and dirty one was really 50 wires in parallel placed in series with end fed on two outside wires. Now it was only good down to and including 20 metres while sitting on the table next to the radio in a very cluttered shack with lots of equipment and on top of that it had no shield so you can't hang your hat on those results because of proximetry effect and other short cuts taken and yet the non frequency side of it is fully evident. So for a submarine or a ship in combat the long wire would leave an observable trace even when below the surface as the long wire will rise.
Same goes for ships that have radiators in the double or triple figures where when damaged control can be transfered to other non frequency sensitive antennas. I served in the Army so I have little knoweledge as to what goes on in the Navy and thus the question posed. Certainly such a antenna would be a lot more stealth like than the water jet stream proposed on U tube or even a long wire leaving a trail on the surface for aircraft to zero upon.
Regards
Art

3878. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 04:01:57 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i671rn$58b$1@news.eternal-september.org>
Source record: 7578

On 9/7/2010 7:04 PM, Art Unwin wrote:
> ... Just for kicks today I put together 3 rolls of 50 conductor
> tape in series without unrolling them so the assembly was about 12
> inches tall and 8 inches dia where as the antenna on the tower is
> about the size of a bow and arrow target and good for all bands
> without being frequency sensitive. ...

> Regards
> Art

Yeah, but can you shower with it? See, the other antenna doubles as a
shower, just BYOS (Bring Your Own Soap.)

Regards,
JS

3879. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 04:52:02 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9212135d-43bf-4053-9b7b-463bee86a981@u6g2000yqh.googlegroups.com>
Source record: 7579

On Sep 7, 11:01 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/7/2010 7:04 PM, Art Unwin wrote:
>
> > ... Just for kicks today I put together 3 rolls of 50 conductor
> > tape in series without unrolling them so the assembly was about 12
> > inches tall and 8 inches dia where as the antenna on the tower is
> > about the size of a bow and arrow target and good for all bands
> > without being frequency sensitive. ...
> > Regards
> > Art
>
> Yeah, but can you shower with it? See, the other antenna doubles as a
> shower, just BYOS (Bring Your Own Soap.)
>
> Regards,
> JS

John, all non frequency dependent radiators have to be shielded as it
plays havoc with the cancellation of reactance. But even with the
quick lash up I made where I broke all the rules and even changed to
"stacked pancakes" instead of coils inside coils it still would be ok
for directional use in a loft for some of the bands. Either way the
lash up did not totally destroy its attributes. I suppose it would be
more impressive if I shielded it plus a reflector and put it on the
tower but that was not the point I was trying to make which is the
persistance in keeping non frequency dependentcy
while maintaining a small volume. I modeled a ten turn coil inside
another ten turn coil where both were joined together as a closed
circuit and a overall diameter of 8 to 9 inches sitting on a perfect
ground ala reflector When an antenna is not frequency dependent there
is no skin depth resistance because of the Meissner effect so more
current is applied to generating radiation. This conforming to
Maxwell's law by not indulging in generating magnetic fields. Note
Maxwell never added units of Tesla in his equation so why should you?
By the way that model showed gain inbetween 20 and 30 db because of
current bypassing the innards of the radiator and traveling on the
surface.
So the old timers were correct in saying more wire is better....as
long as you decrease the resistance
created by adding wire!!!!!! That way you have
I sq R instead of I sq R + r which is efficiency in radiation to the
maximum.by removing unnecessary losses. Simple concept eh?
Regards
Art

3880. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 08:08:46 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c874491$0$20992$65785112@news.neostrada.pl>
Source record: 7580

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:19557129-bfb2-4fa4-9f20-b575acd2d0d1@q2g2000yqq.googlegroups.com...
On Sep 7, 10:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> "1925 - the Michelson-Gale-Pearson experiment produces a positive
> >> result
> > while attempting to detect the effect of Earth's rotation on the
> > velocity
> > of light. The significance of the experiment remains debated to this
> > day, but
> > this planetary Sagnac effect is measured by ring laser gyros and taken
> > into account by the GPS system."
>
>> In 1905 Einstein wrote: "Examples of this sort, together with the
>> unsuccessful attempts to discover any motion of the earth relatively to
>> the ``light medium,'' suggest that the phenomena of electrodynamics as
>> well as
> of mechanics possess no properties corresponding to the idea of absolute
> rest."
>
>> In "1925 - the Michelson-Gale-Pearson experiment produces a positive
>> result"
> (motion of the earth relatively to the ``light medium,'')

>no, its positive result was the acceleration caused by the rotation of
the earth, as in the michelson-morley experiment they detected no
motion with respect to a fix

You assume that the ether is fix. The same did Maxwell. But Maxwell did it
before MMX.
You should know (after MMX and MGX) that the ether is not fix. It rotates
with the Sun but not rotate with the Earth (it was predicted by Stokes in
1845).

>or any other aether...

They "detected no motion" with respect to Stokes ether.

> otherwise the result would have had a predictable variation due to time of
> day or
year, which was not detected.

The results of MMX and MGX prove the Stokes ether.
S*

3881. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 16:27:23 UTC
From: amdx <amdx@knology.net>
Message-ID: <a209d$4c87b8cb$45013905$8985@KNOLOGY.NET>
Source record: 7581

"Roy Lewallen" <w7el@eznec.com> wrote in message
news:-OCdneq0xtWjpxjRnZ2dnUVZ_sydnZ2d@giganews.com...
> On 9/6/2010 8:59 AM, K1TTT wrote:
>> magnetic coupling to the stream seems kind of odd, but it appears to
>> work for him. i wonder what happens if you go qro? i would expect
>> some heating of the water and maybe even some ionization or corona
>> that might cause instability in the stream. i would also guess the
>> tuning would be difficult in high winds.
>
> Wind would seem to be a weak point. The top of the conductive stream would
> dissipate at different heights depending on the wind velocity, so a gusty
> wind would be constantly altering the effective antenna length.
>
> Roy Lewallen, W7EL

Let's fix the wind problem and shorten the antenna!
Have the water spray up into a receiving vessel the distributes the water
into
5 or 6 radial tubes that make up a capacitive hat. :-)

While we're at it, let's spray out some radials for a counterpoise!

Hey, if we can catch all the water and recirculate it, then we can
add material to increase the conductivity of the water.
ok,ok I'll stop.
MikeK

3882. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 17:02:13 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i68finmpf1@news.eternal-september.org>
Source record: 7582

On 9/8/2010 9:27 AM, amdx wrote:

>
> Let's fix the wind problem and shorten the antenna!
> Have the water spray up into a receiving vessel the distributes the water
> into
> 5 or 6 radial tubes that make up a capacitive hat. :-)
>
> While we're at it, let's spray out some radials for a counterpoise!
>
> Hey, if we can catch all the water and recirculate it, then we can
> add material to increase the conductivity of the water.
> ok,ok I'll stop.
> MikeK
>
>

Let's just fill a tube with water and provide sufficient heat-sinking to
keep the water at an acceptable temperature. Obviously, the idiot with
the sump pump and walkie-talkie realized the power of the publics'
fondness for toys ...

Regards,
JS

3883. Re: Eyewitness account of an 8-year old Girl

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 17:45:51 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d9b43955-87db-476f-b8be-f8cce8d7bcd0@m15g2000yqm.googlegroups.com>
Source record: 7583

On Sep 8, 6:23 am, Klaw N <uiyg...@gmail.com> wrote:
> God bless you for your obedience.

He blesses us by riding his flaming chariot across the sky every day.

3884. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 20:03:45 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <3d666661-03cf-4b0c-8c40-3b3a1dc93463@j18g2000yqd.googlegroups.com>
Source record: 7584

On Sep 7, 2:22 pm, Roy Lewallen <w...@eznec.com> wrote:
> Sure enough, it's that bad.

How many free electrons exist in ionized water?
--
73, Cecil, w5dxp.com

3885. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-08 23:43:15 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <98f7f84c-c974-4083-a72f-0487d497889d@a11g2000vbn.googlegroups.com>
Source record: 7585

On Sep 8, 8:08 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:19557129-bfb2-4fa4-9f20-b575acd2d0d1@q2g2000yqq.googlegroups.com...
> On Sep 7, 10:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > > >> "1925 - the Michelson-Gale-Pearson experiment produces a positive
> > > >> result
> > > > while attempting to detect the effect of Earth's rotation on the
> > > > velocity
> > > > of light. The significance of the experiment remains debated to this
> > > > day, but
> > > > this planetary Sagnac effect is measured by ring laser gyros and taken
> > > > into account by the GPS system."
>
> > >> In 1905 Einstein wrote: "Examples of this sort, together with the
> > >> unsuccessful attempts to discover any motion of the earth relatively to
> > >> the ``light medium,'' suggest that the phenomena of electrodynamics as
> > >> well as
> > > of mechanics possess no properties corresponding to the idea of absolute
> > > rest."
>
> > >> In "1925 - the Michelson-Gale-Pearson experiment produces a positive
> > >> result"
> > > (motion of the earth relatively to the ``light medium,'')
> >no, its positive result was the acceleration caused by the rotation of
>
> the earth, as in the michelson-morley experiment they detected no
> motion with respect to a fix
>
> You assume that the ether is fix. The same did Maxwell. But Maxwell did it
> before MMX.
> You should know (after MMX and MGX) that the ether is not fix. It rotates
> with the Sun but not rotate with the Earth (it was predicted by Stokes in
> 1845).
>
> >or any other aether...
>
> They "detected no motion" with respect to Stokes ether.
>
> > otherwise the result would have had a predictable variation due to time of

> > day or
>
> year, which was not detected.
>
> The results of MMX and MGX prove the Stokes ether.
> S*

why don't you just go back to Opticks, thats only about 100 years
older than the almost 200 year old Stokes aether... you are still
going backwards dragging up old disproved theories.

3886. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 01:11:27 UTC
From: tom <news4792@taring.org>
Message-ID: <4c88343f$0$24413$8046368a@newsreader.iphouse.net>
Source record: 7586

On 9/7/2010 11:52 PM, Art Unwin wrote:
>
> John, all non frequency dependent radiators have to be shielded as it
> plays havoc with the cancellation of reactance. But even with the
> quick lash up I made where I broke all the rules and even changed to
> "stacked pancakes" instead of coils inside coils it still would be ok
> for directional use in a loft for some of the bands. Either way the
> lash up did not totally destroy its attributes. I suppose it would be
> more impressive if I shielded it plus a reflector and put it on the
> tower but that was not the point I was trying to make which is the
> persistance in keeping non frequency dependentcy
> while maintaining a small volume. I modeled a ten turn coil inside
> another ten turn coil where both were joined together as a closed
> circuit and a overall diameter of 8 to 9 inches sitting on a perfect
> ground ala reflector When an antenna is not frequency dependent there
> is no skin depth resistance because of the Meissner effect so more
> current is applied to generating radiation. This conforming to
> Maxwell's law by not indulging in generating magnetic fields. Note
> Maxwell never added units of Tesla in his equation so why should you?
> By the way that model showed gain inbetween 20 and 30 db because of
> current bypassing the innards of the radiator and traveling on the
> surface.
> So the old timers were correct in saying more wire is better....as
> long as you decrease the resistance
> created by adding wire!!!!!! That way you have
> I sq R instead of I sq R + r which is efficiency in radiation to the
> maximum.by removing unnecessary losses. Simple concept eh?
> Regards
> Art

Boy, he's getting there fast. I bet he's around for less than 3 weeks
this time.

Any takers?

tom
K0TAR

3887. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 03:06:24 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <fd090a72-2633-4b79-b587-d6c1d7963eaf@13g2000prf.googlegroups.com>
Source record: 7587

On Sep 7, 12:22 pm, Roy Lewallen <w...@eznec.com> wrote:
> On 9/6/2010 5:06 PM, Frank wrote:
>
>
>
> > On 7 MHz a dipole constructed of salt water: Er = 81,
> > conductivity 5 S/m, and 0.5" diameter has a free
> > space efficiency of 0.08%. i.e. with 100 W input
> > the total radiated power = 80 mW.
>
> > Frank
> > (VE6CB)
>
> That looked so bad I had to run an analysis to see for myself. Sure
> enough, it's that bad. And even with a 0.25 inch diameter column at 146
> MHz, the efficiency is only on the order of 1%. A foot and a half of
> wire vs. a pump, power source, and ferrite transformer? No contest.
>
> Roy Lewallen, W7EL

I know Dan Tam, the SPAWAR engineer in the video. He's a pretty sharp
guy. I hesitate to throw him into the Lions' Den but I will if you
let me watch. :-)

"Sal"

3888. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 04:03:49 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i69mb9$dv7$1@news.eternal-september.org>
Source record: 7588

On 9/8/2010 1:03 PM, Cecil Moore wrote:

>
> How many free electrons exist in ionized water?
> --
> 73, Cecil, w5dxp.com

I had a dream last night, billions of angels dancing on the head of a
pin ... it was quite unsettling!

Regards,
JS

3889. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 04:35:19 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <fp-dnQejGpma-RXRnZ2dnUVZ_hudnZ2d@giganews.com>
Source record: 7589

On 9/8/2010 8:06 PM, Sal M. Onella wrote:
> On Sep 7, 12:22 pm, Roy Lewallen<w...@eznec.com> wrote:
>>
>> That looked so bad I had to run an analysis to see for myself. Sure
>> enough, it's that bad. And even with a 0.25 inch diameter column at 146
>> MHz, the efficiency is only on the order of 1%. A foot and a half of
>> wire vs. a pump, power source, and ferrite transformer? No contest.
>>
>> Roy Lewallen, W7EL
>
> I know Dan Tam, the SPAWAR engineer in the video. He's a pretty sharp
> guy. I hesitate to throw him into the Lions' Den but I will if you
> let me watch. :-)
>
> "Sal"

It's a sad comment on the state of this newsgroup that an objective statement of what are believed to be facts is taken as "throwing [the engineer] into the lions' den". It's not my intent at all to impugn the engineer. Surely he's aware of the efficiency of the "antennas" he's creating, so either my (and Frank's) calculations are grossly incorrect or SPAWAR thinks there's a market for such inefficient antennas. It would be educational to know which of these is the case. It was interesting that there was no mention in the video of very low efficiency, but I guess that's to be expected for a promotional piece produced by a marketing department looking for investors.

Roy Lewallen, W7EL

3890. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 05:27:03 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i69r7a$dv7$2@news.eternal-september.org>
Source record: 7590

On 9/8/2010 4:43 PM, K1TTT wrote:

> ...
> why don't you just go back to Opticks, thats only about 100 years
> older than the almost 200 year old Stokes aether... you are still
> going backwards dragging up old disproved theories.

YEAH! It is their imagination that mass-less light gets sucked into a
black hole ... actually those things are radiators!

Regards,
JS

3891. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 05:30:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i69re1$dv7$3@news.eternal-september.org>
Source record: 7591

On 9/8/2010 9:35 PM, Roy Lewallen wrote:

> ...
> It's a sad comment on the state of this newsgroup that an objective
> statement of what are believed to be facts is taken as "throwing [the
> engineer] into the lions' den". It's not my intent at all to impugn the
> engineer. Surely he's aware of the efficiency of the "antennas" he's
> creating, so either my (and Frank's) calculations are grossly incorrect
> or SPAWAR thinks there's a market for such inefficient antennas. It
> would be educational to know which of these is the case. It was
> interesting that there was no mention in the video of very low
> efficiency, but I guess that's to be expected for a promotional piece
> produced by a marketing department looking for investors.
>
> Roy Lewallen, W7EL
>

Gesus! If it walks like a duck, quacks like a duck, swims like a duck,
smells like a duck, sounds like a duck ... well, you know that one.

Never thought I would hear you say that ... ya' never had a hard time
calling a duck a duck before.

Regards,
JS

3892. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 05:50:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <51tg86h5hovllj9c2sn24bl0r7ejvn0tqh@4ax.com>
Source record: 7592

On Wed, 08 Sep 2010 21:35:19 -0700, Roy Lewallen <w7el@eznec.com>
wrote:

>so either my (and Frank's) calculations are grossly incorrect
>or SPAWAR thinks there's a market for such inefficient antennas.

The point I caught, and apparently was not modeled, was the discussion of antenna height for any particular band. Albeit, such mention was fleeting, but it sounded suspiciously like half wave, not quarter wave dimensions.

Aside from that speculation, power specs for military usage are appropriate for theater operations, not global communications. When I taught UHF/VHF in the Navy, 10% efficiency was considered perfectly acceptable as point-to-point communications was the only expectation and that was rarely as much as 20 miles at best. Experience teaches that even that only takes 100s of milliwatts.

73's
Richard Clark, KB7QHC

3893. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 06:21:30 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <rJ-dnRh-9bt34RXRnZ2dnUVZ_uKdnZ2d@giganews.com>
Source record: 7593

On 9/8/2010 10:50 PM, Richard Clark wrote:
> On Wed, 08 Sep 2010 21:35:19 -0700, Roy Lewallen<w7el@eznec.com>
> wrote:
>
>> so either my (and Frank's) calculations are grossly incorrect
>> or SPAWAR thinks there's a market for such inefficient antennas.
>
> The point I caught, and apparently was not modeled, was the discussion
> of antenna height for any particular band. Albeit, such mention was
> fleeting, but it sounded suspiciously like half wave, not quarter wave
> dimensions.
>
> Aside from that speculation, power specs for military usage are
> appropriate for theater operations, not global communications. When I
> taught UHF/VHF in the Navy, 10% efficiency was considered perfectly
> acceptable as point-to-point communications was the only expectation
> and that was rarely as much as 20 miles at best. Experience teaches
> that even that only takes 100s of milliwatts.
>
> 73's
> Richard Clark, KB7QHC

That's still an order of magnitude better than what this antenna seems able to do at VHF, although the demonstration clearly showed it to be adequate for working a local repeater with an HT.

But what about HF, which the video clearly mentions? Is a fraction of a percent efficiency adequate for typical communication needs? I know that some military HF use is NVIS, for which a vertical antenna is poorly suited to begin with, so that probably wouldn't be an application. Are milliwatts of radiated HF used and useful for theater communications?

Roy Lewallen, W7EL

3894. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 07:46:57 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8890f9$0$22801$65785112@news.neostrada.pl>
Source record: 7594

"K1TTT" <k1ttt@arrl.net> wrote
news:98f7f84c-c974-4083-a72f-0487d497889d@a11g2000vbn.googlegroups.com...
On Sep 8, 8:08 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
> > >> "1925 - the Michelson-Gale-Pearson experiment produces a positive
> > >> result
> > > while attempting to detect the effect of Earth's rotation on the
> > > velocity
> > > of light. The significance of the experiment remains debated to this
> > > day, but
> > > this planetary Sagnac effect is measured by ring laser gyros and taken
> > > into account by the GPS system."
>
>> The results of MMX and MGX prove the Stokes ether. "It rotates
> with the Sun but not rotate with the Earth (it was predicted by Stokes in
> 1845).

>why don't you just go back to Opticks, thats only about 100 years
older than the almost 200 year old Stokes aether... you are still
going backwards dragging up old disproved theories.

Is GPS system 200 year old and disproved?
S*

3895. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 11:36:11 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a5923147-8315-4e22-b890-ece9d6a2145f@j30g2000vbr.googlegroups.com>
Source record: 7595

On Sep 9, 12:27 am, John Smith <assemblywiz...@gmail.com> wrote:
> YEAH! It is their imagination that mass-less light gets sucked into a
> black hole ... actually those things are radiators!

Hawking radiation seems to be caused by the quantum soup complementary
virtual particles that wink in and out of existence in space. Instead
of being spontaneously annihilated, one of the complementary virtual
particles falls into the black hole and one escapes thus becoming a
real particle.
--
73, Cecil, w5dxp.com

3896. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 14:03:04 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <97741bb1-c34b-4888-bab4-f207c9fb0950@q9g2000vbd.googlegroups.com>
Source record: 7596

On 9 sep, 03:21, Roy Lewallen <w...@eznec.com> wrote:
> On 9/8/2010 10:50 PM, Richard Clark wrote:
>
>
>
>
>
> > On Wed, 08 Sep 2010 21:35:19 -0700, Roy Lewallen<w...@eznec.com>
> > wrote:
>
> >> so either my (and Frank's) calculations are grossly incorrect
> >> or SPAWAR thinks there's a market for such inefficient antennas.
>
> > The point I caught, and apparently was not modeled, was the discussion
> > of antenna height for any particular band. Albeit, such mention was
> > fleeting, but it sounded suspiciously like half wave, not quarter wave
> > dimensions.
>
> > Aside from that speculation, power specs for military usage are
> > appropriate for theater operations, not global communications. When I
> > taught UHF/VHF in the Navy, 10% efficiency was considered perfectly
> > acceptable as point-to-point communications was the only expectation
> > and that was rarely as much as 20 miles at best. Experience teaches
> > that even that only takes 100s of milliwatts.
>
> > 73's
> > Richard Clark, KB7QHC
>
> That's still an order of magnitude better than what this antenna seems
> able to do at VHF, although the demonstration clearly showed it to be
> adequate for working a local repeater with an HT.
>
> But what about HF, which the video clearly mentions? Is a fraction of a
> percent efficiency adequate for typical communication needs? I know that
> some military HF use is NVIS, for which a vertical antenna is poorly
> suited to begin with, so that probably wouldn't be an application. Are
> milliwatts of radiated HF used and useful for theater communications?
>
> Roy Lewallen, W7EL- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

What about if you are a whale?

What if you are a firefighter?, you can got a good 160 m portable antenna in your fire engine! Do you remember the pretty nice "Frequency" film with Dennis Quaid as W2QYV, an ideal antenna for him :>D

Greetings to all - Miguel Ghezzi - LU6ETJ

3897. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 14:06:42 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6aplm$26n$1@news.eternal-september.org>
Source record: 7597

On 9/9/2010 4:36 AM, Cecil Moore wrote:

> ...
> Hawking radiation seems to be caused by the quantum soup complementary
> virtual particles that wink in and out of existence in space. Instead
> of being spontaneously annihilated, one of the complementary virtual
> particles falls into the black hole and one escapes thus becoming a
> real particle.
> --
> 73, Cecil, w5dxp.com

Tomorrow, it is going to be all over the net, "Cecil says every time God winks a particle of light falls into a black hole; And a new one is born!"

Regards,
JS

3898. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 14:09:46 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6apre$26n$2@news.eternal-september.org>
Source record: 7598

On 9/9/2010 7:03 AM, lu6etj wrote:

> ...
> What about if you are a whale?
>
> What if you are a firefighter?, you can got a good 160 m portable
> antenna in your fire engine! Do you remember the pretty nice
> "Frequency" film with Dennis Quaid as W2QYV, an ideal antenna for
> him :>D
>
> Greetings to all - Miguel Ghezzi - LU6ETJ

ROFLOL! Good sense of humor man!

And, you are totally correct, firemen expending BIG tax dollars for a dollar conversation is about right.

Regards,
JS

3899. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 14:26:37 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <57c4cded-f95b-44c1-be78-d6514baf7537@a19g2000vbi.googlegroups.com>
Source record: 7599

On 6 sep, 13:14, Wimpie <wimabc...@tetech.nl> wrote:
> On 6 sep, 14:30, John Smith <assemblywiz...@gmail.com> wrote:
>
>
>
>
>
> > On 9/6/2010 5:08 AM, Cecil Moore wrote:
>
> > > ...
> > > The one I remember was about the Carolina Windom 4:1 voltage balun at
> > > the feedpoint and the 1:1 choke-isolator 20' down the coax. The
> > > original Windom was fed, Marconi style, against ground.
> > > --
> > > 73, Cecil, w5dxp.com
>
> > I have a "weird thing" about windoms ... I just don't trust an antenna
> > which "manipulates" RF on the feedline in "beneficial" ways and has a
> > religious cult following ... insane quirk of mine, really. lol Now I
> > don't have the room ... moved again.
>
> > If the wife had her way, we would move to Montana next to a favorite
> > sister and brother ... there we would have the room! lol
>
> > Regards,
> > JS
>
> Hello John,
>
> When the feed line goes to a clean environment (for example a ground
> provision far from the shack feed line radiation may not be a problem,
> but it isn't my favorite. When the feed line goes directly to the
> shack (and equipment), I don't want such an antenna.
>
> When you are working NVIS on 75/80m, you don't want the vertical
> component as this leads to radiation under low elevation, hence
> stronger reception of ground based interference.
>
> In case of DX, the vertical component may help you as this may result
> in lower elevation of main lobe; over here we have much soil with
> better then average conductivity. If I would like vertical
> polarization, I prefer 100% of that, so no windom or OCF dipoles for
> me.
>

> Depending on the design, allowing vertically polarized radiation may
> result in worse or better VSWR.
>
> Regarding the color, many straight people wear it over here
> (especially in summer days), so you can't judge on color only....
>
> Regarding the balun/transformer, you need a very good one with OCF
> dipoles as common mode voltage at feed point can be in the 300V range
> with 100W input. just some pF stray capacitance in a transformer will
> provoke feed line radiation.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl
> without abc in the address, PM will reach me.- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hello boys, good day for you

Is it Carolina Windom a balanced load to justify the name "balun"? We could think in a device to transform Z and another device to block feed line current. What do you think about it?

Miguel

3900. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 14:40:29 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6arl1$26n$4@news.eternal-september.org>
Source record: 7600

On 9/9/2010 7:26 AM, lu6etj wrote:

> ...
> Hello boys, good day for you
>
> Is it Carolina Windom a balanced load to justify the name "balun"? We
> could think in a device to transform Z and another device to block
> feed line current. What do you think about it?
>
> Miguel

Yes, I see your point, and agree. I have never ran a windom or experimented with it, so obviously, others are much more knowledgeable with them. However, logic tells me they would be one easily justifiable situation to use a voltage balun ... the CM currents being looked at separately ... the balun must have a definite and pronounced effect on pattern with this particular antenna.

Regards,
JS

3901. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 16:42:44 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i6b2q4$o40s$1@tr22n12.aset.psu.edu>
Source record: 7501

Cecil Moore wrote:
> On Sep 5, 7:50 pm, "K" <K...@spam.net> wrote:
>> I wonder if ether and dark energy are related?
>
> Let's call it "quantum ether" to distinguish it from the earlier
> obsolete concepts.

Now I'll listen.

People trying to resurrect old and not very plausible theories by equating quantum soup to "aether", or even phlogiston is a great way to dismiss their ideas. Maybe the flat earthers are right too - we just haven't found the right proof yet.

- Mike -

3902. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 16:44:53 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i6b2u5$o40s$2@tr22n12.aset.psu.edu>
Source record: 7502

John Smith wrote:
> On 9/7/2010 3:08 PM, K1TTT wrote:
>
>> ...
>> no, its positive result was the acceleration caused by the rotation of
>> the earth, as in the michelson-morley experiment they detected no
>> motion with respect to a fix or any other aether... otherwise the
>> result would have had a predictable variation due to time of day or
>> year, which was not detected.
>
> On the surface, that statement simply sounds insane. It is always noon
> on some portion of the planet and it is always summer somewhere ...

Which of course means it's always 5:00 p.m. somewhere too. Happy hour!

- Mike -

3903. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 16:46:49 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6b31t$tp8$2@news.eternal-september.org>
Source record: 7503

On 9/9/2010 9:42 AM, Michael Coslo wrote:
> Cecil Moore wrote:
>> On Sep 5, 7:50 pm, "K" <K...@spam.net> wrote:
>>> I wonder if ether and dark energy are related?
>>
>> Let's call it "quantum ether" to distinguish it from the earlier
>> obsolete concepts.
>
> Now I'll listen.
>
> People trying to resurrect old and not very plausible theories by
> equating quantum soup to "aether", or even phlogiston is a great way to
> dismiss their ideas. Maybe the flat earthers are right too - we just
> haven't found the right proof yet.
>
> - Mike -

It's all the same, ether (aether), but like all things which some find disgusting, some attempt to play word games, like renaming a rose ...

Another example: homosexual = gay

Stupid if you ask me ...

Regards,
JS

3904. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 16:48:47 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6b35j$tp8$3@news.eternal-september.org>
Source record: 7504

On 9/9/2010 9:44 AM, Michael Coslo wrote:

> ...
> Which of course means it's always 5:00 p.m. somewhere too. Happy hour!
>
> - Mike -

I'll drink to that! If my doctor would let me ... :-(

Regards,
JS

3905. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 16:55:09 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i6b3hd$o40u$1@tr22n12.aset.psu.edu>
Source record: 7505

Cecil Moore wrote:
> On Sep 3, 7:43 am, Michael Coslo <m...@psu.edu> wrote:
>> Might as well just say the answer is because God wants it that way.
>
> Please note: As ignorance is slowly alleviated (over the centuries)
> that option slowly disappears. Did you see this?
>
> http://www.foxnews.com/scitech/2010/09/02/stephen-hawking-picks-physics-god-big-bang/

The last line is telling. If you choose nature over God, you will lose.
A lot of people choose religion over science, and apparently always
will. To the point where I have heard just this year both that God
placed fossils in the earth and that Satan placed fossils within the
earth. The former as a test of faith, and the latter as temptation.
Though of course why God would put something in as a test of faith by
the positive outcome being a rejection of the evidence seems a little
strange.

So if people can dismiss actual physical evidence, it is no surprise
that they will reject evidence of a more aetheral nature.

It's their right, always important to remember is that we are all going
to hell in someone's religion.

- Mike -

3906. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 18:10:04 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c5dc1957-6380-4eba-a13a-84f562e70000@n7g2000vbo.googlegroups.com>
Source record: 7506

On Sep 9, 11:55 am, Michael Coslo <m...@psu.edu> wrote:
> If you choose nature over God, you will lose.

It is impossible to choose nature over God - they are exactly the same
thing.
--
73, Cecil, w5dxp.com

3907. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 18:48:22 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <L6GdnT0ap8NqthTRnZ2dnUVZ_gKdnZ2d@giganews.com>
Source record: 7507

On 9/9/2010 7:26 AM, lu6etj wrote:
>
> Hello boys, good day for you
>
> Is it Carolina Windom a balanced load to justify the name "balun"? We
> could think in a device to transform Z and another device to block
> feed line current. What do you think about it?
>
> Miguel

Before beginning a discussion about what constitutes a balanced load and what doesn't, how about answering these questions?

1. What is "balance"?
2. What defines a "balanced" feedline?
3. What are the properties of a "balanced" load?
4. How can you tell when a line, load, or transmitter is "balanced"?
5. What's the big deal about being "balanced", anyway?

And finally,

How does a balun achieve "balance"?

Roy Lewallen, W7EL

3908. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 19:01:21 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6bau6$v5$1@news.eternal-september.org>
Source record: 7508

On 9/9/2010 7:26 AM, lu6etj wrote:

> ...
> Hello boys, good day for you
>
> Is it Carolina Windom a balanced load to justify the name "balun"? We
> could think in a device to transform Z and another device to block
> feed line current. What do you think about it?
>
> Miguel

Tell 'em one thing "balance" means is if you have a funky antenna depending on feedline currents/radiation/etc. you don't start chucking a bunch of stuff in the feedline without expecting patterns to change ...

Regards,
JS

3909. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 19:03:18 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6bb1q$v5$2@news.eternal-september.org>
Source record: 7509

On 9/9/2010 11:10 AM, Cecil Moore wrote:
> On Sep 9, 11:55 am, Michael Coslo<m...@psu.edu> wrote:
>> If you choose nature over God, you will lose.
>
> It is impossible to choose nature over God - they are exactly the same
> thing.
> --
> 73, Cecil, w5dxp.com

Damn, bald-ugly-unspeakable logic ... how shocking to see it displayed
in public! ROFLOL

Regards,
JS

3910. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 20:46:57 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3673712d-f56e-4d8d-a79c-3292395ea4e9@t7g2000vbj.googlegroups.com>
Source record: 7510

On Sep 9, 7:46 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:98f7f84c-c974-4083-a72f-0487d497889d@a11g2000vbn.googlegroups.com...
> On Sep 8, 8:08 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > > >> "1925 - the Michelson-Gale-Pearson experiment produces a positive
> > > >> result
> > > > while attempting to detect the effect of Earth's rotation on the
> > > > velocity
> > > > of light. The significance of the experiment remains debated to this
> > > > day, but
> > > > this planetary Sagnac effect is measured by ring laser gyros and taken
> > > > into account by the GPS system."
>
> >> The results of MMX and MGX prove the Stokes ether. "It rotates
> > with the Sun but not rotate with the Earth (it was predicted by Stokes in
> > 1845).
> >why don't you just go back to Opticks, thats only about 100 years
>
> older than the almost 200 year old Stokes aether... you are still
> going backwards dragging up old disproved theories.
>
> Is GPS system 200 year old and disproved?
> S*

ah, you think because they mention the gps system using the
corrections that were detected by the mgx experiment that there must
be an aether... but you are wrong, the gps system uses the
acceleration corrections predicted by special relativity that were
verified by the mgx experiment... there is no aether involved, it is
the acceleration caused by the rotating earth that causes the effect.
but of course you won't believe that and will insist that it is
because of aether dragging, but that would cause many other effects
that are NOT observed... in order for a theory to be right it must do
2 things, it must predict something that can be observed, and it must
not fail ANY test that would disprove it. all the aether theories
have failed at least one test over the years and are therefore
incorrect.

3911. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 22:33:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <b4587607-2ed5-4b14-98a5-112c7c74c09c@y3g2000vbm.googlegroups.com>
Source record: 7511

On Sep 9, 3:46 pm, K1TTT <k1...@arrl.net> wrote:
... there is no aether involved, ...

Assuming the aether is the same thing as the quantum soup, EM wave
propagation would not be possible without it. :-)
--
73, Cecil, w5dxp.com

3912. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-09 22:55:53 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6boltaj1@news.eternal-september.org>
Source record: 7512

On 9/9/2010 1:46 PM, K1TTT wrote:

>
> ah, you think because they mention the gps system using the
> corrections that were detected by the mgx experiment that there must
> be an aether... but you are wrong, the gps system uses the
> acceleration corrections predicted by special relativity that were
> verified by the mgx experiment... there is no aether involved, it is
> the acceleration caused by the rotating earth that causes the effect.
> but of course you won't believe that and will insist that it is
> because of aether dragging, but that would cause many other effects
> that are NOT observed... in order for a theory to be right it must do
> 2 things, it must predict something that can be observed, and it must
> not fail ANY test that would disprove it. all the aether theories
> have failed at least one test over the years and are therefore
> incorrect.

What does the rotating earth accelerate? Light, RF? The speed of light is fixed within its' media, the ether, the only way to accelerate EM is to accelerate the ether itself ...

The exact same arguments you state can be used as an argument for the ether as well as SR ...

Regards,
JS

3913. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 00:09:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4c897751$0$55707$8046368a@newsreader.iphouse.net>
Source record: 7513

On 9/9/2010 11:44 AM, Michael Coslo wrote:
> John Smith wrote:
>> On 9/7/2010 3:08 PM, K1TTT wrote:
>>
>>> ...
>>> no, its positive result was the acceleration caused by the rotation of
>>> the earth, as in the michelson-morley experiment they detected no
>>> motion with respect to a fix or any other aether... otherwise the
>>> result would have had a predictable variation due to time of day or
>>> year, which was not detected.
>>
>> On the surface, that statement simply sounds insane. It is always noon
>> on some portion of the planet and it is always summer somewhere ...
>
> Which of course means it's always 5:00 p.m. somewhere too. Happy hour!
>
> - Mike -

Actually it is not always summer somewhere. That's quite obvious. It
is only summer somewhere 6 months of the year, the other 6 it's spring
and fall.

tom
K0TAR

3914. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 00:14:19 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6bt8v$fv1$1@news.eternal-september.org>
Source record: 7514

On 9/9/2010 5:09 PM, tom wrote:

> ...
> Actually it is not always summer somewhere. That's quite obvious. It is
> only summer somewhere 6 months of the year, the other 6 it's spring and
> fall.
>
> tom
> K0TAR
>

NO. But it is obvious you see the sun going between two hemispheres. I
see it oscillating through quadrants ...

Regards,
JS

3915. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 01:50:17 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <bb77e931-7985-44b7-a741-a33ebd111f2c@s19g2000vbr.googlegroups.com>
Source record: 7515

On 9 sep, 15:48, Roy Lewallen <w...@eznec.com> wrote:
> On 9/9/2010 7:26 AM, lu6etj wrote:
>
>
>
> > Hello boys, good day for you
>
> > Is it Carolina Windom a balanced load to justify the name "balun"? We
> > could think in a device to transform Z and another device to block
> > feed line current. What do you think about it?
>
> > Miguel
>
> Before beginning a discussion about what constitutes a balanced load and
> what doesn't, how about answering these questions?
>
> 1. What is "balance"?
> 2. What defines a "balanced" feedline?
> 3. What are the properties of a "balanced" load?
> 4. How can you tell when a line, load, or transmitter is "balanced"?
> 5. What's the big deal about being "balanced", anyway?
>
> And finally,
>
> How does a balun achieve "balance"?
>
> Roy Lewallen, W7EL

Hello Roy

Why? that way we can end up having to define all words we use :>). I
learnt a two terminal balanced circuit basically have the same
impedance respect to ground in its terminals, if Windom Carolina not
have it, well... we have missed the "bal" part of the equation :>)

I recognize the other items are interesting to analize too but in
diferent sense that the proper use of the term "balun" towards I
pointed my little observation.

Years ago I have read your very good article "Baluns: What They Do
And How They Do lt" (until today I keep it safe in my computer for
reference) and I believe I understand where you point to with the
other good questions.

For John: Dear friend I could not translate well your post, may you
repeat in a little more Tarzan english for me?

Miguel

3916. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 02:18:28 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6c4hp$925$1@news.eternal-september.org>
Source record: 7516

On 9/9/2010 6:50 PM, lu6etj wrote:

> ...
> For John: Dear friend I could not translate well your post, may you
> repeat in a little more Tarzan english for me?
>
> Miguel

Miguel,

I can see why. I used some good old American satire-humor ... it is OK
my friend ...

Regards,
JS

3917. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 03:37:29 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <9l2dnalSgZNkOhTRnZ2dnUVZ_tmdnZ2d@giganews.com>
Source record: 7517

On 9/9/2010 6:50 PM, lu6etj wrote:
> On 9 sep, 15:48, Roy Lewallen<w...@eznec.com> wrote:
>>
>> Before beginning a discussion about what constitutes a balanced load and
>> what doesn't, how about answering these questions?
>>
>> 1. What is "balance"?
>> 2. What defines a "balanced" feedline?
>> 3. What are the properties of a "balanced" load?
>> 4. How can you tell when a line, load, or transmitter is "balanced"?
>> 5. What's the big deal about being "balanced", anyway?
>>
>> And finally,
>>
>> How does a balun achieve "balance"?
>>
>> Roy Lewallen, W7EL
>
> Hello Roy
>
> Why? that way we can end up having to define all words we use :>). I
> learnt a two terminal balanced circuit basically have the same
> impedance respect to ground in its terminals, if Windom Carolina not
> have it, well... we have missed the "bal" part of the equation :>)
>
> I recognize the other items are interesting to analize too but in
> diferent sense that the proper use of the term "balun" towards I
> pointed my little observation.
>
> Years ago I have read your very good article "Baluns: What They Do
> And How They Do lt" (until today I keep it safe in my computer for
> reference) and I believe I understand where you point to with the
> other good questions.
>
> For John: Dear friend I could not translate well your post, may you
> repeat in a little more Tarzan english for me?
>
> Miguel

Suppose you connect a transmission line to a perfectly symmetrical, horizontal antenna. The antenna and feedline would be a "balanced circuit" by your definition, since the two conductors of the transmission line have equal impedances to ground. But the transmission line will radiate.

Now connect one conductor of the transmission line to the center of your rig's coaxial connector, and the other conductor to the rig's chassis. (This is Fig. 2 of the article you mention, which by the way is available at http://eznec.com/Amateur/Articles/Baluns.pdf.) Is it still a "balanced circuit"? Why or why not?

Or suppose you take two signal generators which are perfectly coherent (i.e., phase locked to run at exactly the same frequency) and exactly in phase with each other. Each has a 50 ohm output impedance and each produces exactly 1 volt RMS of RF when open circuited. Connect one of these to each of the terminals of the feedline instead of connecting the feedline to your transmitter.

Now,
-- The impedances to ground looking toward the antenna from the feedline are the same for the two feedline terminals.
-- The impedances looking back toward the generators from the feedline are the the same for the two feedline terminals.
-- The two feedline conductors have equal voltages and currents.
-- The circuit is surely balanced by your definition.

Yet the feedline will radiate. Change the generator phasing any other angle except 180 degrees, and the feedline will radiate. Only when the two generators are exactly out of phase will the line cease radiating. I call that condition "balance" for the reasons explained in the article, but it's quite different from your definition.

If we're to use your definition of "balance", we have to conclude that balanced transmission lines radiate some times and some times they don't. If the system is already "balanced" when the generators are zero or, say, 90 degrees out of phase, would a balun do anything if connected between the generators and transmission line?

Roy Lewallen, W7EL

3918. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 07:55:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c89e461$0$27031$65785112@news.neostrada.pl>
Source record: 7518

"K1TTT" <k1ttt@arrl.net>wrote
news:3673712d-f56e-4d8d-a79c-3292395ea4e9@t7g2000vbj.googlegroups.com...
On Sep 9, 7:46 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
> > > >> "1925 - the Michelson-Gale-Pearson experiment produces a positive
> > > >> result
> > > > while attempting to detect the effect of Earth's rotation on the
> > > > velocity
> > > > of light. The significance of the experiment remains debated to this
> > > > day, but
> > > > this planetary Sagnac effect is measured by ring laser gyros and
> > > > taken
> > > > into account by the GPS system."
>
> >> The results of MMX and MGX prove the Stokes ether. "It rotates
> > with the Sun but not rotate with the Earth (it was predicted by Stokes
> > in
> > 1845).
>> >why don't you just go back to Opticks, thats only about 100 years
>
>>> older than the almost 200 year old Stokes aether... you are still
> going backwards dragging up old disproved theories.
>
>> Is GPS system 200 year old and disproved?
> S*

>ah, you think because they mention the gps system using the
corrections that were detected by the mgx experiment that there must
be an aether... but you are wrong, the gps system uses the
acceleration corrections predicted by special relativity that were
verified by the mgx experiment... there is no aether involved, it is
the acceleration caused by the rotating earth that causes the effect.
but of course you won't believe that and will insist that it is
because of aether dragging,

Earth rotate with the soup around the Sun (Sun's ether drag). No the Earth's
ether drag.

> but that would cause many other effects
that are NOT observed... in order for a theory to be right it must do
2 things, it must predict something that can be observed, and it must
not fail ANY test that would disprove it.

Stokes ether not fail ANY test.

> all the aether theories
have failed at least one test over the years and are therefore
incorrect.

The only one ether theory have failed. The solid dielectric ether. That described by Heaviside:
http://en.wikisource.org/wiki/Electromagnetic_effects_of_a_moving_charge

" It will be understood that I preach the gospel according to my interpretation of Maxwell, and that any modification his theory of the dielectric may receive may involve a fresh kind of propagation at present not in question."

"All disturbances being propagated through the dielectric ether at the speed of light,"

Now is like Cecil wrote: "Assuming the aether is the same thing as the quantum soup, EM wave
propagation would not be possible without it. "

The next name is the "Interstllar Medium". The each soup must rotate with the Sun because it is the Sun's product.

The soup is not the dilectric. It is plasma and as it is a conductor like metals. Your radio waves propagate in the same manner in the metals and the soup. They also propagate in a dilectrics as the displacement current.

But of course you won't believe that and will insist that it is because of SR.
S*

3919. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 11:42:43 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <f8e418a1-351f-49a1-9afa-9f7b97fc8a45@q26g2000vbn.googlegroups.com>
Source record: 7519

On Aug 28, 3:32 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Aug 28, 1:06 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > One of the most perplexing aurguements in the history of Physics is
> > the supposed existence of the Aether.
>
> It has been proven that "empty space" is indeed not empty and consists
> of quantum particles that wink in and out of existence. Aether does
> exist as a sort of quantum soup, just not in the limited form that was
> earlier conceived in the past before quantum physics. The Casimir
> effect is a manifestation of the quantum soup that exists in "empty
> space". Some physicists think that's where the dark energy is hiding.
> --
> 73, Cecil, w5dxp.com

Even if you remove the misc quantum particles empty space isnt
nothing. The problem most people have with their concept of the
universe is thinking of totally empty space as nothing. Space even
completely void of energy and various subatomic particles is still
something. We know that something can be altered so if you want to
call it Aether go ahead, a rose by any other name.....The present
title is usually space/time.

Jimmie

3920. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 13:14:54 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6db0j$3or$2@news.eternal-september.org>
Source record: 7520

On 9/10/2010 4:42 AM, JIMMIE wrote:

>> ...
> call it Aether go ahead, a rose by any other name.....The present
> title is usually space/time.
>
> Jimmie

You touched on one major problem there, which throws most people off and keeps them from being able to realize there is an ether, time. There is no such thing as time which you can put in a bottle. There are no time wells, there is no time flow, time is an imaginary concept.

Time is simply movement and distance conceptualized into a singular "thing." No one has ever experienced time, they experience movement and distance. No device has ever been created which can measure time or, even, detect time. Our very best and most technical clock only measures movement and distance, or loss of mass (movement of electrons away from the main mass.)

If you have your mind locked into the space where it still conceptualizes time as a real thing, it is going to be difficult to make the jump in thinking to be able to conceptualize the ether. The ether is what allows a concept like time to look real, a medium for things to move through and required for anything we are seeing happening to occur in.

Regards,
JS

3921. Re: Art, buddy, hang in there ...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 18:23:43 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <959f8c29-05de-4555-bd6a-012605a6f4e8@h25g2000vba.googlegroups.com>
Source record: 7521

On Sep 1, 12:41 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Aug 31, 10:45 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> > Help is on the way, attempt to hold out! I'd be there sooner, but the
> > morons are baaaacccck! :-(
>
> > Regards,
> > JS
>
> John he doesn't bother me. The more he posts the more people
> understand what a child he is.
> Soon somebody will go to a modeling program and try it out and it will
> all be over. I am not fully familiar
> with Eznec but I understand it already has a sample
> of a coil which makes it easy to duplicate to try out above UHF. A
> condensed antenna with extremely high gain is very desirable to the
> ham community and elsewhere so interest will win over in the end.
> Thanks anyway for the support, you can't be an engineer for very long
> if the bridges you build keep falling down and I worked as a senior
> engineer with G.E. for most of my life so I have walked the walk.
> I forgot to mention that this antenna does not have a formal bandwidth
> as it is resonant on all frequencies up to the length of wire used for
> the lowest frequency.As the wire only carries a minimum of current it
> can be quite thin and resistance is so small it is not a problem to
> use
> loads of wire and still maintain a condensed antenna. Mine is light
> enough to hold up with one hand and place it in the rotor on the tower
> top and is good down to top band. Sounds crazy but I have provided the
> physics which is supported by my actual antennas as well as the
> computer programs.
> Regards
> Art

A coil of wire is a poor radiator for the same reason balanced
transmission lines for most all practical purposes do not radiate.

Jimmie

3922. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-10 22:13:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <db8b6d82-a63c-44b1-92a4-5b2f6e70a320@a11g2000vbn.googlegroups.com>
Source record: 7522

On Sep 10, 6:42 am, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> Space even completely void of energy and various
> subatomic particles is still something

Nope, it's not. Nothing that is completely devoid of energy/matter is absolute nothing, i.e. zero volume and outside of the boundaries of our universe, i.e. our space is a property of matter/energy. That absolute nothing is what allows parallel universes to exist with zero communications between them. The space contained by our universe is a bubble caused by matter/energy. Outside that bubble is absolute nothing.
--
73, Cecil, w5dxp.com

3923. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 00:12:45 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6ehi3coq1@news.eternal-september.org>
Source record: 7523

On 9/10/2010 3:13 PM, Cecil Moore wrote:
> On Sep 10, 6:42 am, JIMMIE<JIMMIEDEE...@YAHOO.COM> wrote:
>> Space even completely void of energy and various
>> subatomic particles is still something
>
> Nope, it's not. Nothing that is completely devoid of energy/matter is
> absolute nothing, i.e. zero volume and outside of the boundaries of
> our universe, i.e. our space is a property of matter/energy. That
> absolute nothing is what allows parallel universes to exist with zero
> communications between them. The space contained by our universe is a
> bubble caused by matter/energy. Outside that bubble is absolute
> nothing.
> --
> 73, Cecil, w5dxp.com

I don't think so. We have nothing which can "touch" either, no "bottle" we can hold some portion of it in ... and a soap bubble can't exist in a vacuum ... I doubt if an either bubble can exist in "nothing." At the very least, there would be yet another undiscovered media which supports ether in the same manner with our ether supports our matter, and does interact with ether ... but, that is only using logic.

I seen some news on the hadron collider ... they are moving up the time frame when a lot of their predictions, on new particles, should be found/proven ... I forgot to bookmark it. If I find it in the future I will post it here ...

Regards,
JS

3924. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 11:06:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6a423218-051b-43df-9449-69ed293817ba@n7g2000vbo.googlegroups.com>
Source record: 7524

On Sep 10, 7:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>wrotenews:3673712d-f56e-4d8d-a79c-3292395ea4e9@t7g2000vbj.googl
egroups.com...
> On Sep 9, 7:46 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > > > >> "1925 - the Michelson-Gale-Pearson experiment produces a positive
> > > > >> result
> > > > > while attempting to detect the effect of Earth's rotation on the
> > > > > velocity
> > > > > of light. The significance of the experiment remains debated to this
> > > > > day, but
> > > > > this planetary Sagnac effect is measured by ring laser gyros and
> > > > > taken
> > > > > into account by the GPS system."
>
> > >> The results of MMX and MGX prove the Stokes ether. "It rotates
> > > with the Sun but not rotate with the Earth (it was predicted by Stokes
> > > in
> > > 1845).
> >> >why don't you just go back to Opticks, thats only about 100 years
>
> >>> older than the almost 200 year old Stokes aether... you are still
> > going backwards dragging up old disproved theories.
>
> >> Is GPS system 200 year old and disproved?
> > S*
> >ah, you think because they mention the gps system using the
>
> corrections that were detected by the mgx experiment that there must
> be an aether... but you are wrong, the gps system uses the
> acceleration corrections predicted by special relativity that were
> verified by the mgx experiment... there is no aether involved, it is
> the acceleration caused by the rotating earth that causes the effect.
> but of course you won't believe that and will insist that it is
> because of aether dragging,
>
> Earth rotate with the soup around the Sun (Sun's ether drag). No the Earth's
> ether drag.
>
> > but that would cause many other effects

>
> that are NOT observed... in order for a theory to be right it must do
> 2 things, it must predict something that can be observed, and it must
> not fail ANY test that would disprove it.
>
> Stokes ether not fail ANY test.
>
> > all the aether theories
>
> have failed at least one test over the years and are therefore
> incorrect.
>
> The only one ether theory have failed. The solid dielectric ether. That
> described by
Heaviside:http://en.wikisource.org/wiki/Electromagnetic_effects_of_a_moving_charge
>
> " It will be understood that I preach the gospel according to my
> interpretation of Maxwell, and that any modification his theory of the
> dielectric may receive may involve a fresh kind of propagation at present
> not in question."
>
> "All disturbances being propagated through the dielectric ether at the speed
> of light,"
>
> Now is like Cecil wrote: "Assuming the aether is the same thing as the
> quantum soup, EM wave
> propagation would not be possible without it. "
>
> The next name is the "Interstllar Medium". The each soup must rotate with
> the Sun because it is the Sun's product.
>
> The soup is not the dilectric. It is plasma and as it is a conductor like
> metals. Your radio waves propagate in the same manner in the metals and the
> soup. They also propagate in a dilectrics as the displacement current.
>
> But of course you won't believe that and will insist that it is because of
> SR.
> S*

no, sr is not necessary for propagation. and a dielectric is not
necessary for displacement current. nor is plasma necessary. you are
still very selective in your reading, a simple search shows that
stokes as well as all the other aether theories have been disproved
for nearly 100 years now.

3925. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 11:17:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4a1d1d10-6a27-443a-97bc-2ce2edcd7fbc@e20g2000vbn.googlegroups.com>
Source record: 7525

On Sep 9, 10:55 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/9/2010 1:46 PM, K1TTT wrote:
>
>
>
> > ah, you think because they mention the gps system using the
> > corrections that were detected by the mgx experiment that there must
> > be an aether... but you are wrong, the gps system uses the
> > acceleration corrections predicted by special relativity that were
> > verified by the mgx experiment... there is no aether involved, it is
> > the acceleration caused by the rotating earth that causes the effect.
> > but of course you won't believe that and will insist that it is
> > because of aether dragging, but that would cause many other effects
> > that are NOT observed... in order for a theory to be right it must do
> > 2 things, it must predict something that can be observed, and it must
> > not fail ANY test that would disprove it. all the aether theories
> > have failed at least one test over the years and are therefore
> > incorrect.
>
> What does the rotating earth accelerate? Light, RF? The speed of light
> is fixed within its' media, the ether, the only way to accelerate EM is
> to accelerate the ether itself ...
>
> The exact same arguments you state can be used as an argument for the
> ether as well as SR ...
>
> Regards,
> JS

you obviously don't know the difference between speed and velocity and
how you can accelerate something without changing its speed. in any
case, if there were any kind of aether dragging or acceleration it
would cause shock or bow waves of compression in the aether at some
point that could be detected by variations in the speed of light in
different directions. this applies for earth dragging aether, or mr.
b's sun dragged aether.

3926. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 14:21:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <7e767c8c-dcf5-4724-9c8e-5196e001344c@m1g2000vbh.googlegroups.com>
Source record: 7526

On Sep 10, 7:12 pm, John Smith <assemblywiz...@gmail.com> wrote:
> ... I doubt if an either bubble can exist in "nothing" ...

That's exactly what I was trying to say. The quantum soup that we call "empty space" within our bounded universe is not empty. Space within our universe can never be absolutely empty and always contains at least dark energy which comprises ~70% of our universe. It is sometimes called zero-point energy, surrounds us, and allows us to exist. From Wikipedia: "Zero-point energy is sometimes used as a synonym for the vacuum energy, an amount of energy associated with the vacuum of empty space. When the term is used in this way, sometimes it is referred to as the quantum vacuum zero point energy." Absolute-nothing, i.e. less than zero-point energy, is the complete absence of any type of matter and energy. Space cannot exist within absolute-nothing which is what makes parallel universes possible. Instead of asserting that space contains dark (zero-point) energy, it would be more correct to to assert that space is the *result* of the pressure of dark (zero-point) energy, i.e. the quantum vacuum that we call "empty space" is *caused* by the existence of zero point energy left over from the big bang - also responsible for the present expansion of the universe.
--
73, Cecil, w5dxp.com

3927. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 14:28:43 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ae4b0476-412a-4738-935d-b2a964173b4b@t3g2000vbb.googlegroups.com>
Source record: 7527

On Sep 11, 2:21 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Sep 10, 7:12 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> > ... I doubt if an either bubble can exist in "nothing" ...
>
> That's exactly what I was trying to say. The quantum soup that we call
> "empty space" within our bounded universe is not empty. Space within
> our universe can never be absolutely empty and always contains at
> least dark energy which comprises ~70% of our universe. It is
> sometimes called zero-point energy, surrounds us, and allows us to
> exist. From Wikipedia: "Zero-point energy is sometimes used as a
> synonym for the vacuum energy, an amount of energy associated with the
> vacuum of empty space. When the term is used in this way, sometimes it
> is referred to as the quantum vacuum zero point energy." Absolute-
> nothing, i.e. less than zero-point energy, is the complete absence of
> any type of matter and energy. Space cannot exist within absolute-
> nothing which is what makes parallel universes possible. Instead of
> asserting that space contains dark (zero-point) energy, it would be
> more correct to to assert that space is the *result* of the pressure
> of dark (zero-point) energy, i.e. the quantum vacuum that we call
> "empty space" is *caused* by the existence of zero point energy left
> over from the big bang - also responsible for the present expansion of
> the universe.
> --
> 73, Cecil, w5dxp.com

has anyone linked zpe or 'quantum soup' or dark energy to
electromagnetic waves in a way that preserves the constancy of the
speed of light in all reference frames? or related those phenomena to
epsilon or mu of free space?

3928. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 14:58:31 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6g5et$76o$1@news.eternal-september.org>
Source record: 7528

On 9/11/2010 4:17 AM, K1TTT wrote:

> ...
> you obviously don't know the difference between speed and velocity and
> how you can accelerate something without changing its speed. in any
> case, if there were any kind of aether dragging or acceleration it
> would cause shock or bow waves of compression in the aether at some
> point that could be detected by variations in the speed of light in
> different directions. this applies for earth dragging aether, or mr.
> b's sun dragged aether.

It is so confusing, there are so many, let me see, you are the guy who wants to purchase the bridge I have in brooklyn? Just send me the check; We will go from there! :-)

Regards,
JS

3929. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 15:03:24 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6g5o3$76o$2@news.eternal-september.org>
Source record: 7529

On 9/11/2010 4:06 AM, K1TTT wrote:

> ...
> no, sr is not necessary for propagation. and a dielectric is not
> necessary for displacement current. nor is plasma necessary. you are
> still very selective in your reading, a simple search shows that
> stokes as well as all the other aether theories have been disproved
> for nearly 100 years now.

You will go to any complexity, any obfuscation, any devious explanations of enormous proportions ... it is easy to recognise befuddle confusion, it looks just like all that BS.

When you get to the real explanation, it is simple, you will know its' truth by the beauty of its' logic. The creator didn't construct all the other parts of the universe thus, but when he got to the ether decided to make it enormously complex ... you should be ashamed, your IQ is showing ... what is the temperature of this room?

Regards,
JS

3930. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 15:09:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6g63n$76o$3@news.eternal-september.org>
Source record: 7530

On 9/11/2010 7:21 AM, Cecil Moore wrote:
> On Sep 10, 7:12 pm, John Smith<assemblywiz...@gmail.com> wrote:
>> ... I doubt if an either bubble can exist in "nothing" ...
>
> That's exactly what I was trying to say. The quantum soup that we call
> "empty space" within our bounded universe is not empty. Space within
> our universe can never be absolutely empty and always contains at
> least dark energy which comprises ~70% of our universe. It is
> sometimes called zero-point energy, surrounds us, and allows us to
> exist. From Wikipedia: "Zero-point energy is sometimes used as a
> synonym for the vacuum energy, an amount of energy associated with the
> vacuum of empty space. When the term is used in this way, sometimes it
> is referred to as the quantum vacuum zero point energy." Absolute-
> nothing, i.e. less than zero-point energy, is the complete absence of
> any type of matter and energy. Space cannot exist within absolute-
> nothing which is what makes parallel universes possible. Instead of
> asserting that space contains dark (zero-point) energy, it would be
> more correct to to assert that space is the *result* of the pressure
> of dark (zero-point) energy, i.e. the quantum vacuum that we call
> "empty space" is *caused* by the existence of zero point energy left
> over from the big bang - also responsible for the present expansion of
> the universe.
> --
> 73, Cecil, w5dxp.com

Got cha'. Close enough, I agree, we do agree ... we wear the same hat.
It is actually platinum foil, those fools over there think it is
tinfoil! ROFLOL

However, only logic and reason dictates the above, which you correctly
posted. If you believe in magic, bullets shoot from our antenna(s)
across an empty void ... and sugar plums dance on the heads of pins.

Regards,
JS

3931. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 15:31:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0a7b5792-ebc9-467d-bc73-9cb5d00c778f@h25g2000vba.googlegroups.com>
Source record: 7531

On Sep 11, 2:58 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 4:17 AM, K1TTT wrote:
>
> > ...
> > you obviously don't know the difference between speed and velocity and
> > how you can accelerate something without changing its speed. in any
> > case, if there were any kind of aether dragging or acceleration it
> > would cause shock or bow waves of compression in the aether at some
> > point that could be detected by variations in the speed of light in
> > different directions. this applies for earth dragging aether, or mr.
> > b's sun dragged aether.
>
> It is so confusing, there are so many, let me see, you are the guy who
> wants to purchase the bridge I have in brooklyn? Just send me the
> check; We will go from there! :-)
>
> Regards,
> JS

no, i am the one that uses real science to confuse mr.b and art by
pointing out reality. i already have enough bridges of my own to
maintain on my property.

3932. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 15:36:36 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6g7ma$76o$4@news.eternal-september.org>
Source record: 7532

On 9/11/2010 8:31 AM, K1TTT wrote:

> ...
> no, i am the one that uses real science to confuse mr.b and art by
> pointing out reality. i already have enough bridges of my own to
> maintain on my property.

Yes, well gather all your self-important BS around you, along with those you can impress with your cr*p ... and have at it ... I can safely dismiss you as a malcontent and chit-stirrer.

Frankly, I will give you this, the benefit of the doubt: I am not sure you are doing it intentionally, you could actually believe it. None-the-less, it is still what it is ...

Regards,
JS

3933. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 15:41:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5eda32fa-ff87-4c07-8965-2838c6c5e0c2@m16g2000vbs.googlegroups.com>
Source record: 7533

On Sep 11, 3:36 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 8:31 AM, K1TTT wrote:
>
> > ...
> > no, i am the one that uses real science to confuse mr.b and art by
> > pointing out reality. i already have enough bridges of my own to
> > maintain on my property.
>
> Yes, well gather all your self-important BS around you, along with those
> you can impress with your cr*p ... and have at it ... I can safely
> dismiss you as a malcontent and chit-stirrer.
>
> Frankly, I will give you this, the benefit of the doubt: I am not sure
> you are doing it intentionally, you could actually believe it.
> None-the-less, it is still what it is ...
>
> Regards,
> JS

of course i am doing it intentionally, stirring up art and mr.b is
just pure amusement. their science is pure junk, mr.b has been going
backwards in time for a while now dragging up ancient history that has
been well debunked. art just makes up technobabble based on whatever
he thinks he sees jumping off his antenna that day.

3934. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 15:46:35 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6g891$76o$5@news.eternal-september.org>
Source record: 7534

On 9/11/2010 8:41 AM, K1TTT wrote:

> ...
> of course i am doing it intentionally, stirring up art and mr.b is
> just pure amusement. their science is pure junk, mr.b has been going
> backwards in time for a while now dragging up ancient history that has
> been well debunked. art just makes up technobabble based on whatever
> he thinks he sees jumping off his antenna that day.

You build your premises on card board with rube goldberg logic and mechanics ... Einstein had to renege and accept the gravitational ether, without it his relativity falls apart ... you waste my time and are given to grandiose delusions ... you can't even recognize the impossibility of your own argument(s.) But, you want me to take it seriously ... I find that, a lot, but around people I usually choose to avoid. Some think homosexual marriage is logical ... I have seen it all.

Regards,
JS

3935. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 16:11:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2b421554-061d-451e-9ec1-6d27966752b5@y31g2000vbt.googlegroups.com>
Source record: 7535

On Sep 11, 3:46 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 8:41 AM, K1TTT wrote:
>
> > ...
> > of course i am doing it intentionally, stirring up art and mr.b is
> > just pure amusement. their science is pure junk, mr.b has been going
> > backwards in time for a while now dragging up ancient history that has
> > been well debunked. art just makes up technobabble based on whatever
> > he thinks he sees jumping off his antenna that day.
>
> You build your premises on card board with rube goldberg logic and
> mechanics ... Einstein had to renege and accept the gravitational ether,
> without it his relativity falls apart ... you waste my time and are
> given to grandiose delusions ... you can't even recognize the
> impossibility of your own argument(s.) But, you want me to take it
> seriously ... I find that, a lot, but around people I usually choose to
> avoid. Some think homosexual marriage is logical ... I have seen it all.
>
> Regards,
> JS

no, you must have me confused with someone else. i quote well
accepted engineering texts and journals. its art and mr.b that put
together rube goldberg theories to fit their latest whim.

3936. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 16:18:52 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6ga5j$76o$6@news.eternal-september.org>
Source record: 7536

On 9/11/2010 9:11 AM, K1TTT wrote:

> ...
> no, you must have me confused with someone else. i quote well
> accepted engineering texts and journals. its art and mr.b that put
> together rube goldberg theories to fit their latest whim.

Yeah, you are like richard clark, you base beliefs and claim facts depending on who states them, and proudly so, it is not the context of the statement, it is who said it, the above is an excellent example, in your own words. A million men can be wrong, just as easily as one ... especially using the your method, above ... an echo chamber is not a place to seek truth.

You probably think 9/11 wasn't an inside job too ...:
http://www.prnewswire.com/news-releases/architects--engineers-for-911-truth-announces-hard-evidence-of-explosive-demolition-of-world-trade-center-high-rises-on-911-102519299.html

There are your experts, engineers architects ...

Regards,
JS

3937. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 16:24:58 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f3e2fb88-6941-4e66-9874-11f8d530c572@r10g2000vbc.googlegroups.com>
Source record: 7537

On Sep 11, 3:46 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 8:41 AM, K1TTT wrote:
>
> > ...
> > of course i am doing it intentionally, stirring up art and mr.b is
> > just pure amusement. their science is pure junk, mr.b has been going
> > backwards in time for a while now dragging up ancient history that has
> > been well debunked. art just makes up technobabble based on whatever
> > he thinks he sees jumping off his antenna that day.
>
> You build your premises on card board with rube goldberg logic and
> mechanics ... Einstein had to renege and accept the gravitational ether,
> without it his relativity falls apart ... you waste my time and are
> given to grandiose delusions ... you can't even recognize the
> impossibility of your own argument(s.) But, you want me to take it
> seriously ... I find that, a lot, but around people I usually choose to
> avoid. Some think homosexual marriage is logical ... I have seen it all.
>
> Regards,
> JS

no, you must have me confused with someone else. i quote well
accepted engineering texts and journals. its art and mr.b that put
together rube goldberg theories to fit their latest whim.

3938. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 16:27:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e6784577-afb3-4ceb-989e-354a53dae608@k13g2000vbq.googlegroups.com>
Source record: 7538

On Sep 11, 4:18 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 9:11 AM, K1TTT wrote:
>
> > ...
> > no, you must have me confused with someone else. i quote well
> > accepted engineering texts and journals. its art and mr.b that put
> > together rube goldberg theories to fit their latest whim.
>
> Yeah, you are like richard clark, you base beliefs and claim facts
> depending on who states them, and proudly so, it is not the context of
> the statement, it is who said it, the above is an excellent example, in
> your own words. A million men can be wrong, just as easily as one ...
> especially using the your method, above ... an echo chamber is not a
> place to seek truth.
>
> You probably think 9/11 wasn't an inside job too
...:http://www.prnewswire.com/news-releases/architects--engineers-for-911...
>
> There are your experts, engineers architects ...
>
> Regards,
> JS

ah, a conspiracy lover... i always ask the question: If the
government were involved in any given conspiracy how long do you think
they could really keep it secret?

3939. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 16:31:23 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6gat1$76o$7@news.eternal-september.org>
Source record: 7539

On 9/11/2010 9:27 AM, K1TTT wrote:

> ...
> ah, a conspiracy lover... i always ask the question: If the
> government were involved in any given conspiracy how long do you think
> they could really keep it secret?

Yes, well, as I first stated as my premise, when beginning all of this with you, I am dealing with an idiot ... that is all the time I have for that ...

Regards,
JS

3940. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 17:13:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <feb4376a-90a3-4cc0-8672-a90fbea9daea@f26g2000vbm.googlegroups.com>
Source record: 7540

On Sep 11, 4:31 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 9:27 AM, K1TTT wrote:
>
> > ...
> > ah, a conspiracy lover... i always ask the question: If the
> > government were involved in any given conspiracy how long do you think
> > they could really keep it secret?
>
> Yes, well, as I first stated as my premise, when beginning all of this
> with you, I am dealing with an idiot ... that is all the time I have for
> that ...
>
> Regards,
> JS

i'm just glad you admitted what you are and i didn't have to say it.

3941. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 18:14:58 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ba0de61e-ea55-4058-91ee-5f6ba1c88580@j19g2000vbh.googlegroups.com>
Source record: 7541

On Sep 11, 9:28 am, K1TTT <k1...@arrl.net> wrote:
> has anyone linked zpe or 'quantum soup' or dark energy to
> electromagnetic waves in a way that preserves the constancy of the
> speed of light in all reference frames? or related those phenomena to
> epsilon or mu of free space?

The speed of light is measured in length/time, e.g. 186,000 miles/
second. Given that relativity affects both length and time in
different ways, wouldn't you say that the choice of the speed of light
as a universal constant was somewhat arbitrary? Why should a universal
constant involve 0.416667% of one rotation of the earth? What did the
universe use for a second-of-time reference during the 8? billion
years before the earth was formed and started dictating the length of
a second? IMO, the universal speed-of-light constant is just an
arbitrary reference point that had to be cast in stone before the math
would work.

If we stretched a physical cable between our galaxy and a receding
galaxy and found that the cable didn't break even though the galaxies
were receding, what could we conclude? I have concluded that the red
shift is not because the galaxies are receding faster and faster but
because the velocity of recession is actually slowing due to gravity.
What we perceive as recession contains relativity effects due to
decreasing velocity which causes space to expand and seconds to become
shorter. 186,000 miles gets longer and one second get shorter The
resulting length/time calculation is a double whammy red-shift error,
IMO. The universal speed-of-light constant only applies to a lone
observer capable of immense rationalization.
--
73, Cecil, w5dxp.com

3942. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 18:27:50 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8bca28$0$21008$65785112@news.neostrada.pl>
Source record: 7542

"K1TTT" <k1ttt@arrl.net> wrote
news:ae4b0476-412a-4738-935d-b2a964173b4b@t3g2000vbb.googlegroups.com...
>
>has anyone linked zpe or 'quantum soup' or dark energy to
electromagnetic waves in a way that preserves the constancy of the
speed of light in all reference frames?

You do not know that the reference frames are dragged:

""Frame Dragging
One of the strangest predictions of the general theory of relativity
concerning black holes is called frame dragging. For a rotating black hole,
the theory predicts that space and time itself can be dragged by the
rotating black hole. The adjacent figure shows an artist's conception of
this idea (J. Bergeron, Sky & Telescope: get permission; Ref). Some recent
data has been interpreted as supporting evidence for frame dragging around a
black hole (Ref). "
From: http://csep10.phys.utk.edu/astr162/lect/blackhole/blackhole.html

If you do not like the Sun's ether drag you can use the Sun's reference
frame drag. Which one do you prefer.

> or related those phenomena to epsilon or mu of free space?

The space is not a dielectric. Electric waves travel in metal transmissing
lines where no epsilon or mu.
S*

3943. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-11 18:37:52 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <0tusl7-q45.ln1@mail.specsol.com>
Source record: 7543

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> The space is not a dielectric. Electric waves travel in metal transmissing
> lines where no epsilon or mu.
> S*

Babbling nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

3944. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 02:21:57 UTC
From: tom <news4792@taring.org>
Message-ID: <4c8c3942$0$55707$8046368a@newsreader.iphouse.net>
Source record: 7544

On 9/11/2010 11:27 AM, K1TTT wrote:
> On Sep 11, 4:18 pm, John Smith<assemblywiz...@gmail.com> wrote:
>>> no, you must have me confused with someone else. i quote well
>>> accepted engineering texts and journals. its art and mr.b that put
>>> together rube goldberg theories to fit their latest whim.
>>
>> Yeah, you are like richard clark, you base beliefs and claim facts
>> depending on who states them, and proudly so, it is not the context of
>> the statement, it is who said it, the above is an excellent example, in
>> your own words. A million men can be wrong, just as easily as one ...
>> especially using the your method, above ... an echo chamber is not a
>> place to seek truth.
>>
>> You probably think 9/11 wasn't an inside job too
...:http://www.prnewswire.com/news-releases/architects--engineers-for-911...
>>
>> There are your experts, engineers architects ...
>>
>> Regards,
>> JS
>
> ah, a conspiracy lover... i always ask the question: If the
> government were involved in any given conspiracy how long do you think
> they could really keep it secret?

I have always wondered which of the 2 groups debating here are more
successful. Like who gets paid for their stand on what's real.

Ok, I don't actually wonder.

tom
K0TAR

3945. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 02:26:40 UTC
From: tom <news4792@taring.org>
Message-ID: <4c8c3a5d$0$55707$8046368a@newsreader.iphouse.net>
Source record: 7545

On 9/11/2010 1:27 PM, Szczepan Bialek wrote:
> "K1TTT"<k1ttt@arrl.net> wrote
> news:ae4b0476-412a-4738-935d-b2a964173b4b@t3g2000vbb.googlegroups.com...
>>
>> has anyone linked zpe or 'quantum soup' or dark energy to
> electromagnetic waves in a way that preserves the constancy of the
> speed of light in all reference frames?
>
> You do not know that the reference frames are dragged:
>
> ""Frame Dragging
> One of the strangest predictions of the general theory of relativity
> concerning black holes is called frame dragging. For a rotating black hole,
> the theory predicts that space and time itself can be dragged by the
> rotating black hole. The adjacent figure shows an artist's conception of
> this idea (J. Bergeron, Sky& Telescope: get permission; Ref). Some recent
> data has been interpreted as supporting evidence for frame dragging around a
> black hole (Ref). "
> From: http://csep10.phys.utk.edu/astr162/lect/blackhole/blackhole.html
>
> If you do not like the Sun's ether drag you can use the Sun's reference
> frame drag. Which one do you prefer.
>
>> or related those phenomena to epsilon or mu of free space?
>
> The space is not a dielectric. Electric waves travel in metal transmissing
> lines where no epsilon or mu.
> S*
>
>

He sure can use Google.

To bad he doesn't read to learn.

tom
K0TAR

3946. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 02:34:35 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6he82$s7p$1@news.eternal-september.org>
Source record: 7546

On 9/11/2010 7:21 PM, tom wrote:

> ...
> I have always wondered which of the 2 groups debating here are more
> successful. Like who gets paid for their stand on what's real.
>
> Ok, I don't actually wonder.
>
> tom
> K0TAR

Yeah. I guess some stare at their belly buttons for hours, and wonder;
And, I guess some hold them in high respect as gurus ... I don't.
Good to hear you ain't wonderin'.

Regards,
JS

3947. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 02:46:42 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <2dc8ae0c-11a2-466b-a329-fe3ef0016d33@a19g2000vbi.googlegroups.com>
Source record: 7547

Having dealt with water streams for a while, I wonder how the stream
is measured, because all streams break up into droplets at some point
well before they appear to do so.
- 'Doc

3948. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 02:56:26 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f0913b9f-22cd-4411-963a-50e53fbae093@c21g2000vba.googlegroups.com>
Source record: 7548

On Sep 11, 9:34 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 7:21 PM, tom wrote:
>
> > ...
> > I have always wondered which of the 2 groups debating here are more
> > successful. Like who gets paid for their stand on what's real.
>
> > Ok, I don't actually wonder.
>
> > tom
> > K0TAR
>
> Yeah. I guess some stare at their belly buttons for hours, and wonder;
>   And, I guess some hold them in high respect as gurus ... I don't.
> Good to hear you ain't wonderin'.
>
> Regards,
> JS

John
Look at his last 100 posts and check to see if you find one of them
informative and then question why you even respond to him? I mean it.
He sends nothing but trash all the time. Anybody can say "babbling
nonsense" but not anybody can explain
babbling nonsense unless he himself is well practiced in the art!

3949. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 03:13:13 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6hgggmqp1@news.eternal-september.org>
Source record: 7549

On 9/11/2010 7:46 PM, 'Doc wrote:
> Having dealt with water streams for a while, I wonder how the stream
> is measured, because all streams break up into droplets at some point
> well before they appear to do so.
> - 'Doc

You are absolutely correct. Would be interesting to have real time monitoring of the match, field strength in relation to a standard 1/4 wave and real power delivered to the water stream. I am thinking this is the dummies, dummy load. Or, the dummy load of the century ... could sure use a 5KW ferrite core like he has, just sink the signal into a "barrel of saltwater dummy load" ... would be nice to be have this dis-proven and start discussing why.

Who knows, when the stream goes "live" perhaps the feedline "lights up" as a radiator. As someone already pointed out, the repeater makes one highly suspicious. I mean, is he line of sight from the repeater? How far is he from the repeater? Why didn't he just choose direct contact? Etc., etc. He certainly could have supplied us with better.

I just might write him and ask him for a new youtube video and different test parameters.

Regards,
JS

3950. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 03:40:11 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bf9c0f82-e272-4ab2-aa0e-827c7075c565@j19g2000vbh.googlegroups.com>
Source record: 7550

On Sep 11, 9:56 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 11, 9:34 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
>
>
> > On 9/11/2010 7:21 PM, tom wrote:
>
> > > ...
> > > I have always wondered which of the 2 groups debating here are more
> > > successful. Like who gets paid for their stand on what's real.
>
> > > Ok, I don't actually wonder.
>
> > > tom
> > > K0TAR
>
> > Yeah. I guess some stare at their belly buttons for hours, and wonder;
> >   And, I guess some hold them in high respect as gurus ... I don't.
> > Good to hear you ain't wonderin'.
>
> > Regards,
> > JS
>
> John
> Look at his last 100 posts and check to see if you find one of them
> informative and then question why you even respond to him? I mean it.
> He sends nothing but trash all the time. Anybody can say "babbling
> nonsense" but not anybody can explain
> babbling nonsense unless he himself is well practiced in the art!

John
After you read his last 100 posts you can now look ahead and predict
what his next 100 posts are going to look like. Do you really need
such a discorse for the next month or so?

3951. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 03:47:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4c8c4d3b$0$24415$8046368a@newsreader.iphouse.net>
Source record: 7451

On 9/11/2010 9:21 PM, tom wrote:
> On 9/11/2010 11:27 AM, K1TTT wrote:
>> On Sep 11, 4:18 pm, John Smith<assemblywiz...@gmail.com> wrote:
>>>> no, you must have me confused with someone else. i quote well
>>>> accepted engineering texts and journals. its art and mr.b that put
>>>> together rube goldberg theories to fit their latest whim.
>>>
>>> Yeah, you are like richard clark, you base beliefs and claim facts
>>> depending on who states them, and proudly so, it is not the context of
>>> the statement, it is who said it, the above is an excellent example, in
>>> your own words. A million men can be wrong, just as easily as one ...
>>> especially using the your method, above ... an echo chamber is not a
>>> place to seek truth.
>>>
>>> You probably think 9/11 wasn't an inside job too
>>> ...:http://www.prnewswire.com/news-releases/architects--engineers-for-911...
>>>
>>>
>>> There are your experts, engineers architects ...
>>>
>>> Regards,
>>> JS
>>
>> ah, a conspiracy lover... i always ask the question: If the
>> government were involved in any given conspiracy how long do you think
>> they could really keep it secret?
>
> I have always wondered which of the 2 groups debating here are more
> successful. Like who gets paid for their stand on what's real.

To state it a bit more clearly - who can make a living based upon their
stand on what's real? That always separates the wheat from the chaff.

Mr B, Art, Doctor Smith, how'r you all doin' in the antenna consulting
and/or sales and design business?

I expect very well considering you know more than the rest of group that
hangs out here.

Please insert ill considered response 6 lines below.

tom
K0TAR

3952. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 03:51:00 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6hinamqp5@news.eternal-september.org>
Source record: 7452

On 9/11/2010 8:47 PM, tom wrote:

> ...
> To state it a bit more clearly - who can make a living based upon their
> stand on what's real? That always separates the wheat from the chaff.
>
> Mr B, Art, Doctor Smith, how'r you all doin' in the antenna consulting
> and/or sales and design business?
>
> I expect very well considering you know more than the rest of group that
> hangs out here.
>
> Please insert ill considered response 6 lines below.
>
> tom
> K0TAR

Yes, Art, the above is a demonstration of what you are pointing out ...
how can you possibly think I can miss it? Can anyone?

When a president like clinton, bush or obama can make president, what
would possibly shock/confuse anyone about this?

Regards,
JS

3953. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 10:47:52 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ad194101-732f-4805-be5c-fe08cff47c53@k13g2000vbq.googlegroups.com>
Source record: 7453

On Sep 12, 3:40 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 11, 9:56 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Sep 11, 9:34 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> > > On 9/11/2010 7:21 PM, tom wrote:
>
> > > > ...
> > > > I have always wondered which of the 2 groups debating here are more
> > > > successful. Like who gets paid for their stand on what's real.
>
> > > > Ok, I don't actually wonder.
>
> > > > tom
> > > > K0TAR
>
> > > Yeah. I guess some stare at their belly buttons for hours, and wonder;
> > > >   And, I guess some hold them in high respect as gurus ... I don't.
> > > Good to hear you ain't wonderin'.
>
> > > Regards,
> > > JS
>
> > John
> > Look at his last 100 posts and check to see if you find one of them
> > informative and then question why you even respond to him? I mean it.
> > He sends nothing but trash all the time. Anybody can say "babbling
> > nonsense" but not anybody can explain
> > babbling nonsense unless he himself is well practiced in the art!
>
> John
> After you read his last 100 posts you can now look ahead and predict
> what his next 100 posts are going to look like. Do you really need
> such a discorse for the next month or so?

come on art, enough discussing other's posts... wx not looking good
here today so lets have a blast of classic art techno bafflegab! i
could use a good laugh!

3954. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 11:14:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a5df292a-84ec-408e-aa16-4dcb9a91116a@w4g2000vbh.googlegroups.com>
Source record: 7454

On Sep 12, 3:40 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 11, 9:56 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Sep 11, 9:34 pm, John Smith <assemblywiz...@gmail.com> wrote:
>
> > > On 9/11/2010 7:21 PM, tom wrote:
>
> > > > ...
> > > > I have always wondered which of the 2 groups debating here are more
> > > > successful. Like who gets paid for their stand on what's real.
>
> > > > Ok, I don't actually wonder.
>
> > > > tom
> > > > K0TAR
>
> > > Yeah. I guess some stare at their belly buttons for hours, and wonder;
> > > >   And, I guess some hold them in high respect as gurus ... I don't.
> > > Good to hear you ain't wonderin'.
>
> > > Regards,
> > > JS
>
> > John
> > Look at his last 100 posts and check to see if you find one of them
> > informative and then question why you even respond to him? I mean it.
> > He sends nothing but trash all the time. Anybody can say "babbling
> > nonsense" but not anybody can explain
> > babbling nonsense unless he himself is well practiced in the art!
>
> John
> After you read his last 100 posts you can now look ahead and predict
> what his next 100 posts are going to look like. Do you really need
> such a discorse for the next month or so?

come on art, enough discussing other's posts... wx not looking good
here today so lets have a blast of classic art techno bafflegab! i
could use a good laugh!

3955. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 11:15:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b8a58db5-a286-4de0-98ed-2bef75cdb2d1@q2g2000vbk.googlegroups.com>
Source record: 7455

On Sep 12, 3:13 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 7:46 PM, 'Doc wrote:
>
> > Having dealt with water streams for a while, I wonder how the stream
> > is measured, because all streams break up into droplets at some point
> > well before they appear to do so.
> > - 'Doc
>
> You are absolutely correct. Would be interesting to have real time
> monitoring of the match, field strength in relation to a standard 1/4
> wave and real power delivered to the water stream. I am thinking this
> is the dummies, dummy load. Or, the dummy load of the century ... could
> sure use a 5KW ferrite core like he has, just sink the signal into a
> "barrel of saltwater dummy load" ... would be nice to be have this
> dis-proven and start discussing why.
>
> Who knows, when the stream goes "live" perhaps the feedline "lights up"
> as a radiator. As someone already pointed out, the repeater makes one
> highly suspicious. I mean, is he line of sight from the repeater? How
> far is he from the repeater? Why didn't he just choose direct contact?
> Etc., etc. He certainly could have supplied us with better.
>
> I just might write him and ask him for a new youtube video and different
> test parameters.
>
> Regards,
> JS

yeah, like compare the signal to one of those rubber coated dummy load
antennas.

3956. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 11:57:45 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6if7qrnr1@news.eternal-september.org>
Source record: 7456

On 9/12/2010 4:15 AM, K1TTT wrote:

> ...
> yeah, like compare the signal to one of those rubber coated dummy load
> antennas.

Frankly, I thought the guy would have shown up by now laughing. Having had a great laugh on us for attempting to take him seriously ... has me wonderin'!

Regards,
JS

3957. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 16:45:02 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <5a54adf5-2dbb-44d0-9837-e36e40de3c0f@w4g2000vbh.googlegroups.com>
Source record: 7457

On 10 sep, 00:37, Roy Lewallen <w...@eznec.com> wrote:
> On 9/9/2010 6:50 PM, lu6etj wrote:
>
>
>
>
>
> > On 9 sep, 15:48, Roy Lewallen<w...@eznec.com> wrote:
>
> >> Before beginning a discussion about what constitutes a balanced load and
> >> what doesn't, how about answering these questions?
>
> >> 1. What is "balance"?
> >> 2. What defines a "balanced" feedline?
> >> 3. What are the properties of a "balanced" load?
> >> 4. How can you tell when a line, load, or transmitter is "balanced"?
> >> 5. What's the big deal about being "balanced", anyway?
>
> >> And finally,
>
> >> How does a balun achieve "balance"?
>
> >> Roy Lewallen, W7EL
>
> > Hello Roy
>
> > Why? that way we can end up having to define all words we use :>). I
> > learnt a two terminal balanced circuit basically have the same
> > impedance respect to ground in its terminals, if Windom Carolina not
> > have it, well... we have missed the "bal" part of the equation :>)
>
> > I recognize the other items are interesting to analize too but in
> > diferent sense that the proper use of the term "balun" towards I
> > pointed my little observation.
>
> > Years ago I have read your very good article "Baluns: What They Do
> > And How They Do lt" (until today I keep it safe in my computer for
> > reference) and I believe I understand where you point to with the
> > other good questions.
>
> > For John: Dear friend I could not translate well your post, may you
> > repeat in a little more Tarzan english for me?
>
> > Miguel

>
> Suppose you connect a transmission line to a perfectly symmetrical,
> horizontal antenna. The antenna and feedline would be a "balanced
> circuit" by your definition, since the two conductors of the
> transmission line have equal impedances to ground. But the transmission
> line will radiate.
>
> Now connect one conductor of the transmission line to the center of your
> rig's coaxial connector, and the other conductor to the rig's chassis.
> (This is Fig. 2 of the article you mention, which by the way is
> available athttp://eznec.com/Amateur/Articles/Baluns.pdf.) Is it still
> a "balanced circuit"? Why or why not?
>
> Or suppose you take two signal generators which are perfectly coherent
> (i.e., phase locked to run at exactly the same frequency) and exactly in
> phase with each other. Each has a 50 ohm output impedance and each
> produces exactly 1 volt RMS of RF when open circuited. Connect one of
> these to each of the terminals of the feedline instead of connecting the
> feedline to your transmitter.
>
> Now,
> -- The impedances to ground looking toward the antenna from the feedline
> are the same for the two feedline terminals.
> -- The impedances looking back toward the generators from the feedline
> are the the same for the two feedline terminals.
> -- The two feedline conductors have equal voltages and currents.
> -- The circuit is surely balanced by your definition.
>
> Yet the feedline will radiate. Change the generator phasing any other
> angle except 180 degrees, and the feedline will radiate. Only when the
> two generators are exactly out of phase will the line cease radiating. I
> call that condition "balance" for the reasons explained in the article,
> but it's quite different from your definition.
>
> If we're to use your definition of "balance", we have to conclude that
> balanced transmission lines radiate some times and some times they
> don't. If the system is already "balanced" when the generators are zero
> or, say, 90 degrees out of phase, would a balun do anything if connected
> between the generators and transmission line?
>
> Roy Lewallen, W7EL- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Hello Roy, good day.

I prefer not use "my" definition or "your" definition words because in this case -at least- I am not the "definer", I only learnt that definition. Anyway, a definition it is not neccesarily a "true", you can define a gnome or a dragon, both inexistent or "untrue" critters (I am not absolutely sure about its "inexistence", hi hi). A

definition may be simply the conventional meaning of a term, true or false it is not applicable to it, different logical thing it is a "proposition".

Well, long time ago I learnt a definition of balanced circuit, that definition not mention simmetrical driving to the circuit, only impedance respect to ground. Citation =>

Balanced circuits: "The pad in fig 133 it is a balanced circuit (or balanced pad) because there is the same impedance in each line wire. A properly constructed open wire line or toll cable is also a balanced circuit."

(From "Fundamentals of telephony", by Arthur Lemuel Albert, McGraw Hill, 1943, page 265).

I know Wikipedia it is not authoritative but in "Balanced Line" says:

"In telecommunications and professional audio, a balanced line or balanced signal pair is a transmission line consisting of two conductors of the same type, each of which have equal impedances along their lengths and equal impedances to ground and to other circuits. [1]"

Searchiing the Web for definitions I found an interesting article in that item with similar concepts
http://www.multimediamanufacturer.com/articles/whitlock407.pdf
Can you acces to an IEEE definition? I could not.

I believe original definition perhaps was related only to noise pick up in lines, I understand your point and not oppose to it, it is a good point, perhaps we have to say "an all (o totally) balanced SYSTEM" when we want to refer to both (signal and impedance) simmetries, to eliminate ambiguities.
.....
Although this is a more important issue, I insist in my original point, is it "licit" to call "balun" a device connected to two unbalanced circuits (line and antenna)?, Is it Carolina windom a balanced antenna?
Here most of hams tend to call balun any toroidal transformer, with TL or traditional windings connected to any circuit! :>)

What you say? Thank for your interest and answers. Best regards to you and all friends.

Miguel LU6ETJ

3958. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 17:39:26 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6j38e$2e9$3@news.eternal-september.org>
Source record: 7458

On 9/12/2010 9:45 AM, lu6etj wrote:

>> ...
> Although this is a more important issue, I insist in my original
> point, is it "licit" to call "balun" a device connected to two
> unbalanced circuits (line and antenna)?, Is it Carolina windom a
> balanced antenna?
> Here most of hams tend to call balun any toroidal transformer, with TL
> or traditional windings connected to any circuit! :>)
>
> What you say? Thank for your interest and answers. Best regards to you
> and all friends.
>
> Miguel LU6ETJ

Actually, balun = "balanced-to-unbalanced", and unun =
"unbalanced-to-unbalanced." I believe that is correct.

And, I am in agreement, I see isolation RF transformers, RF
auto-transformers and transmission-line-transformers and UNUNs' all
grouped together under "balun." It would be nice to have standardized
terminology and everyone is encouraged to use it ...

Other than that, the rest of your post is sure to fire debate, assuming
that everyone even recognizes the above ...

Regards,
JS

3959. Selling my Heathkit Mohican on Ebay

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 18:01:37 UTC
From: "W. eWatson" <wolftracks@invalid.com>
Message-ID: <i6j4if$7k9$2@news.eternal-september.org>
Source record: 7459

Just thought I'd mention it. Subject. A little over a day to go.

3960. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 18:06:32 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <3d50dd35-3c27-4c23-8430-f7ea3d1d4a02@u13g2000vbo.googlegroups.com>
Source record: 7460

On 12 sep, 08:57, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/12/2010 4:15 AM, K1TTT wrote:
>
> > ...
> > yeah, like compare the signal to one of those rubber coated dummy load
> > antennas.
>
> Frankly, I thought the guy would have shown up by now laughing. Having
> had a great laugh on us for attempting to take him seriously ... has me
> wonderin'!
>
> Regards,
> JS

Hello all

OK, this probabily is near a joke or hoax, but what about liquid/ionic/
dielectric in general? I have a pair of interesting links about it =>

http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=1461138
http://xa.yimg.com/kq/groups/15085895/1136140553/name/Trees_Antennas_IEEE.pdf

Time ago I had some doubts about the mobility of ions in a liquid to
radiate and calculate how much an electron actually moves when the
antenna is radiating to use as a starting point.
The numbers (if I do not make mistakes) showed me to a current density
in the order of 5 A/mm^2, free electrons can take a trip of just one
three thousandth mm of copper ion radius, surprising result!, really I
did not expect such a small value ..., It showed me that electrons in
antenna barely vibrate around their resting place when radiates (I
made calculations for a irradiant at 80 m).
This favored hypothesis of liquid antenna possibilities because would
suffice for the ions (charges) of the liquid vibrate slightly around
their points of rest to act as radiators (I do not to solve issues
related + ion mass to best "close" my questions).

We know sea water an earth EM wave reflections really are
reirradiation of EM energy, then, ionic antennas there are real
things, are there? However I haven not study the efficience of this
process.

What do you think about it?

Best regards

Miguel LU6ETJ

3961. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 18:13:53 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6j592$6rk$1@news.eternal-september.org>
Source record: 7461

On 9/12/2010 11:06 AM, lu6etj wrote:

> ...
> We know sea water an earth EM wave reflections really are
> reirradiation of EM energy, then, ionic antennas there are real
> things, are there? However I haven not study the efficience of this
> process.
>
> What do you think about it?
>
> Best regards
>
> Miguel LU6ETJ

As you get older, you are slow to call anything "impossible." Many, many things which were accepted as "impossible" as a teenager, are now done daily as I am an old adult ...

However, unless there are some really unique methods discovered/found/invented/etc. for the manipulation of physics involving seawater and RF, a "seawater antenna" still remains in the realm of "impossible", for now ... at least for me ... and by that, I mean taking sanity into consideration ...

Regards,
JS

3962. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 18:17:33 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <mi5q86hcbpqmv20h4fqp7m2gs8b5n17rgm@4ax.com>
Source record: 7462

On Sun, 12 Sep 2010 09:45:02 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>I know Wikipedia it is not authoritative but in "Balanced Line" says:
>
>"In telecommunications and professional audio, a balanced line or
>balanced signal pair is a transmission line consisting of two
>conductors of the same type, each of which have equal impedances along
>their lengths and equal impedances to ground and to other circuits.
>[1]"

Hi Miguel,

This reference is much better than your first citation - it mentions
what the common (earth, ground, other circuits) is, which is necessary
for symmetry AND balance. Your first citation merely described a
loop. A loop is symmetrical within its own self, but that doesn't
make it balanced.

>Searchiing the Web for definitions I found an interesting article in
>that item with similar concepts
>http://www.multimediamanufacturer.com/articles/whitlock407.pdf

This link gives a good introduction to common mode which is central to
the problems of balance and symmetry.

>Can you acces to an IEEE definition? I could not.

No point in that.

>I believe original definition perhaps was related only to noise pick
>up in lines, I understand your point and not oppose to it, it is a
>good point, perhaps we have to say "an all (o totally) balanced
>SYSTEM" when we want to refer to both (signal and impedance)
>simmetries, to eliminate ambiguities.

No, that is not complete.

>......
>Although this is a more important issue, I insist in my original
>point, is it "licit" to call "balun" a device connected to two
>unbalanced circuits (line and antenna)?,

The word properly formed is BalUn - balance/unbalanced transformer.
Similarly you have a BalBal, and an UnUn so that other topologies are
properly termed.

>Is it Carolina windom a
>balanced antenna?

No.

>Here most of hams tend to call balun any toroidal transformer, with TL
>or traditional windings connected to any circuit! :>)

The term was not coined through a democratic vote - they are wrong.

73's
Richard Clark, KB7QHC

3963. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 18:49:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qm6q86tnjbhos44s8rpirvi20h1rj80ngu@4ax.com>
Source record: 7463

On Sun, 12 Sep 2010 11:06:32 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=1461138

Hi Miguel,

Let's see, half the power lost to the antenna:
"A simple monopole antenna was constructed and its reflected
impedance and radiation efficiency measured for salt solutions
of 2 conductivities and 2 monopole diameters. Two antennas
were constructed, 25 mm and 50 mm in diameter, with salt solution
at 35 ppt and 70 ppt. The resonant frequency was found to
be inversely proportional to salt solution column height,
with bandwidths of ?1 GHz (-10 dB S11 points) at 1.3 GHz."

A quarterwave monopole @1.3GHz would be 5.8cM tall and up to 5cM in
diameter? A mylar balloon filled with air (not water) wouldn't lose
half the power applied. Voila! Wide band, 3dB gain, lighter, and can
be made into any shape.

>http://xa.yimg.com/kq/groups/15085895/1136140553/name/Trees_Antennas_IEEE.pdf

This has been a topic here going back at least 15 years.

>Time ago I had some doubts about the mobility of ions in a liquid to
>radiate and calculate how much an electron actually moves when the
>antenna is radiating to use as a starting point.
>The numbers (if I do not make mistakes) showed me to a current density
>in the order of 5 A/mm^2, free electrons can take a trip of just one
>three thousandth mm of copper ion radius, surprising result!, really I
>did not expect such a small value ..., It showed me that electrons in
>antenna barely vibrate around their resting place when radiates (I
>made calculations for a irradiant at 80 m).
>This favored hypothesis of liquid antenna possibilities because would
>suffice for the ions (charges) of the liquid vibrate slightly around
>their points of rest to act as radiators (I do not to solve issues
>related + ion mass to best "close" my questions).

Consider a dielectric lens antenna. How much mobility there?

>We know sea water an earth EM wave reflections really are
>reirradiation of EM energy,

This reflection is a function of a severe mismatch between two poor
conductors. You don't need sea water to achieve the same thing.

>What do you think about it?

Consult the authority on invention:
http://www.rubegoldberg.com/

73's
Richard Clark, KB7QHC

3964. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 21:13:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9e6c80dc-5519-40b5-8f18-02858065b85b@t11g2000vbc.googlegroups.com>
Source record: 7464

On Sep 11, 6:27 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:ae4b0476-412a-4738-935d-b2a964173b4b@t3g2000vbb.googlegroups.com...
>
> >has anyone linked zpe or 'quantum soup' or dark energy to
>
> electromagnetic waves in a way that preserves the constancy of the
> speed of light in all reference frames?
>
> You do not know that the reference frames are dragged:
>
> ""Frame Dragging
> One of the strangest predictions of the general theory of relativity
> concerning black holes is called frame dragging. For a rotating black hole,
> the theory predicts that space and time itself can be dragged by the
> rotating black hole. The adjacent figure shows an artist's conception of
> this idea (J. Bergeron, Sky & Telescope: get permission; Ref). Some recent
> data has been interpreted as supporting evidence for frame dragging around a
> black hole (Ref). "
> From: http://csep10.phys.utk.edu/astr162/lect/blackhole/blackhole.html
>
> If you do not like the Sun's ether drag you can use the Sun's reference
> frame drag. Which one do you prefer.
>
> > or related those phenomena to epsilon or mu of free space?
>
> The space is not a dielectric. Electric waves travel in metal transmissing
> lines where no epsilon or mu.
> S*

hey mr.b. here is a group that you might fit in with:
http://www.galileowaswrong.com/galileowaswrong/

3965. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 21:17:51 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6jg1v$l5n$1@news.eternal-september.org>
Source record: 7465

On 9/12/2010 2:13 PM, K1TTT wrote:

> ...
> hey mr.b. here is a group that you might fit in with:
> http://www.galileowaswrong.com/galileowaswrong/

Darn, I knew there was going to be a problem in handing out licenses to recovering mental patients ... having a bit of a problem in discerning reality from fantasy? Meds not working correctly? Anger management classes didn't take? Shrink still working you though control issues? ROFLOL

Regards,
JS

3966. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 22:30:04 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <8e129659-87de-4912-adf7-1d0b4d944178@j30g2000vbr.googlegroups.com>
Source record: 7466

On 12 sep, 15:49, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 12 Sep 2010 11:06:32 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=1461138
>
> Hi Miguel,
>
> Let's see, half the power lost to the antenna:
>   "A simple monopole antenna was constructed and its reflected
>   impedance and radiation efficiency measured for salt solutions
>   of 2 conductivities and 2 monopole diameters. Two antennas
>   were constructed, 25 mm and 50 mm in diameter, with salt solution
>   at 35 ppt and 70 ppt. The resonant frequency was found to
>   be inversely proportional to salt solution column height,
>   with bandwidths of ?1 GHz (-10 dB S11 points) at 1.3 GHz."
>
> A quarterwave monopole @1.3GHz would be 5.8cM tall and up to 5cM in
> diameter? A mylar balloon filled with air (not water) wouldn't lose
> half the power applied. Voila! Wide band, 3dB gain, lighter, and can
> be made into any shape.
>
> >http://xa.yimg.com/kq/groups/15085895/1136140553/name/Trees_Antennas_...
>
> This has been a topic here going back at least 15 years.
>
> >Time ago I had some doubts about the mobility of ions in a liquid to
> >radiate and calculate how much an electron actually moves when the
> >antenna is radiating to use as a starting point.
> >The numbers (if I do not make mistakes) showed me to a current density
> >in the order of 5 A/mm^2, free electrons can take a trip of just one
> >three thousandth mm of copper ion radius, surprising result!, really I
> >did not expect such a small value ..., It showed me that electrons in
> >antenna barely vibrate around their resting place when radiates (I
> >made calculations for a irradiant at 80 m).
> >This favored hypothesis of liquid antenna possibilities because would
> >suffice for the ions (charges) of the liquid vibrate slightly around
> >their points of rest to act as radiators (I do not to solve issues
> >related + ion mass to best "close" my questions).
>
> Consider a dielectric lens antenna. How much mobility there?
>
> >We know sea water an earth EM wave reflections really are
> >reirradiation of EM energy,

>
> This reflection is a function of a severe mismatch between two poor
> conductors. You don't need sea water to achieve the same thing.
>
> >What do you think about it?
>
> Consult the authority on invention:http://www.rubegoldberg.com/
>
> 73's
> Richard Clark, KB7QHC

Hello dear Richard, how are you? I hope very well with yours:

Mylar conductive ballon replacement it is not a valid refutation for the hipotesis analized, that antenna was only a "test antenna", any liquid antenna can be replaced by a metalic antenna...! what prove that?

I was not be here fifty year ago :>) (I suppose "ether" also must have been treated in this newsgropup a hundred years ago :>D) what you think about it (trees) at that time?

I do not know lens dielectric antennas, I learnt radiation it due accelerating charges, electrons are charges, free ions also, non free dielectric charges (E field induced dipoles) too; alternating electric field applied to them produce movement on them, then acceleration, then => radiation. Am I wrong? (yes I know, loss too sometimes).

You say: "This reflection is a function of a severe mismatch between two poor
conductors. You don't need sea water to achieve the same thing"

What "two" conductors? you know air not work as a "conductor" in this analitic environment, it would the same it there were empty vacuum, reflecting medium properties are responsibles for earth reflections.

"Mismatch" it is another magic word, improper of you indeed my friend!, not an explanation :>)
Classic EM radiation (or the same "re-irradiation") it sometimes explained due accelarating charges, and YES, I agree with you, certainly "you do not need sea water to achieve the same thing", you can do it with any other vibrating charge, sea water charges it is only one possibility, conductors, soil substances are other familiar things capable to do it.
We know waves are reflected to ionosphere by those mediums, we can explain that reflections with incident electromagnetic fields and earth surface induced currents; however, "current" not implies here free electrons traveling miles inside a conductor, we have a "current" with any little induced movement on a charge and if this movemente is not constant we have acceleration then => EM radiation, what other classical process could explain the EM earth reflection? I do not know.

However I am not supporting practical liquid antennas here, I have not made the experience and I have not theoretical enough knowledge neither to prove or refute the hipotesis without much more working, I only have some pointers to think over about it.

73

Miguel LU6ETJ

3967. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 22:51:53 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <78cb2ec8-f0a0-4814-9668-23f85f6c5895@a30g2000vbt.googlegroups.com>
Source record: 7467

On 12 sep, 15:17, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 12 Sep 2010 09:45:02 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >I know Wikipedia it is not authoritative but in "Balanced Line" says:
>
> >"In telecommunications and professional audio, a balanced line or
> >balanced signal pair is a transmission line consisting of two
> >conductors of the same type, each of which have equal impedances along
> >their lengths and equal impedances to ground and to other circuits.
> >[1]"
>
> Hi Miguel,
>
> This reference is much better than your first citation - it mentions
> what the common (earth, ground, other circuits) is, which is necessary
> for symmetry AND balance. Your first citation merely described a
> loop. A loop is symmetrical within its own self, but that doesn't
> make it balanced.
>
> >Searchiing the Web for definitions I found an interesting article in
> >that item with similar concepts
> >http://www.multimediamanufacturer.com/articles/whitlock407.pdf
>
> This link gives a good introduction to common mode which is central to
> the problems of balance and symmetry.
>
> >Can you acces to an IEEE definition? I could not.
>
> No point in that.
>
> >I believe original definition perhaps was related only to noise pick
> >up in lines, I understand your point and not oppose to it, it is a
> >good point, perhaps we have to say "an all (o totally) balanced
> >SYSTEM" when we want to refer to both (signal and impedance)
> >simmetries, to eliminate ambiguities.
>
> No, that is not complete.
>
> >......
> >Although this is a more important issue, I insist in my original
> >point, is it "licit" to call "balun" a device connected to two
> >unbalanced circuits (line and antenna)?,
>

> The word properly formed is BalUn - balance/unbalanced transformer.
> Similarly you have a BalBal, and an UnUn so that other topologies are
> properly termed.
>
> >Is it Carolina windom a
> >balanced antenna?
>
> No.
>
> >Here most of hams tend to call balun any toroidal transformer, with TL
> >or traditional windings connected to any circuit! :>)
>
> The term was not coined through a democratic vote - they are wrong.
>
> 73's
> Richard Clark, KB7QHC

Hi friends

Well... I believe we mostly agree for our internal use, but, there are a authoritative formal definition? because I do not found it, the only ones I found were about impedance balance, not signal implied, however it results strange to me because telegraph and phone lines crosstalks depend on current balance in wires too, then I think old engineers should be taken into account, my old RF and telephony books tends to not use balance word but "symmetry".

I haven not problem with your/our concept, but have we power enough to become "The Definitors"

Why "do not point in that" Richard you do not trust in IEEE guys? :>)

Miguel

3968. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-12 23:17:09 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF25E74BFDB1nonenowhere@61.9.134.55>
Source record: 7468

lu6etj <lu6etj@gmail.com> wrote in
news:57c4cded-f95b-44c1-be78-d6514baf7537@a19g2000vbi.googlegroups.com:

> Hello boys, good day for you
>
> Is it Carolina Windom a balanced load to justify the name "balun"? We
> could think in a device to transform Z and another device to block
> feed line current. What do you think about it?

Miguel,

Sometimes the language we use doesn't well describe the thing we are thinking about, and this is a case.

We could well apply a meaning to balanced, that either the currents are equal in magnitude but opposite in phase; or that the voltages wrt some sensible accessible reference are equal in magnitude but opposite in phase. One does not imply the other without constraining the load characteristic.

When we speak of unbalanced, we commonly think of a configuration where one side is 'grounded' and the other 'active'.

The problem is that many situations in antenna systems are not purely either, they are not balanced by one or other of the meanings above, and they are not unbalanced by the meaning above.

So, they need to be dealt with by the more general method of considering that there are non-zero common mode and differential voltages and currents.

It would be most unlikely that a Carolina Windown would be balanced, or near to it, by any defintion. The antenna is born out of a quest to sell the disadvantage of Windom feedline radiation as a positive feature.

The way I like to explain a balun is that it *facilitates* connection of a not-balanced device to a balanced device. A practical balun does not, of itself, eliminate (meaning make zero) common mode current or common mode voltage... yet we commonly use absolute words to describe its action.

To a certain extent, that is saying that they are not ideal or perfect devices. Some of the rules we hams have made for baluns pretty much assure mediocre performance. Like for example what I refer to as Rule 500, that the minimum choking impedance of a current balun is ten times the differential characteristic impedance (commonly 50, hence Rule 500).

I know English is not your first language, but be wary of applying the meaning of words absolutely.

Owen

3969. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 01:17:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b3uq86t9lj51rc3hk6ug2snv8n5bod7jmq@4ax.com>
Source record: 7469

On Sun, 12 Sep 2010 15:30:04 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Hello dear Richard, how are you? I hope very well with yours:
>
>Mylar conductive ballon replacement it is not a valid refutation for
>the hipotesis analized, that antenna was only a "test antenna", any
>liquid antenna can be replaced by a metalic antenna...! what prove
>that?

Hi Miguel,

What does it prove? What does water prove? That it is a poor
replacement? Yes.

>I do not know lens dielectric antennas, I learnt radiation it due
>accelerating charges,

That repeated epithet is rather too simple. An electron is always
accelerating. A circular orbit guarantees that.

>electrons are charges, free ions also, non free
>dielectric charges (E field induced dipoles) too; alternating electric
>field applied to them produce movement on them, then acceleration,
>then => radiation. Am I wrong? (yes I know, loss too sometimes).

Does swinging a battery around produce radiation?

>You say: "This reflection is a function of a severe mismatch between
>two poor
>conductors. You don't need sea water to achieve the same thing"
>
>What "two" conductors?

POOR conductors.

>you know air not work as a "conductor" in this
>analitic environment,

Right, it is a very poor conductor (and, yet, we still see lightning
conducting through it on a summer evening - all a matter of degree).

>it would the same it there were empty vacuum,
>reflecting medium properties are responsibles for earth reflections.

I suppose so.

>"Mismatch" it is another magic word, improper of you indeed my
>friend!, not an explanation :>)

Magic happens.

>Classic EM radiation (or the same "re-irradiation") it sometimes
>explained due accelarating charges, and YES, I agree with you,
>certainly "you do not need sea water to achieve the same thing", you
>can do it with any other vibrating charge, sea water charges it is
>only one possibility, conductors, soil substances are other familiar
>things capable to do it.

So then, classic EM radiation is pretty common, and has lost its
magic.

>We know waves are reflected to ionosphere by those mediums, we can
>explain that reflections with incident electromagnetic fields and
>earth surface induced currents; however, "current" not implies here
>free electrons traveling miles inside a conductor, we have a "current"
>with any little induced movement on a charge and if this movemente is
>not constant we have acceleration then => EM radiation, what other
>classical process could explain the EM earth reflection? I do not
>know.

Mismatch.

>However I am not supporting practical liquid antennas here, I have not
>made the experience and I have not theoretical enough knowledge
>neither to prove or refute the hipotesis without much more working, I
>only have some pointers to think over about it.

Ever hear a flame speaker? No magnets, no cone, just a flame and an
amplifier feeding two probes and *sound* comes out. No one builds
them either.

73's
Richard Clark, KB7QHC

3970. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 01:19:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <evuq86h7f63927qkp8cm2mq4u820doanng@4ax.com>
Source record: 7470

On Sun, 12 Sep 2010 15:51:53 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Why "do not point in that" Richard you do not trust in IEEE guys? :>)

Sounds like you are waiting for the right pope before you go to
confession.

73's
Richard Clark, KB7QHC

3971. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 01:29:32 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <13b024aa-d3a1-4015-8704-3dc63f72afd2@j19g2000vbh.googlegroups.com>
Source record: 7471

On 12 sep, 20:17, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:57c4cded-f95b-44c1-be78-d6514baf7537@a19g2000vbi.googlegroups.com:
>
> > Hello boys, good day for you
>
> > Is it Carolina Windom a balanced load to justify the name "balun"? We
> > could think in a device to transform Z and another device to block
> > feed line current. What do you think about it?
>
> Miguel,
>
> Sometimes the language we use doesn't well describe the thing we are
> thinking about, and this is a case.
>
> We could well apply a meaning to balanced, that either the currents are
> equal in magnitude but opposite in phase; or that the voltages wrt some
> sensible accessible reference are equal in magnitude but opposite in
> phase. One does not imply the other without constraining the load
> characteristic.
>
> When we speak of unbalanced, we commonly think of a configuration where
> one side is 'grounded' and the other 'active'.
>
> The problem is that many situations in antenna systems are not purely
> either, they are not balanced by one or other of the meanings above, and
> they are not unbalanced by the meaning above.
>
> So, they need to be dealt with by the more general method of considering
> that there are non-zero common mode and differential voltages and
> currents.
>
> It would be most unlikely that a Carolina Windown would be balanced, or
> near to it, by any defintion. The antenna is born out of a quest to sell
> the disadvantage of Windom feedline radiation as a positive feature.
>
> The way I like to explain a balun is that it *facilitates* connection of
> a not-balanced device to a balanced device. A practical balun does not,
> of itself, eliminate (meaning make zero) common mode current or common
> mode voltage... yet we commonly use absolute words to describe its
> action.
>
> To a certain extent, that is saying that they are not ideal or perfect
> devices. Some of the rules we hams have made for baluns pretty much

> assure mediocre performance. Like for example what I refer to as Rule
> 500, that the minimum choking impedance of a current balun is ten times
> the differential characteristic impedance (commonly 50, hence Rule 500).
>
> I know English is not your first language, but be wary of applying the
> meaning of words absolutely.
>
> Owen

Hello Owen, it is a pleasure to meet you again.

Oh, yes, of course here we use our words with freedom too. I confess I call "baluncitos" (little baluns) the little toroid transformers, specially binocular ones, but in this newsgroup a lot of good people is very strict with wording and precision of terms :>) then I thought it was no exaggeration from me ask whether it is correct use the term "balun" when both sides are "un", hi hi.

However certainly many times in our hobby words are a true trap for novice (and not so novices), then, why not to call things with more proper name?, if a balun do not "baluning", well... call them "seudo-balun" or another similar pointer to true behaviour (as our known "pseudo-Brewster angle"). There is not a languages translation issue here Owen, you and we, in english and spanish, missuse the same words and concepts, the "thing" it is "globalized".
I am far of being a purist of the tongues, but you know, we hams have misleading words, a majority of you are true experts in RF and it is difficult you can become confussed. Anyway, is not something to worry so much either, the mine It was a casual comment, blame to Roy by take us to the hard theory :D :D

Greetings

Miguel

3972. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 01:34:45 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <a2cc77a3-43f6-4cd0-8a7b-c28e0735174e@w4g2000vbh.googlegroups.com>
Source record: 7472

On 12 sep, 22:19, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 12 Sep 2010 15:51:53 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >Why "do not point in that" Richard you do not trust in IEEE guys? :>)
>
> Sounds like you are waiting for the right pope before you go to
> confession.
>
> 73's
> Richard Clark, KB7QHC

Hi hi, Oh no, I am an atheist in all possibles senses of the word, but
I was curious about your comment, here we call it "cosas de
chismosas" (gossipy things?) :>) - Miguel

3973. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 01:54:57 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <mMSdnRU9epnuGRDRnZ2dnUVZ_r-dnZ2d@giganews.com>
Source record: 7473

On 9/12/2010 9:45 AM, lu6etj wrote:
>
> Hello Roy, good day.
>
> I prefer not use "my" definition or "your" definition words because in
> this case -at least- I am not the "definer", I only learnt that
> definition. Anyway, a definition it is not neccesarily a "true", you
> can define a gnome or a dragon, both inexistent or "untrue" critters
> (I am not absolutely sure about its "inexistence", hi hi). A
> definition may be simply the conventional meaning of a term, true or
> false it is not applicable to it, different logical thing it is a
> "proposition".
>
> Well, long time ago I learnt a definition of balanced circuit, that
> definition not mention simmetrical driving to the circuit, only
> impedance respect to ground. Citation =>
>
> Balanced circuits: "The pad in fig 133 it is a balanced circuit (or
> balanced pad) because there is the same impedance in each line wire. A
> properly constructed open wire line or toll cable is also a balanced
> circuit."
>
> (From "Fundamentals of telephony", by Arthur Lemuel Albert, McGraw
> Hill, 1943, page 265).
>
> I know Wikipedia it is not authoritative but in "Balanced Line" says:
>
> "In telecommunications and professional audio, a balanced line or
> balanced signal pair is a transmission line consisting of two
> conductors of the same type, each of which have equal impedances along
> their lengths and equal impedances to ground and to other circuits.
> [1]"
>
> Searchiing the Web for definitions I found an interesting article in
> that item with similar concepts
> http://www.multimediamanufacturer.com/articles/whitlock407.pdf
> Can you acces to an IEEE definition? I could not.
>
> I believe original definition perhaps was related only to noise pick
> up in lines, I understand your point and not oppose to it, it is a
> good point, perhaps we have to say "an all (o totally) balanced
> SYSTEM" when we want to refer to both (signal and impedance)
> simmetries, to eliminate ambiguities.
> ......

> Although this is a more important issue, I insist in my original
> point, is it "licit" to call "balun" a device connected to two
> unbalanced circuits (line and antenna)?, Is it Carolina windom a
> balanced antenna?
> Here most of hams tend to call balun any toroidal transformer, with TL
> or traditional windings connected to any circuit! :>)
>
> What you say? Thank for your interest and answers. Best regards to you
> and all friends.
>
> Miguel LU6ETJ

The answer to your question about a Carolina Windom is yes. The answer is also no. It all depends on what you mean by "balanced". You shouldn't have any trouble finding an authoritative source to justify either answer.

I have no interest in establishing or arguing about an "official" definition of "balanced". What I'm trying to do is force people to define what they mean when they start talking about whether a balun achieves "balance" in some particular system, or whether some antenna is more or less "balanced" than another. As I hope you've seen, the conclusions can be very different depending on what you're trying to achieve by establishing "balance". In my article I pointed out that achieving "balance" of feedline conductor voltages relative to the Earth or some chosen "ground" point can often *cause* feedline currents to be other than equal and opposite, and therefore make the feedline radiate.

Until you clearly define exactly what you mean by "balance", discussions about it are useless because it means so many different things.

Roy Lewallen, W7EL

-- Be careful with the English language, in which fat chance and slim chance mean the same thing, a wise man is admired and wise guy shunned, and a bag lady and bag man are very different in ways other than just their gender.

3974. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 02:04:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <m-KdnXXwntU8GxDRnZ2dnUVZ_jmdnZ2d@giganews.com>
Source record: 7474

On 9/12/2010 6:29 PM, lu6etj wrote:
>
> Hello Owen, it is a pleasure to meet you again.
>
> Oh, yes, of course here we use our words with freedom too. I confess I
> call "baluncitos" (little baluns) the little toroid transformers,
> specially binocular ones, but in this newsgroup a lot of good people
> is very strict with wording and precision of terms :>) then I thought
> it was no exaggeration from me ask whether it is correct use the term
> "balun" when both sides are "un", hi hi.
>
> However certainly many times in our hobby words are a true trap for
> novice (and not so novices), then, why not to call things with more
> proper name?, if a balun do not "baluning", well... call them "seudo-
> balun" or another similar pointer to true behaviour (as our known
> "pseudo-Brewster angle"). There is not a languages translation issue
> here Owen, you and we, in english and spanish, missuse the same words
> and concepts, the "thing" it is "globalized".
> I am far of being a purist of the tongues, but you know, we hams have
> misleading words, a majority of you are true experts in RF and it is
> difficult you can become confussed. Anyway, is not something to worry
> so much either, the mine It was a casual comment, blame to Roy by take
> us to the hard theory :D :D
>
> Greetings
>
> Miguel

I'm far from a language purist -- my vocabulary and standards of diction were largely formed during my military service, which is why my vocabulary is so limited -- in popular company the majority of my literary repertoire is unacceptable and unavailable for use.

But I am big on communication, and really hate to waste my time arguing about senseless things, especially when people can't even rationally formulate what they're arguing about. (That's why I plonked Art, "John Smith", and a few selected others long ago.) Feel free to use words any way you want. But if you use them in an unconventional way (like Art uses "efficiency") or use words with multiple different common meanings (like "balance"), then you won't be communicating but just blowing wind unless you take the trouble to say exactly what you mean. Most people resist doing that because they're not too sure themselves just what they're talking about.

The postings here show that just blowing wind is a very popular pastime for a lot of folks. But it isn't my cup of tea.

Roy Lewallen, W7EL

3975. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 02:35:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF28025FD33Enonenowhere@61.9.134.55>
Source record: 7475

Roy Lewallen <w7el@eznec.com> wrote in
news:mMSdnRU9epnuGRDRnZ2dnUVZ_r-dnZ2d@giganews.com:

...
> -- Be careful with the English language, in which fat chance and slim
> chance mean the same thing, a wise man is admired and wise guy
> shunned, and a bag lady and bag man are very different in ways other
> than just their gender.

Ah yes, one's nose runs, and feet smell!

Owen

3976. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 02:50:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF282A539A90nonenowhere@61.9.134.55>
Source record: 7476

lu6etj <lu6etj@gmail.com> wrote in
news:13b024aa-d3a1-4015-8704-3dc63f72afd2@j19g2000vbh.googlegroups.com:

...
> is very strict with wording and precision of terms :>) then I thought
> it was no exaggeration from me ask whether it is correct use the term
> "balun" when both sides are "un", hi hi.

Perhaps the term 'common mode choke' works?

I did see a raging argument someone online (eham?) just recently where parties were arguing that a 4:1 Guanella current balun could be wound on a single toroid, it was the way Guanella intended it they said, but they argued that use of two ferrite sticks for such a device was wrong.

In fact, Guanella's article describes his 1:1 balun without any magnetic core material, and the 4:1 balun as a connected pair of 1:1 baluns with no (ie negligible) magnetic coupling. Yet I have seen commercial sites selling a Guanella 4:1 current balun on a single core, arguing that Sevick said it was ok in a certain context... a context that is unlikely to ever exist in an antenna system. But hey, Sevick is Mr Baluns, so they sell. That context relates to another dimension of the balanced / symmetric issue.

Back to the Carolina Windom, a common explanation holds that there is common mode current on the feedline between the dipole feedpoint and the 'isolator'. The notion that common mode current exists on one side of the isolator and not on the other is an interesting one, one better explained by advertising hyperbole than radiocommunications theory.

Owen

3977. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 03:59:25 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6k7it$q31$1@news.eternal-september.org>
Source record: 7477

On 9/12/2010 7:50 PM, Owen Duffy wrote:
> ... Yet I have seen commercial sites
> selling a Guanella 4:1 current balun on a single core, arguing that
> Sevick said it was ok in a certain context... a context that is unlikely
> to ever exist in an antenna system. But hey, Sevick is Mr Baluns, so they
> sell. That context relates to another dimension of the balanced /
> symmetric issue.
>
> Back to the Carolina Windom, a common explanation holds that there is
> common mode current on the feedline between the dipole feedpoint and the
> 'isolator'. The notion that common mode current exists on one side of the
> isolator and not on the other is an interesting one, one better explained
> by advertising hyperbole than radiocommunications theory.
>
> Owen

The first part, above, implies that no one has ever constructed such a balun(s), one on a single core, one on a dual core, used "balanced" resistances, to serve as loads, then unbalance the loads, and observe results. I have, when constructed properly, one can be constructed on a single core. Is the dual core better? Yes ... is it possible to run the single core balun in conditions where it will fail miserably?; Yes. Is it possible to run the dual core balun in conditions where it will fail miserably?; Yes.

As to the second part, I have found a properly constructed balun to be both, a choke and "impedance-transformer." Indeed, an excellent balun is optimized to take advantage of both phenomenon.

And, of course, I have found and believe a 160m to 10m balun/unun is stretching things, probably beyond what one should (but, hey, you can get by with it), two baluns, a high freq and a low freq are better to cover such a span ... however, you can carry that to an extreme and optimize core material/size and windings for each specific band ...

And, radio is an onion, each layer built on a preceding layer. At the core of all this is the EM transmission theory, and RF is both particles and waves ... obviously, both have great difficulty being true at the same time, so "waves of bullets" becomes the explanation ... obviously, great difficulty is going to be had in having cement solid theory in the outer layers of this onion. By the time you get to "balance" the errors are only magnified ... balance is like any balance in life ... you'll know it when you have it, and benefit from it.

Regards,
JS

3978. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 05:15:32 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <855044c8-6667-443e-acea-49c64f72f07a@c13g2000vbr.googlegroups.com>
Source record: 7478

On 12 sep, 23:35, Owen Duffy <n...@no.where> wrote:
> Roy Lewallen <w...@eznec.com> wrote
innews:mMSdnRU9epnuGRDRnZ2dnUVZ_r-dnZ2d@giganews.com:
>
> ...
>
> > -- Be careful with the English language, in which fat chance and slim
> > chance mean the same thing, a wise man is admired and wise guy
> > shunned, and a bag lady and bag man are very different in ways other
> > than just their gender.
>
> Ah yes, one's nose runs, and feet smell!
>
> Owen

I agree with you Roy in several items, when we try communicate with words and we not share the exact word meanings we end up inmersed in the Babel course. Moreover, we later build bigger ideas based in that misunderstood words, then it is not rare that at the end of the process we can not agree almost nothing.

But there is a problem, explain our concepts writing in a paper it it is not ease too, any dictionary it is circular referenced, verbal or written definitions use words, then such circularity it is inherente to written language in some point we will need to point to an object, event or phenomenom and say to our partner: you see "this is a house", "that is a river". That way we learn languages when we born, linguists call them "ostensive definitions".

Because that, I pointed -in early post- we could end up having to define all words we use. Here we call that process "socratic tests", because a teacher could ask and ask definitions recursively to the extent we were not able to explain even what is a mom.
Also, in some point we need support us in standard accepted definitions of terms with its limitations at risk of failing to have a common language, often authoritative definitions serve to this pupose even although they are incomplete.

I do not would say I hate to waste my time arguing about apparently senseless things because what to me may seems nonsense can be really important and I am not capable to see it, but I agree that comes a point where I tired and renounce (and there are much things that are really suspiciously foolish). However I recognize that drop the bone too early sometimes not conducive to resolving difficult issues, it is all a matter of "balancing" :>)

Thank you very much.

Miguel

PD: Nice examples of english meanings, when we tell: "ese es un hijo de su madre" we are not talking about kinship relationships :>)

3979. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 05:46:16 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b014d72c-61ed-4e5e-acd4-4d4bdf93dd6a@m16g2000vbs.googlegroups.com>
Source record: 7479

On 12 sep, 22:17, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 12 Sep 2010 15:30:04 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >Hello dear Richard, how are you? I hope very well with yours:
>
> >Mylar conductive ballon replacement it is not a valid refutation for
> >the hipotesis analized, that antenna was only a "test antenna", any
> >liquid antenna can be replaced by a metalic antenna...! what prove
> >that?
>
> Hi Miguel,
>
> What does it prove? What does water prove? That it is a poor
> replacement? Yes.
>
> >I do not know lens dielectric antennas, I learnt radiation it due
> >accelerating charges,
>
> That repeated epithet is rather too simple. An electron is always
> accelerating. A circular orbit guarantees that.
>
> >electrons are charges, free ions also, non free
> >dielectric charges (E field induced dipoles) too; alternating electric
> >field applied to them produce movement on them, then acceleration,
> >then => radiation. Am I wrong? (yes I know, loss too sometimes).
>
> Does swinging a battery around produce radiation?
>
> >You say: "This reflection is a function of a severe mismatch between
> >two poor
> >conductors. You don't need sea water to achieve the same thing"
>
> >What "two" conductors?
>
> POOR conductors.
>
> >you know air not work as a "conductor" in this
> >analitic environment,
>
> Right, it is a very poor conductor (and, yet, we still see lightning
> conducting through it on a summer evening - all a matter of degree).
>
> >it would the same it there were empty vacuum,

> >reflecting medium properties are responsibles for earth reflections.
>
> I suppose so.
>
> >"Mismatch" it is another magic word, improper of you indeed my
> >friend!, not an explanation :>)
>
> Magic happens.
>
> >Classic EM radiation (or the same "re-irradiation") it sometimes
> >explained due accelarating charges, and YES, I agree with you,
> >certainly "you do not need sea water to achieve the same thing", you
> >can do it with any other vibrating charge, sea water charges it is
> >only one possibility, conductors, soil substances are other familiar
> >things capable to do it.
>
> So then, classic EM radiation is pretty common, and has lost its
> magic.
>
> >We know waves are reflected to ionosphere by those mediums, we can
> >explain that reflections with incident electromagnetic fields and
> >earth surface induced currents; however, "current" not implies here
> >free electrons traveling miles inside a conductor, we have a "current"
> >with any little induced movement on a charge and if this movemente is
> >not constant we have acceleration then => EM radiation, what other
> >classical process could explain the EM earth reflection? I do not
> >know.
>
> Mismatch.
>
> >However I am not supporting practical liquid antennas here, I have not
> >made the experience and I have not theoretical enough knowledge
> >neither to prove or refute the hipotesis without much more working, I
> >only have some pointers to think over about it.
>
> Ever hear a flame speaker? No magnets, no cone, just a flame and an
> amplifier feeding two probes and *sound* comes out. No one builds
> them either.
>
> 73's
> Richard Clark, KB7QHC

How easy it is for you, eh? some day I will catch you in
spanish... :>)

Well, it is funny discuss some things with you. (Sorry, I don know how
properly quoting with Google, let me use < > for your sentences).
....
Is not that IEEE paper what you called "the Workbench", have done your
duties in "The Bench" to refute that paper? :>D
.....

<What does it prove? What does water prove? That it is a poor replacement? Yes>

Certainly "a wooden leg it is a poor replacement for the original one" (Capt. Hooke dixit), but it is better than no leg at all when you do not have money to pay "the million dollar man leg". Science deals with possibilities not with Harvard economists efficientist laws. We, carbonous beings have made of electrolites, open your ham mind, what was about spirit of "to boldly go where no man has gone before"?
....
<That repeated epithet is rather too simple. An electron is always accelerating. A circular orbit guarantees that. >

Time ago you have troubles with this item, until today do you not believes Bohr postulates was intended for atomic orbitals?, do you have forgotten ciclotron radiation?, I talked to you about this curious habit of emmiting waves of circular accelerated charges when we are young.
....
<Does swinging a battery around produce radiation?>

Do you believe?
......
Air a POOR conductor of EM? Oh no! you are not my Clarke, this newsgroup has been infiltered by etherians. They have hi jacked my old newsgroup friend...! (electronic ether, where I read that, before?)
.....
PSE explain me MISMATCH. (I bet that "mismatch" in some point will ends up in Maxwell's Faraday and generalized Ampere law).

73 (so much english for a day to me)

Miguel Ghezzi

3980. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 08:09:21 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8ddc37$0$22808$65785112@news.neostrada.pl>
Source record: 7480

"K1TTT" <k1ttt@arrl.net> wrote
news:9e6c80dc-5519-40b5-8f18-02858065b85b@t11g2000vbc.googlegroups.com...
On Sep 11, 6:27 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> If you do not like the Sun's ether drag you can use the Sun's reference
> frame drag. Which one do you prefer.
>
> > or related those phenomena to epsilon or mu of free space?
>
> The space is not a dielectric. Electric waves travel in metal transmissing
> lines where no epsilon or mu.

>hey mr.b. here is a group that you might fit in with:
http://www.galileowaswrong.com/galileowaswrong/

The Author do not know about MGX and Stokes. He only know MMX and Sagnac.
Many people do not know the all evidences. Like you.

For such Galileo was wrong. For you Stokes (Chairman of Royal Society) was
wrong.
S*

3981. Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 08:32:25 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i6knkgmcv1@news.eternal-september.org>
Source record: 7481

Suppose I buy a roll of thin wires, install multiple hooks at the
corners of my rectangular room, then wrap the wires along the hooks,
then connect the 2 ends of the loops into my hi-fi.

Would that make a great AM antenna? Would it work?

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
^ ^ 16:26:01 up 16 days 18:33 1 user load average: 0.16 0.08 0.07
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

3982. Speaker cone as AM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 08:35:17 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i6knprmcv2@news.eternal-september.org>
Source record: 7482

```
Could I use a speaker core as an AM antenna? It got wires looping around
a magnet, didn't it? :)
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
^ ^ 16:31:01 up 16 days 18:38 1 user load average: 0.00 0.03 0.04
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

3983. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 09:01:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <lo6dnZnPLO3LdRDRnZ2dnUVZ_rCdnZ2d@giganews.com>
Source record: 7483

On 9/13/2010 1:32 AM, Man-wai Chang wrote:
> Suppose I buy a roll of thin wires, install multiple hooks at the
> corners of my rectangular room, then wrap the wires along the hooks,
> then connect the 2 ends of the loops into my hi-fi.
>
> Would that make a great AM antenna? Would it work?
>
It shouldn't take you more than 15 minutes to try it, and another two
minutes to post what results you got.

Roy Lewallen, W7EL

3984. Re: Speaker cone as AM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 09:02:15 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <lo6dnZjPLO0HdRDRnZ2dnUVZ_rAAAAAA@giganews.com>
Source record: 7484

On 9/13/2010 1:35 AM, Man-wai Chang wrote:
>
> Could I use a speaker core as an AM antenna? It got wires looping around
> a magnet, didn't it? :)
>
If you don't have an old speaker you can use to experiment with, visit
the next local swap meet. I'll be interested in knowing how well it
worked for you.

Roy Lewallen, W7EL

3985. Re: Speaker cone as AM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 09:24:58 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i6kqn0$1ef$1@news.eternal-september.org>
Source record: 7485

```
>> Could I use a speaker core as an AM antenna? It got wires looping around
> If you don't have an old speaker you can use to experiment with, visit
> the next local swap meet. I'll be interested in knowing how well it
> worked for you.

Does this mean it might work?
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
^ ^ 17:21:01 up 16 days 19:28 1 user load average: 0.00 0.04 0.01
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

3986. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 09:25:27 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i6kqnt$1ef$2@news.eternal-september.org>
Source record: 7486

> It shouldn't take you more than 15 minutes to try it, and another two
> minutes to post what results you got.

I haven't bought the thin wires yet. Would it work theoretically?

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
^ ^ 17:21:01 up 16 days 19:28 1 user load average: 0.00 0.04 0.01
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

3987. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 11:39:36 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <918c6223-e572-4e80-9328-fe663a96ff9d@a30g2000vbt.googlegroups.com>
Source record: 7487

On Sep 12, 9:35 pm, Owen Duffy <n...@no.where> wrote:
> Ah yes, one's nose runs, and feet smell!

How about, "I could care less." vs "I couldn't care less."?

From "The IEEE Dictionary": "balun - A network for the transformation from an unbalanced transmission line or system to a balanced line or system, or vice versa." They mention the transition from twisted pair to coax. "Unun" is not in "The IEEE Dictionary".
--
73, Cecil, w5dxp.com

3988. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 13:05:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f8f527ff-cd53-4019-ba76-1fc5fec7de24@q18g2000vbm.googlegroups.com>
Source record: 7488

On Sep 12, 9:50 pm, Owen Duffy <n...@no.where> wrote:
> Back to the Carolina Windom, a common explanation holds that there is
> common mode current on the feedline between the dipole feedpoint and the
> 'isolator'. The notion that common mode current exists on one side of the
> isolator and not on the other is an interesting one, one better explained
> by advertising hyperbole than radiocommunications theory.

As you know, common-mode RF obeys the rules of the reflection model.
From an (ideal) physics standpoint, there is nothing technically wrong
with having zero common mode current between the isolator and the
source while having a common mode current maximum (loop) 1/4WL back
toward the antenna feedpoint from the isolator. (Assume an ideal
isolator with an infinite choking impedance.)

Consider the following example:

Source--------1/2WL coax1--------isolator-------1/2WL coax2----------
antenna feedpoint

The net common-mode current on each side of the (ideal lumped)
isolator must be equal to satisfy Kirchhoff. There is no technical
reason why the net standing-wave common-mode current could not be zero
on each side of the isolator where the isolator is causing a standing-
wave current node (minimum). 1/4WL back from the isolator toward the
source, there is no technical reason why the net standing-wave common-
mode current could not be zero. 1/4WL forward from the isolator toward
the antenna, there is no technical reason why the net standing-wave
common-mode current could not be at a high (maximum-loop) value. Since
it is theoretically possible, one should not dismiss it as
"advertising hyperbole" without having performed the measurements to
prove that particular statement applies to the Carolina Windom because
of poor isolator performance, not because it violates Kirchhoff's
laws.

Incidentally, this is the same conceptual error that some folks have
made when they reported measuring no phase shift in the current
through a large air-core 75m loading coil when installed on a standing-
wave antenna. Hint: Pure standing wave current has zero relative phase
shift so it obviously cannot be used to measure phase shift. EZNEC
confirms that fact.
--
73, Cecil, w5dxp.com

3989. Re: Speaker cone as AM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 13:37:57 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6l9fmftu2@news.eternal-september.org>
Source record: 7489

On 9/13/2010 2:24 AM, Man-wai Chang wrote:

> ...
> Does this mean it might work?
>

Yes, it can work quite well, even on 160m! First, run about ~300 ft. of wire as high as possible. Attach the speaker on the far end, furthermost from the radio. Go back to shack and adjust the tuner, ENJOY!

Regards,
JS

3990. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 13:41:28 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6l9m9ftu3@news.eternal-september.org>
Source record: 7490

```
On 9/13/2010 4:39 AM, Cecil Moore wrote:
> ... "Unun" is not in "The IEEE Dictionary".
> --
> 73, Cecil, w5dxp.com

Yeah, those fools haven't plagiarized someone else yet, without giving
that someone else credit, give them time ...

Regards,
JS
```

3991. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 14:53:35 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrni8senf.mdk.knock_yourself_out@shell.config.com>
Source record: 7491

On Mon, 13 Sep 2010 17:25:27 +0800, Man-wai Chang wrote:
> <re-inserted> Roy Lewallen wrote:
>>
>> It shouldn't take you more than 15 minutes to try it, and another
>> two minutes to post what results you got.
>
> I haven't bought the thin wires yet. Would it work theoretically?

The purpose of experimentation is to eliminate conjecture --
especially the rancorous conjecture found in this ng.

Jonesy

p.s. Whatever newsreader you're using is making an unholy mess
of the attributions in your followups.
--
Marvin L Jones | jonz | W3DHJ | linux
38.24N 104.55W | @ config.com | Jonesy | OS/2
* Killfiling google & XXXXbanter.com: jonz.net/ng.htm

3992. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 16:51:59 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <c479b03c-cea7-4809-8ee7-f2e945286ab7@r10g2000vbc.googlegroups.com>
Source record: 7492

On 13 sep, 10:05, Cecil Moore <w5...@hotmail.com> wrote:
> On Sep 12, 9:50 pm, Owen Duffy <n...@no.where> wrote:
>
> > Back to the Carolina Windom, a common explanation holds that there is
> > common mode current on the feedline between the dipole feedpoint and the
> > 'isolator'. The notion that common mode current exists on one side of the
> > isolator and not on the other is an interesting one, one better explained
> > by advertising hyperbole than radiocommunications theory.
>
> As you know, common-mode RF obeys the rules of the reflection model.
> From an (ideal) physics standpoint, there is nothing technically wrong
> with having zero common mode current between the isolator and the
> source while having a common mode current maximum (loop) 1/4WL back
> toward the antenna feedpoint from the isolator. (Assume an ideal
> isolator with an infinite choking impedance.)
>
> Consider the following example:
>
> Source--------1/2WL coax1--------isolator-------1/2WL coax2----------
> antenna feedpoint
>
> The net common-mode current on each side of the (ideal lumped)
> isolator must be equal to satisfy Kirchhoff. There is no technical
> reason why the net standing-wave common-mode current could not be zero
> on each side of the isolator where the isolator is causing a standing-
> wave current node (minimum). 1/4WL back from the isolator toward the
> source, there is no technical reason why the net standing-wave common-
> mode current could not be zero. 1/4WL forward from the isolator toward
> the antenna, there is no technical reason why the net standing-wave
> common-mode current could not be at a high (maximum-loop) value. Since
> it is theoretically possible, one should not dismiss it as
> "advertising hyperbole" without having performed the measurements to
> prove that particular statement applies to the Carolina Windom because
> of poor isolator performance, not because it violates Kirchhoff's
> laws.
>
> Incidentally, this is the same conceptual error that some folks have
> made when they reported measuring no phase shift in the current
> through a large air-core 75m loading coil when installed on a standing-
> wave antenna. Hint: Pure standing wave current has zero relative phase
> shift so it obviously cannot be used to measure phase shift. EZNEC
> confirms that fact.
> --
> 73, Cecil, w5dxp.com

Good mornig:

I agree with Cecil, Owen, I do not see nothing strange on have common mode current in one part of the line and not in the other, ideal choke it is an open circuit to RF currents.

In Carolina we have at least a pair of possibilities: employ a conventional transformer with pure magnetic coupling (shield betwen windings), then we get Z adaptation and no common mode feed line current or employ another more BW efficient Z transformer with less isolation to common mode current + a common mode choke.

Respect to balancing definitions, I would like to use here a universally agreed definition because we -hams- exchange conceptual and technical information with people of all the world who often study electronics in colleges and universities; seems reasonable to me use a common lenguage. In this newgropup (as others) there are much conceptual and meaning differences, cause that we can not autoreference internally controversial definitions/concepts. I am not a fan of Wikipedia, but its politics to ask for references it is valid and valuable.

73

Miguel LU6ETJ

3993. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 17:15:13 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8e5c22$0$22794$65785112@news.neostrada.pl>
Source record: 7493

"lu6etj" <lu6etj@gmail.com> wrote
news:3d50dd35-3c27-4c23-8430-f7ea3d1d4a02@u13g2000vbo.googlegroups.com...
>
>Trees_Antennas_IEEE.pdf

>Time ago I had some doubts about the mobility of ions in a liquid to
radiate and calculate how much an electron actually moves when the
antenna is radiating to use as a starting point.
The numbers (if I do not make mistakes) showed me to a current density
in the order of 5 A/mm^2, free electrons can take a trip of just one
three thousandth mm of copper ion radius, surprising result!, really I
did not expect such a small value ..

In the lattice are the ducts. Not all electrons are in them.

>., It showed me that electrons in
antenna barely vibrate around their resting place when radiates (I
made calculations for a irradiant at 80 m).
This favored hypothesis of liquid antenna possibilities because would
suffice for the ions (charges) of the liquid vibrate slightly around
their points of rest to act as radiators (I do not to solve issues
related + ion mass to best "close" my questions).

Ions in copper vibrate with the acoustic frequencies.

>We know sea water an earth EM wave reflections really are
reirradiation of EM energy, then, ionic antennas there are real
things, are there?

At the higher frequencies the AC conductivity increases.
So there are more electrons.

>However I haven not study the efficience of this
process.

Consider that on the Earth is excess of electrons.
S*

3994. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 17:30:52 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8e5fce$0$21005$65785112@news.neostrada.pl>
Source record: 7494

"lu6etj" <lu6etj@gmail.com> wrote
news:b014d72c-61ed-4e5e-acd4-4d4bdf93dd6a@m16g2000vbs.googlegroups.com...
......
>Air a POOR conductor of EM? Oh no! you are not my Clarke, this
newsgroup has been infiltered by etherians. They have hi jacked my old
newsgroup friend...! (electronic ether, where I read that, before?)

Now everywhere is the plazma ether. Even in the seewater:
http://users.cecs.anu.edu.au/~trumpf/pubs/somaraju_trumpf_permittivity.pdf
S*

3995. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 17:47:46 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <W8ednXz2899Y_hPRnZ2dnUVZ_jOdnZ2d@giganews.com>
Source record: 7495

The difficulty with having common mode current on one side of an "isolator" or common mode choke (current balun) is that it creates a field which couples to the line on the other side, generating a common mode current on the other side. This is exactly the same phenomenon that occurs when you put a common mode choke at the feedpoint of a J-pole or ground plane antenna, or for that matter an off-center fed dipole. You end up with near-zero current at the point where the choke is inserted, but an increasing value of common mode current from there downward, peaking at about 1/4 wavelength from the choke and every half wavelength onward. The most practical solution I've found is to insert a second common mode choke about where the first peak would like to be, that is about 1/4 wavelength below the first choke. This forces the common mode current at that point to be near zero, breaking the resonance of the nearest half wavelength of line and putting the susceptible remaining transmission line farther from the radiating portion of the line or antenna. But compromises or additional chokes have to be used if the antenna is operated on multiple bands.

Roy Lewallen, W7EL

3996. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 18:21:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pcqs86l05j33ljnpjenmq6lnt50p3uc92d@4ax.com>
Source record: 7496

On Sun, 12 Sep 2010 18:34:45 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>On 12 sep, 22:19, Richard Clark <kb7...@comcast.net> wrote:
>> On Sun, 12 Sep 2010 15:51:53 -0700 (PDT), lu6etj <lu6...@gmail.com>
>> wrote:
>>
>> >Why "do not point in that" Richard you do not trust in IEEE guys? :>)
>>
>> Sounds like you are waiting for the right pope before you go to
>> confession.
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Hi hi, Oh no, I am an atheist in all possibles senses of the word, but
>I was curious about your comment, here we call it "cosas de
>chismosas" (gossipy things?) :>) - Miguel

Hi Miguel,

I presume you mean my comment "no point in that."

It simply means (and ties in with the joke above) that the topic
requires no authority to bless it.

Symmetry and Balance are always referenced to some third element or
characteristic. In our context, it is usually ground. In our
context, ground is also called "common."

No one is really interested in Symmetry and Balance unless there is a
nearby ground or common.

Many, many posters here can present some very confused postings about
balance, what ground is, and what constitutes common mode. You have
already revealed that a lot of your fellow Hams in Argentina (and this
is not confined to any country) are confused about the purpose, use,
design, and need for a BalUn (or BalBal, or UnUn) transformer. Going
further, they (speaking of those many, many posters) are also confused
about what a "transformer" is - thinking it is equivalent to the
iron-core variety.

And on, and on, and on....

73's
Richard Clark, KB7QHC

3997. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 18:26:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ptqs86healjlu9t7spn9p88m0bfj12jcg9@4ax.com>
Source record: 7497

On Sun, 12 Sep 2010 22:46:16 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>How easy it is for you, eh? some day I will catch you in
>spanish... :>)

Too bad you weren't on the bus I caught from Abasto to Calle Florida
when I had to figure out how much fare I was supposed to put in. My
XYL was laughing at me from the back of the bus as she watched (and
the other passengers waving their hands to indicate I had put in
enough).

73's
Richard Clark, KB7QHC

3998. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 18:26:16 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6lqc9$sf3$2@news.eternal-september.org>
Source record: 7498

On 9/12/2010 8:59 PM, John Smith wrote:
> On 9/12/2010 7:50 PM, Owen Duffy wrote:
>> ... Yet I have seen commercial sites
>> selling a Guanella 4:1 current balun on a single core, arguing that
>> Sevick said it was ok in a certain context... a context that is unlikely
>> to ever exist in an antenna system. But hey, Sevick is Mr Baluns, so they
>> sell. That context relates to another dimension of the balanced /
>> symmetric issue.
>> ...
>> Owen
>
> The first part, above, implies that no one has ever constructed such a
> balun(s), one on a single core, one on a dual core, used "balanced"
> resistances, to serve as loads, then unbalance the loads, and observe
> results. I have, when constructed properly, one can be constructed on a
> single core. Is the dual core better? Yes ... is it possible to run the
> single core balun in conditions where it will fail miserably?; Yes. Is
> it possible to run the dual core balun in conditions where it will fail
> miserably?; Yes.
>
> As to the second part, I have found a properly constructed balun to be
> both, a choke and "impedance-transformer." Indeed, an excellent balun is
> optimized to take advantage of both phenomenon.
> ...
>
> Regards,
> JS

This:
http://www.pdftop.com/view/aHR0cDovL3d3dy5ob21lLmVhcnRobGluay5uZXQvfmNocmlzdHJhc2svVHJhc2s0dG8xQmFsdW4ucGRm

is actually a pretty fair appraisal of it all ... beware line wrapping.

Regards,
JS

3999. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 18:31:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <lbrs86h2r3tp15oojer9190a04mu8raldk@4ax.com>
Source record: 7499

On Sun, 12 Sep 2010 22:46:16 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>PSE explain me MISMATCH.

What is the characteristic Z of free space or air?

What is the characteristic Z of Water (plain, with mud, or salty)?

What is the ratio between the two?

How much power in one, transits the interface and proceeds through the
other?

[hint] if not much, it is reflected at the interface.

73's
Richard Clark, KB7QHC

4000. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 19:07:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF334121EF31nonenowhere@61.9.134.55>
Source record: 7500

lu6etj <lu6etj@gmail.com> wrote in
news:c479b03c-cea7-4809-8ee7-f2e945286ab7@r10g2000vbc.googlegroups.com:

> I agree with Cecil, Owen, I do not see nothing strange on have common
> mode current in one part of the line and not in the other, ideal choke
> it is an open circuit to RF currents.

Miguel,

There are two issues.

Firstly, if the common mode choke (or isolator) is physically small with respect to wavelength, and there is common mode current on the line immediately adjacent on one side of it, why is there not an almost equal common mode current on the other side... or explain the current path that allows the first mentioned current AND that complies with Kirchoff's Current Law.

Secondly, the common mode 'conductors' are coupled conductors. I see that Roy has dealt with that, so I will leave it at that.

For these reasons, it is naive to think that a practical common mode choke has such extremely high impedance that the common mode current through the choke is zero, or even near to it. Even if it did drive common mode current to zero or near zero at that point, that does not mean there is no common mode standing wave, just that a node exists at that point.

Ask yourself how whether the use of a common mode choke (isolator) to effectively reduce common mode current between the common mode choke and the tx don't also reduce common mode current between the common mode choke and the dipole feed point.

Owen

4001. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 19:29:48 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <456638ef-cb8e-4d02-9822-7d7779e4ccc7@a30g2000vbt.googlegroups.com>
Source record: 7401

On Sep 13, 12:15 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "lu6etj" <lu6...@gmail.com>
wrotenews:3d50dd35-3c27-4c23-8430-f7ea3d1d4a02@u13g2000vbo.googlegroups.com...
>
>
>
> >Trees_Antennas_IEEE.pdf
> >Time ago I had some doubts about the mobility of ions in a liquid to
>
> radiate and calculate how much an electron actually moves when the
> antenna is radiating to use as a starting point.
> The numbers (if I do not make mistakes) showed me to a current density
> in the order of 5 A/mm^2, free electrons can take a trip of just one
> three thousandth mm of copper ion radius, surprising result!, really I
> did not expect such a small value ..
>
> In the lattice are the ducts. Not all electrons are in them.
>
> >., It showed me that electrons in
>
> antenna barely vibrate around their resting place when radiates (I
> made calculations for a irradiant at 80 m).
> This favored hypothesis of liquid antenna possibilities because would
> suffice for the ions (charges) of the liquid vibrate slightly around
> their points of rest to act as radiators (I do not to solve issues
> related + ion mass to best "close" my questions).
>
> Ions in copper vibrate with the acoustic frequencies.
>
> >We know sea water an earth EM wave reflections really are
>
> reirradiation of EM energy, then, ionic antennas there are real
> things, are there?
>
> At the higher frequencies the AC conductivity increases.
> So there are more electrons.
>
> >However I haven not study the efficience of this
>
> process.
>
> Consider that on the Earth is excess of electrons.
> S*

Where did you get the idea that electrons that are accelerated are a intrinsic part of the diamagnetic material?
The air is full of particles from the Sun looking for a place on a diamagnetic material to rest. The size of these particle is such that a tensile force is applied to a surface and is of the smallest mass possible so the speed of light can be obtained. The force vectors on the surface of the radiater is the surface current and the displacement current which in conjunction supplies acceleration with spin to generate charge in a straight line projection to counter gravity.
Nature loves simplicity does it not?

4002. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:01:36 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF33D4E5175Fnonenowhere@61.9.134.55>
Source record: 7402

Owen Duffy <none@no.where> wrote in
news:Xns9DF282A539A90nonenowhere@61.9.134.55:

...
> baluns with no (ie negligible) magnetic coupling. Yet I have seen
> commercial sites selling a Guanella 4:1 current balun on a single
> core.

I might note here that a Trask 4:1 current balun is not a Guanella current 4:1 balun, they have quite different connections. The argument that Trask makes in support of his design on a single core does not apply to the Guanella design.

Owen

4003. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:13:09 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <H_OdnWb-7plFGBPRnZ2dnUVZ_oOdnZ2d@giganews.com>
Source record: 7403

On 9/13/2010 12:07 PM, Owen Duffy wrote:
>
> Miguel,
>
> There are two issues.
>
> Firstly, if the common mode choke (or isolator) is physically small with
> respect to wavelength, and there is common mode current on the line
> immediately adjacent on one side of it, why is there not an almost equal
> common mode current on the other side... or explain the current path that
> allows the first mentioned current AND that complies with Kirchoff's
> Current Law.
>
> Secondly, the common mode 'conductors' are coupled conductors. I see that
> Roy has dealt with that, so I will leave it at that.
>
> For these reasons, it is naive to think that a practical common mode
> choke has such extremely high impedance that the common mode current
> through the choke is zero, or even near to it. Even if it did drive
> common mode current to zero or near zero at that point, that does not
> mean there is no common mode standing wave, just that a node exists at
> that point.
>
> Ask yourself how whether the use of a common mode choke (isolator) to
> effectively reduce common mode current between the common mode choke and
> the tx don't also reduce common mode current between the common mode
> choke and the dipole feed point.
>
> Owen

The key to the answer is in two words in the first sentence of your posting: "immediately adjacent". You're certainly correct that the current can't abruptly drop to zero at the terminator, because of Kirchoff's Current Law. But the current doesn't abruptly end, rather it drops to zero following a sinusoidal distribution curve. It's quite equivalent to a dipole with insulators at both ends and wires beyond that. There's current on the antenna, zero current at the insulators, and some induced current on the wires beyond due to mutual coupling. If the wires beyond are broken by insulators every quarter wavelength or closer, the induced current will be small. But if the wires beyond happen to be close to a half wavelength, the induced current can be quite high. This is almost exactly the situation with transmission lines and chokes, with the chokes acting as somewhat imperfect yet adequate insulators.

Common mode chokes can be made pretty easily to have an impedance of more than 1k ohm. Both modeling and measurement show this is usually adequate in typical installations to drop common mode current to very near zero at the choke location. But you can easily have substantial current a quarter wavelength on either side of it.

Roy Lewallen, W7EL

4004. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:17:43 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6m0t9nnt4@news.eternal-september.org>
Source record: 7404

On 9/13/2010 1:01 PM, Owen Duffy wrote:

> ...
> I might note here that a Trask 4:1 current balun is not a Guanella current
> 4:1 balun, they have quite different connections. The argument that Trask
> makes in support of his design on a single core does not apply to the
> Guanella design.
>
> Owen

You might want to note that to Trask, he thinks it IS a current balun
... since it has the appearance of two 1:1 current baluns used on a
single core, I tend to agree with his take on it.

Regards,
JS

4005. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:22:48 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6m16pnnt5@news.eternal-september.org>
Source record: 7405

On 9/13/2010 1:17 PM, John Smith wrote:

> ...
> You might want to note that to Trask, he thinks it IS a current balun
> ... since it has the appearance of two 1:1 current baluns used on a
> single core, I tend to agree with his take on it.
>
> Regards,
> JS

This core contains four windings, two on each side, they ARE wound to be two 1:1 current (guanella baluns.) The phase of one winding on the floating side is reversed, resulting in balun voltage being additive for that floating winding, alone.

Regards,
JS

4006. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:23:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <NJOdnUoIMJLCFRPRnZ2dnUVZ_umdnZ2d@giganews.com>
Source record: 7408

On 9/13/2010 11:31 AM, Richard Clark wrote:
>
> What is the characteristic Z of free space or air?
>
> What is the characteristic Z of Water (plain, with mud, or salty)?
>. . .

Anyone with EZNEC, including the demo program, can easily get the value of intrinsic Z of various media. Just define a Real ground type in any model and enter the ground constants. Then open the Utilities menu and select Ground Info. A wave normal to the ground will reflect exactly as it would from the junction of two transmission lines with one having the impedance of free space (about 377 + j0 ohms) and the other having the ground's impedance. The nature of oblique reflections depend on the polarization of the wave relative to the reflecting plane (the ground), but a reflection always occurs whenever the wave encounters a change in the impedance of the medium, or a "mismatch" as Richard calls it.

Roy Lewallen, W7EL

4007. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:24:33 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6m1a2nnt6@news.eternal-september.org>
Source record: 7406

On 9/13/2010 1:22 PM, John Smith wrote:
> On 9/13/2010 1:17 PM, John Smith wrote:
>
>> ...
>> You might want to note that to Trask, he thinks it IS a current balun
>> ... since it has the appearance of two 1:1 current baluns used on a
>> single core, I tend to agree with his take on it.
>>
>> Regards,
>> JS
>
> This core contains four windings, two on each side, they ARE wound to be
> two 1:1 current (guanella baluns.) The phase of one winding on the
> floating side is reversed, resulting in balun voltage being additive for
> that floating winding, alone.
>
> Regards,
> JS

I should note, this is NOT misleading, the terminology clearly defines
this balun as a "HYBRID" balun.

Regards,
JS

4008. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:26:41 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6m1e2$57b$1@news.eternal-september.org>
Source record: 7407

```
On 9/13/2010 1:24 PM, John Smith wrote:
> On 9/13/2010 1:22 PM, John Smith wrote:
>> On 9/13/2010 1:17 PM, John Smith wrote:
>>
>>> ...
>>> You might want to note that to Trask, he thinks it IS a current balun
>>> ... since it has the appearance of two 1:1 current baluns used on a
>>> single core, I tend to agree with his take on it.
>>>
>>> Regards,
>>> JS
>>
>> This core contains four windings, two on each side, they ARE wound to be
>> two 1:1 current (guanella baluns.) The phase of one winding on the
>> floating side is reversed, resulting in balun voltage being additive for
>> that floating winding, alone.
>>
>> Regards,
>> JS
>
> I should note, this is NOT misleading, the terminology clearly defines
> this balun as a "HYBRID" balun.
>
> Regards,
> JS
>

I take that back, he used the term "IMPROVED" here, in my previous study
of these type hybrid is used ... sorry, my error ...

Regards,
JS
```

4009. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 20:55:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF346821A71Dnonenowhere@61.9.134.55>
Source record: 7409

Roy Lewallen <w7el@eznec.com> wrote in
news:H_OdnWb-7plFGBPRnZ2dnUVZ_oOdnZ2d@giganews.com:

> The key to the answer is in two words in the first sentence of your
> posting: "immediately adjacent". You're certainly correct that the
> current can't abruptly drop to zero at the terminator, because of
> Kirchoff's Current Law. But the current doesn't abruptly end, rather
> it drops to zero following a sinusoidal distribution curve. It's quite

My modelling experience is that other things like connection to ground,
and open ends to conductors have more influence on the location of a
standing wave pattern than typical common mode chokes.

I have created a simple model of a Carolina Windom at 7MHz, assuming that
the device at the dipole feedpoint is a 4:1 voltage balun with negligible
common mode impedance, the isolater is 1000+j0 (your nomination), and a
feedline configuration that demonstrates that the isolator has not caused
a minimum in the common mode standing wave pattern at that point.

A pic of the current distribution is at
http://www.vk1od.net/lost/Clip043.png .
...
>
> Common mode chokes can be made pretty easily to have an impedance of
> more than 1k ohm. Both modeling and measurement show this is usually
> adequate in typical installations to drop common mode current to very
> near zero at the choke location. But you can easily have substantial
> current a quarter wavelength on either side of it.

Didn't work for this case, the current minimum is about half wave between
the isolator (left hand blue square) and the dipole, and the common
current entering the shack (right hand blue square) is quite large.

Owen

4010. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 21:36:59 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF34D79C6188nonenowhere@61.9.134.55>
Source record: 7410

Owen Duffy <none@no.where> wrote in
news:Xns9DF346821A71Dnonenowhere@61.9.134.55:

> Roy Lewallen <w7el@eznec.com> wrote in
> news:H_OdnWb-7plFGBPRnZ2dnUVZ_oOdnZ2d@giganews.com:
>
>
>> The key to the answer is in two words in the first sentence of your
>> posting: "immediately adjacent". You're certainly correct that the
>> current can't abruptly drop to zero at the terminator, because of
>> Kirchoff's Current Law. But the current doesn't abruptly end, rather
>> it drops to zero following a sinusoidal distribution curve. It's
>> quite
>
> My modelling experience is that other things like connection to
> ground, and open ends to conductors have more influence on the
> location of a standing wave pattern than typical common mode chokes.
>
> I have created a simple model of a Carolina Windom at 7MHz, assuming
> that the device at the dipole feedpoint is a 4:1 voltage balun with
> negligible common mode impedance, the isolater is 1000+j0 (your
> nomination), and a feedline configuration that demonstrates that the
> isolator has not caused a minimum in the common mode standing wave
> pattern at that point.
>
> A pic of the current distribution is at
> http://www.vk1od.net/lost/Clip043.png .
> ...
>>
>> Common mode chokes can be made pretty easily to have an impedance of
>> more than 1k ohm. Both modeling and measurement show this is usually
>> adequate in typical installations to drop common mode current to very
>> near zero at the choke location. But you can easily have substantial
>> current a quarter wavelength on either side of it.
>
> Didn't work for this case, the current minimum is about half wave
> between the isolator (left hand blue square) and the dipole, and the
> common current entering the shack (right hand blue square) is quite
> large.

Apologies, there was an error in the model... I hadn't installed the
source properly. I have replaced the pic at
http://www.vk1od.net/lost/Clip043.png . The situation is a little
different, but the isolator does not force a current minimim at its
location, and the common mode current flowing at the shack is large.

Owen

4011. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 21:41:21 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF34E36BE97nonenowhere@61.9.134.55>
Source record: 7411

Owen Duffy <none@no.where> wrote in news:Xns9DF34D79C6188nonenowhere@
61.9.134.55:

...
> source properly. I have replaced the pic at
> http://www.vk1od.net/lost/Clip043.png . The situation is a little

I have renamed it so that you get the new pic...
http://www.vk1od.net/lost/Clip043.png

4012. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 21:42:08 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF34E58D59Cnonenowhere@61.9.134.55>
Source record: 7412

Owen Duffy <none@no.where> wrote in news:Xns9DF34E36BE97nonenowhere@
61.9.134.55:

> Owen Duffy <none@no.where> wrote in news:Xns9DF34D79C6188nonenowhere@
> 61.9.134.55:
>
> ...
>> source properly. I have replaced the pic at
>> http://www.vk1od.net/lost/Clip043.png . The situation is a little
>
> I have renamed it so that you get the new pic...
> http://www.vk1od.net/lost/Clip043.png
>

Try again... I have renamed it so that you get the new pic...
http://www.vk1od.net/lost/Clip044.png

4013. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 21:57:33 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <W8ednarueM7SAxPRnZ2dnUVZ_qGdnZ2d@giganews.com>
Source record: 7413

On 9/13/2010 2:36 PM, Owen Duffy wrote:
>>
>> My modelling experience is that other things like connection to
>> ground, and open ends to conductors have more influence on the
>> location of a standing wave pattern than typical common mode chokes.
>>
>> I have created a simple model of a Carolina Windom at 7MHz, assuming
>> that the device at the dipole feedpoint is a 4:1 voltage balun with
>> negligible common mode impedance, the isolater is 1000+j0 (your
>> nomination), and a feedline configuration that demonstrates that the
>> isolator has not caused a minimum in the common mode standing wave
>> pattern at that point.
>>
>> A pic of the current distribution is at
>> http://www.vk1od.net/lost/Clip043.png .
>> ...
>>>
>>> Common mode chokes can be made pretty easily to have an impedance of
>>> more than 1k ohm. Both modeling and measurement show this is usually
>>> adequate in typical installations to drop common mode current to very
>>> near zero at the choke location. But you can easily have substantial
>>> current a quarter wavelength on either side of it.
>>
>> Didn't work for this case, the current minimum is about half wave
>> between the isolator (left hand blue square) and the dipole, and the
>> common current entering the shack (right hand blue square) is quite
>> large.
>
> Apologies, there was an error in the model... I hadn't installed the
> source properly. I have replaced the pic at
> http://www.vk1od.net/lost/Clip043.png . The situation is a little
> different, but the isolator does not force a current minimim at its
> location, and the common mode current flowing at the shack is large.
>
> Owen

A "4:1 voltage balun with negligible common mode impedance" isn't a
common mode choke, and can't be expected to reduce the common mode
current at its location. If that's what the Carolina Windom uses, I
wouldn't be at all surprised to find in practice what you see in the model.

In no way is a voltage balun a common mode choke or "isolator". When a
load is asymmetrical with respect to ground, a voltage balun actually
forces a common mode current to exist at its insertion point. Forcing
equal voltages into unequal impedances results in unequal currents in

the two conductors. The difference between the two is the common mode current. That's why I've tried for a very long time (at least since the publication of my balun article in 1985) to educate people that voltage baluns are not the things to use in antenna systems.

My comments were strictly regarding the properties and uses of common mode chokes (current baluns), not voltage baluns.

Roy Lewallen, W7EL

4014. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 22:07:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF352B8D1168nonenowhere@61.9.134.55>
Source record: 7414

John Smith <assemblywizard@gmail.com> wrote in news:i61i8hpng4
@news.eternal-september.org:

> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=16722

The source is actually
http://www.saunalahti.fi/hohtola/ham/windom/windom-balun.htm , presented
the the DXZONE front.

Both baluns shown are current baluns, ie devices with a high common mode
impedance.

One of the advantages claimed of the Carolina Windom is the contribution
of feedline radiation.

If that was your objective, you would not employ devices (such as the
current baluns in the referenced article) that reduce the commom mode
feedline current.

Of course, the objective is a specious one. If you wanted to minimise
participation by the feedline as a radiator and pickup (especially noise,
since it is often closer to some noise sources), then you might use an
effective current balun. Indeed, more that one would probably be needed
for an OCF dipole.

Owen

4015. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 22:19:26 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF354ACE243Fnonenowhere@61.9.134.55>
Source record: 7415

Roy Lewallen <w7el@eznec.com> wrote in
news:W8ednarueM7SAxPRnZ2dnUVZ_qGdnZ2d@giganews.com:

> On 9/13/2010 2:36 PM, Owen Duffy wrote:
>>>
>>> My modelling experience is that other things like connection to
>>> ground, and open ends to conductors have more influence on the
>>> location of a standing wave pattern than typical common mode chokes.
>>>
>>> I have created a simple model of a Carolina Windom at 7MHz, assuming
>>> that the device at the dipole feedpoint is a 4:1 voltage balun with
>>> negligible common mode impedance, the isolater is 1000+j0 (your
>>> nomination), and a feedline configuration that demonstrates that the
>>> isolator has not caused a minimum in the common mode standing wave
>>> pattern at that point.
>>>
>>> A pic of the current distribution is at
>>> http://www.vk1od.net/lost/Clip043.png .
>>> ...
>>>>
>>>> Common mode chokes can be made pretty easily to have an impedance
>>>> of more than 1k ohm. Both modeling and measurement show this is
>>>> usually adequate in typical installations to drop common mode
>>>> current to very near zero at the choke location. But you can easily
>>>> have substantial current a quarter wavelength on either side of it.
>>>
>>> Didn't work for this case, the current minimum is about half wave
>>> between the isolator (left hand blue square) and the dipole, and the
>>> common current entering the shack (right hand blue square) is quite
>>> large.
>>
>> Apologies, there was an error in the model... I hadn't installed the
>> source properly. I have replaced the pic at
>> http://www.vk1od.net/lost/Clip043.png . The situation is a little
>> different, but the isolator does not force a current minimim at its
>> location, and the common mode current flowing at the shack is large.
>>
>> Owen
>
> A "4:1 voltage balun with negligible common mode impedance" isn't a
> common mode choke, and can't be expected to reduce the common mode
> current at its location. If that's what the Carolina Windom uses, I
> wouldn't be at all surprised to find in practice what you see in the
> model.

Roy,

Nearly everyone I have worked and who used a Carolina Windom was using a commercial antenna, expensive as they are here because they are not made locally.

I don't know what they use for the 'black boxes', the commercial devices are proprietary and they don't disclose parameters... but if the seller promotes feedline common mode contribution to radiation (as they do), then a current balun at the top frustrates that.

The 'design' seems to depend on the lower device (the isolator, presumably a common mode choke) to cut the common mode current off and prevent it flowing towards the shack... in the style of the O/C switch someone mentioned, but as we both note, that is not consistent with basic circuit theory principles (KCL in this case). The NEC model I posted shows that a 1k isolator (common mode choke) is not effective for that purpose.

As I said in an earlier post, feedline radiation is a specious objective... but obviously quite effective sales wise.

Owen

4016. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 22:33:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF356FA0A730nonenowhere@61.9.134.55>
Source record: 7416

Owen Duffy <none@no.where> wrote in
news:Xns9DF354ACE243Fnonenowhere@61.9.134.55:

> Roy Lewallen <w7el@eznec.com> wrote in
> news:W8ednarueM7SAxPRnZ2dnUVZ_qGdnZ2d@giganews.com:
...
>> A "4:1 voltage balun with negligible common mode impedance" isn't a
>> common mode choke, and can't be expected to reduce the common mode
>> current at its location. If that's what the Carolina Windom uses, I
>> wouldn't be at all surprised to find in practice what you see in the
>> model.

I did find an article on a home brew 'New Carolina Windom' at
http://www.w5fc.org/files/how-to/QRP%20Expressions_version_1.pdf . It uses
a Rutroff 4:1 voltage balun at the off centre dipole feed point, and high
distributed C implementation of a W2DU style current balun for the 'line
isolater' some distance from the dipole feed point (10' for the 40m and up
version).

The article goes on at length about contribution by the 'vertical
radiator'.

Owen

4017. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 22:49:09 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <25f897f1-bd8f-4d1f-a543-a89bf23411fa@h25g2000vba.googlegroups.com>
Source record: 7417

On 13 sep, 16:07, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:c479b03c-cea7-4809-8ee7-f2e945286ab7@r10g2000vbc.googlegroups.com:
>
> > I agree with Cecil, Owen, I do not see nothing strange on have common
> > mode current in one part of the line and not in the other, ideal choke
> > it is an open circuit to RF currents.
>
> Miguel,
>
> There are two issues.
>
> Firstly, if the common mode choke (or isolator) is physically small with
> respect to wavelength, and there is common mode current on the line
> immediately adjacent on one side of it, why is there not an almost equal
> common mode current on the other side... or explain the current path that
> allows the first mentioned current AND that complies with Kirchoff's
> Current Law.
>
> Secondly, the common mode 'conductors' are coupled conductors. I see that
> Roy has dealt with that, so I will leave it at that.
>
> For these reasons, it is naive to think that a practical common mode
> choke has such extremely high impedance that the common mode current
> through the choke is zero, or even near to it. Even if it did drive
> common mode current to zero or near zero at that point, that does not
> mean there is no common mode standing wave, just that a node exists at
> that point.
>
> Ask yourself how whether the use of a common mode choke (isolator) to
> effectively reduce common mode current between the common mode choke and
> the tx don't also reduce common mode current between the common mode
> choke and the dipole feed point.
>
> Owen

Owen

It is obvious, we are talking about different things. External fields
always will induce common mode currents in conductors, then it is
virtually impossible completely remove it. We will have commond mode
currents in our line if our ham neigbourhood turn on his TX or our
wife talk near with her celluar phone too.

When I talk about interrupt common mode current with choke I am not thinking in prevent all possibles external induction fields over the section of line isolated with the choke but in interrupt the current flow that would have in this point if not were the device placed. In that sense no puntual devices can avoid induction laws. Also, a good isolator it is a capacitor and always will allow displacement currents.

From electromagnetic point of view the inductor field beyond the isolator or ideal choke it is the same that any other external field. Not work either if as isolating device I installed five meters of optical fiber and a pair of transducers :>)
Do you search for a TL incapable to induce external fields?, then we are not talking about baluns, perhaps we could talk about EM shieding of the TL.
Similar situation if we install a perfect balun and run the TL paralel to the antenna, common mode current not depends.

73

Miguel LU6ETJ

4018. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 22:58:47 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <665eb822-4257-415b-b5ed-224ff10321b8@e20g2000vbn.googlegroups.com>
Source record: 7418

On Sep 13, 8:09 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:9e6c80dc-5519-40b5-8f18-02858065b85b@t11g2000vbc.googlegroups.com...
> On Sep 11, 6:27 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > If you do not like the Sun's ether drag you can use the Sun's reference
> > frame drag. Which one do you prefer.
>
> > > or related those phenomena to epsilon or mu of free space?
>
> > The space is not a dielectric. Electric waves travel in metal transmissing
> > lines where no epsilon or mu.
> >hey mr.b. here is a group that you might fit in with:
>
> http://www.galileowaswrong.com/galileowaswrong/
>
> The Author do not know about MGX and Stokes. He only know MMX and Sagnac.
> Many people do not know the all evidences. Like you.
>
> For such Galileo was wrong. For you Stokes (Chairman of Royal Society) was
> wrong.
> S*

wow, now that made absolutely no sense.

4019. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-13 23:35:43 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <c716f78b-6d73-4903-aa6a-bd1dbf3cb6c5@t11g2000vbc.googlegroups.com>
Source record: 7419

On 13 sep, 17:17, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/13/2010 1:01 PM, Owen Duffy wrote:
>
> > ...
> > I might note here that a Trask 4:1 current balun is not a Guanella current
> > 4:1 balun, they have quite different connections. The argument that Trask
> > makes in support of his design on a single core does not apply to the
> > Guanella design.
>
> > Owen
>
> You might want to note that to Trask, he thinks it IS a current balun
> ... since it has the appearance of two 1:1 current baluns used on a
> single core, I tend to agree with his take on it.
>
> Regards,
> JS

Owen

It is obvious, We are talking about different things. Fields always
will induce common mode currents in conductors, then it is virtually
impossible totally remove it. We also will have commond mode currents
in our line if our ham neigbourhood turn on his TX or our wife talk
near with her celluar phone...
When I (or "we") talk about interrupt common mode current with choke
(or isolator) I am not thinking in prevent all possibles induction
fields over the conductors. The goal is interrupt a current that would
have in a point if the device (choke) it was not there (neither you
hope for ideal behavior, we must be consecuent).
In this sense no puntual devices can avoid induction laws. Also, a
good isolator it is a capacitor and always will allow displacement
currents.

From electromagnetic point of view the inductor field beyond the
isolator it is functionally similar to any other external field. Even
if you install a five meter optical fiber with a pair of tranducers
isolator betewen a line section you can not prevent electromagnetic
coupling. Similar situation if we buy our ideal balun and then we run
our line parallel to antenna :>)

Do you search for a TL incapable to induce external fields?, then we
are not talking about baluns, perhaps we could talk about EM shieding
of the TL.

73

Miguel LU6ETJ

4020. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 00:03:42 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <630c25c0-76c0-4e4c-8686-3a3289967dc1@z25g2000vbn.googlegroups.com>
Source record: 7420

On 13 sep, 15:31, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 12 Sep 2010 22:46:16 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >PSE explain me MISMATCH.
>
> What is the characteristic Z of free space or air?
>
> What is the characteristic Z of Water (plain, with mud, or salty)?
>
> What is the ratio between the two?
>
> How much power in one, transits the interface and proceeds through the
> other?
>
> [hint] if not much, it is reflected at the interface.
>
> 73's
> Richard Clark, KB7QHC

Hey Richard

I said you, "mismatch" it is a magical word. TL reflected waves also
are explainabe with "mismatch" word. However mismatch it is a name for
a physical phenomena, what is that? When we talk about a traveling
wave reaching the "mismatch" point we can try to explain WHY the
reflection occur. You can talk about electric or magnetic field
collapsing in discontinuity, etc. One step beyond of a magical word
there are another magical words, electricity, magnetism for example,
well that is the matter: to advance in de why's and the how's,
otherwise we had remained in the realm of Newton and Huygens.
(read about Compton effect discovery)

73 - Miguel LU6ETJ

4021. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 00:14:10 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6meokonp1@news.eternal-september.org>
Source record: 7421

On 9/13/2010 3:07 PM, Owen Duffy wrote:
> John Smith<assemblywizard@gmail.com> wrote in news:i61i8hpng4
> @news.eternal-september.org:
>
>> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=16722
>
> The source is actually
> http://www.saunalahti.fi/hohtola/ham/windom/windom-balun.htm , presented
> the the DXZONE front.
>
> Both baluns shown are current baluns, ie devices with a high common mode
> impedance.
>
> One of the advantages claimed of the Carolina Windom is the contribution
> of feedline radiation.
>
> If that was your objective, you would not employ devices (such as the
> current baluns in the referenced article) that reduce the commom mode
> feedline current.
>
> Of course, the objective is a specious one. If you wanted to minimise
> participation by the feedline as a radiator and pickup (especially noise,
> since it is often closer to some noise sources), then you might use an
> effective current balun. Indeed, more that one would probably be needed
> for an OCF dipole.
>
> Owen

Yes, that is why I said I didn't run the windom in the first place,
complete circle, completed perfectly ...

Regards,
JS

4022. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 01:24:06 UTC
From: tom <news4792@taring.org>
Message-ID: <4c8eceb5$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7422

On 9/13/2010 12:15 PM, Szczepan Bialek wrote:
> antenna barely vibrate around their resting place when radiates (I
> made calculations for a irradiant at 80 m).
> This favored hypothesis of liquid antenna possibilities because would
> suffice for the ions (charges) of the liquid vibrate slightly around
> their points of rest to act as radiators (I do not to solve issues
> related + ion mass to best "close" my questions).
>
> Ions in copper vibrate with the acoustic frequencies.

Cool! Which frequencies are the acoustic ones?

tom
K0TAR

4023. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 02:25:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1525063d-4d14-4acb-b8dd-fcd6b528b504@g10g2000vbc.googlegroups.com>
Source record: 7423

On Sep 13, 12:47 pm, Roy Lewallen <w...@eznec.com> wrote:
> The difficulty with having common mode current on one side of an
> "isolator" or common mode choke (current balun) is that it creates a
> field which couples to the line on the other side, generating a common
> mode current on the other side.

Since I don't know how robust the Carolina Windom isolator is, my
following statement may or may not apply to the Carolina Windom.

The above problem goes away *if* the choking impedance is high enough
to *cause* a common-mode standing-wave current node (minimum) at the
choke because the net magnetic field is then near zero on both sides.
The same thing happens when a well-designed trap is placed in a
dipole. The high impedance of the trap at the parallel resonant
frequency causes a standing-wave current node and reflects the forward
wave back toward the feedpoint instead of allowing current to flow
through it into the rest of the wire. Here's the current distribution
on a trapped antenna. Note how the trap impedance causes a standing
wave current node at the trap.

http://www.w5dxp.com/trap.JPG
--
73, Cecil, w5dxp.com

4024. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 02:34:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <33e75751-e7fc-47c4-8053-a5dc7607581b@k11g2000vbf.googlegroups.com>
Source record: 7424

On Sep 13, 3:23 pm, Roy Lewallen <w...@eznec.com> wrote:
> On 9/13/2010 11:31 AM, Richard Clark wrote:
>
>
>
> > What is the characteristic Z of free space or air?
>
> > What is the characteristic Z of Water (plain, with mud, or salty)?
> >. . .
>
> Anyone with EZNEC, including the demo program, can easily get the value
> of intrinsic Z of various media. Just define a Real ground type in any
> model and enter the ground constants. Then open the Utilities menu and
> select Ground Info. A wave normal to the ground will reflect exactly as
> it would from the junction of two transmission lines with one having the
> impedance of free space (about 377 + j0 ohms) and the other having the
> ground's impedance. The nature of oblique reflections depend on the
> polarization of the wave relative to the reflecting plane (the ground),
> but a reflection always occurs whenever the wave encounters a change in
> the impedance of the medium, or a "mismatch" as Richard calls it.
>
> Roy Lewallen, W7EL

Hmmm....
Something odd here!
When current is a constant as would be the impedance of radiation
alone I find the impedance to be 50 ohms and a ground wave exists.
Thus the question regarding particles at rest on the radiator. Can the
particle skin be classified as a "medium" where a mismatch does not
exist and where the mismatch which does exist is between the particle
layer and the atmosphere?

4025. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 02:43:43 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF3817B2D187nonenowhere@61.9.134.55>
Source record: 7425

lu6etj <lu6etj@gmail.com> wrote in
news:c716f78b-6d73-4903-aa6a-bd1dbf3cb6c5@t11g2000vbc.googlegroups.com:

> It is obvious, We are talking about different things. Fields always
> will induce common mode currents in conductors, then it is virtually
> impossible totally remove it. We also will have commond mode currents
> in our line if our ham neigbourhood turn on his TX or our wife talk
> near with her celluar phone...

I calculated the current moment for the model I spoke of earlier, just considering magnitude alone, to get an idea of whether the common mode current was significant. In this case the current moment due to the feedline is just a little greater than that due to the dipole. Just over 50% of the current moment due to the feedline is due to feedline between the isolator and tx.

The conclusions I draw from the model are that:
- the feedline is just a significant in contribution to radiation as the dipole; and
- the isolator does take the downstream feedline out of the picture as suggested by some explanations.

You can try to compare it to those things you mention, but to me, it is chalk and cheese (ie totally different).

Owen

4026. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 02:46:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ac79d39d-7f14-4132-b4da-0bd9ca3479e0@f26g2000vbm.googlegroups.com>
Source record: 7426

On Sep 13, 2:07 pm, Owen Duffy <n...@no.where> wrote:
> For these reasons, it is naive to think that a practical common mode
> choke has such extremely high impedance that the common mode current
> through the choke is zero, or even near to it.

Nobody said the Carolina Windom choke was that robust - just that it
is possible to design a choke with a high enough impedance to cause a
common-mode standing-wave node at the choke.

> Even if it did drive
> common mode current to zero or near zero at that point, that does not
> mean there is no common mode standing wave, just that a node exists at
> that point.

There is a common-mode standing wave on one side of the choke and not
on the other because the very high choking impedance reflects the
common-mode traveling wave on one side of the choke back toward the
source of the forward wave. I took a trapped dipole and dropped a wire
from one end to mininec ground. The standing-wave current is free to
flow through the choke and establish a standing-wave on the other side
- but it doesn't. Here is what a robust isolator is supposed to do to
the common-mode standing-wave current.

http://www.w5dxp.com/trapgnd.JPG

Again, I am not saying the Carolina Windom isolator is that good -
just demonstrating a principle that you seem to be missing above.
--
73, Cecil, w5dxp.com

4027. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 04:10:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <598daf3f-81be-48c8-98ff-e2d628e4e966@a19g2000vbi.googlegroups.com>
Source record: 7427

On Sep 13, 5:19 pm, Owen Duffy <n...@no.where> wrote:
> The NEC model I posted
> shows that a 1k isolator (common mode choke) is not effective for that
> purpose.

Here's a model of a Carolina Windom on 20m with a 2k choke (isolator)
20 feet down the coax from the antenna feedpoint at a height of 50
feet. The maximum current on the coax braid above the isolator is 0.72
amps. The maximum current on the coax braid below the isolator is 0.14
amps. The radiation pattern is close to the advertised one for 20m.

http://www.w5dxp.com/carwin20.JPG
--
73, Cecil, w5dxp.com

4028. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 07:40:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8f26ee$0$21007$65785112@news.neostrada.pl>
Source record: 7428

"K1TTT" <k1ttt@arrl.net> wrote
news:665eb822-4257-415b-b5ed-224ff10321b8@e20g2000vbn.googlegroups.com...
On Sep 13, 8:09 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> >hey mr.b. here is a group that you might fit in with:
>
> http://www.galileowaswrong.com/galileowaswrong/
>
>> The Author do not know about MGX and Stokes. He only know MMX and Sagnac.
> Many people do not know the all evidences. Like you.
>
>> For such Galileo was wrong. For you Stokes (Chairman of Royal Society)
>> was
> wrong.

>wow, now that made absolutely no sense.

Now we have to choose: Galiean relativity or Special relativity and,
Stokes ether or Maxwell-Lorentz-Einstein ether.

It seems to me that in you opinion the both: Galileo and Stokes were wrong.
In may opinion the MGX proved that the both were right.
S*

4029. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 07:55:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8f2a77$0$27043$65785112@news.neostrada.pl>
Source record: 7429

"Art Unwin" <arthurunwin@gmail.com> wrote
news:456638ef-cb8e-4d02-9822-7d7779e4ccc7@a30g2000vbt.googlegroups.com...
On Sep 13, 12:15 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> In the lattice are the ducts. Not all electrons are in them.
>
>> Ions in copper vibrate with the acoustic frequencies.
>
>> At the higher frequencies the AC conductivity increases.
>> So there are more electrons.
>
>> Consider that on the Earth is excess of electrons.

>Where did you get the idea that electrons that are accelerated are a
intrinsic part of the diamagnetic material?

In the clouds are electrons. We assume that they are on the surface of the
droplets. But they jump between the droplets.
So the skin effect or your surface current is possible.

>The air is full of particles from the Sun looking for a place on a
diamagnetic material to rest. The size of these particle is such that
a tensile force is applied to a surface and is of the smallest mass
possible so the speed of light can be obtained. The force vectors on
the surface of the radiater is the surface current and the
displacement current which in conjunction supplies acceleration with
spin to generate charge in a straight line projection to counter
gravity.
Nature loves simplicity does it not?

Nature yes but the teachers not.
You also use many the teacher terms (vectors and so on).
S*

4030. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 08:06:02 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c8f2cec$0$27041$65785112@news.neostrada.pl>
Source record: 7430

"tom" <news4792@taring.org>wrote
news:4c8eceb5$0$24412$8046368a@newsreader.iphouse.net...
> On 9/13/2010 12:15 PM, Szczepan Bialek wrote:
>>
>> This favored hypothesis of liquid antenna possibilities because would
>> suffice for the ions (charges) of the liquid vibrate slightly around
>> their points of rest to act as radiators (I do not to solve issues
>> related + ion mass to best "close" my questions).
>>
>> Ions in copper vibrate with the acoustic frequencies.
>
> Cool! Which frequencies are the acoustic ones?

Do not you heard about the kids telephone?
The two cans and the wire. The ions in the wire are the medium for the
acoustic waves.
For the electric waves the medium are the electrons.

The same is with the Sun. The bumps on the surface we see after 8 min. The
auroras after a few days.
S*

4031. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 13:46:55 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <caaaadd9-2c67-46cc-80a2-e8f208fe10b8@a19g2000vbi.googlegroups.com>
Source record: 7431

On 13 sep, 10:32, Man-wai Chang <toylet.toy...@gmail.com> wrote:
> Suppose I buy a roll of thin wires, install multiple hooks at the
> corners of my rectangular room, then wrap the wires along the hooks,
> then connect the 2 ends of the loops into my hi-fi.
>
> Would that make a great AM antenna? Would it work?
>
> --
> @~@ Might, Courage, Vision, SINCERITY.
> / v \ Simplicity is Beauty! May the Force and Farce be with you!
> /(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
> ^ ^ 16:26:01 up 16 days 18:33 1 user load average: 0.16 0.08 0.07
> 不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援
(CSSA):http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

Hello,

A large loop does receive more signal, but will also receive more
noise/interference. You should optimize for best signal to noise
ratio. Often, larger does not mean better.

When you make a loop as large as your room, the wire may run close to
mains wiring or equipment that generates interference (that may result
in bad reception). You can better make a small portable loop that
you can move around to find the sweet spot/orientation for best
reception. You can use whatever insulated copper wire to make the
loop.

Best regards,

Wim
PA3DJS
www.tetech.nl
remove abc from the address before hitting the send button.

4032. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 14:37:38 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <4C8F88B2.8030806@gmail.com>
Source record: 7433

> A large loop does receive more signal, but will also receive more
> noise/interference. You should optimize for best signal to noise
> ratio. Often, larger does not mean better....
> you can move around to find the sweet spot/orientation for best
> reception. You can use whatever insulated copper wire to make the
> loop.

Thanks

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
^ ^ 22:37:01 up 18 days 44 min 1 user load average: 0.06 0.03 0.00
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4033. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 14:37:39 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c00619af-dcc6-48f3-b57c-b7cdf896c2d6@c13g2000vbr.googlegroups.com>
Source record: 7432

```
On 9 sep, 16:26, lu6etj <lu6...@gmail.com> wrote:
> On 6 sep, 13:14, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 6 sep, 14:30, John Smith <assemblywiz...@gmail.com> wrote:
>
> > > On 9/6/2010 5:08 AM, Cecil Moore wrote:
>
> > > > ...
> > > > The one I remember was about the Carolina Windom 4:1 voltage balun at
> > > > the feedpoint and the 1:1 choke-isolator 20' down the coax. The
> > > > original Windom was fed, Marconi style, against ground.
> > > > --
> > > > 73, Cecil, w5dxp.com
>
> > > I have a "weird thing" about windoms ... I just don't trust an antenna
> > > which "manipulates" RF on the feedline in "beneficial" ways and has a
> > > religious cult following ... insane quirk of mine, really. lol  Now I
> > > don't have the room ... moved again.
>
> > > If the wife had her way, we would move to Montana next to a favorite
> > > sister and brother ... there we would have the room! lol
>
> > > Regards,
> > > JS
>
> > Hello John,
>
> > When the feed line goes to a clean environment (for example a ground
> > provision far from the shack feed line radiation may not be a problem,
> > but it isn't my favorite.  When the feed line goes directly to the
> > shack (and equipment), I don't want such an antenna.
>
> > When you are working NVIS on 75/80m, you don't want the vertical
> > component as this leads to radiation under low elevation, hence
> > stronger reception of ground based interference.
>
> > In case of DX, the vertical component may help you as this may result
> > in lower elevation of main lobe; over here we have much soil with
> > better then average conductivity. If I would like vertical
> > polarization, I prefer 100% of that, so no windom or OCF dipoles for
> > me.
>
```

> > Depending on the design, allowing vertically polarized radiation may
> > result in worse or better VSWR.
>
> > Regarding the color, many straight people wear it over here
> > (especially in summer days), so you can't judge on color only....
>
> > Regarding the balun/transformer, you need a very good one with OCF
> > dipoles as common mode voltage at feed point can be in the 300V range
> > with 100W input. just some pF stray capacitance in a transformer will
> > provoke feed line radiation.
>
> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
> > without abc in the address, PM will reach me.- Ocultar texto de la cita -
>
> > - Mostrar texto de la cita -
>
> Hello boys, good day for you
>
> Is it Carolina Windom a balanced load to justify the name "balun"? We
> could think in a device to transform Z and another device to block
> feed line current. What do you think about it?
>
> Miguel

Hello Miguel,

I didn't follow this topic for some days.

The two-step approach will work and you are right, "balun" is not a good word for an OCF dipole as a "balun" can also be a center-tapped transformer where the center is connected to the ground of the unbalanced side (voltage type balun). This one will not suppress common mode current in an OCF application.

What you need is a "device" that does the required impedance transformation and accepts large common mode voltage at the high impedance side without introducing common mode current in the feed line.

Regarding the two-step approach, I have a simple "device" for reception. It consists of a 1:3 (1:9 impedance ratio) ferrite auto-transformer (no galvanic insulation). The 50 Ohms side (coaxial) contains a three section common mode choke to avoid common mode current in the 50 Ohms feed line.

Best regards,

Wim
PA3DJS

www.tetech.nl
remove abc from the address before hitting the send button.

4034. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 15:01:17 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <Wrvk4SI944jMFwTT@g3ohx.demon.co.uk>
Source record: 7434

In message <i6j38e$2e9$3@news.eternal-september.org>, John Smith
<assemblywizard@gmail.com> writes
>On 9/12/2010 9:45 AM, lu6etj wrote:
>
>>> ...
>> Although this is a more important issue, I insist in my original
>> point, is it "licit" to call "balun" a device connected to two
>> unbalanced circuits (line and antenna)?, Is it Carolina windom a
>> balanced antenna?
>> Here most of hams tend to call balun any toroidal transformer, with TL
>> or traditional windings connected to any circuit! :>)
>>
>> What you say? Thank for your interest and answers. Best regards to you
>> and all friends.
>>
>> Miguel LU6ETJ
>
>Actually, balun = "balanced-to-unbalanced", and unun =
>"unbalanced-to-unbalanced." I believe that is correct.
>
>And, I am in agreement, I see isolation RF transformers, RF
>auto-transformers and transmission-line-transformers and UNUNs' all
>grouped together under "balun." It would be nice to have standardized
>terminology and everyone is encouraged to use it ...
>
>Other than that, the rest of your post is sure to fire debate, assuming
>that everyone even recognizes the above ...
>

I think that the simple explanation why 'ununs' get misnamed as baluns'
is that, in their wound transformer form, they often look very similar.
It doesn't help that, depending on how it is wound and connected, one
transformer can sometimes be connected to serve either as a balun or an
unun - and, in many cases, also an impedance transformer.

As far as I'm concerned, while I've known the term 'balun' essentially
'for ever', I had never come across the newly-coined 'unun' until fairly
recently. It was probably simply known by its function, ie an 'RF
transformer'. I have to confess that I don't know why 'unun' has become
popular. It's a rather 'ugly' word, and is somewhat difficult to say
clearly. Maybe that's why they get mis-called 'baluns'!

There is absolutely no reason why there should be any real confusion
between a 'balun' and an 'unun' (other than carelessness, or ignorance
of their function). If you want to group them together, they should

probably come under a general heading of "RF Transformers, and RF Matching and Other RF Interface Devices" (or maybe something even more long-winded).
--
Ian

4035. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 15:15:10 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6o3i1$uh1$1@news.eternal-september.org>
Source record: 7435

On 9/14/2010 8:01 AM, Ian Jackson wrote:

> ...
> I think that the simple explanation why 'ununs' get misnamed as baluns'
> is that, in their wound transformer form, they often look very similar.
> It doesn't help that, depending on how it is wound and connected, one
> transformer can sometimes be connected to serve either as a balun or an
> unun - and, in many cases, also an impedance transformer.
>
> As far as I'm concerned, while I've known the term 'balun' essentially
> 'for ever', I had never come across the newly-coined 'unun' until fairly
> recently. It was probably simply known by its function, ie an 'RF
> transformer'. I have to confess that I don't know why 'unun' has become
> popular. It's a rather 'ugly' word, and is somewhat difficult to say
> clearly. Maybe that's why they get mis-called 'baluns'!
>
> There is absolutely no reason why there should be any real confusion
> between a 'balun' and an 'unun' (other than carelessness, or ignorance
> of their function). If you want to group them together, they should
> probably come under a general heading of "RF Transformers, and RF
> Matching and Other RF Interface Devices" (or maybe something even more
> long-winded).

Ian,

Excellent analysis, well said ... and that is why things are the way
they are ...

Regards,
JS

4036. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 20:02:06 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <7d9769e8-bc9a-471b-89fd-f35ee80deca0@c16g2000vbp.googlegroups.com>
Source record: 7436

On 14 sep, 01:10, Cecil Moore <w5...@hotmail.com> wrote:
> On Sep 13, 5:19 pm, Owen Duffy <n...@no.where> wrote:
>
> > The NEC model I posted
> > shows that a 1k isolator (common mode choke) is not effective for that
> > purpose.
>
> Here's a model of a Carolina Windom on 20m with a 2k choke (isolator)
> 20 feet down the coax from the antenna feedpoint at a height of 50
> feet. The maximum current on the coax braid above the isolator is 0.72
> amps. The maximum current on the coax braid below the isolator is 0.14
> amps. The radiation pattern is close to the advertised one for 20m.
>
> http://www.w5dxp.com/carwin20.JPG
> --
> 73, Cecil, w5dxp.com

Hello boys (greteengs Wimpi, how are you?

For monoband applications we can get more Z from a coaxial choke
making the winding for autorresonance. K1TTT have a good data table.

Time ago I want test differents antenna to lift with a kite and I
found =>
http://www.io.com/~n5fc/rfd.htm, the idea seems to me interesting
enough to make some test that are descibed here =>

http://www.solred.com.ar/lu6etj/tecnicos/jeringa/la_jeringa_revisada-en.htm

from here I think of another use of de "coaxial trap" to get more Z
from coaxial winding specially in monoband antennas, I named de
critter "The Trap balun" =>

http://www.solred.com.ar/lu6etj/tecnicos/tpabln/trampa_balun-en.htm

4NEC2 simulations and real field test show me both approachs works
fine :>)

Miguel Ghezzi LU6ETJ

4037. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 20:34:33 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF442E4D4649nonenowhere@61.9.134.55>
Source record: 7437

lu6etj <lu6etj@gmail.com> wrote in
news:7d9769e8-bc9a-471b-89fd-f35ee80deca0@c16g2000vbp.googlegroups.com:

...
> For monoband applications we can get more Z from a coaxial choke
> making the winding for autorresonance. K1TTT have a good data table.
>
> Time ago I want test differents antenna to lift with a kite and I
> found =>
> http://www.io.com/~n5fc/rfd.htm, the idea seems to me interesting
> enough to make some test that are descibed here =>
>
> http://www.solred.com.ar/lu6etj/tecnicos/jeringa/la_jeringa_revisada-en
> .htm
>
> from here I think of another use of de "coaxial trap" to get more Z
> from coaxial winding specially in monoband antennas, I named de
> critter "The Trap balun" =>
>
> http://www.solred.com.ar/lu6etj/tecnicos/tpabln/trampa_balun-en.htm
>
> 4NEC2 simulations and real field test show me both approachs works
> fine :>)

How did you arrive at the value of Q (=100) used in the modelling. Was it measured, or guessed?

Based on some experimental work, I expect that the effective RF resistance of a closed space solenoidal coil of braided coax is much higher than the same straight length a copper cylinder.

BTW, if you want to make a more compact self resonant trap on the lower HF bands, wind the coil in two layers. The article at http://vk1od.net/antenna/7MDipole/7MDipole.htm shows a pic of a two layer 7MHz self resonant balun made with IIRC about 6 turns per layer of RG6.

Owen

4038. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 22:37:12 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2de54204-f1b4-4302-b097-5286bfd388bd@k13g2000vbq.googlegroups.com>
Source record: 7438

On Sep 14, 3:02 pm, lu6etj <lu6...@gmail.com> wrote:
> For monoband applications we can get more Z from a coaxial choke
> making the winding for autorresonance. K1TTT have a good data table.

Good idea. Choose your favorite band for your Carolina Windom and wind an "ugly balun" choke just below the isolator. An "ugly balun" choke is capable of forcing a common-mode standing-wave current node (minimum) on the outside of a coax braid just like a trap is capable of such on a trapped dipole.
--
73, Cecil, w5dxp.com

4039. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 22:51:11 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6ou92$ti1$1@news.eternal-september.org>
Source record: 7439

On 9/14/2010 3:37 PM, Cecil Moore wrote:
> On Sep 14, 3:02 pm, lu6etj<lu6...@gmail.com> wrote:
>> For monoband applications we can get more Z from a coaxial choke
>> making the winding for autorresonance. K1TTT have a good data table.
>
> Good idea. Choose your favorite band for your Carolina Windom and wind
> an "ugly balun" choke just below the isolator. An "ugly balun" choke
> is capable of forcing a common-mode standing-wave current node
> (minimum) on the outside of a coax braid just like a trap is capable
> of such on a trapped dipole.
> --
> 73, Cecil, w5dxp.com

OK, I'll ask, "I am correct in thinking that most are using a 'voltage balun' (ruthroff 1:4) as the 'Low Loss Matching Transformer' and a 'current balun' (guanella 1:1) as the 'Special-High Isolation Line Isolator?'"

I mean, logic dictates this to be the best combination ... however, one is best to ask ...

Regards,
JS

4040. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 22:59:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <k2vv86pdcb81g7ug2ino4iha9g4rp3sp11@4ax.com>
Source record: 7440

On Mon, 13 Sep 2010 17:03:42 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>I said you, "mismatch" it is a magical word. TL reflected waves also
>are explainabe with "mismatch" word. However mismatch it is a name for
>a physical phenomena, what is that?

Water/Air
Most people would agree that both are physical.

>When we talk about a traveling
>wave

Hi Miguel,

Who is "we?" "Traveling Waves" have their own special meaning, and
that meaning is unnecessary for this discussion.

> reaching the "mismatch" point we

We?

>can try to explain WHY the
>reflection occur.

If you choose, but the WHY is unnecessary too.

Skip the magic words, as you call them. Everything you discuss is
available, by parts, but together nothing changes anything.

A transmission line is an artificial medium. It is artificial in the
sense of being man-made. Being artificial, it attempts to be similar
to nature's available media. The electronics is same for all.
Discontinuities, interfaces, abound in both artificial realms and
natural realms. Their behavior is governed by the same physics - only
the parameters are different (which is the nature of reality).

73's
Richard Clark, KB7QHC

4041. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 23:00:09 UTC
From: tom <news4792@taring.org>
Message-ID: <4c8ffe76$0$24411$8046368a@newsreader.iphouse.net>
Source record: 7441

```
On 9/14/2010 3:06 AM, Szczepan Bialek wrote:
> "tom"<news4792@taring.org>wrote
> news:4c8eceb5$0$24412$8046368a@newsreader.iphouse.net...
>> On 9/13/2010 12:15 PM, Szczepan Bialek wrote:
>>>
>>> This favored hypothesis of liquid antenna possibilities because would
>>> suffice for the ions (charges) of the liquid vibrate slightly around
>>> their points of rest to act as radiators (I do not to solve issues
>>> related + ion mass to best "close" my questions).
>>>
>>> Ions in copper vibrate with the acoustic frequencies.
>>
>> Cool! Which frequencies are the acoustic ones?
>
> Do not you heard about the kids telephone?
> The two cans and the wire. The ions in the wire are the medium for the
> acoustic waves.
> For the electric waves the medium are the electrons.
>

Maroon.

tom
K0TAR
```

4042. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 23:11:43 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <P9idne8Bw56xnA3RnZ2dnUVZ_vOdnZ2d@earthlink.com>
Source record: 7442

"John Smith" <assemblywizard@gmail.com> wrote in message
news:i6ou92$ti1$1@news.eternal-september.org...
> OK, I'll ask, "I am correct in thinking that most are using a 'voltage
> balun' (ruthroff 1:4) as the 'Low Loss Matching Transformer' and a
> 'current balun' (guanella 1:1) as the 'Special-High Isolation Line
> Isolator?'"
>
> I mean, logic dictates this to be the best combination ... however, one is
> best to ask ...
>
> Regards,
> JS
>

That is what I am using on a home built version. Using a 4:1 voltage balun at the feedpoint and the ferrite bead type about 20 feet down from the feedpoint.

The ferrite choke is doing something as it gets warm while running around about 1 KW to the antenna. Doesn't heat up when going into a dummy load.

My 'Windom' usually works beter than an 80 meter dipole on 80 meters plus gives me the option to operate several other bands.

4043. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 23:27:32 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6p0d7$ti1$4@news.eternal-september.org>
Source record: 7443

On 9/14/2010 4:11 PM, Ralph Mowery wrote:

> ...
> That is what I am using on a home built version. Using a 4:1 voltage balun
> at the feedpoint and the ferrite bead type about 20 feet down from the
> feedpoint.
>
> The ferrite choke is doing something as it gets warm while running around
> about 1 KW to the antenna. Doesn't heat up when going into a dummy load.
>
> My 'Windom' usually works beter than an 80 meter dipole on 80 meters plus
> gives me the option to operate several other bands.
>
>

Sounds like you must be using A LOT of beads for 80m. Why not a couple
#43 toroids, stacked? Or, a t300-X or t400-X?

Regards,
JS

4044. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 23:32:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1v0096llvbqcoa7h99mlam0p11dci8oup0@4ax.com>
Source record: 7444

On Tue, 14 Sep 2010 19:11:43 -0400, "Ralph Mowery"
<rmowery28146@earthlink.net> wrote:

>That is what I am using on a home built version. Using a 4:1 voltage balun
>at the feedpoint

This is like using a lighter to find a gas leak in the basement.

>and the ferrite bead type about 20 feet down from the
>feedpoint.
>
>The ferrite choke is doing something as it gets warm while running around
>about 1 KW to the antenna. Doesn't heat up when going into a dummy load.

Hi Ralph,

Through the 4:1? Probably not, or you would have said so (and
unlikely you have gone to the trouble to build a 4:1 dummy load).

As the dummy load is most likely enclosed and shielded, then that
suppresses common mode currents due to your test transmission.

And, yes, when your ferrite choke (AKA 1:1 BalUn) heats up that is due
to common mode currents that were not snubbed by the voltage balun (by
design - so why choose it?).

Add a second ferrite choke (AKA 1:1 BalUn) at the feedpoint -before
feeding the voltage balun.

>My 'Windom' usually works beter than an 80 meter dipole on 80 meters plus
>gives me the option to operate several other bands.

Better in what sense?

73's
Richard Clark, KB7QHC

4045. Re: Recognition of the Aether presence or not

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-14 23:36:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5de70b12-9ead-4b30-b3b9-10d03c5ce113@k13g2000vbq.googlegroups.com>
Source record: 7445

On Sep 14, 7:40 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:665eb822-4257-415b-b5ed-224ff10321b8@e20g2000vbn.googlegroups.com...
> On Sep 13, 8:09 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> >hey mr.b. here is a group that you might fit in with:
>
> >http://www.galileowaswrong.com/galileowaswrong/
>
> >> The Author do not know about MGX and Stokes. He only know MMX and Sagnac.
> > Many people do not know the all evidences. Like you.
>
> >> For such Galileo was wrong. For you Stokes (Chairman of Royal Society)
> >> was
> > wrong.
> >wow, now that made absolutely no sense.
>
> Now we have to choose: Galiean relativity or Special relativity and,
> Stokes ether or Maxwell-Lorentz-Einstein ether.
>
> It seems to me that in you opinion the both: Galileo and Stokes were wrong.
> In may opinion the MGX proved that the both were right.
> S*

no, galileo was right, stokes was wrong. but you might want to join
that anti-galileo group, i think you would fit right in.

4046. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 00:08:17 UTC
From: nm5k@wt.net
Message-ID: <5d375bfa-249a-4eb3-9391-15cbe0d13130@t3g2000vbb.googlegroups.com>
Source record: 7446

On Sep 14, 9:37 am, Man-wai Chang <toylet.toy...@gmail.com> wrote:
> > A large loop does receive more signal, but will also receive more
> > noise/interference. You should optimize for best signal to noise
> > ratio. Often, larger does not mean better....
> > you can move around to find the sweet spot/orientation for best
> > reception. You can use whatever insulated copper wire to make the
> > loop.
>
> Thanks

One example that's fairly easy to build. You will need a variable
cap for tuning. I don't know what type of antenna you have on
the stereo, but one of those loops can be fed passively just
orienting it close to the loop or loopstick on the stereo.
If it has no antenna, but connections for an AM antenna,
you can using the coupling loop built into the loop antenna, and
run coax or whatever to the stereo.

http://home.comcast.net/~nm5k/loop5.jpg

4047. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 00:09:59 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF4676AC5ABEnonenowhere@61.9.134.55>
Source record: 7447

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in
news:P9idne8Bw56xnA3RnZ2dnUVZ_vOdnZ2d@earthlink.com:

...
> That is what I am using on a home built version. Using a 4:1 voltage
> balun at the feedpoint and the ferrite bead type about 20 feet down
> from the feedpoint.
>
> The ferrite choke is doing something as it gets warm while running
> around about 1 KW to the antenna. Doesn't heat up when going into a
> dummy load.

I am not surprised at your results with a dummy load. If it is a well screened unbalanced dummy load, you should expect zero dissipation in the balun cores.

The fact the balun cores are heating in the antenna scenario indicates there is some common mode current. You probably have no idea of the current.

Something to keep in mind is that the average power of uncomressed voice SSB is about 3% of PEP, so if your 1kW was uncompressed voice SSB, the average transmitter power might be more like 30W, or half that in a 50:50 over scenario over the long term.

Another thing is the ferrite toroids heat and cool very slowly, so the operating temperature might still be rising half an hour after the transmitter is applied (so long as you haven't exceeded their Curie temperature).

It would not surprise me if the common mode choke consumes a significant portion of transmitter power on some bands, the portion will depend a lot on your own scenario.

Owen

4048. Re: Frequency independent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 00:28:34 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d1430a5a-ec50-4137-8779-8ed5c50726f5@g10g2000vbc.googlegroups.com>
Source record: 7448

On Sep 6, 10:12 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Sep 6, 7:13 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Sep 6, 2:30 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > It is getting close to winter times when decisions have to be made
> > > for the seasonal antenna. My antenna is frequency independent with a
> > > cavity / reflector and I have been feeding it via coax direct ie
> > > unbalanced because of the constant impedance, therefore unbalanced to
> > > balanced should not be a problem.
> > > Anybody see an error in thinking here.
> > > The antenna will be on a tower as the antenna picks up all
> > > transmission modes so I need to get away from ground noise. I will be
> > > adding an elevation changer if I have the time other wise it will be
> > > parallel to ground or zero elevation.
> > > Many thanks for your inputs
> > > Art
>
> > a dummy load up on the tower will work as well as one on the ground.
>
> I was referring to the feed line. But since you brought up the antenna
> I just noticed that it had only a portion of top band when resting on
> the ground so I have to check it out on the tower before I move on.
> Maybe just lifting it up a couple of feet will do the trick.
> Eat your heart out dummy !

I found the problem !!! I have just been twisting wire connections so
it takes time to bed in and lower the resistance. I probably will have
to solder connections before the snow flies so the impedance stays
steady and constant. Next job is to determine how high the frequency
goes before
the impedance or something else goes wobbly.
I haven't got the equipment to go very high so I may just zero in on
some satellites to see what happens.

4049. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 00:58:49 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <1IydndZPA9rbhw3RnZ2dnUVZ_rKdnZ2d@earthlink.com>
Source record: 7449

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:1v0096llvbqcoa7h99mlam0p11dci8oup0@4ax.com...
> On Tue, 14 Sep 2010 19:11:43 -0400, "Ralph Mowery"
> <rmowery28146@earthlink.net> wrote:
>
>>That is what I am using on a home built version. Using a 4:1 voltage
>>balun
>>at the feedpoint
>
> This is like using a lighter to find a gas leak in the basement.
>
>>and the ferrite bead type about 20 feet down from the
>>feedpoint.
>>
>>The ferrite choke is doing something as it gets warm while running around
>>about 1 KW to the antenna. Doesn't heat up when going into a dummy load.
>
> Hi Ralph,
>
> Through the 4:1? Probably not, or you would have said so (and
> unlikely you have gone to the trouble to build a 4:1 dummy load).
>
> As the dummy load is most likely enclosed and shielded, then that
> suppresses common mode currents due to your test transmission.
>
> And, yes, when your ferrite choke (AKA 1:1 BalUn) heats up that is due
> to common mode currents that were not snubbed by the voltage balun (by
> design - so why choose it?).
>
> Add a second ferrite choke (AKA 1:1 BalUn) at the feedpoint -before
> feeding the voltage balun.
>
>>My 'Windom' usually works beter than an 80 meter dipole on 80 meters plus
>>gives me the option to operate several other bands.
>
> Better in what sense?
>
> 73's
> Richard Clark, KB7QHC

I tested the bead choke just by going from the amplifier to the dummy load.
I did not have the 4:1 balun in the line with the dummy load. The dummy
load was 50 ohms. I just ran this test to make sure the beads were heating
up and not the coax. It is a comercial bead choke and the coax was about

the size of rg-58. Suspose to be some kind of higher power rated coax good for over 1 KW. I just wanted to make sure it was power on the outside of the coax and not inside the coax. If inside the coax, then it would have heated up while going into the dummy load as has been mentioned by this thread.

The 80 meter dipole and the 'Windom' are at right angles to each other suported on the ends at 50 to 60 feet. In almost all cases the signals are usually much beter on the Windom. It seems the only time the dipole is beter is when the stations are almost off the end of the Windom. Stations around 45 deg to both antennas still give the windom a beter signal.

4050. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 01:18:00 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <NfqdnXbKMMtZgw3RnZ2dnUVZ_jadnZ2d@earthlink.com>
Source record: 7450

"Owen Duffy" <none@no.where> wrote in message
news:Xns9DF4676AC5ABEnonenowhere@61.9.134.55...
> "Ralph Mowery" <rmowery28146@earthlink.net> wrote in
> news:P9idne8Bw56xnA3RnZ2dnUVZ_vOdnZ2d@earthlink.com:
.
>
> Something to keep in mind is that the average power of uncomressed voice
> SSB is about 3% of PEP, so if your 1kW was uncompressed voice SSB, the
> average transmitter power might be more like 30W, or half that in a 50:50
> over scenario over the long term.
>
> Another thing is the ferrite toroids heat and cool very slowly, so the
> operating temperature might still be rising half an hour after the
> transmitter is applied (so long as you haven't exceeded their Curie
> temperature).
>
> It would not surprise me if the common mode choke consumes a significant
> portion of transmitter power on some bands, the portion will depend a lot
> on your own scenario.
>
> Owen

I was running the amp around 1 KW with a carrier so the power was a constant
KW.
I only felt the choke while testing on 80 meters. It got warm, but not hot
after about 5 minuits of applied power while hooked to the antenna. Never
got even warm just going into the dummy load.

While I don't know what the choke actually does to the outgoing signal, my
reasoning was to try and keep the unradiated power from comming back in the
the shack and causing problems.

4051. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 01:18:29 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6p6t8ear1@news.eternal-september.org>
Source record: 7351

On 9/14/2010 4:32 PM, Richard Clark wrote:

> ...
> Add a second ferrite choke (AKA 1:1 BalUn) at the feedpoint -before
> feeding the voltage balun.
>

Yeah, screw up the windom pattern and see how you like it then! Why heat the 1:1 so far away, heat it at the antenna, 30ft up, then you won't be tempted to check the temp! ROFLOL

> ...
> 73's
> Richard Clark, KB7QHC

4052. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 01:21:58 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6p73pear2@news.eternal-september.org>
Source record: 7352

On 9/14/2010 5:09 PM, Owen Duffy wrote:

> ...
> It would not surprise me if the common mode choke consumes a significant
> portion of transmitter power on some bands, the portion will depend a lot
> on your own scenario.
>
> Owen

Yep, why I don't like windoms ... unless he has discovered a zero point energy source, his RF IS heating those beads ...

Regards,
JS

4053. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 01:27:35 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6p7eaear4@news.eternal-september.org>
Source record: 7353

On 9/13/2010 1:32 AM, Man-wai Chang wrote:

> ...
> Would that make a great AM antenna? Would it work?
>

Wait! I misunderstood you, at first, huh?

You mean viagra or "antenna-enhancement", huh? <stoopid look>

Regards,
JS

4054. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 03:01:13 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e5dbe9c7-6e45-4f80-bf33-8ef084bfdd7f@s19g2000vbr.googlegroups.com>
Source record: 7354

On Sep 14, 5:51 pm, John Smith <assemblywiz...@gmail.com> wrote:
> OK, I'll ask, "I am correct in thinking that most are using a 'voltage
> balun' (ruthroff 1:4) as the 'Low Loss Matching Transformer' and a
> 'current balun' (guanella 1:1) as the 'Special-High Isolation Line
> Isolator?'"

That's the theory behind the Carolina Windom. Whether it actually performs up to expectations is questionable. The marketing hype acknowledges that the 4:1 voltage balun will cause common-mode current on the coax which is expected for off-center-fed dipoles. They seem to assume that the "Isolator" located 20 feet from the dipole feedpoint is an ideal device with an infinite choking impedance. If it were that, the antenna would work exactly as advertised. Unfortunately, there's no such thing as an ideal isolator so we are zeroing in on what is possible in reality and what must remain as marketing hype. From my modeling, it appears that the isolator works well for any frequency where the length of the coax from the feedpoint to the isolator is approximately an odd multiple of 1/4WL. That occurs on 20m and 10m. Unfortunately, my modeling indicates that RF-in-the-shack may be a problem on 40m and I would be tempted to add an ugly balun.
--
73, Cecil, w5dxp.com

4055. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 04:24:20 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <0c9089d4-bbe4-4d6c-9850-d5cb941719fb@m1g2000vbh.googlegroups.com>
Source record: 7355

On 14 sep, 17:34, Owen Duffy <n...@no.where> wrote:
> lu6etj <lu6...@gmail.com> wrote
innews:7d9769e8-bc9a-471b-89fd-f35ee80deca0@c16g2000vbp.googlegroups.com:
>
> ...
>
>
>
>
>
> > For monoband applications we can get more Z from a coaxial choke
> > making the winding for autorresonance. K1TTT have a good data table.
>
> > Time ago I want test differents antenna to lift with a kite and I
> > found =>
> >http://www.io.com/~n5fc/rfd.htm, the idea seems to me interesting
> > enough to make some test that are descibed here =>
>
> >http://www.solred.com.ar/lu6etj/tecnicos/jeringa/la_jeringa_revisada-en
> > .htm
>
> > from here I think of another use of de "coaxial trap" to get more Z
> > from coaxial winding specially in monoband antennas, I named de
> > critter "The Trap balun" =>
>
> >http://www.solred.com.ar/lu6etj/tecnicos/tpabln/trampa_balun-en.htm
>
> > 4NEC2 simulations and real field test show me both approachs works
> > fine :>)
>
> How did you arrive at the value of Q (=100) used in the modelling. Was it
> measured, or guessed?
>
> Based on some experimental work, I expect that the effective RF
> resistance of a closed space solenoidal coil of braided coax is much
> higher than the same straight length a copper cylinder.
>
> BTW, if you want to make a more compact self resonant trap on the lower
> HF bands, wind the coil in two layers. The article
athttp://vk1od.net/antenna/7MDipole/7MDipole.htmshows a pic of a two layer
> 7MHz self resonant balun made with IIRC about 6 turns per layer of RG6.
>
> Owen- Ocultar texto de la cita -
>

> - Mostrar texto de la cita -

I do not remember Owen, I believe Q 100 was a number for the text example, calculated Q on 7 MHz for ideal coil was about 400 and measured real coaxial made coil with a GR-1606 A near 200. at that time I did not think to use RG6, It is more light than RG58, isn't it? Seven turns of RG 58 on 63 mm diameter with parallel condenser it was very light, enough for the purpose, Rokkaku lifted 40 m "syringe" antenna flied very well.

R, to two layers choke. Well... frankly to me common mode radiation it is not something I lose sleep, I have not troubles in my shack and I was not very lucky in all attempts to reduce nasty modern suburban noise with baluns + chokes + grounded points, so many noisy companies and neighbors cables around :>(antenna height showed much better results.

73

Miguel LU6ETJ

4056. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 04:48:03 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i6pj7q$8mn$1@news.eternal-september.org>
Source record: 7356

```
> Wait! I misunderstood you, at first, huh?
>
> You mean viagra or "antenna-enhancement", huh? <stoopid look>

Hello, Mr. Smith! :)
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
^ ^ 12:48:01 up 18 days 14:55 1 user load average: 0.00 0.04 0.01
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4057. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 04:49:53 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6pj9k$6b1$2@news.eternal-september.org>
Source record: 7357

On 9/14/2010 9:48 PM, Man-wai Chang wrote:
>> Wait! I misunderstood you, at first, huh?
>>
>> You mean viagra or "antenna-enhancement", huh? <stoopid look>
>
> Hello, Mr. Smith! :)
>

LOL ... JK ...

Chuckling,
JS

4058. Re: Increasing the size of the AM antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 04:51:42 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i6pjel$8mn$3@news.eternal-september.org>
Source record: 7358

```
>>> You mean viagra or "antenna-enhancement", huh? <stoopid look>
>>
>> Hello, Mr. Smith! :)
>>
>
> LOL ... JK ...

Nice to meet you in another newsgroup. :)
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.4
^ ^ 12:48:01 up 18 days 14:55 1 user load average: 0.00 0.04 0.01
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4059. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 05:13:23 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hal0965crtiqcahmu1403l8fl01kt0p06c@4ax.com>
Source record: 7359

On Tue, 14 Sep 2010 21:18:00 -0400, "Ralph Mowery"
<rmowery28146@earthlink.net> wrote:

>It got warm, but not hot
>after about 5 minuits of applied power while hooked to the antenna.

Hi Ralph,

Then the loss is trivial. On 80M the Z should be sufficiently high
enough to prevent a large current to develop a node at that point on
the line - it remains to be seen if you need another one further down
to suppress induced current that would then slide into your shack (you
would be complaining of it by now, however).

73's
Richard Clark, KB7QHC

4060. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 11:18:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6qa2h$i5n$3@news.eternal-september.org>
Source record: 7360

On 9/14/2010 5:09 PM, Owen Duffy wrote:
> "Ralph Mowery"<rmowery28146@earthlink.net> wrote in
> news:P9idne8Bw56xnA3RnZ2dnUVZ_vOdnZ2d@earthlink.com:
>
> ...
>> That is what I am using on a home built version. Using a 4:1 voltage
>> balun at the feedpoint and the ferrite bead type about 20 feet down
>> from the feedpoint.
>>
>> The ferrite choke is doing something as it gets warm while running
>> around about 1 KW to the antenna. Doesn't heat up when going into a
>> dummy load.
>
> I am not surprised at your results with a dummy load. If it is a well
> screened unbalanced dummy load, you should expect zero dissipation in the
> balun cores.
>
> The fact the balun cores are heating in the antenna scenario indicates
> there is some common mode current. You probably have no idea of the
> current.
>
> Something to keep in mind is that the average power of uncomressed voice
> SSB is about 3% of PEP, so if your 1kW was uncompressed voice SSB, the
> average transmitter power might be more like 30W, or half that in a 50:50
> over scenario over the long term.
>
> Another thing is the ferrite toroids heat and cool very slowly, so the
> operating temperature might still be rising half an hour after the
> transmitter is applied (so long as you haven't exceeded their Curie
> temperature).
>
> It would not surprise me if the common mode choke consumes a significant
> portion of transmitter power on some bands, the portion will depend a lot
> on your own scenario.
>
> Owen

Even worse than that! A lot will only consider the loss in the
transmitted signal of such an antenna, perhaps even call it "trivial."
However, the received signal will suffer from exactly the same losses
... while even losing 500 watts of a 1KW signal can be considered
"trivial", losing 50% of ones received signal is NOT!

Regards,
JS

4061. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 11:40:04 UTC
From: Jeff <j@jsystems.com>
Message-ID: <i6qbak$4tu$1@speranza.aioe.org>
Source record: 7361

>
> Even worse than that! A lot will only consider the loss in the
> transmitted signal of such an antenna, perhaps even call it "trivial."
> However, the received signal will suffer from exactly the same losses
> ... while even losing 500 watts of a 1KW signal can be considered
> "trivial", losing 50% of ones received signal is NOT!
>
> Regards,
> JS
>

3dB is still only 3dB regardless of where it happens in the link budget!!

Jeff

4062. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 11:51:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <cc38511e-80e0-4692-970d-97f240bbfac6@k13g2000vbq.googlegroups.com>
Source record: 7362

On Sep 15, 6:18 am, John Smith <assemblywiz...@gmail.com> wrote:
> ... while even losing 500 watts of a 1KW signal can be considered
> "trivial", losing 50% of ones received signal is NOT!

That depends on the signal to noise ratio. If the signal to noise ratio remains the same while 50% of one's signal is lost, the dynamic range of a low-noise HF receiver usually makes up for it. Witness the Beverage antenna where 99% receive power loss is tolerated: (from Wikipedia)

"While Beverage antennas have excellent directivity, because they are close to lossy earth they do not produce absolute gain (typically -20 to -10 dBi). This is rarely a problem, because the antenna is used at frequencies where there are high levels of atmospheric radio noise."
--
73, Cecil, w5dxp.com

4063. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 12:24:36 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6qdu8$39l$1@news.eternal-september.org>
Source record: 7363

On 9/15/2010 4:51 AM, Cecil Moore wrote:

> ...
> That depends on the signal to noise ratio. If the signal to noise
> ratio remains the same while 50% of one's signal is lost, the dynamic
> range of a low-noise HF receiver usually makes up for it. Witness the
> Beverage antenna where 99% receive power loss is tolerated: (from
> Wikipedia)
>
> "While Beverage antennas have excellent directivity, because they are
> close to lossy earth they do not produce absolute gain (typically -20
> to -10 dBi). This is rarely a problem, because the antenna is used at
> frequencies where there are high levels of atmospheric radio noise."
> --
> 73, Cecil, w5dxp.com

Cecil,

If a mere loss of 10% drops you too close to the sensitivity threshold
of your receiver, your ability to pull out a weak signal just suffered
the kiss of death ... 100w on a kw might not even be noticed on the
other end ...

Regards,
JS

4064. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 12:30:28 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <LL+jgCFkxLkMFw6I@g3ohx.demon.co.uk>
Source record: 7364

In message <i6qdu8$39l$1@news.eternal-september.org>, John Smith
<assemblywizard@gmail.com> writes
>On 9/15/2010 4:51 AM, Cecil Moore wrote:
>
>> ...
>> That depends on the signal to noise ratio. If the signal to noise
>> ratio remains the same while 50% of one's signal is lost, the dynamic
>> range of a low-noise HF receiver usually makes up for it. Witness the
>> Beverage antenna where 99% receive power loss is tolerated: (from
>> Wikipedia)
>>
>> "While Beverage antennas have excellent directivity, because they are
>> close to lossy earth they do not produce absolute gain (typically -20
>> to -10 dBi). This is rarely a problem, because the antenna is used at
>> frequencies where there are high levels of atmospheric radio noise."
>> --
>> 73, Cecil, w5dxp.com
>
>Cecil,
>
>If a mere loss of 10% drops you too close to the sensitivity threshold
>of your receiver, your ability to pull out a weak signal just suffered
>the kiss of death ... 100w on a kw might not even be noticed on the
>other end ...
>
As a Windom is only likely to be used on the HF bands (and probably
mainly on the lower HF bands), I would have thought that a few dB of
attenuation would have negligible effect on the SNR.
--
Ian

4065. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 12:34:09 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6qeg5$39l$2@news.eternal-september.org>
Source record: 7365

On 9/15/2010 5:30 AM, Ian Jackson wrote:

>> ...
> As a Windom is only likely to be used on the HF bands (and probably
> mainly on the lower HF bands), I would have thought that a few dB of
> attenuation would have negligible effect on the SNR.

There are "Windom only baluns?" I thought that was something they just
told the newbies!

Regards,
JS

4066. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 13:11:41 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <9313757b-f42c-4bdf-af79-8b90173570af@z25g2000vbn.googlegroups.com>
Source record: 7366

On 14 sep, 19:59, Richard Clark <kb7...@comcast.net> wrote:
> On Mon, 13 Sep 2010 17:03:42 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >I said you, "mismatch" it is a magical word. TL reflected waves also
> >are explainabe with "mismatch" word. However mismatch it is a name for
> >a physical phenomena, what is that?
>
> Water/Air
> Most people would agree that both are physical.
>
> >When we talk about a traveling
> >wave
>
> Hi Miguel,
>
> Who is "we?" "Traveling Waves" have their own special meaning, and
> that meaning is unnecessary for this discussion.
>
> > reaching the "mismatch" point we
>
> We?
>
> >can try to explain WHY the
> >reflection occur.
>
> If you choose, but the WHY is unnecessary too.
>
> Skip the magic words, as you call them. Everything you discuss is
> available, by parts, but together nothing changes anything.
>
> A transmission line is an artificial medium. It is artificial in the
> sense of being man-made. Being artificial, it attempts to be similar
> to nature's available media. The electronics is same for all.
> Discontinuities, interfaces, abound in both artificial realms and
> natural realms. Their behavior is governed by the same physics - only
> the parameters are different (which is the nature of reality).
>
> 73's
> Richard Clark, KB7QHC

Good mornig Richard

You are right my friend, there are not conduction currents, there not
displacement currents, there are not electrical and magnetic fields,

there are not electric charges neither electrical dipoles in soil and water, just "mismatch" and "discontinuities" (do explain antenna radiation with "mismatch") I wonder why those evil teachers make me spend my time studying those things. Well... now I will return to my science fiction physics books :) :)

73 Miguel

SRI,

4067. Horizontal loop as an inverted L

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 13:55:07 UTC
From: Evan <k9sqg@arrl.net>
Message-ID: <96146075-9383-4adf-8968-52b709e3edc6@h25g2000vba.googlegroups.com>
Source record: 7367

As mentioned in several articles, people have used a horizontal loop as an inverted L, or top loaded vertical, by tying the feeders together at ground level and tuning it against ground. Specifically, I am interested in knowing personal experiences with a configuration of using an 80 meter loop on 160 meters, with the loop 35-40 above ground. Also of interest is how much of a ground plane was installed. I'm interested in only stateside contacts on 160, not DX. If you have used such a configuration, I'd like to hear from you within this newsgroup or directly.

I've been very happy with the performance of my 40 and 80 meter loops and use a weatherproof rapid disconnect, for 300 ohm or 450 ohm window line, when storms approach.

Thanks for reading this posting and don't forget the HF swap nets on 40 and 80 meters.

73,

Evan, K9SQG

4068. Re: Speaker cone as AM antenna?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 15:45:07 UTC
From: Steve Smith <ab8yy@sbcglobal.net>
Message-ID: <i6qplr$1bs$1@speranza.aioe.org>
Source record: 7368

On 9/13/2010 5:24 AM, Man-wai Chang wrote:
>>> Could I use a speaker core as an AM antenna? It got wires looping
>>> around
>> If you don't have an old speaker you can use to experiment with, visit
>> the next local swap meet. I'll be interested in knowing how well it
>> worked for you.
>
> Does this mean it might work?
>
I'm not too sure that wire wrapped around a magnet would be that great
at picking up electromagnetic waves - honestly.
I could be wrong, but it doesn't make a lot of sense to me really.
removing the magnet would result in better reception, but the length of
the wire in the voice coil probably wouldn't be nearly enough anyway.

4069. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 17:01:49 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t4u196dqs66etrs94e9bs3kk0eaibas7ac@4ax.com>
Source record: 7369

On Wed, 15 Sep 2010 06:11:41 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

> there are not conduction currents, there not
>displacement currents, there are not electrical and magnetic fields,
>there are not electric charges neither electrical dipoles in soil and
>water,

Hi Miguel,

There aren't? You have problems.

> just "mismatch" and "discontinuities"

and more problems.

>(do explain antenna
>radiation with "mismatch")

******** Part One of Explanation ********

What about a conductive antenna is matched to an (relatively)
unconductive air (or free space for that matter)?

When your RF, conducting down the transmission line, sees the antenna,
it finds either a match and continues into the antenna, or finds a
mismatch and is reflected (yeah, some cannot accept the concept of
reflected power - so let's say that the energy does not cross the
interface except by some proportion in degree to the mismatch).

For what RF power/energy that does get into the radiating element, it
conducts down to the end of the element - and guess what? - it stops
conducting further in that direction.

Strange that this has to be said, being obvious in the first degree.

So, we have the antenna with some characteristic Z - can you put a
number to it? We have the surrounding medium with some characteristic
Z. They have some integral (meaning a number, integer) relationship.
Dare I call it mismatch?

When you look at the current distribution along a half wave dipole,
does it not exhibit a standing wave? If there were not a mismatch,
where did that come from?

73's
Richard Clark, KB7QHC

4070. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 17:19:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c910037$0$20991$65785112@news.neostrada.pl>
Source record: 7370

"Richard Clark" <kb7qhc@comcast.net> wrote
news:t4u196dqs66etrs94e9bs3kk0eaibas7ac@4ax.com...
> On Wed, 15 Sep 2010 06:11:41 -0700 (PDT), lu6etj <lu6etj@gmail.com>
> wrote:
>
>> there are not conduction currents, there not
>>displacement currents, there are not electrical and magnetic fields,
>>there are not electric charges neither electrical dipoles in soil and
>>water,
>
>>(do explain antenna
>>radiation with "mismatch")
>
>> For what RF power/energy that does get into the radiating element, it
> conducts down to the end of the element - and guess what? - it stops
> conducting further in that direction.

Are you sure that there no thy field emission?

> Strange that this has to be said, being obvious in the first degree.

The field emission is also in the first degree.

> When you look at the current distribution along a half wave dipole,
> does it not exhibit a standing wave? If there were not a mismatch,
> where did that come from?

It the field emision is strong the VSWR is 1 and no standing wave.

Am I right?
S*

4071. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 19:02:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DF5333925DD7nonenowhere@61.9.134.55>
Source record: 7371

Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
news:LL+jgCFkxLkMFw6I@g3ohx.demon.co.uk:

...
> As a Windom is only likely to be used on the HF bands (and probably
> mainly on the lower HF bands), I would have thought that a few dB of
> attenuation would have negligible effect on the SNR.

Ian,

Ah, the statements in support of mediocrity about.

Yes, there is an element of truth in what you say... but looking at it a little further....

On any bands where the external noise is very much greater than the receiver internal noise, small extra antenna loss will not markedly degrade S/N ratio on receive.

One of the issues when the feedline participates as an antenna condcutor is that its proximity to noise sources (eg the power wiring of a building) may lead to higher receive noise without increasing signal strength, so feedline participation can degrade S/N by that mechanism. You won't see that called out in Carolina Windom adds which claim feedline participation as an advantage.

On the tx side, loss in the antenna system reduces EIRP, and so directly degrades S/N at the other end. So, even on those bands where external noise is very much greater than receiver internal noise, pay attention to antenna efficiency to achieve optimal radiated power to be heard at best S/N.

One of the bogus arguments often trotted out is that efficiency is less important with QRP since there is less power to damage a lossy component. Another view is that if you start out with a transmitter that is 10dB or so behind the average transmitter power being used, then why exacerbate the situation when an even lossier antenna system.

For a once technically based hobby, we do think up some phony rationale.

It is a personal judgement about whether 3dB (mentioned by one poster) or any other number is acceptable in the compromise that is made with all practical antenna systems.

Owen

4072. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 19:16:45 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nb62961kljv693uf8ki920oqfhqorvm0rm@4ax.com>
Source record: 7372

On Wed, 15 Sep 2010 19:19:49 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>Am I right?

Your trolley jumped the rails entirely. Mismatch may well serve as a
reason for this too. Consider:
A train traveling 89mph left Cincinnati at 12PM. An airplane flew out
of Denver at 12:10PM going in the same direction. When will they dock
at the same time in Seattle if they are in transit and Daylight
Savings makes its changeover next month?

For complete credit:
What day did the train leave?
What day did the airplane arrive?

73's
Richard Clark, KB7QHC

4073. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-15 19:55:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d5166c53-7517-4570-af47-3f085591f431@y3g2000vbm.googlegroups.com>
Source record: 7373

On Sep 15, 7:24 am, John Smith <assemblywiz...@gmail.com> wrote:
> If a mere loss of 10% drops you too close to the sensitivity threshold
> of your receiver, your ability to pull out a weak signal just suffered
> the kiss of death ...

John, when are you going to give up on this crystal receiver set of
yours and get a decent receiver?

http://crystalradiosupply.com/contents/media/litz%20special%20edition.jpg

For me, receiving at anywhere near the 0.13 uV receiver threshold is
just too much work. I think they should outlaw any received signal
below 1 uV.
--
73, Cecil, w5dxp.com

4074. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 01:43:51 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <f1601f5a-17f6-4e1c-a7cf-7f169a686e8e@j5g2000vbg.googlegroups.com>
Source record: 7374

On 15 sep, 14:01, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 15 Sep 2010 06:11:41 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> > there are not conduction currents, there not
> >displacement currents, there are not electrical and magnetic fields,
> >there are not electric charges neither electrical dipoles in soil and
> >water,
>
> Hi Miguel,
>
> There aren't? You have problems.
>
> > just "mismatch" and "discontinuities"
>
> and more problems.
>
> >(do explain antenna
> >radiation with "mismatch")
>
> ******** Part One of Explanation ********
>
> What about a conductive antenna is matched to an (relatively)
> unconductive air (or free space for that matter)?
>
> When your RF, conducting down the transmission line, sees the antenna,
> it finds either a match and continues into the antenna, or finds a
> mismatch and is reflected (yeah, some cannot accept the concept of
> reflected power - so let's say that the energy does not cross the
> interface except by some proportion in degree to the mismatch).
>
> For what RF power/energy that does get into the radiating element, it
> conducts down to the end of the element - and guess what? - it stops
> conducting further in that direction.
>
> Strange that this has to be said, being obvious in the first degree.
>
> So, we have the antenna with some characteristic Z - can you put a
> number to it? We have the surrounding medium with some characteristic
> Z. They have some integral (meaning a number, integer) relationship.
> Dare I call it mismatch?
>
> When you look at the current distribution along a half wave dipole,
> does it not exhibit a standing wave? If there were not a mismatch,

> where did that come from?
>
> 73's
> Richard Clark, KB7QHC

Oh, yes, I quite understand, balls bounce against walls "because walls are discontinuities" there is a "mismatch in the media" c'est finite, that's all folks! good "explanation", why to ask more?, why to ask "why"? (one step back, the explanation was "God").

Good night Richard (it is time for my catechism)
It is my karma... I know... my second name is Ricardo :D

Miguel

4075. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 03:14:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <oo2396lhmo6d23juheejm4q0jk79om7sik@4ax.com>
Source record: 7375

On Wed, 15 Sep 2010 18:43:51 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

> why to ask more?

Because everthing else was "magic" to you. Strange sort of
limitation, but there you are with a less than satisfactory answer.

73's
Richard Clark, KB7QHC

4076. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 04:59:21 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <de06e9b9-9dba-4779-bce3-6233fb7bbe15@z25g2000vbn.googlegroups.com>
Source record: 7376

On 16 sep, 00:14, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 15 Sep 2010 18:43:51 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> > why to ask more?
>
> Because everthing else was "magic" to you. Strange sort of
> limitation, but there you are with a less than satisfactory answer.
>
> 73's
> Richard Clark, KB7QHC

No, this form of question "why to ask more?" it is ironic, in spanish means that "you", not me, do not want to ask more. You stop the questioning in a high level (as in software "high level" meaning) useful descriptive model of the world and refuse to look for the underlying process responsible of that. "Magic" for me it is => PRINT "hello world", because beneath it is asm code for PRINT instruction, more deep it is movement of bits inside the processor, more lower yet it is the electricity. To explain all program operations perhaps we do not need go beyond PRINT statement knowledge, but BASIC it is not the end of the story...

Why do you think only you study boundary conditions...? it is the more conventional form to treat the issue of reflections! All this speech to refute accelerated electrolite charges radiation? Do better shows to us why a ion vibrating due an electric field it is incapable to radiate EM energy. Better yet, shows us that you has replicated the paper's experiment and has got nil results. Until today we have only scholastic rationalizations, not "bench work".
You said: "well... it is not so good as copper conductor, then it is no good for me", that is not science! that is only your tastes :>P You do not want study or analize technical possibilities with your ham fellows, you like quarreling!, hi hi, Be a good boy, dust off your undergraduated Resnick and see Compton thinkings, interesting things happen at the bottom :>)

73 - Miguel

4077. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 05:38:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3893961f41f93s3tfk3dl7pre6un2a543n@4ax.com>
Source record: 7377

On Wed, 15 Sep 2010 21:59:21 -0700 (PDT), lu6etj <lu6etj@gmail.com>
wrote:

>Why do you think only you study boundary conditions...?

I have to think about that question for a while. At the risk of
translation problems,
1. I don't think only boundary conditions;
2. I don't think I am the only one who studies boundary conditions;
3. Boundary conditions are not incorrect solutions.

> it is the more
>conventional form to treat the issue of reflections! All this speech
>to refute accelerated electrolite charges radiation?

Were you looking for an answer that refutes electrolite charges
radiation? Are YOU refuting electrolite charges radiation? Are
electrolite charges radiation the only solution? Is there radiation
if there are no electrolite charges? [You have already skipped past
dielectric lensing which refracts radiation too.]

> Do better shows
>to us why a ion vibrating due an electric field it is incapable to
>radiate EM energy.

Why?

> Better yet, shows us that you has replicated the
>paper's experiment and has got nil results.

Why does it have to be nil?

>Until today we have only
>scholastic rationalizations, not "bench work".
>You said: "well... it is not so good as copper conductor, then it is
>no good for me",

I really said that? Looks like a bad translation with extra editing.
Maybe if you use my original post with cut-and-paste.

> that is not science! that is only your tastes :>P

>>"Mismatch" it is another magic word
Is this scientific?

> You
>do not want study or analize technical possibilities with your ham
>fellows, you like quarreling!,

Hmmm, your argument sounds like conservative pleas. Look at second quote above: "more conventional." I introduce another analytical perspective and you appeal to old books reciting stale material:

>hi hi, Be a good boy, dust off your
>undergraduated Resnick and see Compton thinkings

Moldy too.

Your question that I long ago responded to was:
>>what other classical process could explain the EM earth reflection?
and you are very disappointed that I did not boringly repeat the SAME dusty classical process!

Why did you ask?

73's
Richard Clark, KB7QHC

4078. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 10:05:14 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6sq4u$d1o$1@news.eternal-september.org>
Source record: 7378

On 9/15/2010 12:55 PM, Cecil Moore wrote:
> On Sep 15, 7:24 am, John Smith<assemblywiz...@gmail.com> wrote:
>> If a mere loss of 10% drops you too close to the sensitivity threshold
>> of your receiver, your ability to pull out a weak signal just suffered
>> the kiss of death ...
>
> John, when are you going to give up on this crystal receiver set of
> yours and get a decent receiver?
>
> http://crystalradiosupply.com/contents/media/litz%20special%20edition.jpg
>
> For me, receiving at anywhere near the 0.13 uV receiver threshold is
> just too much work. I think they should outlaw any received signal
> below 1 uV.
> --
> 73, Cecil, w5dxp.com

Darn Cecil, quite peeking!

From the crystal silicon in the semiconductors, to the crystaline structure of the metals ... I just can't get away from the darn crystal radios! And, alas, I am afraid, these days, the sensitivity of my receivers front end far exceeds my hearing ... I was just bragging. You caught me!

But, I can still remember those days when I could pull out a gnats whisper above ... but then, as I remember, there was far less noise then.

Regards,
JS

4079. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 10:06:20 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i6sq70$d1o$2@news.eternal-september.org>
Source record: 7379

On 9/15/2010 12:55 PM, Cecil Moore wrote:

>> ...
> --
> 73, Cecil, w5dxp.com

quite = quit ... another bad habit in the making.

Regards,
JS

4080. Coax choke question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 14:41:32 UTC
From: Bill Ogden <billogden@optonline.net>
Message-ID: <4c922c81$0$31277$607ed4bc@cv.net>
Source record: 7380

I have a half-sloper attached to my tower. It is mostly used for 80 meters (but also for 160 and 40 in rare cases). It is attached to the top of the middle section of a 55' crankup tower. The tower has a number coax and other control lines suspended a foot or so outside the tower. I am in the "far suburbs" but 40/80/160 still have more noise that I hoped and I suspect some of the noise is from the neighborhood; there is no specific noise generator that I can detect.

Question: would a coax choke (5 43-material toroids with 5 loops of coax) at the feedpoint of the half-sloper do any good? I am a little confused since the tower (and, I assume, the outside of the coax) is an intentional part of a half-sloper antenna.

At the bottom of the tower, the coax goes underground for about 50' to the rig.

Bill - W2WO

4081. Re: Cecil, was it you that mention a "windom balun?"

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 15:32:35 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <sSD62RCTijkMFwe+@g3ohx.demon.co.uk>
Source record: 7381

In message <Xns9DF5333925DD7nonenowhere@61.9.134.55>, Owen Duffy
<none@no.where> writes
>Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote in
>news:LL+jgCFkxLkMFw6I@g3ohx.demon.co.uk:
>
>...
>> As a Windom is only likely to be used on the HF bands (and probably
>> mainly on the lower HF bands), I would have thought that a few dB of
>> attenuation would have negligible effect on the SNR.
>
>Ian,
>
>Ah, the statements in support of mediocrity about.
>
>Yes, there is an element of truth in what you say... but looking at it a
>little further....
>
>On any bands where the external noise is very much greater than the
>receiver internal noise, small extra antenna loss will not markedly
>degrade S/N ratio on receive.
>
>One of the issues when the feedline participates as an antenna condcutor
>is that its proximity to noise sources (eg the power wiring of a
>building) may lead to higher receive noise without increasing signal
>strength, so feedline participation can degrade S/N by that mechanism.
>You won't see that called out in Carolina Windom adds which claim
>feedline participation as an advantage.
>
>On the tx side, loss in the antenna system reduces EIRP, and so directly
>degrades S/N at the other end. So, even on those bands where external
>noise is very much greater than receiver internal noise, pay attention to
>antenna efficiency to achieve optimal radiated power to be heard at best
>S/N.
>
>One of the bogus arguments often trotted out is that efficiency is less
>important with QRP since there is less power to damage a lossy component.
>Another view is that if you start out with a transmitter that is 10dB or
>so behind the average transmitter power being used, then why exacerbate
>the situation when an even lossier antenna system.
>
>For a once technically based hobby, we do think up some phony rationale.
>
>It is a personal judgement about whether 3dB (mentioned by one poster) or
>any other number is acceptable in the compromise that is made with all

>practical antenna systems.
>
>Owen

I can't disagree with anything you say. I'm no advocate of the Carolina Windom, and have no plans to use one.

From the point of view of receiving (and causing) interference, allowing the feeder to contribute to the antenna radiation is certainly something which one should be circumspect about. The various comments and explanations (here and elsewhere) indicate that can be a bit of an art to ensure that the radiating common-mode feeder currents are restricted to where they ought to be.

And while, on receive, a bit of 'unnecessary' loss is usually of little consequence on the lower frequencies, losing transmitter power is not something you want to do, on any frequency (if you can avoid it). But, as always, it is often a balance between performance, convenience, and what you are really trying to achieve with your amateur radio station.
--
Ian

4082. Re: Coax choke question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 17:40:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <ca65fca1-a9d0-4af5-b461-88220c0cc0f3@y3g2000vbm.googlegroups.com>
Source record: 7382

On Sep 16, 9:41 am, "Bill Ogden" <billog...@optonline.net> wrote:
> I am a little confused since
> the tower (and, I assume, the outside of the coax) is an intentional part of
> a half-sloper antenna.

There are two sources of common-mode current. A choke at the resonant
dipole feedpoint reduces the common-mode current conducted onto the
outside coax braid. Unfortunately with the tower being a radiator and
the coax tied to the tower, inducted common-mode is the major problem
and difficult to solve. A choke at the antenna feedpoint will have
little effect on inducted common-mode current. I wonder if you are
frying any earthworms along your buried coax? :-)
--
73, Cecil, w5dxp.com

4083. Re: Coax choke question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 17:49:27 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <F9GdnfUnB6Y2xQ_RnZ2dnUVZ_s6dnZ2d@giganews.com>
Source record: 7383

On 9/16/2010 7:41 AM, Bill Ogden wrote:
> I have a half-sloper attached to my tower. It is mostly used for 80 meters
> (but also for 160 and 40 in rare cases). It is attached to the top of the
> middle section of a 55' crankup tower. The tower has a number coax and other
> control lines suspended a foot or so outside the tower. I am in the "far
> suburbs" but 40/80/160 still have more noise that I hoped and I suspect some
> of the noise is from the neighborhood; there is no specific noise generator
> that I can detect.
>
> Question: would a coax choke (5 43-material toroids with 5 loops of coax) at
> the feedpoint of the half-sloper do any good? I am a little confused since
> the tower (and, I assume, the outside of the coax) is an intentional part of
> a half-sloper antenna.
>
> At the bottom of the tower, the coax goes underground for about 50' to the
> rig.
>
> Bill - W2WO

You're correct that the feedline and/or tower are part of the antenna. What you have is a dipole (not necessarily symmetrical), with one side of the dipole being the half-sloper "antenna" and the other side being the tower and feedline. The feedline has two transmission line conductors, which are the center conductor and the inside of the shield. Whatever current flows out of one must flow into the other. The current going to the half sloper equals the current flowing down the tower and outside of the feedline shield. If you effectively choke the tower and feedline currents, you'll also choke the current to the half sloper.

While you can effectively choke the current on the outside of the feedline (it would probably take two chokes, one at the top and one at the bottom), it won't help your noise situation. Whatever nearby vertically polarized noise might have been picked up by the outside of the coax will still be picked up by the tower. If the problem is vertically polarized local noise, the only solution is probably to go with a fully horizontal antenna with a well-decoupled feedline.

Roy Lewallen, W7EL

4084. Re: Coax choke question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 18:09:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <o7n496tj4penrg236ls11pii16kojod8c2@4ax.com>
Source record: 7384

On Thu, 16 Sep 2010 10:41:32 -0400, "Bill Ogden"
<billogden@optonline.net> wrote:

>the coax goes underground for about 50' to the
>rig.

Hi Bill,

That alone should snub common mode currents (into the shack).

What kind of noise?

73's
Richard Clark, KB7QHC

4085. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 19:09:25 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <b99eb27e-6543-4e4a-91e5-f7fa02c5045f@g10g2000vbc.googlegroups.com>
Source record: 7385

On 16 sep, 02:38, Richard Clark <kb7...@comcast.net> wrote:
> On Wed, 15 Sep 2010 21:59:21 -0700 (PDT), lu6etj <lu6...@gmail.com>
> wrote:
>
> >Why do you think only you study boundary conditions...?
>
> I have to think about that question for a while. At the risk of
> translation problems,
> 1. I don't think only boundary conditions;
> 2. I don't think I am the only one who studies boundary conditions;
> 3. Boundary conditions are not incorrect solutions.
>
> > it is the more
> >conventional form to treat the issue of reflections! All this speech
> >to refute accelerated electrolite charges radiation?
>
> Were you looking for an answer that refutes electrolite charges
> radiation? Are YOU refuting electrolite charges radiation? Are
> electrolite charges radiation the only solution? Is there radiation
> if there are no electrolite charges? [You have already skipped past
> dielectric lensing which refracts radiation too.]
>
> > Do better shows
> >to us why a ion vibrating due an electric field it is incapable to
> >radiate EM energy.
>
> Why?
>
> > Better yet, shows us that you has replicated the
> >paper's experiment and has got nil results.
>
> Why does it have to be nil?
>
> >Until today we have only
> >scholastic rationalizations, not "bench work".
> >You said: "well... it is not so good as copper conductor, then it is
> >no good for me",
>
> I really said that? Looks like a bad translation with extra editing.
> Maybe if you use my original post with cut-and-paste.
>
> > that is not science! that is only your tastes :>P
> >>"Mismatch" it is another magic word
>

> Is this scientific?
>
> > You
> >do not want study or analize technical possibilities with your ham
> >fellows, you like quarreling!,
>
> Hmmm, your argument sounds like conservative pleas. Look at second
> quote above: "more conventional."   I introduce another analytical
> perspective and you appeal to old books reciting stale material:
>
> >hi hi, Be a good boy, dust off your
> >undergraduated Resnick and see Compton thinkings
>
> Moldy too.
>
> Your question that I long ago responded to was:>>what other classical process could explain the EM earth reflection?
>
> and you are very disappointed that I did not boringly repeat the SAME
> dusty classical process!
>
> Why did you ask?
>
> 73's
> Richard Clark, KB7QHC

SRI Richard I am not fond to eristics. Have a good day and thank you
for your company. Nos vemos!.

Miguel

4086. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 20:41:41 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <3c446294-4488-4f4c-8f86-a7784854ecc5@k9g2000vbo.googlegroups.com>
Source record: 7386

On 7 sep, 16:22, Roy Lewallen <w...@eznec.com> wrote:
> On 9/6/2010 5:06 PM, Frank wrote:
>
>
>
> > On 7 MHz a dipole constructed of salt water: Er = 81,
> > conductivity 5 S/m, and 0.5" diameter has a free
> > space efficiency of 0.08%. i.e. with 100 W input
> > the total radiated power = 80 mW.
>
> > Frank
> > (VE6CB)
>
> That looked so bad I had to run an analysis to see for myself. Sure
> enough, it's that bad. And even with a 0.25 inch diameter column at 146
> MHz, the efficiency is only on the order of 1%. A foot and a half of
> wire vs. a pump, power source, and ferrite transformer? No contest.
>
> Roy Lewallen, W7EL

Hello Roy

I do not saw this post. I do not know how you make the simulation, I try a similar one changing "Wire Loss" to "User defined" an put there 5 ohm-m.

The "Average gain" results was very bad, as yours, then, thinking of aspect ratio of IEEE antenna paper (and big masses involved in water and soil reflections) I modeled it with 300 mm diameter wire. New Average Gain now was 0.53 = -2.65 dB, pretty near values given in paper.

Ita was approximateli correct my procedure on EzNEC? what do you think about results?

Thank you very much in advance.

Miguel LU6ETJ

PD: I will repeat this post in another point of thread becaus this one it is older.

4087. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 20:45:51 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <632e8eb6-6498-4924-b96a-a08853863c6a@k30g2000vbn.googlegroups.com>
Source record: 7387

On 13 sep, 17:23, Roy Lewallen <w...@eznec.com> wrote:
> On 9/13/2010 11:31 AM, Richard Clark wrote:
>
>
>
> > What is the characteristic Z of free space or air?
>
> > What is the characteristic Z of Water (plain, with mud, or salty)?
> >. . .
>
> Anyone with EZNEC, including the demo program, can easily get the value
> of intrinsic Z of various media. Just define a Real ground type in any
> model and enter the ground constants. Then open the Utilities menu and
> select Ground Info. A wave normal to the ground will reflect exactly as
> it would from the junction of two transmission lines with one having the
> impedance of free space (about 377 + j0 ohms) and the other having the
> ground's impedance. The nature of oblique reflections depend on the
> polarization of the wave relative to the reflecting plane (the ground),
> but a reflection always occurs whenever the wave encounters a change in
> the impedance of the medium, or a "mismatch" as Richard calls it.
>
> Roy Lewallen, W7EL

Hello Roy:

Very good and youseful info. Is it possible change the reflecting
angle in that result?

Miguel

4088. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 21:11:17 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <nIudnRTb2_RqGg_RnZ2dnUVZ_hydnZ2d@giganews.com>
Source record: 7388

On 9/16/2010 1:41 PM, lu6etj wrote:
> Hello Roy
>
> I do not saw this post. I do not know how you make the simulation, I
> try a similar one changing "Wire Loss" to "User defined" an put there
> 5 ohm-m.
>
> The "Average gain" results was very bad, as yours, then, thinking of
> aspect ratio of IEEE antenna paper (and big masses involved in water
> and soil reflections) I modeled it with 300 mm diameter wire. New
> Average Gain now was 0.53 = -2.65 dB, pretty near values given in
> paper.
>
> Ita was approximateli correct my procedure on EzNEC? what do you think
> about results?
>
> Thank you very much in advance.
>
> Miguel LU6ETJ
>
> PD: I will repeat this post in another point of thread becaus this one
> it is older.

The conductivity of sea water is about 5 S/m. This is a resistivity of 0.02 ohm-m, which is the value you should enter as wire loss.

Roy Lewallen, W7EL

4089. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 21:15:55 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <eKCdncfa0a-SFA_RnZ2dnUVZ_sGdnZ2d@giganews.com>
Source record: 7389

On 9/16/2010 1:45 PM, lu6etj wrote:
> On 13 sep, 17:23, Roy Lewallen<w...@eznec.com> wrote:
>> On 9/13/2010 11:31 AM, Richard Clark wrote:
>>
>>
>>
>>> What is the characteristic Z of free space or air?
>>
>>> What is the characteristic Z of Water (plain, with mud, or salty)?
>>> . . .
>>
>> Anyone with EZNEC, including the demo program, can easily get the value
>> of intrinsic Z of various media. Just define a Real ground type in any
>> model and enter the ground constants. Then open the Utilities menu and
>> select Ground Info. A wave normal to the ground will reflect exactly as
>> it would from the junction of two transmission lines with one having the
>> impedance of free space (about 377 + j0 ohms) and the other having the
>> ground's impedance. The nature of oblique reflections depend on the
>> polarization of the wave relative to the reflecting plane (the ground),
>> but a reflection always occurs whenever the wave encounters a change in
>> the impedance of the medium, or a "mismatch" as Richard calls it.
>>
>> Roy Lewallen, W7EL
>
> Hello Roy:
>
> Very good and youseful info. Is it possible change the reflecting
> angle in that result?
>
> Miguel

Sorry, I'm not sure what result you mean. You can't change the
reflecting angle -- the angle of reflection is always equal to the angle
of incidence. And the intrinsic impedance of a medium doesn't change
when a wave strikes it, reflects off it, or propagates through it.

Roy Lewallen, W7EL

4090. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 22:12:56 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <9d974e02-10f2-439c-95fc-b467c94e4884@m16g2000vbs.googlegroups.com>
Source record: 7390

On 16 sep, 18:15, Roy Lewallen <w...@eznec.com> wrote:
> On 9/16/2010 1:45 PM, lu6etj wrote:
>
>
>
>
>
> > On 13 sep, 17:23, Roy Lewallen<w...@eznec.com> wrote:
> >> On 9/13/2010 11:31 AM, Richard Clark wrote:
>
> >>> What is the characteristic Z of free space or air?
>
> >>> What is the characteristic Z of Water (plain, with mud, or salty)?
> >>> . . .
>
> >> Anyone with EZNEC, including the demo program, can easily get the value
> >> of intrinsic Z of various media. Just define a Real ground type in any
> >> model and enter the ground constants. Then open the Utilities menu and
> >> select Ground Info. A wave normal to the ground will reflect exactly as
> >> it would from the junction of two transmission lines with one having the
> >> impedance of free space (about 377 + j0 ohms) and the other having the
> >> ground's impedance. The nature of oblique reflections depend on the
> >> polarization of the wave relative to the reflecting plane (the ground),
> >> but a reflection always occurs whenever the wave encounters a change in
> >> the impedance of the medium, or a "mismatch" as Richard calls it.
>
> >> Roy Lewallen, W7EL
>
> > Hello Roy:
>
> > Very good and youseful info. Is it possible change the reflecting
> > angle in that result?
>
> > Miguel
>
> Sorry, I'm not sure what result you mean. You can't change the
> reflecting angle -- the angle of reflection is always equal to the angle
> of incidence. And the intrinsic impedance of a medium doesn't change
> when a wave strikes it, reflects off it, or propagates through it.
>
> Roy Lewallen, W7EL- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

I wanted to mean to choose the incident angle for possible anothers calculations, Sorry I get confussed with translated meaning of angle in => "Intrinsec Z = xxx at ANGLE of xxx deg, I understood as incidence angle instead of phase angle, here we can not acostumed to write in that form and I translated bad the meaning.

Today I posted another EZ-NEC question about a simulation of liquid antenna based in yours, but I did on earlier thread post point, have you see it?

(Thank for you quick answer)

73 - Miguel

4091. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 22:44:44 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <19CdnZm2qopCAA_RnZ2dnUVZ_uednZ2d@giganews.com>
Source record: 7391

On 9/16/2010 3:12 PM, lu6etj wrote:
> On 16 sep, 18:15, Roy Lewallen<w...@eznec.com> wrote:
>>
>> Sorry, I'm not sure what result you mean. You can't change the
>> reflecting angle -- the angle of reflection is always equal to the angle
>> of incidence. And the intrinsic impedance of a medium doesn't change
>> when a wave strikes it, reflects off it, or propagates through it.
>>
>> Roy Lewallen, W7EL- Ocultar texto de la cita -
>>
>> - Mostrar texto de la cita -
>
> I wanted to mean to choose the incident angle for possible anothers
> calculations, Sorry I get confussed with translated meaning of angle
> in => "Intrinsec Z = xxx at ANGLE of xxx deg, I understood as
> incidence angle instead of phase angle, here we can not acostumed to
> write in that form and I translated bad the meaning.

Intrinsic impedance is a complex number unless the medium is lossless like free space, so the impedance of ground is complex. A complex number can be expressed in rectangular form (real and imaginary) or polar form (magnitude and angle). EZNEC shows the impedance in polar form which includes an angle. The angle is part of the impedance and has nothing to do with any field. Many scientific calculators can convert the polar number into rectangular form if you prefer.

> Today I posted another EZ-NEC question about a simulation of liquid
> antenna based in yours, but I did on earlier thread post point, have
> you see it?

Yes, I posted a response.

Roy Lewallen, W7EL

4092. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 23:01:07 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <cdd69fa0-b727-456e-815f-883c058cf353@q9g2000vbd.googlegroups.com>
Source record: 7392

On 16 sep, 18:11, Roy Lewallen <w...@eznec.com> wrote:
> On 9/16/2010 1:41 PM, lu6etj wrote:
>
>
>
>
>
> > Hello Roy
>
> > I do not saw this post. I do not know how you make the simulation, I
> > try a similar one changing "Wire Loss" to "User defined" an put there
> > 5 ohm-m.
>
> > The "Average gain" results was very bad, as yours, then, thinking of
> > aspect ratio of IEEE antenna paper (and big masses involved in water
> > and soil reflections) I modeled it with 300 mm diameter wire. New
> > Average Gain now was 0.53 = -2.65 dB, pretty near values given in
> > paper.
>
> > Ita was approximateli correct my procedure on EzNEC? what do you think
> > about results?
>
> > Thank you very much in advance.
>
> > Miguel LU6ETJ
>
> > PD: I will repeat this post in another point of thread becaus this one
> > it is older.
>
> The conductivity of sea water is about 5 S/m. This is a resistivity of
> 0.02 ohm-m, which is the value you should enter as wire loss.
>
> Roy Lewallen, W7EL- Ocultar texto de la cita -
>
> - Mostrar texto de la cita -

Sorry, it is not my day, I didn't see this answer neither. Ok, TKS, my mistake, now I put 1/5 S/m = 0.2 ohms-m (free space simulation, 0,97 m length, 10 segs) and similar results to bad resistivity but with 50 mm wire diameter now (0,57). Do you trust in this results?, seems more optimistics than IEEE paper.

Miguel

4093. high noise level

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-16 23:17:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f9d8ef44-38fd-4c56-ad47-91d36416f7ac@q26g2000vbn.googlegroups.com>
Source record: 7393

on the news group, not on the air... i don't know if google implements this or not, but another similar forum i use has an automatic message removal feature if 5 different users flag a message as spam. try that with a few of these recent ones about paypal cash or hot videos and see if they go away. just view the message and in the links at the bottom of the message frame click the 'report spam' one.

4094. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-17 00:36:25 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <AZednehaGIOWJQ_RnZ2dnUVZ_s-dnZ2d@giganews.com>
Source record: 7394

On 9/16/2010 4:01 PM, lu6etj wrote:
>
> Sorry, it is not my day, I didn't see this answer neither. Ok, TKS, my
> mistake, now I put 1/5 S/m = 0.2 ohms-m (free space simulation, 0,97 m
> length, 10 segs) and similar results to bad resistivity but with 50 mm
> wire diameter now (0,57). Do you trust in this results?, seems more
> optimistics than IEEE paper.
>
> Miguel

Yes, I trust these results. If the IEEE paper agrees with your earlier calculation, I suspect that the author made the same mistake you did.

Roy Lewallen, W7EL

4095. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-17 00:41:37 UTC
From: Roy Lewallen <w7el@eznec.com>
Message-ID: <192dnSTBpu7ZJA_RnZ2dnUVZ_hednZ2d@giganews.com>
Source record: 7395

On 9/16/2010 5:36 PM, Roy Lewallen wrote:
> On 9/16/2010 4:01 PM, lu6etj wrote:
>>
>> Sorry, it is not my day, I didn't see this answer neither. Ok, TKS, my
>> mistake, now I put 1/5 S/m = 0.2 ohms-m (free space simulation, 0,97 m
>> length, 10 segs) and similar results to bad resistivity but with 50 mm
>> wire diameter now (0,57). Do you trust in this results?, seems more
>> optimistics than IEEE paper.
>>
>> Miguel
>
> Yes, I trust these results. If the IEEE paper agrees with your earlier
> calculation, I suspect that the author made the same mistake you did.
>
> Roy Lewallen, W7EL

Oops, I just took another look at your posting. You should put in 0.02,
not 0.2 ohm-m.

Roy Lewallen, W7EL

4096. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-17 00:43:14 UTC
From: tom <news4792@taring.org>
Message-ID: <4c92b99d$0$24414$8046368a@newsreader.iphouse.net>
Source record: 7396

On 9/16/2010 2:09 PM, lu6etj wrote:
> On 16 sep, 02:38, Richard Clark<kb7...@comcast.net> wrote:
>> On Wed, 15 Sep 2010 21:59:21 -0700 (PDT), lu6etj<lu6...@gmail.com>
>> wrote:
>>
>>> Why do you think only you study boundary conditions...?
>>
>> I have to think about that question for a while. At the risk of
>> translation problems,
>> 1. I don't think only boundary conditions;
>> 2. I don't think I am the only one who studies boundary conditions;
>> 3. Boundary conditions are not incorrect solutions.
>>
>>> it is the more
>>> conventional form to treat the issue of reflections! All this speech
>>> to refute accelerated electrolite charges radiation?
>>
>> Were you looking for an answer that refutes electrolite charges
>> radiation? Are YOU refuting electrolite charges radiation? Are
>> electrolite charges radiation the only solution? Is there radiation
>> if there are no electrolite charges? [You have already skipped past
>> dielectric lensing which refracts radiation too.]
>>
>>> Do better shows
>>> to us why a ion vibrating due an electric field it is incapable to
>>> radiate EM energy.
>>
>> Why?
>>
>>> Better yet, shows us that you has replicated the
>>> paper's experiment and has got nil results.
>>
>> Why does it have to be nil?
>>
>>> Until today we have only
>>> scholastic rationalizations, not "bench work".
>>> You said: "well... it is not so good as copper conductor, then it is
>>> no good for me",
>>
>> I really said that? Looks like a bad translation with extra editing.
>> Maybe if you use my original post with cut-and-paste.
>>
>>> that is not science! that is only your tastes :>P
>>>> "Mismatch" it is another magic word

>>
>> Is this scientific?
>>
>>> You
>>> do not want study or analize technical possibilities with your ham
>>> fellows, you like quarreling!,
>>
>> Hmmm, your argument sounds like conservative pleas. Look at second
>> quote above: "more conventional." I introduce another analytical
>> perspective and you appeal to old books reciting stale material:
>>
>>> hi hi, Be a good boy, dust off your
>>> undergraduated Resnick and see Compton thinkings
>>
>> Moldy too.
>>
>> Your question that I long ago responded to was:>>what other classical process could
explain the EM earth reflection?
>>
>> and you are very disappointed that I did not boringly repeat the SAME
>> dusty classical process!
>>
>> Why did you ask?
>>
>> 73's
>> Richard Clark, KB7QHC
>
>
> SRI Richard I am not fond to eristics. Have a good day and thank you
> for your company. Nos vemos!.
>
> Miguel
>
>

Richard is a pit bull. You riled him up. It happens. He can't help it.

tom
K0TAR

4097. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-17 01:18:41 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <1a03c0b5-3d3f-4a03-a460-2eb2aed3ddda@e20g2000vbn.googlegroups.com>
Source record: 7397

On 16 sep, 21:41, Roy Lewallen <w...@eznec.com> wrote:
> On 9/16/2010 5:36 PM, Roy Lewallen wrote:
>
> > On 9/16/2010 4:01 PM, lu6etj wrote:
>
> >> Sorry, it is not my day, I didn't see this answer neither. Ok, TKS, my
> >> mistake, now I put 1/5 S/m = 0.2 ohms-m (free space simulation, 0,97 m
> >> length, 10 segs) and similar results to bad resistivity but with 50 mm
> >> wire diameter now (0,57). Do you trust in this results?, seems more
> >> optimistics than IEEE paper.
>
> >> Miguel
>
> > Yes, I trust these results. If the IEEE paper agrees with your earlier
> > calculation, I suspect that the author made the same mistake you did.
>
> > Roy Lewallen, W7EL
>
> Oops, I just took another look at your posting. You should put in 0.02,
> not 0.2 ohm-m.
>
> Roy Lewallen, W7EL

Oooops... Well... seems this it in not "our" day :>) 5 S/m it is 0.2
ohm-m test data and calculations:
http://people.seas.harvard.edu/~jones/es154/lectures/lecture_2/Ohm%27sLaw/Ohm%27sLaw.html,
by the way: I do not use calculators, so much mistakes made my
fingers... I am happy since MathCad come to my life :>D
.....
IEEE author said to have made measurements. The really interesting
thing it is EZNEC seems to confirm the hipotesis.

73 - Miguel

4098. Re: Coax choke question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-17 22:11:05 UTC
From: Bill Ogden <billogden@optonline.net>
Message-ID: <4c93e778$0$20184$607ed4bc@cv.net>
Source record: 7398

> You're correct that the feedline and/or tower are part of the antenna.
> What you have is a dipole (not necessarily symmetrical), with one side of
> the dipole being the half-sloper "antenna" and the other side being the
> tower and feedline. The feedline has two transmission line conductors,
> which are the center conductor and the inside of the shield. Whatever
> current flows out of one must flow into the other. The current going to
> the half sloper equals the current flowing down the tower and outside of
> the feedline shield. If you effectively choke the tower and feedline
> currents, you'll also choke the current to the half sloper.
>
> While you can effectively choke the current on the outside of the feedline
> (it would probably take two chokes, one at the top and one at the bottom),
> it won't help your noise situation. Whatever nearby vertically polarized
> noise might have been picked up by the outside of the coax will still be
> picked up by the tower. If the problem is vertically polarized local
> noise, the only solution is probably to go with a fully horizontal antenna
> with a well-decoupled feedline.
>
> Roy Lewallen, W7EL

Thank you for the confirmation. I'll skip the choke for the half-sloper.

I am aware that many hams take a poor view of these antennas. Perhaps I
am a bit lucky because mine seems to meet my minimum requirements ---
especially for transmitting ---
probably because I do not use 80 or 160 very often. (I still need about 25
countries on 80 for 5BDXCC and this is my driver.) I would love to have
a quieter receiving antenna for 80. There is a very interesting scheme in
the
QST I received today; in effect a rotary beam for 80, with variable angle
of reception.

Bill - W2WO

4099. Re: Coax choke question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-18 16:22:20 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i72p02pnj1@news.eternal-september.org>
Source record: 7399

On 9/16/2010 7:41 AM, Bill Ogden wrote:
> I have a half-sloper attached to my tower. It is mostly used for 80 meters
> (but also for 160 and 40 in rare cases). It is attached to the top of the
> middle section of a 55' crankup tower. The tower has a number coax and other
> control lines suspended a foot or so outside the tower. I am in the "far
> suburbs" but 40/80/160 still have more noise that I hoped and I suspect some
> of the noise is from the neighborhood; there is no specific noise generator
> that I can detect.
>
> Question: would a coax choke (5 43-material toroids with 5 loops of coax) at
> the feedpoint of the half-sloper do any good? I am a little confused since
> the tower (and, I assume, the outside of the coax) is an intentional part of
> a half-sloper antenna.
>
> At the bottom of the tower, the coax goes underground for about 50' to the
> rig.
>
> Bill - W2WO

Might, actually, be better to feed the other end of the sloper, bringing
that end as close to the shack as possible, shortening the coax and
dropping out the associated loss, possibly having a favorable effect on
your noise, etc.

Of course the addition of a suitable counterpoise(s) would be necessary
... just a thought ... and, of course, a notable amount of work.

Regards,
JS

4100. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 05:42:51 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <1dd77ee2-6250-49ba-864b-6c123f164312@f20g2000pro.googlegroups.com>
Source record: 7400

On Sep 8, 9:35 pm, Roy Lewallen <w...@eznec.com> wrote:
> On 9/8/2010 8:06 PM, Sal M. Onella wrote:
>
> > On Sep 7, 12:22 pm, Roy Lewallen<w...@eznec.com> wrote:
>
> >> That looked so bad I had to run an analysis to see for myself. Sure
> >> enough, it's that bad. And even with a 0.25 inch diameter column at 146
> >> MHz, the efficiency is only on the order of 1%. A foot and a half of
> >> wire vs. a pump, power source, and ferrite transformer? No contest.
>
> >> Roy Lewallen, W7EL
>
> > I know Dan Tam, the SPAWAR engineer in the video. He's a pretty sharp
> > guy. I hesitate to throw him into the Lions' Den but I will if you
> > let me watch. :-)
>
> > "Sal"
>
> It's a sad comment on the state of this newsgroup that an objective
> statement of what are believed to be facts is taken as "throwing [the
> engineer] into the lions' den". It's not my intent at all to impugn the
> engineer. Surely he's aware of the efficiency of the "antennas" he's
> creating, so either my (and Frank's) calculations are grossly incorrect
> or SPAWAR thinks there's a market for such inefficient antennas. It
> would be educational to know which of these is the case. It was
> interesting that there was no mention in the video of very low
> efficiency, but I guess that's to be expected for a promotional piece
> produced by a marketing department looking for investors.
>
> Roy Lewallen, W7EL

Sorry Roy. I meant that tongue-in-cheek regarding the rough handling
that routinely goes on in newsgroups. This one's generally pretty
civil.

"Sal"
(KD6VKW)

4101. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 06:12:28 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <3050d9e1-b1e7-47ab-aab5-9751d6ef2902@x20g2000pro.googlegroups.com>
Source record: 7301

On Sep 11, 8:13 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 9/11/2010 7:46 PM, 'Doc wrote:
>
> > > Having dealt with water streams for a while, I wonder how the stream
> > > is measured, because all streams break up into droplets at some point
> > > well before they appear to do so.
> > > - 'Doc
>
> You are absolutely correct. Would be interesting to have real time
> monitoring of the match, field strength in relation to a standard 1/4
> wave and real power delivered to the water stream. I am thinking this
> is the dummies, dummy load. Or, the dummy load of the century ... could
> sure use a 5KW ferrite core like he has, just sink the signal into a
> "barrel of saltwater dummy load" ... would be nice to be have this
> dis-proven and start discussing why.
>
> Who knows, when the stream goes "live" perhaps the feedline "lights up"
> as a radiator. As someone already pointed out, the repeater makes one
> highly suspicious. I mean, is he line of sight from the repeater? How
> far is he from the repeater? Why didn't he just choose direct contact?
> Etc., etc. He certainly could have supplied us with better.
>
> I just might write him and ask him for a new youtube video and different
> test parameters.
>
> Regards,
> JS

The narration says he's 30 miles from the repeater. He dialed up the
"OTAY" memory on his HT and the 146.640 machine is on Mount Otay, near
the Mexican border and well inland. He is definitely line-of site to
it from anywhere around the bay,

"Sal"
(KD6VKW)

4102. Re: Amateur invents miracle antenna which defies the laws of physics!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 12:48:11 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i750qc$uo3$3@news.eternal-september.org>
Source record: 7302

On 9/18/2010 11:12 PM, Sal M. Onella wrote:

> ...
> The narration says he's 30 miles from the repeater. He dialed up the
> "OTAY" memory on his HT and the 146.640 machine is on Mount Otay, near
> the Mexican border and well inland. He is definitely line-of site to
> it from anywhere around the bay,
>
> "Sal"
> (KD6VKW)

What would be most interesting, and an assistance to your average amateur, is have him tie a string which is somehow attached and held fast but blown in an upwards direction, within the stream of water. Then, you finally have the ability to tune, load and communicate on the proverbial "wet string!" And, vindication of all those who have claimed such in old times ...

One small step for him, one giant leap for amateurs! <yeah!>

Regards,
JS

4103. low noise level?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 13:07:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f4dfd3f1-6c3f-456a-9087-b4caaff49ceb@c13g2000vbr.googlegroups.com>
Source record: 7303

did everyone start marking those spam posts work?? sure seems to be
lots less noise on here now.

4104. Re: Horizontal loop as an inverted L

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 14:06:37 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <b4c81bb3-a7b9-4b9a-a2ae-d13aaa2b5ae6@h25g2000vba.googlegroups.com>
Source record: 7304

Evan,
I've done that with an 80 meter loop. It's far from the 'best' 160 meter antenna, but it can work 'okay'. How well it works (with in limits) depends a lot on how it's erected and the 'ground' you work it against. Too much variation in all that to make a guess about, so try it and see.
Paul

4105. Re: low noise level?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 14:41:29 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <c05331af-e58c-44c1-8cfa-93f2786f5fbc@q16g2000prf.googlegroups.com>
Source record: 7305

On Sep 19, 6:07 am, K1TTT <k1...@arrl.net> wrote:
> did everyone start marking those spam posts work?? sure seems to be
> lots less noise on here now.

Yes, I did and will continue, if I remember!
KD7HB

4106. Hy-Gain BN-86 balun for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 15:07:57 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <i7590d$uu8$1@news.eternal-september.org>
Source record: 7306

I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
asking $40 for it. The instruction manual can be viewed at:

http://www.thiecom.de/pdf/BN-86.pdf

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4107. VHF relays and VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 15:08:43 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <i7591r$uu8$2@news.eternal-september.org>
Source record: 7307

I have two NEC 536300 relays for sale. The specs are:

50 ohms input and output
150 Watts to 470 MHz
VSWR 1.25:1
Crosstalk 40 dB
12 VDC coil
Shown in August 1965 VHFer if you still have it. I don't.

They can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

I'm asking $10 each plus shipping.
==========
I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Very good condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4108. Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 16:44:25 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <e8e6a4c7-2e7f-4a35-a227-ae7e8ec847df@t11g2000vbc.googlegroups.com>
Source record: 7308

Anybody have experience with the "half delta loop" as shown here:
http://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio
Wire_antennas_for_ham_radio.htm ?
I modeled it in EZNEC and it seems to solve my space and support
problems on 80/75, and is decent on 40. Patterns get kinda weird on
20M and above.

Paul KB1GEJ

4109. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 16:45:06 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <092d73bb-d8c7-4aa3-8380-fdc726a9959f@h25g2000vba.googlegroups.com>
Source record: 7309

On Sep 19, 12:44 pm, "cybri...@gmail.com" <cybri...@gmail.com> wrote:
> Anybody have experience with the "half delta loop" as shown here:
> http://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio
> Wire_antennas_for_ham_radio.htm ?
> I modeled it in EZNEC and it seems to solve my space and support
> problems on 80/75, and is decent on 40. Patterns get kinda weird on
> 20M and above.
>
> Paul KB1GEJ

http://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio/Wire_antennas_for_ham_radio.htm

4110. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-19 17:00:53 UTC
From: lu6etj <lu6etj@gmail.com>
Message-ID: <7b19f81e-fc65-47f1-8a06-6db095e08201@e20g2000vbn.googlegroups.com>
Source record: 7310

On 14 sep, 05:06, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom"
<news4...@taring.org>wrotenews:4c8eceb5$0$24412$8046368a@newsreader.iphouse.net...
>
> > On 9/13/2010 12:15 PM, Szczepan Bialek wrote:
>
> >> This favored hypothesis of liquid antenna possibilities because would
> >> suffice for the ions (charges) of the liquid vibrate slightly around
> >> their points of rest to act as radiators (I do not to solve issues
> >> related + ion mass to best "close" my questions).
>
> >> Ions in copper vibrate with the acoustic frequencies.
>
> > Cool! Which frequencies are the acoustic ones?
>
> Do not you heard about the kids telephone?
> The two cans and the wire. The ions in the wire are the medium for the
> acoustic waves.
> For the electric waves the medium are the electrons.
>
> The same is with the Sun. The bumps on the surface we see after 8 min. The
> auroras after a few days.
> S*

Sorry S* I did not read this post (I have to solve aome problem with
Google "tree view").

When I talked about ions I do it thinking in electrolytes containing
feee heavy ions, not isolators.

My doubts with "mass" are about radiation of heavy ions with low
electric fields. Larmor analysis shows radiaton of ions must be
various orders of magnitud below radiation of electrons at lower
electric fields intensities because its larger mass. We need higher
electric fields intensities to get accelerations capable of radiating
equivalent power obtained from electrons with lower E fields, then I
believe they are not responsibles of useful possible EM radiation in
our conditions.

Athough I have built ionic 50 ohms dummy loads with salt and water,
then, I saw it is possible to establish VHF frequencies currents in
such electroytes, however Larmor equation would dismiss (I think)
efficient ions's radiation from it.

Physics books explain EM wave reflections saying low energy EM photons
can transfer its energy to electrons, and they inmediatily return this

energy at the same frequencies (they not become "excited"), then I think that a possible explanatory mechanism is that radiating charges in electrolyte be simply the not free electrons (not heavy ions) vibrations induced by electric field in electrolite.

I do not quite trust in NEC optimistic results I got, because I do not know if resistivity model includes electrolytic conductors, but this it is only my ignorance about it, not an sustented opinion.

73

Miguel Ghezzi LU6ETJ

4111. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-20 23:18:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bbd1f16c-953f-49c6-9d4d-776bbf4a5037@a30g2000vbt.googlegroups.com>
Source record: 7311

On Sep 19, 4:45 pm, "cybri...@gmail.com" <cybri...@gmail.com> wrote:
> On Sep 19, 12:44 pm, "cybri...@gmail.com" <cybri...@gmail.com> wrote:
>
> > Anybody have experience with the "half delta loop" as shown here:
> > http://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio
> > Wire_antennas_for_ham_radio.htm ?
> >   I modeled it in EZNEC and it seems to solve my space and support
> > problems on 80/75, and is decent on 40. Patterns get kinda weird on
> > 20M and above.
>
> > Paul KB1GEJ
>
> http://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio...

try modeling it without the ground on the far end and see how much
different it is. my bet is that it would be much better on some
frequencies and not any worse performing on most others, though the
impedance may make bigger swings.

4112. Re: "Ionic Liquid" Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-21 08:38:31 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4c986f09$0$27027$65785112@news.neostrada.pl>
Source record: 7312

"lu6etj" <lu6etj@gmail.com> wroye
news:7b19f81e-fc65-47f1-8a06-6db095e08201@e20g2000vbn.googlegroups.com...
On 14 sep, 05:06, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> For the electric waves the medium are the electrons.
>
>> The same is with the Sun. The bumps on the surface we see after 8 min.
>> The
> auroras after a few days.
> S*

>Sorry S* I did not read this post (I have to solve aome problem with
Google "tree view").

>When I talked about ions I do it thinking in electrolytes containing
feee heavy ions, not isolators.

For electrons the electrolytes are like the insulators.

>My doubts with "mass" are about radiation of heavy ions with low
electric fields. Larmor analysis shows radiaton of ions must be
various orders of magnitud below radiation of electrons at lower
electric fields intensities because its larger mass. We need higher
electric fields intensities to get accelerations capable of radiating
equivalent power obtained from electrons with lower E fields, then I
believe they are not responsibles of useful possible EM radiation in
our conditions.

Stream of salt water is like a mast made of insulator with its surface
sokaked with the salt water.
It is in state of permanent surface breakdown. So the electrons can flow and
the "mast" works like a metal antenna.

>Athough I have built ionic 50 ohms dummy loads with salt and water,
then, I saw it is possible to establish VHF frequencies currents in
such electroytes, however Larmor equation would dismiss (I think)
efficient ions's radiation from it.

>Physics books explain EM wave reflections saying low energy EM photons
can transfer its energy to electrons, and they inmediatily return this
energy at the same frequencies (they not become "excited"), then I
think that a possible explanatory mechanism is that radiating charges
in electrolyte be simply the not free electrons (not heavy ions)
vibrations induced by electric field in electrolite.

>I do not quite trust in NEC optimistic results I got, because I do not
know if resistivity model includes electrolytic conductors, but this

it is only my ignorance about it, not an sustented opinion.

I have not evidences but I can bet that there are the surface phenomenons.
S*

4113. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-21 12:43:38 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <7c4bac33-d694-43f1-976c-b84c341a23b7@m1g2000vbh.googlegroups.com>
Source record: 7313

One 'modification' of that design is to add a conductor along the
ground, not relying on just the dirt's conductivity. How well will it
work? Beats me! Try it and see?
- 'Doc

4114. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-21 17:28:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <clqh96dieskn1ie95d4obi1db6dgkjud0l@4ax.com>
Source record: 7314

On Tue, 21 Sep 2010 05:43:38 -0700 (PDT), "'Doc" <ltdoc@yahoo.com>
wrote:

>One 'modification' of that design is to add a conductor along the
>ground, not relying on just the dirt's conductivity. How well will it
>work? Beats me! Try it and see?
> - 'Doc

I don't see what this in response to (no quoted material) so I will
wing it with an observation.

Building a ground field (like radials, but more linear for dipoles, or
in this case a loop) as a mat will increase performance (more signal
out).

73's
Richard Clark, KB7QHC

4115. Re: low noise level?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-22 07:26:08 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <ddc69c80-20bc-49ce-a078-4ece74560bf3@p24g2000pra.googlegroups.com>
Source record: 7315

On Sep 19, 7:41 am, "pdr...@coinet.com" <co_far...@yahoo.com> wrote:
> On Sep 19, 6:07 am, K1TTT <k1...@arrl.net> wrote:
>
> > did everyone start marking those spam posts work?? sure seems to be
> > lots less noise on here now.
>
> Yes, I did and will continue, if I remember!
> KD7HB

I will, too. It's just one click if I'm logged in.

4116. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-23 12:35:25 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <b335fb16-240d-4107-9555-0d8527cac2f5@q9g2000vbd.googlegroups.com>
Source record: 7316

Richard,
Did you look at #30 in the site index given?
That was the first reference to a "Half Delta Loop" I found. It uses
a ground at the feed point and at the 'far end'. Using a single
conductor to connect those two 'grounds' is a fairly common method of
modifying that antenna. I would have to guess that it isn't the -
only- such modification though.
- 'Doc

4117. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-23 23:03:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <i0nn96ln71s0bq5kh2npcs0fbr3sopao5h@4ax.com>
Source record: 7317

On Thu, 23 Sep 2010 05:35:25 -0700 (PDT), "'Doc" <ltdoc@yahoo.com>
wrote:

> Richard,
>Did you look at #30 in the site index given?
>That was the first reference to a "Half Delta Loop" I found. It uses
>a ground at the feed point and at the 'far end'. Using a single
>conductor to connect those two 'grounds' is a fairly common method of
>modifying that antenna. I would have to guess that it isn't the -
>only- such modification though.
> - 'Doc
>

Hi Doc,

Without quote support for that site, I haven't a clue.

Using a ground at the feed point says nothing, really. What does
"ground" mean? A rod? A screen? A radial field? Any of these will
change the picture considerably (OK, maybe 1dB - sometimes ground is
over-rated).

73's
Richard Clark, KB7QHC

4118. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-23 23:24:07 UTC
From: amdx <amdx@knology.net>
Message-ID: <2851c$4c9be152$18ec6dd7$22699@KNOLOGY.NET>
Source record: 7318

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:clqh96dieskn1ie95d4obi1db6dgkjud0l@4ax.com...
> On Tue, 21 Sep 2010 05:43:38 -0700 (PDT), "'Doc" <ltdoc@yahoo.com>
> wrote:
>
>>One 'modification' of that design is to add a conductor along the
>>ground, not relying on just the dirt's conductivity. How well will it
>>work? Beats me! Try it and see?
>> - 'Doc
>
> I don't see what this in response to (no quoted material) so I will
> wing it with an observation.
>
> Building a ground field (like radials, but more linear for dipoles, or
> in this case a loop) as a mat will increase performance (more signal
> out).
>
> 73's
> Richard Clark, KB7QHC

Here's the original post.

Anybody have experience with the "half delta loop" as shown here:
http://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio
Wire_antennas_for_ham_radio.htm ?
I modeled it in EZNEC and it seems to solve my space and support
problems on 80/75, and is decent on 40. Patterns get kinda weird on
20M and above.

Paul KB1GEJ

4119. Re: Half delta loop antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-23 23:33:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2ton96p6v0hrepipcdp88235dd6dhqdh6a@4ax.com>
Source record: 7319

On Thu, 23 Sep 2010 18:24:07 -0500, "amdx" <amdx@knology.net> wrote:

>
>"Richard Clark" <kb7qhc@comcast.net> wrote in message
>news:clqh96dieskn1ie95d4obi1db6dgkjud0l@4ax.com...
>> On Tue, 21 Sep 2010 05:43:38 -0700 (PDT), "'Doc" <ltdoc@yahoo.com>
>> wrote:
>>
>>>One 'modification' of that design is to add a conductor along the
>>>ground, not relying on just the dirt's conductivity. How well will it
>>>work? Beats me! Try it and see?
>>> - 'Doc
>>
>> I don't see what this in response to (no quoted material) so I will
>> wing it with an observation.
>>
>> Building a ground field (like radials, but more linear for dipoles, or
>> in this case a loop) as a mat will increase performance (more signal
>> out).
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Here's the original post.
>
>Anybody have experience with the "half delta loop" as shown here:
> http://www.qsl.net/va3iul/Antenna/Wire%20Antennas%20for%20Ham%20Radio
>Wire_antennas_for_ham_radio.htm ?
> I modeled it in EZNEC and it seems to solve my space and support
>problems on 80/75, and is decent on 40. Patterns get kinda weird on
>20M and above.
>
>Paul KB1GEJ
>

Hmmm, Doc is right. Try it an see (seeing there was no ask for how
design variations would impact performance).

73's
Richard Clark, KB7QHC

4120. Re: Beware of indians bearing gifts ...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-24 19:42:05 UTC
From: M0WYM <nospammers@radiowymsey.org>
Message-ID: <i7iuuc$iq9$2@news.eternal-september.org>
Source record: 7320

On 24/09/10 17:20, John Smith wrote:
> The new trojan horse, hundreds of thousands of indians from mexico,

Good smoke?

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

4121. Elevated Screwdriver And Radials?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-25 00:38:52 UTC
From: WING <WING.6e32c49@radiobanter.com>
Message-ID: <WING.6e32c49@radiobanter.com>
Source record: 7323

I am wondering if anyone has used an elevated screwdriver and elevated radials? I wish to put this up at 22 ft. Above the garden. With at least 1/10 wave radials at 40 meters. Any suggestions?

Wing

--
WING

4122. Re: Beware of indians bearing gifts ...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-25 02:07:17 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i7jlh2$6qq$3@news.eternal-september.org>
Source record: 7321

On 9/24/2010 12:42 PM, M0WYM wrote:
> On 24/09/10 17:20, John Smith wrote:
>> The new trojan horse, hundreds of thousands of indians from mexico,
>
>
> Good smoke?
>

Some yoyo forged a post from me ... good job ... it ain't me ...

Regards,
JS

4123. Re: Beware of indians bearing gifts ...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-25 02:09:01 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i7jlka$6qq$4@news.eternal-september.org>
Source record: 7322

On 9/24/2010 7:07 PM, John Smith wrote:

> ...
> Some yoyo forged a post from me ... good job ... it ain't me ...
>
> Regards,
> JS
>

However, rereading it, I actually agree! lol

Regards,
JS

4124. Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-25 10:08:41 UTC
From: "Stuart Longland (VK4MSL)" <me@vk4msl.yi.org>
Message-ID: <010bf74f-e465-41cc-b8a5-f255f2dd4ffe@a7g2000prb.googlegroups.com>
Source record: 7324

Hi all...

I've got one of these "squid pole" telescopic fibreglass fishing poles that I presently use for supporting a vertical 20m dipole. Being the highest point on the property, I thought if I could build a nice lightweight antenna to go high up the top of it, it'd work well as a mast for a 2m antenna.

I'm looking for a lightweight antenna, and feedline, suitable for this purpose. I wish to operate around 144.300MHz USB... so horizontal radiation pattern would be better. I get heard perfectly well on a quarter-wave vertical at present, so I think the gain of a loop will be sufficient... but a bit extra height would help a great deal.

The full-wave loop looks almost ideal... nice and simple, apparently good gain over a dipole for an omnidirectional antenna. I have some 300ohm ribbon I can feed it with (RG58 makes the pole bend over... and of course anything low-loss will be unworkable).

The catch is, I'm not sure how to go about impedance matching, with the loop having a theoretical impedance (so I hear) of 100ohms, the ribbon being 300ohms, and a radio that expects 50ohms. I'm not sure how the feedline characteristic impedance will impact on things, being 300ohm... there's no such thing as 50ohm ribbon in the shops AFAIK. I'm not sure this has to match though. The antenna itself though, does need some sort of transformation back to 50ohms.

Giving it some thought... another way to achieve this would be to use two loops in-phase. 100 ohms in parallel with 100 ohms gives 50 ohms. I'm just not certain of the spacing, and how close they'd need to be. I've got the wire cut to make two loops (no idea what gauge... approx 1.5mm diameter solid copper) to a length of 2.08m.

I'd like to know if anyone has an idea how far apart these need to be (vertically) on the pole so that they work together in-phase (or alternatively, 180° out-of-phase... I just swap the connections on one loop... I suspect this will halve the required distance). I could just experiment, but if someone's been there done that, then I'd appreciate their insight.

Regards,
Stuart Longland VK4MSL

4125. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-25 14:57:41 UTC
From: Thomas Karpiniec <thomask@sverige.freeshell.org>
Message-ID: <i7l2l5eog1@droog.sdf-eu.org>
Source record: 7325

Hi Stuart,

"Stuart Longland (VK4MSL)" <me@vk4msl.yi.org> wrote:
> The catch is, I'm not sure how to go about impedance matching, with
> the loop having a theoretical impedance (so I hear) of 100ohms, the
> ribbon being 300ohms, and a radio that expects 50ohms. I'm not sure
> how the feedline characteristic impedance will impact on things, being
> 300ohm... there's no such thing as 50ohm ribbon in the shops AFAIK.
> I'm not sure this has to match though. The antenna itself though,
> does need some sort of transformation back to 50ohms.

One trick I saw on a ham's web site (I can't find the URL sorry) was to make home-made ribbon cable, running conductors through regular spacers. That could be a good option for you simply because you can make it super light-weight, but it also gives you flexibility with the spacing and therefore the impedance.

I'm not qualified to say how loop antennas are normally matched, but I thought that particular idea might be helpful in your case.

Long time no chat! Cheers,

Tom VK7NML

--
thomask@sdf.lonestar.org
SDF Public Access UNIX System - http://sdf.lonestar.org

4126. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-25 16:43:25 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <dr8s96lrhk91pa8p2aee7vmf4i6m9vdrod@4ax.com>
Source record: 7326

On Sat, 25 Sep 2010 14:57:41 +0000 (UTC), Thomas Karpiniec
<thomask@sverige.freeshell.org> wrote:

>Hi Stuart,
>
>"Stuart Longland (VK4MSL)" <me@vk4msl.yi.org> wrote:
>> The catch is, I'm not sure how to go about impedance matching, with
>> the loop having a theoretical impedance (so I hear) of 100ohms, the
>> ribbon being 300ohms, and a radio that expects 50ohms. I'm not sure
>> how the feedline characteristic impedance will impact on things, being
>> 300ohm... there's no such thing as 50ohm ribbon in the shops AFAIK.
>> I'm not sure this has to match though. The antenna itself though,
>> does need some sort of transformation back to 50ohms.
>
>One trick I saw on a ham's web site (I can't find the URL sorry) was to
>make home-made ribbon cable, running conductors through regular spacers.
>That could be a good option for you simply because you can make it super
>light-weight, but it also gives you flexibility with the spacing and
>therefore the impedance.
>
>I'm not qualified to say how loop antennas are normally matched, but I
>thought that particular idea might be helpful in your case.
>

Chapter 17 of the 1962 ARRL Handbook describes how to homebrew
balanced tuners for VHF. I use the 6M version with either a 6M Sterba
curtain or a fullwave 160M loop, works FB. I also built a 2M version
that works well but doesn't get much use as I don't use that band very
much.

73 de n4jvp
Fritz

>Long time no chat! Cheers,
>
>Tom VK7NML

4127. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-25 20:47:10 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DFF45080E94Bnonenowhere@61.9.134.55>
Source record: 7327

Hi Stuart,

"Stuart Longland (VK4MSL)" <me@vk4msl.yi.org> wrote in news:010bf74f-e465-41cc-b8a5-f255f2dd4ffe@a7g2000prb.googlegroups.com:

> Hi all...
>
> I've got one of these "squid pole" telescopic fibreglass fishing poles
> that I presently use for supporting a vertical 20m dipole. Being the
> highest point on the property, I thought if I could build a nice
> lightweight antenna to go high up the top of it, it'd work well as a
> mast for a 2m antenna.

Are you intending putting the 2m antenna on top of the pole carrying the 20m vertical dipole? Do you think they might interact?

>
> I'm looking for a lightweight antenna, and feedline, suitable for this
> purpose. I wish to operate around 144.300MHz USB... so horizontal
> radiation pattern would be better. I get heard perfectly well on a
> quarter-wave vertical at present, so I think the gain of a loop will
> be sufficient... but a bit extra height would help a great deal.

Not only light weight, but low wind resistance I should think.

>
> The full-wave loop looks almost ideal... nice and simple, apparently
> good gain over a dipole for an omnidirectional antenna. I have some
> 300ohm ribbon I can feed it with (RG58 makes the pole bend over... and
> of course anything low-loss will be unworkable).
>
> The catch is, I'm not sure how to go about impedance matching, with
> the loop having a theoretical impedance (so I hear) of 100ohms, the
> ribbon being 300ohms, and a radio that expects 50ohms. I'm not sure
> how the feedline characteristic impedance will impact on things, being
> 300ohm... there's no such thing as 50ohm ribbon in the shops AFAIK.
> I'm not sure this has to match though. The antenna itself though,
> does need some sort of transformation back to 50ohms.

The common '300 ohm' TV ribbon is not exactly 300 ohms, or necessarily close to it. You can expect a loss of about 1dB for a 30m run of matched TV ribnon on 2m.

One solution to 'match' the load to the line is a quarter wave transformer... look it up in a handbook or Google for it. It is relatively easy to construct a quarter wave line section of arbitrary impedance on 2m.

At the other end, you are still faced with the challenge of transforming 300 ohm balanced to 50 ohm unbalanced. You could use the combination of a 4:1 half wave balun using coax (50:200) and another quarter wave transformer to 300 ohms.

The thing is that you might not be able to simply design the sections this simply, you may need to make an adjustable impedance transformer of some kind at the tx end. You could home brew a little ATU, or use something like a stub tuner. Even if the TV ribbon operates at VSWR=3, the loss should be acceptable for a 30m run.

This project throws you into the deep end, a project to drive learning about and understanding transmission lines.

There are a lot of different potential solutions, the above is one and others will have other ideas.

Owen

4128. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-26 06:13:29 UTC
From: "Stuart Longland (VK4MSL)" <me@vk4msl.yi.org>
Message-ID: <5474d8f6-8713-497a-8883-99cc63a0dd88@q40g2000prg.googlegroups.com>
Source record: 7328

Hi all...

Thanks for the suggestions thus far...

Regarding the tuners in the ARRL handbook... I've got the 1975 edition
here, I'll have a look there.

On Sep 26, 6:47 am, Owen Duffy <n...@no.where> wrote:
> Hi Stuart,
>
> "Stuart Longland (VK4MSL)" <m...@vk4msl.yi.org> wrote in news:010bf74f-
> e465-41cc-b8a5-f255f2dd4...@a7g2000prb.googlegroups.com:
>
> > Hi all...
>
> > I've got one of these "squid pole" telescopic fibreglass fishing poles
> > that I presently use for supporting a vertical 20m dipole. Being the
> > highest point on the property, I thought if I could build a nice
> > lightweight antenna to go high up the top of it, it'd work well as a
> > mast for a 2m antenna.
>
> Are you intending putting the 2m antenna on top of the pole carrying the
> 20m vertical dipole? Do you think they might interact?

I think there probably will be some... but hopefully not a serious
problem since only one will be driven at a time. At the moment I've
got a quarter-wave groundplane and a TV-antenna in _very_ close
proximity (about 40mm apart) so surely any interference I get with the
20m vertical will be minor compared to what I (and the TV viewers at
my QTH) already put up with.

> > I'm looking for a lightweight antenna, and feedline, suitable for this
> > purpose. I wish to operate around 144.300MHz USB... so horizontal
> > radiation pattern would be better. I get heard perfectly well on a
> > quarter-wave vertical at present, so I think the gain of a loop will
> > be sufficient... but a bit extra height would help a great deal.
>
> Not only light weight, but low wind resistance I should think.

Indeed.

> > The full-wave loop looks almost ideal... nice and simple, apparently
> > good gain over a dipole for an omnidirectional antenna. I have some
> > 300ohm ribbon I can feed it with (RG58 makes the pole bend over... and
> > of course anything low-loss will be unworkable).
>

> > The catch is, I'm not sure how to go about impedance matching, with
> > the loop having a theoretical impedance (so I hear) of 100ohms, the
> > ribbon being 300ohms, and a radio that expects 50ohms. I'm not sure
> > how the feedline characteristic impedance will impact on things, being
> > 300ohm... there's no such thing as 50ohm ribbon in the shops AFAIK.
> > I'm not sure this has to match though. The antenna itself though,
> > does need some sort of transformation back to 50ohms.
>
> The common '300 ohm' TV ribbon is not exactly 300 ohms, or necessarily
> close to it. You can expect a loss of about 1dB for a 30m run of matched
> TV ribnon on 2m.

Thankfully, I think I'll be lucky if I use more than 10m... 1dB isn't
too bad though, probably better than the equivalent length of RG58.

> One solution to 'match' the load to the line is a quarter wave
> transformer... look it up in a handbook or Google for it. It is
> relatively easy to construct a quarter wave line section of arbitrary
> impedance on 2m.
>
> At the other end, you are still faced with the challenge of transforming
> 300 ohm balanced to 50 ohm unbalanced. You could use the combination of a
> 4:1 half wave balun using coax (50:200) and another quarter wave
> transformer to 300 ohms.
>
> The thing is that you might not be able to simply design the sections
> this simply, you may need to make an adjustable impedance transformer of
> some kind at the tx end. You could home brew a little ATU, or use
> something like a stub tuner. Even if the TV ribbon operates at VSWR=3,
> the loss should be acceptable for a 30m run.

By the sounds of things... homebrewing a 2m ATU may not seem so
silly... I did make an air-core autotransformer for use on HF which
I'm able to use to tune a short end-fed vertical (actually, a 6' 27MHz
CB whip) quite successfully on 40m... perhaps the same concept will
work for VHF. I was hoping though, if I could hook two loops in
parallel, that would give me 50 ohms... I guess it'll be time for
experimentation.

> This project throws you into the deep end, a project to drive learning
> about and understanding transmission lines.
>
> There are a lot of different potential solutions, the above is one and
> others will have other ideas.

Yep... A lot of people say "Just buy X brand/Y model antenna"... but I
believe in giving the homebrew route a try first. :-) I live to
learn.

Regards,
Stuart Longland VK4MSL

4129. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-26 08:31:20 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9DFFBC6AFEA5Fnonenowhere@61.9.134.55>
Source record: 7329

"Stuart Longland (VK4MSL)" <me@vk4msl.yi.org> wrote in
news:5474d8f6-8713-497a-8883-99cc63a0dd88@q40g2000prg.googlegroups.com:

...
>> Are you intending putting the 2m antenna on top of the pole carrying
>> the 20m vertical dipole? Do you think they might interact?
>
> I think there probably will be some... but hopefully not a serious
> problem since only one will be driven at a time. At the moment I've
> got a quarter-wave groundplane and a TV-antenna in _very_ close
> proximity (about 40mm apart) so surely any interference I get with the
> 20m vertical will be minor compared to what I (and the TV viewers at
> my QTH) already put up with.

If you want to learn something, make your experiments simple... and that
means separating your experimental antenna from things that will (and
they surely will) confuse things.
>
...
>
> By the sounds of things... homebrewing a 2m ATU may not seem so
> silly... I did make an air-core autotransformer for use on HF which
> I'm able to use to tune a short end-fed vertical (actually, a 6' 27MHz
> CB whip) quite successfully on 40m... perhaps the same concept will
> work for VHF. I was hoping though, if I could hook two loops in
> parallel, that would give me 50 ohms... I guess it'll be time for
> experimentation.

Firsly, ask yourself it ATU is a common approach, and if not, why not.

Re the unloaded / base loaded 6'whip on 40m , it is unlikely that it is
very efficient, but there is a lesson there, even inefficient antennas
can be used to make contacts... just less of them. Some people use QSOs
as 'proof' that an antenna 'works', whatever 'works' means.

>
> Yep... A lot of people say "Just buy X brand/Y model antenna"... but I
> believe in giving the homebrew route a try first. :-) I live to
> learn.

That was what ham radio was about once, a dying part of hobby now.

Some also say "any antenna is better than no antenna at all", but if you
are interested in the technology of antennas, you will do better than
that.

Good luck Stuart

Owen

4130. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-26 11:00:47 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <817u969lbpo3k10fn0h286hmqadku9k8ld@4ax.com>
Source record: 7330

On Sun, 26 Sep 2010 08:31:20 GMT, Owen Duffy <none@no.where> wrote:

>"Stuart Longland (VK4MSL)" <me@vk4msl.yi.org> wrote in
>news:5474d8f6-8713-497a-8883-99cc63a0dd88@q40g2000prg.googlegroups.com:
>
>>
>> By the sounds of things... homebrewing a 2m ATU may not seem so
>> silly... I did make an air-core autotransformer for use on HF which
>> I'm able to use to tune a short end-fed vertical (actually, a 6' 27MHz
>> CB whip) quite successfully on 40m... perhaps the same concept will
>> work for VHF. I was hoping though, if I could hook two loops in
>> parallel, that would give me 50 ohms... I guess it'll be time for
>> experimentation.
>
>Firsly, ask yourself it ATU is a common approach, and if not, why not.
>

I doubt a noticeable percentage of amateurs use wire antennas with a
balanced feed for VHF in 2010. The antenna being considered isn't
commonly used so a common approach to matching might not provide the
most appropriate solution.

73 de n4jvp
Fritz

4131. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-26 12:05:54 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <i7ncs4$969$1@news.eternal-september.org>
Source record: 7331

Stuart Longland (VK4MSL) Inscribed thus:

>> > The full-wave loop looks almost ideal... nice and simple,
>> > apparently good gain over a dipole for an omnidirectional antenna.
>> > I have some 300ohm ribbon I can feed it with (RG58 makes the pole
>> > bend over... and of course anything low-loss will be unworkable).
>>
>> > The catch is, I'm not sure how to go about impedance matching, with
>> > the loop having a theoretical impedance (so I hear) of 100ohms, the
>> > ribbon being 300ohms, and a radio that expects 50ohms. I'm not
>> > sure how the feedline characteristic impedance will impact on
>> > things, being 300ohm... there's no such thing as 50ohm ribbon in
>> > the shops AFAIK. I'm not sure this has to match though. The
>> > antenna itself though, does need some sort of transformation back
>> > to 50ohms.

> Regards,
> Stuart Longland VK4MSL

Try this url.
http://www.xs4all.nl/~pa0fri/Ant/Quad/quadeng.htm

--
Best Regards:
Baron.

4132. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-26 21:20:13 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E004AA0DF54Anonenowhere@61.9.134.55>
Source record: 7332

Registered User <n4jvp@ix.netcom.com> wrote in
news:817u969lbpo3k10fn0h286hmqadku9k8ld@4ax.com:

...
> I doubt a noticeable percentage of amateurs use wire antennas with a
> balanced feed for VHF in 2010. The antenna being considered isn't
> commonly used so a common approach to matching might not provide the
> most appropriate solution.

The problem is Fritz, that the common HF technique of operating the transmission line at high VSWR and transforming the impedance to that which suits the transmitter at the transmitter is less appropriate at VHF due to increased transmission line loss.

At 2m and above, the technique used more often is to use low loss lines operated at low VSWR, save short sections that might form an impedance transformation function.

That is not to say it can't be done other ways.

Omni directional horizontal antennas aren't very popular on 2m except for the odd beacon and mobile station, full wave loops aren't very often the choice in that case anyway. Nevertheless, the project is a vehicle for learning.

Owen

4133. Re: Looking for ideas: 2m double-stacked full-wave loop for SSB

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-26 22:29:43 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <FaqdnVxv173TVALRnZ2dnUVZ_jCdnZ2d@earthlink.com>
Source record: 7333

"Owen Duffy" <none@no.where> wrote in message
news:Xns9E004AA0DF54Anonenowhere@61.9.134.55...
> Registered User <n4jvp@ix.netcom.com> wrote in
> news:817u969lbpo3k10fn0h286hmqadku9k8ld@4ax.com:
>
> ...
>> I doubt a noticeable percentage of amateurs use wire antennas with a
>> balanced feed for VHF in 2010. The antenna being considered isn't
>> commonly used so a common approach to matching might not provide the
>> most appropriate solution.
>
> The problem is Fritz, that the common HF technique of operating the
> transmission line at high VSWR and transforming the impedance to that
> which suits the transmitter at the transmitter is less appropriate at VHF
> due to increased transmission line loss.
>
> At 2m and above, the technique used more often is to use low loss lines
> operated at low VSWR, save short sections that might form an impedance
> transformation function.
>
> That is not to say it can't be done other ways.
>
> Omni directional horizontal antennas aren't very popular on 2m except for
> the odd beacon and mobile station, full wave loops aren't very often the
> choice in that case anyway. Nevertheless, the project is a vehicle for
> learning.
>
> Owen

I think you have hit on the solution. For VHF and above the antennas are usually resonant and the bandwidth is small enough you can match the antenna at one frequency and the swr will be low across the band. There has been an improvement in the coax over the years also. The 9913/LMR400 types have about half the loss at vhf and above as the older rg-8 type.

While it is hard to put up, the G-line may be something to think about at 450 and above if one does want to use something other than coax/hardline.

Most ssb/weak signal stations operate horizontal on vhf. While you may be able to have some fun with a small antenna, a 5 element or more beam will surely help. I did make a contact of several hundred miles on 432 with a 1/4 wave vertical on ssb one time, but that was a rare condition. My rotator for the beam was locked up and the beam was in the wrong direction. Just tried the vertical for fun and it did make a couple of contacts.

4134. Re: Elevated Screwdriver And Radials?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-27 01:24:39 UTC
From: nm5k@wt.net
Message-ID: <4d5904dd-013d-41aa-b6c3-be52248d5f13@f25g2000yqc.googlegroups.com>
Source record: 7334

On Sep 24, 7:38 pm, WING <WING.6e32...@radiobanter.com> wrote:
> I am wondering if anyone has used an elevated screwdriver and elevated
> radials? I wish to put this up at 22 ft. Above the garden. With at least
> 1/10 wave radials at 40 meters. Any suggestions?
>
> Wing
>
> --
> WING

The radials need to be tuned when elevated. If you used 1/10 wave
radials, they would have to be loaded to be 1/4 wave electrically,
and I wouldn't expect the performance to be near as good as full
length 1/4 wave radials. And.. the radials need to be tuned for
each frequency you operate. Which usually means multiple
elevated radials for each band to be used.
Myself, I would try to use a longer radiator as well, but a
screwdriver will work.. A longer radiator would work better.
I had a full size 1/4 ground plane up for a good while.
32 ft radiator with four 32 ft radials. The base of the radiator
was at 36 ft, and the radials sloped down at about a 45 degree
angle. I built the radiator from an old 5/8 CB antenna that I
reinforced with inner tubing and lengthened to 32 ft. It was
totally self supporting and require no radials. Pretty light too.
I don't have it up now, but I still have the antenna on the side
of the house.
To avoid radials of any real length the best bet is usually to go
with some type of loaded half wave design. IE: Cushcraft R5,
etc..

4135. Re: Elevated Screwdriver And Radials?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-27 02:25:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5hvv96tnj9fi1fd7q0covegg4cdvoebh2b@4ax.com>
Source record: 7335

On Sun, 26 Sep 2010 18:24:39 -0700 (PDT), nm5k@wt.net wrote:

>On Sep 24, 7:38ï¿½pm, WING <WING.6e32...@radiobanter.com> wrote:
>> I am wondering if anyone has used an elevated screwdriver and elevated
>> radials? I wish to put this up at 22 ft. Above the garden. With at least
>> 1/10 wave radials at 40 meters. Any suggestions?
>>
>> Wing
>>
>> --
>> WING
>
>The radials need to be tuned when elevated. If you used 1/10 wave
>radials, they would have to be loaded to be 1/4 wave electrically,
>and I wouldn't expect the performance to be near as good as full
>length 1/4 wave radials. And.. the radials need to be tuned for
>each frequency you operate. Which usually means multiple
>elevated radials for each band to be used.
>Myself, I would try to use a longer radiator as well, but a
>screwdriver will work.. A longer radiator would work better.
>I had a full size 1/4 ground plane up for a good while.
>32 ft radiator with four 32 ft radials. The base of the radiator
>was at 36 ft, and the radials sloped down at about a 45 degree
>angle. I built the radiator from an old 5/8 CB antenna that I
>reinforced with inner tubing and lengthened to 32 ft. It was
>totally self supporting and require no radials. Pretty light too.
>I don't have it up now, but I still have the antenna on the side
>of the house.
>To avoid radials of any real length the best bet is usually to go
>with some type of loaded half wave design. IE: Cushcraft R5,
>etc..

Hi Mark,

Of late it seems most questions are of the "drive-by" category with no apparent interest by the OP for responses.

However, I know full well you will engage in dialog - so here goes:

There is no particular virtue in having the radials being resonant on any band of operation IF the entire antenna is being tuned. And such it would be with an elevated screwdriver.

It then becomes something of an academic issue: why not discard the radials and simply think of the elevated Screwdriver operating as a vertical dipole with one end grounded (where the coax rises from below

where the shield is attached to suitable ground treatment)? Just sit on the tune button until the ad-hoc VSWR match is found. That's how Screwdrivers are tuned anyway, aren't they?

73's
Richard Clark, KB7QHC

4136. Re: Elevated Screwdriver And Radials?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-27 10:26:52 UTC
From: nm5k@wt.net
Message-ID: <369076b3-716d-4eed-96c6-d8ef866aacae@t20g2000yqa.googlegroups.com>
Source record: 7336

On Sep 26, 9:25 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 26 Sep 2010 18:24:39 -0700 (PDT), n...@wt.net wrote:
> >On Sep 24, 7:38 pm, WING <WING.6e32...@radiobanter.com> wrote:
> >> I am wondering if anyone has used an elevated screwdriver and elevated
> >> radials? I wish to put this up at 22 ft. Above the garden. With at least
> >> 1/10 wave radials at 40 meters. Any suggestions?
>
> >> Wing
>
> >> --
> >> WING
>
> >The radials need to be tuned when elevated. If you used 1/10 wave
> >radials, they would have to be loaded to be 1/4 wave electrically,
> >and I wouldn't expect the performance to be near as good as full
> >length 1/4 wave radials. And.. the radials need to be tuned for
> >each frequency you operate. Which usually means multiple
> >elevated radials for each band to be used.
> >Myself, I would try to use a longer radiator as well, but a
> >screwdriver will work.. A longer radiator would work better.
> >I had a full size 1/4 ground plane up for a good while.
> >32 ft radiator with four 32 ft radials. The base of the radiator
> >was at 36 ft, and the radials sloped down at about a 45 degree
> >angle. I built the radiator from an old 5/8 CB antenna that I
> >reinforced with inner tubing and lengthened to 32 ft. It was
> >totally self supporting and require no radials. Pretty light too.
> >I don't have it up now, but I still have the antenna on the side
> >of the house.
> >To avoid radials of any real length the best bet is usually to go
> >with some type of loaded half wave design. IE: Cushcraft R5,
> >etc..
>
> Hi Mark,
>
> Of late it seems most questions are of the "drive-by" category with no
> apparent interest by the OP for responses.
>
> However, I know full well you will engage in dialog - so here goes:
>
> There is no particular virtue in having the radials being resonant on
> any band of operation IF the entire antenna is being tuned. And such
> it would be with an elevated screwdriver.

Well.. Not quite. But I guess it depends how one is feeding it.
Normally it's tuned by varying the number of turns on the loading
coil, which is motor run. I assume he will have the motor control
at the shack. Normally for the lower bands, you would also use
some impedance matching for a better match to coax. But that
coil or whatever, would normally be at the base of the radiator.
He's basically running a normal everyday ground plane, except
that the radiator is short and coil loaded.
So I don't see it as tuning the whole antenna per say. I still think
the radials would need to be resonant to be effective, and also
do a semi decent job of decoupling the feedline.
>
> It then becomes something of an academic issue: why not discard the
> radials and simply think of the elevated Screwdriver operating as a
> vertical dipole with one end grounded (where the coax rises from below
> where the shield is attached to suitable ground treatment)? Just sit
> on the tune button until the ad-hoc VSWR match is found. That's how
> Screwdrivers are tuned anyway, aren't they?

Humm.. sorta.. But I'd rather have a lower 1/4 wave section to
act as the lower half of the dipole. Or have radials sloping down
at a steep angle to require less room. If it's high enough anyway..
But the usual screwdriver is just shorting out turns in the coil
to adjust. And the impedance matching is usually fixed and
fairly broad banded in operation.
So when you tune the coil to resonance, the match will generally
be good for pretty much the whole band in most cases.
I've never really used a screwdriver, even though I have one sitting
in the garage.. I preferred my plastic bugcatchers so I could
use a higher coil location for more efficiency and better current
distribution.

But what he wants to do, I consider just an everyday ground
plane, except he can vary the coil loading from the shack.
I'd still rather have the full size ground plane myself.
I'm a radio bully.. :) The one I used really worked well for
long hauls on 40 at night. It would smoke my dipoles to DX.
The longer the path, the better it did. The break even point
where the vertical and dipole were about equal was generally
700-800 miles or so. Anything farther, and the vertical got
better. At 1500 miles, usually 2 S units over the dipole..
To VK land, 4 S units over the dipole. The farther you worked,
the better it did vs the dipole.

"I know the S meters are not accurate, but good enough for
A/B comparisons.."
The elevated version at 36 ft and four radials did much better
than the same 32 ft radiator ground mounted with 32 radials.
The improvement elevated was like day and night.
I calculated my four radials at 36 ft were probably about
equal to 60 or so on the ground.
It was very effective for a simple antenna. The only state

side guys that would regularly beat me were either
running bob tail curtains, or yagis's.. They had to be
running multi elements to win. Course, I usually helped
things by running about a KW back in those days.. :)
Don't want to strain anyone's ears over there. :/

4137. Re: Elevated Screwdriver And Radials?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-27 17:35:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <uvk1a6t6tgf6chqej3vhockckjffigfq45@4ax.com>
Source record: 7337

On Mon, 27 Sep 2010 03:26:52 -0700 (PDT), nm5k@wt.net wrote:

> I preferred my plastic bugcatchers so I could
>use a higher coil location for more efficiency and better current
>distribution.

Hi Mark,

That was my point about the screwdriver being run as a elevated vertical dipole.

In point of fact, that is how it is designed to work (after a fashion). The bumper mount (or car chassis attachment) is the grounded lower element, then we have a coil of variable length, followed by the upper element with the feed hidden inside the lower element.

I don't see that radials add anything to this. Their radiative contributions all cancel anyway if they are straight out, and they add towards approximating a vertical element if they droop. If, perchance, you wanted short radials (straight out or drooping), then it would only require more inductance to match the capacitive reactance. Push the tune button and walla! (as the french would say), more turns of the coil out there. And for being a sleeve dipole, that coil would be quite high - current distribution would come out in the wash.

73's
Richard Clark, KB7QHC

4138. Re: Elevated Screwdriver And Radials?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-27 17:55:15 UTC
From: Art Clemons <n8blk@aolSPAM.com>
Message-ID: <i7qlm7miq1@news.albasani.net>
Source record: 7338

Richard Clark wrote:

> That was my point about the screwdriver being run as a elevated
> vertical dipole.

So why not just use two screwdriver antennas with each antenna being used as half of the "dipole"? Since Don Johnson was mentioning this being done in the 90's by apartment dwellers, it's obviously been tried before and may even work. It likely won't be the most efficient at getting the most RF out but likely will work.

I note incidentally that homebrew screwdrivers would drastically lower the cost of this experiment.

4139. Re: Elevated Screwdriver And Radials?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-27 18:38:29 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4CA0E4A5.60906@jpl.nasa.gov>
Source record: 7339

Art Clemons wrote:
> Richard Clark wrote:
>
>> That was my point about the screwdriver being run as a elevated
>> vertical dipole.
>
> So why not just use two screwdriver antennas with each antenna being used
> as half of the "dipole"? Since Don Johnson was mentioning this being
> done in the 90's by apartment dwellers, it's obviously been tried before
> and may even work. It likely won't be the most efficient at getting the
> most RF out but likely will work.
>
> I note incidentally that homebrew screwdrivers would drastically lower
> the cost of this experiment.

Sure, you could do this, but there's really not much advantage over a single screwdriver and a fixed element opposite it. Either way, you're basically putting an adjustable inductor in series with the feed. Whether it's symmetric is almost immaterial, especially for a short (relative to wavelength) radiator.

Short antennas look capacitive. Putting in a series L compensates for that, but doesn't do anything about the low resistance at the feedpoint. What most mobile screwdrivers do is put a 4:1 transformer at the feed.. that gets a nominal 12.5 ohms up to 50, the inductance takes care of the reactive component, and you're "good enough".

In fact, it's typically even more clever, the 4:1 transformer has a fair amount of leakage capacitance, so at higher frequencies, it looks more like a 1:1, which works out nicely, since the feedpoint R is closer to 50 ohms with a longer (in terms of wavelength) radiator.

More details and measurements here:
http://home.earthlink.net/~w6rmk/antenna/screwdriver.htm

I think there are better ways to do a space limited antenna.

4140. Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-29 22:44:36 UTC
From: Owen <noone@no.where>
Message-ID: <KjPoo.661$hz6.363@viwinnwfe02.internal.bigpond.com>
Source record: 7340

I have been exploring models of a quarter wave monopole over a set of radials on 80m using NEC4 models.

If my models are valid, and they use 'average ground', the indication is that while it may require a large number of buried radials (>16) before efficiency levels off a bit, similar efficiency can be obtained with just three radials elevated more than 100mm above the soil.

This leaves me wondering why the popularity of extensive fields of buried radials for the lower bands.

Comments?

Owen

4141. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-29 23:10:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <66d9aea1-fff2-4227-9ba5-8ad6ca1cf219@j18g2000yqd.googlegroups.com>
Source record: 7341

On Sep 29, 10:44 pm, Owen <no...@no.where> wrote:
> I have been exploring models of a quarter wave monopole over a set of
> radials on 80m using NEC4 models.
>
> If my models are valid, and they use 'average ground', the indication is
> that while it may require a large number of buried radials (>16) before
> efficiency levels off a bit, similar efficiency can be obtained with
> just three radials elevated more than 100mm above the soil.
>
> This leaves me wondering why the popularity of extensive fields of
> buried radials for the lower bands.
>
> Comments?
>
> Owen

because they are easier to install in most cases than raised radials,
unless you get them far enough up to walk under them like i do.

4142. Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-29 23:36:06 UTC
From: Dave D <xray66@earthlink.net>
Message-ID: <0a7dc1e7-c7cf-4c43-bba7-08f46cb47f25@e22g2000prj.googlegroups.com>
Source record: 7342

Just thought I'd throw this out there to see if anybody had any ideas... I was recently playing with an 800 to 1000 MHz Log design. It came out quite well in the model. It was showing that it should do about 1 to 1.5 average SWR, with a couple little spikes of 2.0 or so. So I went ahead and built it.

Now I know from past experience, that testing logs is very tricky. Unless you have a phase stable cable right up to the feed point, you can get all kinds of crazy readings. But still, you can usually get the gist of what's going on. So I go to test the actual finished antenna, and across the intended range, it's showing SWR as high as 7 or 8, and the best it goes down to is maybe 3. Totally different than the model. As a test, I went to the NEC model and took off all the UHF elements, and just added one VHF element to the low end... It showed around 155 MHz in the model. I did the same thing on the actual antenna and got 1.1 around 153 MHz. So at that range, it's right on. But I am baffled as to why it is so terrible on the UHF. I tried shorting the back end and not shorting. No real difference.

Any ideas?

Thanks,

4143. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 01:48:09 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l1r7a6hv0kdfvoh9ik1jk1e88silbialk3@4ax.com>
Source record: 7343

On Wed, 29 Sep 2010 16:36:06 -0700 (PDT), Dave D
<xray66@earthlink.net> wrote:

>Any ideas?

Inadequate decoupling of the transmission line at the feedpoint.

73's
Richard Clark, KB7QHC

4144. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 02:01:58 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <5f52158e-f627-48da-a9a7-b7cfac48aeaa@h40g2000pro.googlegroups.com>
Source record: 7344

On Sep 29, 3:44 pm, Owen <no...@no.where> wrote:
> I have been exploring models of a quarter wave monopole over a set of
> radials on 80m using NEC4 models.
>
> If my models are valid, and they use 'average ground', the indication is
> that while it may require a large number of buried radials (>16) before
> efficiency levels off a bit, similar efficiency can be obtained with
> just three radials elevated more than 100mm above the soil.
>
> This leaves me wondering why the popularity of extensive fields of
> buried radials for the lower bands.
>
> Comments?
>
> Owen

Because my vertical is located out in a pasture. Deer, horses, and the
tractor will trip over the wires. Even buried, the tractor tires
brought some up when I mowed the pasture late this summer, especially
when I turned over the radial field.

Paul

4145. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 02:05:40 UTC
From: nm5k@wt.net
Message-ID: <53cd446e-a963-4be9-9671-bffdb1e24a61@j24g2000yqa.googlegroups.com>
Source record: 7345

On Sep 29, 5:44 pm, Owen <no...@no.where> wrote:
> I have been exploring models of a quarter wave monopole over a set of
> radials on 80m using NEC4 models.
>
> If my models are valid, and they use 'average ground', the indication is
> that while it may require a large number of buried radials (>16) before
> efficiency levels off a bit, similar efficiency can be obtained with
> just three radials elevated more than 100mm above the soil.
>
> This leaves me wondering why the popularity of extensive fields of
> buried radials for the lower bands.
>
> Comments?
>
> Owen

I don't think the model is totally valid.. Partially though..
I agree that for a given number of radials used, slightly
elevating off the ground is better than buried.
But I don't agree that a small number of slightly elevated
radials is equal to a large number of buried radials, and
most certainly not equal to the same number of radials
highly elevated. IE: vs 1/4 or 1/2 wave or more up..
Three slightly elevated radials are not sufficient to lower
ground losses down to a low level over mediocre soil.

I always think in terms of wavelength when calculating
the approximate efficiency of an elevated radial set.
For instance, three radials at 1/2 wave up will be pretty
much equal to about 120 on the ground.
Three at 1/4 wave will be equal to about 50-60 on the ground.
Three at 1/8 wave might be equal to 15-20 on the ground.
Three at cigarette pack height will be equal to about twice
as many as actually used at best. "slightly guessing
on that one, but my real world tests seem to pretty much
agree".
So being as the increase is fairly small at such low heights
in wavelength, it is probably practical to just bury them so
people won't trip over them.. :/
If tripping is no issue, then it might be worthwhile to get
the slight edge in performance. But the increase over buried
will be fairly small with them only 100mm up.

4146. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 03:13:55 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <zOSdne193br1nTnRnZ2dnUVZ_oednZ2d@bright.net>
Source record: 7346

Dear Dave D. (no call sign):

I have found it highly desirable with large and smaller HF LPDAs either to decouple at the feed-point or to choke common mode right as the coax leaves the boom to go down the mast. Of course, one could do both. Once you have cleaned the transmission line, you need to attend to the termination at the end of the boom. Your BW is small for a LPDA so design should be straight forward.

Mac N8TT
--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:l1r7a6hv0kdfvoh9ik1jk1e88silbialk3@4ax.com...
> On Wed, 29 Sep 2010 16:36:06 -0700 (PDT), Dave D
> <xray66@earthlink.net> wrote:
>
>>Any ideas?
>
> Inadequate decoupling of the transmission line at the feedpoint.
>
> 73's
> Richard Clark, KB7QHC

4147. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 05:23:18 UTC
From: Dave D <xray66@earthlink.net>
Message-ID: <5662b88c-f281-4838-88f0-b539b32d385c@l38g2000pro.googlegroups.com>
Source record: 7347

Thanks guys... I've never had that problem before. Any tips for what clamp-on ferrites might work best, or how many? Or the best way to configure them?

4148. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 06:24:32 UTC
From: Owen <noone@no.where>
Message-ID: <f3Woo.721$Bv4.3@viwinnwfe01.internal.bigpond.com>
Source record: 7348

On 30/09/10 12:05, nm5k@wt.net wrote:
...
> So being as the increase is fairly small at such low heights
> in wavelength, it is probably practical to just bury them so
> people won't trip over them.. :/
> If tripping is no issue, then it might be worthwhile to get
> the slight edge in performance. But the increase over buried
> will be fairly small with them only 100mm up.

I am interested in the electrical performance rather than trip hazard. Once electrical performance is known, issues like trip hazard, mowing, rock etc can be dealt with for each application scenario.

So, back to the electrical performance, do you have measurement data, or can you refer me to articles that contain sound objective measurement data that would suggest that my NEC4 model is not valid.

If I have modelled the situation correctly, the models suggest that the portion of energy lost in heating the soil drops very rapidly with increase in height from zero to just tens of mm, and with very little change to the pattern distribution.

Owen

PS: I perhaps need to clarify the meaning of 'efficiency' in my post, I mean the total power radiated in the far field in the hemisphere, divided by the power input to the antenna.

4149. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 07:23:42 UTC
From: Owen <noone@no.where>
Message-ID: <MWWoo.726$Bv4.548@viwinnwfe01.internal.bigpond.com>
Source record: 7349

On 30/09/10 15:23, Dave D wrote:
> Thanks guys... I've never had that problem before. Any tips for what
> clamp-on ferrites might work best, or how many? Or the best way to
> configure them?

Distributed capacitance is the enemy of any multi turn balun, whether in solenoid style (eg Ugly Balun) or toroidal winding. You could however try to exploit the self resonance by placing it in the band you wish to use, then the issue is whether the resonance peak in Zcm is sufficiently wide.

The W2DU style ought have sufficiently low self capacitance to operate below resonance at 800 to 1000MHz. I would look to #61 material suppression sleeves, but it may be that a lossier material works for your application.

Owen

4150. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 07:28:14 UTC
From: Owen <noone@no.where>
Message-ID: <0%Woo.727$Bv4.298@viwinnwfe01.internal.bigpond.com>
Source record: 7350

On 30/09/10 15:23, Dave D wrote:
> Thanks guys... I've never had that problem before. Any tips for what
> clamp-on ferrites might work best, or how many? Or the best way to
> configure them?

I meant also to ask how you dressed the coax away from the feedpoint.

I often see pics of coax tie wrapped to one leg of the transmission line spine of the LP. Guaranteed to create common mode current.

Owen

4151. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 07:49:49 UTC
From: LA4RT Jon <dev@null.com>
Message-ID: <1mk4m3smaq.fsf@uninett.no>
Source record: 7251

Owen <noone@no.where> writes:

> I have been exploring models of a quarter wave monopole over a set of
> radials on 80m using NEC4 models.
>
> If my models are valid, and they use 'average ground', the indication
> is that while it may require a large number of buried radials (>16)
> before efficiency levels off a bit, similar efficiency can be obtained
> with just three radials elevated more than 100mm above the soil.

N6LF made extensive measurements and essenstially confirmed this. He
wrote a 7 part series of articles for QEX. You can download them at
his site:
http://www.antennasbyn6lf.com/2009/12/series-of-qex-articles-on-ground-system-experiments.
html

> This leaves me wondering why the popularity of extensive fields of
> buried radials for the lower bands.

Practicality. In most cases, you either want to be able to walk above
the radials, (i.e. bury them or leave them on the ground) or below
them. This means at least 2 - 2.5 m up, and there will be some
sagging. Essentially, your vertical just got that much shorter. But if
what remains is tall enough, it's a great choice. If a friendly farmer
lets you borrow a field in wintertime, stringing four elevated radials
is a lot less work than rolling out 32 on the ground.

Jon LA4RT, Trondheim, Norway

4152. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 08:28:38 UTC
From: Owen <noone@no.where>
Message-ID: <GTXoo.729$Bv4.393@viwinnwfe01.internal.bigpond.com>
Source record: 7252

On 30/09/10 17:49, LA4RT Jon wrote:
> Owen<noone@no.where> writes:
>
>> I have been exploring models of a quarter wave monopole over a set of
>> radials on 80m using NEC4 models.
>>
>> If my models are valid, and they use 'average ground', the indication
>> is that while it may require a large number of buried radials (>16)
>> before efficiency levels off a bit, similar efficiency can be obtained
>> with just three radials elevated more than 100mm above the soil.
>
> N6LF made extensive measurements and essenstially confirmed this. He
> wrote a 7 part series of articles for QEX. You can download them at
> his site:
> http://www.antennasbyn6lf.com/2009/12/series-of-qex-articles-on-ground-system-experiments.html
>
>> This leaves me wondering why the popularity of extensive fields of
>> buried radials for the lower bands.
>
> Practicality. In most cases, you either want to be able to walk above
> the radials, (i.e. bury them or leave them on the ground) or below
> them. This means at least 2 - 2.5 m up, and there will be some
> sagging. Essentially, your vertical just got that much shorter. But if
> what remains is tall enough, it's a great choice. If a friendly farmer
> lets you borrow a field in wintertime, stringing four elevated radials
> is a lot less work than rolling out 32 on the ground.

Hi Jon,

Noted.

One of the designs I am exploring is an eighth wave vertical over
elevated quarter wave radials, three top guy ropes the the radial
straining posts, and the top section of the guys are top hat wires. The
whole thing is tuned low so that it is matched to 50 ohm line with a
shunt inductor. Modelled performance is within 0.5dB of a ground mounted
quarter wave with 32 buried radials. Elevating the radials with the
shortened vertical is not a big structural challenge, even to 2.5+m to
allow a bit of sag in the radial catenary. (I never said I wanted to rig
the radials at 100mm, just that above that, the efficiency was
relatively high and didn't vary much between 100mm and a few metres.)

But, such a design does not conform to the Rules of Thumb commonly
trotted out for low HF Marconis.

I will look at Rudy's articles, always an interesting read.

Thanks
Owen

4153. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 09:47:29 UTC
From: Conor <conor@gmx.co.uk>
Message-ID: <8gj4lhF52vU1@mid.individual.net>
Source record: 7253

On 29/09/2010 23:44, Owen wrote:
> I have been exploring models of a quarter wave monopole over a set of
> radials on 80m using NEC4 models.
>
> If my models are valid, and they use 'average ground', the indication is
> that while it may require a large number of buried radials (>16) before
> efficiency levels off a bit, similar efficiency can be obtained with
> just three radials elevated more than 100mm above the soil.
>
> This leaves me wondering why the popularity of extensive fields of
> buried radials for the lower bands.
>
> Comments?
>

People generally don't have the room to have several elevated radials
1/4 wave long for 20/30/40/80m whereas the buried ones can be laid in
any shape required to fit.

--
Conor

I'm not prejudiced. I hate everyone equally.

4154. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 10:43:10 UTC
From: nm5k@wt.net
Message-ID: <8eaf57fa-109e-4e91-96bf-6ab4123e14ac@i21g2000yqg.googlegroups.com>
Source record: 7254

On Sep 30, 1:24 am, Owen <no...@no.where> wrote:
> On 30/09/10 12:05, n...@wt.net wrote:
> ...
>
> > So being as the increase is fairly small at such low heights
> > in wavelength, it is probably practical to just bury them so
> > people won't trip over them.. :/
> > If tripping is no issue, then it might be worthwhile to get
> > the slight edge in performance. But the increase over buried
> > will be fairly small with them only 100mm up.
>
> I am interested in the electrical performance rather than trip hazard.
> Once electrical performance is known, issues like trip hazard, mowing,
> rock etc can be dealt with for each application scenario.
>
> So, back to the electrical performance, do you have measurement data, or
> can you refer me to articles that contain sound objective measurement
> data that would suggest that my NEC4 model is not valid.

I haven't done any careful measurements, but one of the books
I have has an article and graph that pretty much matches the
figures I gave as far as amount of elevated radials needed to
match a certain amount on the ground.
I'm not sure which book it is..
Maybe one of the Bill Orr radio or antenna handbooks..
I don't think it was the ARRL handbooks.
But I have tried exactly what you are proposing. And it didn't
really pan out too well. I could hardly tell the difference between
having them on the ground, and slightly elevated.
Sure, it worked OK, but it didn't mimic a large number of radials
by any means. I also tried the elevated ground plane at various
heights using the same four radials. You could tell an obvious
difference between 1/4 wave up, and 1/8 wave up using the same
four radials. The real world results I've seen seemed to fairly
closely match the graph I have in that book.

BTW, I know it was one of the Bill Orr handbooks which
suggesting trying the elevated low radials.. I think the
same one that had the graph. He seemed to suggest it
was better than having them in the ground. But on the
other hand his graph dealing with elevated radials
suggested the results would be fairly lackluster.
Which they were at this QTH. :(
Now that I think about it, I think it was the Bill Orr
antenna handbook that had that article and graph

pertaining to the radials.

Being as you are talking about radials which are very low,
I assume the base of the radiator will be low also.
Myself, I think a large part of the lack of success I saw
was due to not enough radial density at the base of the low
vertical. I think one would probably be better off taking
the three or four 1/4 wave radials and chopping them into
many short radials and laying them on the ground.
And this is indeed a fairly common practice when laying
them on the ground.

I think having the higher density of wire at the base works
better than have just a few radials elevated. Most of the
ground loss seems to be in the area of the base.
I know metal density under the radiator is quite critical as
far as short mobile whips.
I saw that when I tried mounting my mobile whip on a
piece of angle iron that was running across the bed of
my truck. It didn't work too well, and being I was used
to using that antenna on various mounts, it was obvious
something was wrong. And the angle iron was very
well grounded as far as bonding to the truck.
That wasn't the problem.
I then moved it over to the top of the side mounted
utility bed box, which is a part of the truck body and
a good bit wider, and my usual performance was back.
Just by adding more metal under the base of the whip
did the trick.

I think this is one reason why I always had so much
better results with elevated vs ground mount verticals.
At 1/4 wave up, the base of the antenna was much
farther from ground, and the antenna started to
perform more like a vertical dipole, than a grounded
monopole.
With the ground mount, I was up to 32 radials at
one point. And the performance was still mediocre,
and barely better than my dipole at 36 ft on longer
paths.
Only when I got it up at 1/4 wave did it really come
alive. After that, it ate the dipole for lunch on longer
paths, and with only four radials.
All of my comparisons were done using a full 1/4 wave
radiator.

Anyway, maybe your model is more accurate than I
think. But I've already tried doing that, and wasn't too
impressed with the results.
I've heard others that tried it also, with the same lackluster
results. I think elevated or not, it's just too few a number

of radials to really be effective at that low height in WL.
Too much lossy dirt between the few radials is my
theory.

I just don't believe in too much of a free lunch when it
comes to just a few radials at low heights in wavelength.
My stance comes from actually trying it, vs modeling
it. I don't totally trust the modeling programs in
this area. I've seen too many differences comparing
the models vs the actual vertical antennas.
For instance, using "average" ground, most of the
programs underestimated the performance of my 1/4
wave high ground plane. To get a model that more closely
matched real life vs my dipole, I had to set the ground at
a much higher conductivity.
And in the case you are modeling, it seems to be
over estimating the performance vs real life.
Or at least what I have seen after trying it.

I wished it would have panned out better. Would save
a lot of wire. But for me, the improvement was minimal.
But.. You are welcome to try it. Maybe you will have
better luck than I did.

4155. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 10:46:40 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <b637c07a-3c02-466d-9216-495393d4b342@l6g2000yqb.googlegroups.com>
Source record: 7255

On Sep 30, 1:24 am, Owen <no...@no.where> wrote:
> So, back to the electrical performance, do you have measurement data
> or can you refer me to articles that contain sound objective measurement
> data that would suggest that my NEC4 model is not valid.

This topic was investigated experimentally quite some time ago by a
broadcast consulting firm in the US, which generated measured data.
Here is a clip from their paper describing the system tested, and the
results (note that the convention used for "efficiency" here is that
of the FCC practice based on the groundwave field intensity at 1 km
with respect to the power applied to the antenna system):

\\ In November of 1988, our firm supervised the construction of a
temporary antenna system in
Newburgh, New York under FCC Special Field Test Authority using call
sign KPI-204. The antenna
system consisted of a lightweight, 15 inch face tower, 120 feet in
height, with a base insulator at the 15
foot elevation and six elevated radials, a quarter wave in length,
spaced evenly around the tower and
elevated 15 feet above the ground. The radials were fully insulated
from ground and supported at the
ends by wooden tripods. Approximately ten feet above ground, a T
network for matching the antenna
was mounted on a piece of marine plywood to isolate the components
from contact with the lower
section of the tower which was grounded. Power was fed to the system
through a 200 foot length of
coaxial cable with the cable shield connected to the shunt element of
the T network and to the elevated
radials. A balun or RF choke on the feedline was not employed and the
feedline was isolated from the
lower section of the tower. The system operated on 1580 kHz at a power
of 750 watts.

The efficiency of the antenna was determined by radial field intensity
measurements along 12 radials
extending out to a distance of up to 85 kilometers. The measured RMS
efficiency was 287 mV/m for 1
kW, at one kilometer, which is the same measured value as would be
expected for a 0.17 wave tower
above 120 buried radials.

The Newburgh tests gave empirical proof that the elevated system
worked although, in an abundance

of caution, we used six radials instead of four. For the limited time that the system was operational, the
system was stable as determined by monitoring the field intensity at selected locations each day. The
measured base impedance was in general agreement with a tower of this height above a standard,
buried, ground system. Results of the KPI-204 tests were submitted to the FCC in January of 1989.//

The complete paper is available at this URL:

http://www.commtechrf.com/documents/nab1995.pdf

RF

4156. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 17:51:24 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i82imsjtu1@news.jpl.nasa.gov>
Source record: 7256

Owen wrote:
> I have been exploring models of a quarter wave monopole over a set of
> radials on 80m using NEC4 models.
>
> If my models are valid, and they use 'average ground', the indication is
> that while it may require a large number of buried radials (>16) before
> efficiency levels off a bit, similar efficiency can be obtained with
> just three radials elevated more than 100mm above the soil.
>
> This leaves me wondering why the popularity of extensive fields of
> buried radials for the lower bands.
>
> Comments?
>
> Owen

I would think that the buried radials are more convenient (broad band, etc.)

Look at the performance of your ankle biting radials when the dimensions
are changed slightly.. For instance, if you shorten them by 5%, does
it make a big difference? For the buried radials, the length is very,
very non critical.

Something else to look at is the sensitivity of "efficiency" (and your
definition of radiated power in the hemisphere/power into antenna is
fine) to soil properties.. if the soil conductivity or epsilon changes
(as it will with changing water content) does the efficiency change rapidly?

Also, what about the loss in any matching components needed (e.g. if you
had a real efficient narrow band antenna, then operating off nominal
means you'll need a different matching network, and the loss in it might
be worth considering)

4157. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 18:53:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pok9a65btpne94h14jifcrvmi9n7om0q9d@4ax.com>
Source record: 7257

On Thu, 30 Sep 2010 03:46:40 -0700 (PDT), Richard Fry <rfry@adams.net>
wrote:

>On Sep 30, 1:24ï¿½am, Owen <no...@no.where> wrote:
>> So, back to the electrical performance, do you have measurement data
>> or can you refer me to articles that contain sound objective measurement
>> data that would suggest that my NEC4 model is not valid.
>
>This topic was investigated experimentally quite some time ago by a
>broadcast consulting firm in the US, which generated measured data.
>Here is a clip from their paper describing the system tested, and the
>results (note that the convention used for "efficiency" here is that
>of the FCC practice based on the groundwave field intensity at 1 km
>with respect to the power applied to the antenna system):
>
>\\ In November of 1988, our firm supervised the construction of a
>temporary antenna system in
>Newburgh, New York under FCC Special Field Test Authority using call
>sign KPI-204. The antenna
>system consisted of a lightweight, 15 inch face tower, 120 feet in
>height, with a base insulator at the 15
>foot elevation and six elevated radials, a quarter wave in length,
>spaced evenly around the tower and
>elevated 15 feet above the ground. The radials were fully insulated
>from ground and supported at the
>ends by wooden tripods. Approximately ten feet above ground, a T
>network for matching the antenna
>was mounted on a piece of marine plywood to isolate the components
>from contact with the lower
>section of the tower which was grounded. Power was fed to the system
>through a 200 foot length of
>coaxial cable with the cable shield connected to the shunt element of
>the T network and to the elevated
>radials. A balun or RF choke on the feedline was not employed and the
>feedline was isolated from the
>lower section of the tower. The system operated on 1580 kHz at a power
>of 750 watts.
>
>The efficiency of the antenna was determined by radial field intensity
>measurements along 12 radials
>extending out to a distance of up to 85 kilometers. The measured RMS
>efficiency was 287 mV/m for 1
>kW, at one kilometer, which is the same measured value as would be
>expected for a 0.17 wave tower

>above 120 buried radials.
>
>The Newburgh tests gave empirical proof that the elevated system
>worked although, in an abundance
>of caution, we used six radials instead of four. For the limited time
>that the system was operational, the
>system was stable as determined by monitoring the field intensity at
>selected locations each day. The
>measured base impedance was in general agreement with a tower of this
>height above a standard,
>buried, ground system. Results of the KPI-204 tests were submitted to
>the FCC in January of 1989.//
>
>The complete paper is available at this URL:
>
> http://www.commtechrf.com/documents/nab1995.pdf
>
>RF

Hi Richard,

Solid piece of information - thanx.

Odd to notice none have acknowledged field data.

73's
Richard Clark, KB7QHC

4158. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 19:06:47 UTC
From: Dave D <xray66@earthlink.net>
Message-ID: <88546f8e-e1f0-4d55-b569-d4e07712dfff@q28g2000prb.googlegroups.com>
Source record: 7258

On Sep 30, 12:28 am, Owen <no...@no.where> wrote:
> On 30/09/10 15:23, Dave D wrote:
>
> > > Thanks guys... I've never had that problem before. Any tips for what
> > > clamp-on ferrites might work best, or how many? Or the best way to
> > > configure them?
>
> > I meant also to ask how you dressed the coax away from the feedpoint.
>
> > I often see pics of coax tie wrapped to one leg of the transmission line
> > spine of the LP. Guaranteed to create common mode current.

Thanks Owen,

In this case I had it down the middle between the haves, through clips.

4159. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 19:38:41 UTC
From: Owen <noone@no.where>
Message-ID: <rH5po.712$hz6.263@viwinnwfe02.internal.bigpond.com>
Source record: 7259

On 01/10/10 05:06, Dave D wrote:
> On Sep 30, 12:28 am, Owen<no...@no.where> wrote:
>> On 30/09/10 15:23, Dave D wrote:
>>
>>> Thanks guys... I've never had that problem before. Any tips for what
>>> clamp-on ferrites might work best, or how many? Or the best way to
>>> configure them?
>>
>> I meant also to ask how you dressed the coax away from the feedpoint.
>>
>> I often see pics of coax tie wrapped to one leg of the transmission line
>> spine of the LP. Guaranteed to create common mode current.
>
>
> Thanks Owen,
>
> In this case I had it down the middle between the haves, through clips.

Does that disturb the characteristic impedance of the spine transmission line? If so, does that contribute to the problems you observe?

If this LP is mounted to a mast somewhere forward of the rear element, I would consider dressing the feedline away from the feed point at right angles to the spine, installing a common mode choke near the feedpoint, and bringing the feedline to the mast some distance below the spine.

If you were to perform a test where the LP is mounted a wavelength or more above ground, pointing to the zenith, feedline falling downwards from the feedpoint, common mode choke near the feedpoint, it would reveal whether the array is working as intended. If your actual mounting causes it to work differently, you know where the problem is.

Owen

4160. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 20:13:56 UTC
From: Owen <noone@no.where>
Message-ID: <vc6po.758$Bv4.201@viwinnwfe01.internal.bigpond.com>
Source record: 7260

On 01/10/10 03:51, Jim Lux wrote:

Thanks Jim.

>
> I would think that the buried radials are more convenient (broad band,
> etc.)

Yes, I understand that there are advantages to buried radials, but I don't understand the preponderance of cases where I see 120 radials pinned on the top of infertile dirt. They still present a trip hazard, and less money spent on just a few elevated radials may perform just as well.

>
> Look at the performance of your ankle biting radials when the dimensions
> are changed slightly.. For instance, if you shorten them by 5%, does it
> make a big difference? For the buried radials, the length is very, very
> non critical.

Yes, of course the feedpoint impedance is more sensitive to change in length or conversely change in frequency.

>
> Something else to look at is the sensitivity of "efficiency" (and your
> definition of radiated power in the hemisphere/power into antenna is
> fine) to soil properties.. if the soil conductivity or epsilon changes
> (as it will with changing water content) does the efficiency change
> rapidly?

Yes, efficiency is sensitive to soil parameters... for both types, but not very sensitive.

Because of the impedance change mentioned above, the impedance transformation needs adjustment for wide range frequency operation. Not such an issue in the intended application, the DX window on 80m here is just 50kHz.

>
> Also, what about the loss in any matching components needed (e.g. if you
> had a real efficient narrow band antenna, then operating off nominal
> means you'll need a different matching network, and the loss in it might
> be worth considering)

Matching network loss was not included in my analysis because both quarter wave options present fairly similar load impedances that need transformation to 50 ohms. The shortened verticle is slightly lower R

(23 vs 38 IIRC), and slightly more loss can be expected, but it is practical to match with a shunt coil of copper tube and matching loss should be real low in the system context, and in comparison of elevated vs buried radials.

If I haven't got something quite wrong in the modelling, it would seem worthwhile to prototype the shortened version with a view to extending the system to a four-square if suitable.

I have still to read Rudy's papers... I am away from home (less bandwidth) and I will download them later today when I get home. I suppose that the proposed design challenges the norm of a very large number of buried radials. In our case, part of the property is quite rocky, and a configuration with just a few elevated radials offers deployment opportunities that aren't suited to buried radials.

So, my original question is no so much suggesting everyone else got it wrong, but why don't I seem more people doing it this way. Could I be forgive in thinking that the popular, nearly universal, way is to uplift the BL&E research at MF and apply it to 80m?

Owen

4161. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 20:39:27 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <50338775-7bad-42d3-a8cd-3265878ebd6e@p26g2000yqb.googlegroups.com>
Source record: 7261

On Sep 30, 3:13 pm, Owen <no...@no.where> wrote:

> Could I be forgive(n) in thinking that the popular, nearly universal, way
> is to uplift the BL&E research at MF and apply it to 80m?

The BL&E experiments were conducted using 3 MHz signals, so their
applicability to the 80m band is not a large uplift.

4162. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 20:56:27 UTC
From: Dave D <xray66@earthlink.net>
Message-ID: <0083040b-19c9-4f27-9a00-553fb7bc4476@g21g2000prn.googlegroups.com>
Source record: 7262

On Sep 30, 12:38 pm, Owen <no...@no.where> wrote:
> On 01/10/10 05:06, Dave D wrote:
>
>
>
> > On Sep 30, 12:28 am, Owen<no...@no.where> wrote:
> >> On 30/09/10 15:23, Dave D wrote:
>
> >>> Thanks guys... I've never had that problem before. Any tips for what
> >>> clamp-on ferrites might work best, or how many? Or the best way to
> >>> configure them?
>
> >> I meant also to ask how you dressed the coax away from the feedpoint.
>
> >> I often see pics of coax tie wrapped to one leg of the transmission line
> >> spine of the LP. Guaranteed to create common mode current.
>
> > Thanks Owen,
>
> > In this case I had it down the middle between the haves, through clips.
>
> Does that disturb the characteristic impedance of the spine transmission
> line? If so, does that contribute to the problems you observe?
>
> If this LP is mounted to a mast somewhere forward of the rear element, I
> would consider dressing the feedline away from the feed point at right
> angles to the spine, installing a common mode choke near the feedpoint,
> and bringing the feedline to the mast some distance below the spine.
>
> If you were to perform a test where the LP is mounted a wavelength or
> more above ground, pointing to the zenith, feedline falling downwards
> from the feedpoint, common mode choke near the feedpoint, it would
> reveal whether the array is working as intended. If your actual mounting
> causes it to work differently, you know where the problem is.
>
> Owen

Well, it does different things based on how the cable is routed, but
none are really better than the other... just different. I tried
coming off the back, and also at the mid point... It changed, but not
better or worse overall... The points of good and bad just changed
position across the range.

I'm going to try the ferrites. What do you think about these?
http://www.mouser.com/ProductDetail/Fair-Rite/2661540202/?qs=sGAEpiMZZMvgExXaNlWje8d9n1AvV

dVAPQp4FXwkz9g%3d

4163. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 21:04:34 UTC
From: Owen <noone@no.where>
Message-ID: <%X6po.760$Bv4.95@viwinnwfe01.internal.bigpond.com>
Source record: 7263

On 01/10/10 06:39, Richard Fry wrote:
> On Sep 30, 3:13 pm, Owen<no...@no.where> wrote:
>
>> Could I be forgive(n) in thinking that the popular, nearly universal, way
>> is to uplift the BL&E research at MF and apply it to 80m?
>
> The BL&E experiments were conducted using 3 MHz signals, so their
> applicability to the 80m band is not a large uplift.

I stand corrected. I have read the paper many times, and my recollection
was that it was below 2MHz. Must be time to read it again!

Owen

4164. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 21:44:53 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i830cm$2ed$1@news.jpl.nasa.gov>
Source record: 7264

Owen wrote:
> On 01/10/10 03:51, Jim Lux wrote:
>
> Thanks Jim.
>
>>
>> I would think that the buried radials are more convenient (broad band,
>> etc.)
>
> Yes, I understand that there are advantages to buried radials, but I
> don't understand the preponderance of cases where I see 120 radials
> pinned on the top of infertile dirt. They still present a trip hazard,
> and less money spent on just a few elevated radials may perform just as
> well.

never underestimate the power of tradition. It was written by BL&E that 120 radials work, and the FCC accepts that for broadcast, so by golly, that's what we do. Why 120? it was at the point of diminishing returns or practicality back when the study was done (e.g. there was no detectable change from going to more)

As for laying on ground.. I think that's more the laying on grass, and eventually, the wire sinks into the grass/turf.

There's also the whole "the radials must be resonant" misconception..

>
>>
>> Look at the performance of your ankle biting radials when the dimensions
>> are changed slightly.. For instance, if you shorten them by 5%, does it
>> make a big difference? For the buried radials, the length is very, very
>> non critical.
>
> Yes, of course the feedpoint impedance is more sensitive to change in
> length or conversely change in frequency.

While for a buried radial system (probably because of the losses) it's going to be less frequency sensitive.

>
>>
>> Something else to look at is the sensitivity of "efficiency" (and your
>> definition of radiated power in the hemisphere/power into antenna is
>> fine) to soil properties.. if the soil conductivity or epsilon changes
>> (as it will with changing water content) does the efficiency change
>> rapidly?

>
> Yes, efficiency is sensitive to soil parameters... for both types, but
> not very sensitive.

Maybe less sensitive for the buried radials? Or, it was "good enough"
for BL&E, so being so written, so shall it be done.

>
> Because of the impedance change mentioned above, the impedance
> transformation needs adjustment for wide range frequency operation. Not
> such an issue in the intended application, the DX window on 80m here is
> just 50kHz.

>
> If I haven't got something quite wrong in the modelling, it would seem
> worthwhile to prototype the shortened version with a view to extending
> the system to a four-square if suitable.

The shortened version will, of course, aggravate the tuning sensitivity.

>
> I have still to read Rudy's papers... I am away from home (less
> bandwidth) and I will download them later today when I get home. I
> suppose that the proposed design challenges the norm of a very large
> number of buried radials. In our case, part of the property is quite
> rocky, and a configuration with just a few elevated radials offers
> deployment opportunities that aren't suited to buried radials.
>
> So, my original question is no so much suggesting everyone else got it
> wrong, but why don't I seem more people doing it this way. Could I be
> forgive in thinking that the popular, nearly universal, way is to uplift
> the BL&E research at MF and apply it to 80m?

Tradition is a powerful force. Look how many years it took for someone
(e.g. Rudy) to put the substantial work into doing a real quantitative
experiment. For most hams, they're only going to do something once, and
if works ok, that's how it stays. Almost none are going to do a well
controlled A/B study, especially if there's a (not necessarily valid)
tradition that says A works better (where better is ill defined and
probably a combination of radiation efficiency and installation convenience)

Until recently, modeling tools available to most amateurs were not
suitable for making the call, although there have been some people who
did models and published it, but, in the face of decades of "lay down
120 radials" it was a tough sell.

The other thing is whether the difference is big enough to "make a
difference" in observed system performance. For a lot of operators, a 1
dB change in performance might not be noticeable. If you're in a
"either propagation is there, or it isn't" situation the difference
between good and bad is 10s of dB. There are relatively few people who
work at 0dB SNR (where tenths count) on a regular and continuing basis,
and they're not necessarily the ones who are interested in doing

experiments on antennas on the scale needed.

>
> Owen
>

4165. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:03:44 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <i831g3$5s5q$1@tr22n12.aset.psu.edu>
Source record: 7265

```
On 9/30/2010 4:56 PM, Dave D wrote:
> On Sep 30, 12:38 pm, Owen<no...@no.where> wrote:
>> On 01/10/10 05:06, Dave D wrote:
>>
>>
>>
>>> On Sep 30, 12:28 am, Owen<no...@no.where> wrote:
>>>> On 30/09/10 15:23, Dave D wrote:
>>
>>>>> Thanks guys... I've never had that problem before. Any tips for what
>>>>> clamp-on ferrites might work best, or how many? Or the best way to
>>>>> configure them?
>>
>>>> I meant also to ask how you dressed the coax away from the feedpoint.
>>
>>>> I often see pics of coax tie wrapped to one leg of the transmission line
>>>> spine of the LP. Guaranteed to create common mode current.
>>
>>> Thanks Owen,
>>
>>> In this case I had it down the middle between the haves, through clips.
>>
>> Does that disturb the characteristic impedance of the spine transmission
>> line? If so, does that contribute to the problems you observe?
>>
>> If this LP is mounted to a mast somewhere forward of the rear element, I
>> would consider dressing the feedline away from the feed point at right
>> angles to the spine, installing a common mode choke near the feedpoint,
>> and bringing the feedline to the mast some distance below the spine.
>>
>> If you were to perform a test where the LP is mounted a wavelength or
>> more above ground, pointing to the zenith, feedline falling downwards
>> from the feedpoint, common mode choke near the feedpoint, it would
>> reveal whether the array is working as intended. If your actual mounting
>> causes it to work differently, you know where the problem is.
>>
>> Owen
>
> Well, it does different things based on how the cable is routed, but
> none are really better than the other... just different. I tried
> coming off the back, and also at the mid point... It changed, but not
> better or worse overall... The points of good and bad just changed
> position across the range.
>
```

> I'm going to try the ferrites. What do you think about these?
> http://www.mouser.com/ProductDetail/Fair-Rite/2661540202/?qs=sGAEpiMZZMvgExXaNlWje8d9n1AvVdVAPQp4FXwkz9g%3d

The one question I've not seen asked is how close to what you built is your model? Everything is critical at those frequencies and as little as 1/32" can make a difference. If your model doesn't match exactly the antenna then it's no wonder it's not working as expected. To me modeling the phasing lines between the elements be they separate from the boom or are the boom is one of the trickiest parts. As an example if you used a 1" square boom and modeled it as a 1" diameter wire there would be a problem. They are not equal.

John W3JXP

4166. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:17:23 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <d5bbdf90-6f53-40a5-a67f-4cb4c77fd542@d17g2000yqm.googlegroups.com>
Source record: 7266

Referring to my earlier post in this thread with a link to the
measured field intensity data of a MW antenna system using elevated,
1/4-wave radials taken by a consulting engineering firm ...

On Sep 30, 1:53 pm, Richard Clark <kb7...@comcast.net> wrote:

> Odd to notice none have acknowledged field data.

A non sequitur, possibly?

4167. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:17:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <oq2aa657cmvkj253vgo582b11ilrgnpl2q@4ax.com>
Source record: 7267

On Fri, 01 Oct 2010 06:13:56 +1000, Owen <noone@no.where> wrote:

>Could I be
>forgive in thinking that the popular, nearly universal, way is to uplift
>the BL&E research at MF and apply it to 80m?

The original field research was done at 3 MHz - very much closer to
80M than to 300M.

73's
Richard Clark, KB7QHC

4168. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:18:52 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <353aa6pgtqpu1vjq8hjdku6fl6p1ma168k@4ax.com>
Source record: 7268

On Thu, 30 Sep 2010 14:44:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>It was written by BL&E that
>120 radials work,

2, 15, 30, 60, and 113.

No discussion whatever of 120.

73's
Richard Clark, KB7QHC

4169. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:20:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <983aa6561lkogqup7plji19inq6ku07jfd@4ax.com>
Source record: 7269

On Thu, 30 Sep 2010 14:44:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>For a lot of operators, a 1
>dB change in performance might not be noticeable.

That 1dB is at the periphery of a radius where surface area
(customers) mounts up by the square.

73's
Richard Clark, KB7QHC

4170. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:22:22 UTC
From: Owen <noone@no.where>
Message-ID: <058po.729$hz6.80@viwinnwfe02.internal.bigpond.com>
Source record: 7270

On 01/10/10 07:44, Jim Lux wrote:
> Owen wrote:
>> On 01/10/10 03:51, Jim Lux wrote:
>>
>> Thanks Jim.
>>
>>>
>>> I would think that the buried radials are more convenient (broad band,
>>> etc.)
>>
>> Yes, I understand that there are advantages to buried radials, but I
>> don't understand the preponderance of cases where I see 120 radials
>> pinned on the top of infertile dirt. They still present a trip hazard,
>> and less money spent on just a few elevated radials may perform just
>> as well.
>
> never underestimate the power of tradition. It was written by BL&E that
> 120 radials work, and the FCC accepts that for broadcast, so by golly,
> that's what we do. Why 120? it was at the point of diminishing returns
> or practicality back when the study was done (e.g. there was no
> detectable change from going to more)
>
> As for laying on ground.. I think that's more the laying on grass, and
> eventually, the wire sinks into the grass/turf.
>
> There's also the whole "the radials must be resonant" misconception..
>
>>
>>>
>>> Look at the performance of your ankle biting radials when the dimensions
>>> are changed slightly.. For instance, if you shorten them by 5%, does it
>>> make a big difference? For the buried radials, the length is very, very
>>> non critical.
>>
>> Yes, of course the feedpoint impedance is more sensitive to change in
>> length or conversely change in frequency.
>
> While for a buried radial system (probably because of the losses) it's
> going to be less frequency sensitive.

I expect so.
>
>
>>

>>>
>>> Something else to look at is the sensitivity of "efficiency" (and your
>>> definition of radiated power in the hemisphere/power into antenna is
>>> fine) to soil properties.. if the soil conductivity or epsilon changes
>>> (as it will with changing water content) does the efficiency change
>>> rapidly?
>>
>> Yes, efficiency is sensitive to soil parameters... for both types, but
>> not very sensitive.
>
> Maybe less sensitive for the buried radials? Or, it was "good enough"
> for BL&E, so being so written, so shall it be done.

BL&E were measuring ground wave, I think solely. My efficiency measure
is the hemisphere, so ground losses play a different role.

>
>>
>> Because of the impedance change mentioned above, the impedance
>> transformation needs adjustment for wide range frequency operation.
>> Not such an issue in the intended application, the DX window on 80m
>> here is just 50kHz.
>
>
>
>>
>> If I haven't got something quite wrong in the modelling, it would seem
>> worthwhile to prototype the shortened version with a view to extending
>> the system to a four-square if suitable.
>
> The shortened version will, of course, aggravate the tuning sensitivity.

Yes, but the model suggests that the variation in R is very small, and
variation in VSWR (with shunt coil match) is small... in that band segment.
>
>
>
>
>>
>> I have still to read Rudy's papers... I am away from home (less
>> bandwidth) and I will download them later today when I get home. I
>> suppose that the proposed design challenges the norm of a very large
>> number of buried radials. In our case, part of the property is quite
>> rocky, and a configuration with just a few elevated radials offers
>> deployment opportunities that aren't suited to buried radials.
>>
>> So, my original question is no so much suggesting everyone else got it
>> wrong, but why don't I seem more people doing it this way. Could I be
>> forgive in thinking that the popular, nearly universal, way is to
>> uplift the BL&E research at MF and apply it to 80m?
>

> Tradition is a powerful force. Look how many years it took for someone
> (e.g. Rudy) to put the substantial work into doing a real quantitative
> experiment. For most hams, they're only going to do something once, and
> if works ok, that's how it stays. Almost none are going to do a well
> controlled A/B study, especially if there's a (not necessarily valid)
> tradition that says A works better (where better is ill defined and
> probably a combination of radiation efficiency and installation
> convenience)
>
> Until recently, modeling tools available to most amateurs were not
> suitable for making the call, although there have been some people who
> did models and published it, but, in the face of decades of "lay down
> 120 radials" it was a tough sell.
>
> The other thing is whether the difference is big enough to "make a
> difference" in observed system performance. For a lot of operators, a 1
> dB change in performance might not be noticeable. If you're in a "either
> propagation is there, or it isn't" situation the difference between good
> and bad is 10s of dB. There are relatively few people who work at 0dB
> SNR (where tenths count) on a regular and continuing basis, and they're
> not necessarily the ones who are interested in doing experiments on
> antennas on the scale needed.

Yes, there will be differing view on what is significant difference. I
am not in the school of declaring less than one or two S points is
insignificant in general.

In the case of a four square in the DX segment, users are looking for
performance... and it seems to me that the elevated three radials, eight
wave vertical with capacity had is very close to quarter wave over
buried radials... depending of course on the soil type.

You mention the modelling tools, I am not so much concerned as to
whether the elevated radials model is good, but whether the NEC4 buried
radials model is good, and likewise for radials on and just above the
ground because those models are setting the benchmark for the
performance of the alternative.

Owen
>
>
>
>
>
>>
>> Owen
>>

4171. Antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:52:19 UTC
From: Cannuck <abra@cadabra.com>
Message-ID: <bw8po.23769$qb.15315@newsfe12.iad>
Source record: 7271

Hi

Wanting to put up the CHannelmaster HD antenna 8bay

I have heard some about putting two up. Each aiming towards a different major city to get the best reception for the HD.

Any advice on this? Any reason to or not to or better ideas?

Thanks

4172. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 22:57:30 UTC
From: Owen <noone@no.where>
Message-ID: <ZB8po.735$hz6.252@viwinnwfe02.internal.bigpond.com>
Source record: 7272

On 01/10/10 08:03, John Passaneau wrote:
...> are the boom is one of the trickiest parts. As an example if you used a
> 1" square boom and modeled it as a 1" diameter wire there would be a
> problem. They are not equal.

Here is a little tool for designing practical square section spines:
http://vk1od.net/calc/tstl.htm .

Owen

4173. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 23:07:53 UTC
From: Owen <noone@no.where>
Message-ID: <IL8po.737$hz6.511@viwinnwfe02.internal.bigpond.com>
Source record: 7273

On 01/10/10 08:17, Richard Clark wrote:
> On Fri, 01 Oct 2010 06:13:56 +1000, Owen<noone@no.where> wrote:
>
>> Could I be
>> forgive in thinking that the popular, nearly universal, way is to uplift
>> the BL&E research at MF and apply it to 80m?
>
> The original field research was done at 3 MHz - very much closer to
> 80M than to 300M.
>
> 73's
> Richard Clark, KB7QHC

Yes, I accepted that advice from Richard Fry an hour or so earlier... Owen

4174. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 23:14:21 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <508b1894-3ea8-4a1a-9def-c18053942765@l20g2000yqm.googlegroups.com>
Source record: 7274

On Sep 30, 4:44 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:

> never underestimate the power of tradition. It was written by BL&E that
> 120 radials work, and the FCC accepts that for broadcast, so by golly,
> that's what we do.

A minor point, but in the interest of accuracy - the greatest number
of buried radials used in the BL&E experimental work was 113.

> There's also the whole "the radials must be resonant" misconception..

While the physical lengths of the buried radials in the BL&E
experiments were stated in free space wavelengths, that does not mean
that those physical lengths will behave the same when buried as they
will when not buried.

As shown in the link I posted earlier in this thread (and by NEC), a
few elevated wires used as a counterpoise in place of the BL&E buried
wires need to have an electrical wavelength of 1/4-lambda for best
antenna system radiation efficiency, even with "short" vertical
monopoles. And even when those elevated counterpoise wires are close
to the earth in terms of a free space wavelength, their electrical
length is not much different than their physical dimension in terms of
a free space wavelength -- as is the case when they are buried.

Theory and practice both show that such wires perform differently when
they are buried than when they are elevated above the surface of the
earth.

RF

4175. Re: Antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-09-30 23:34:57 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <248b1e2d-d657-45cc-9982-fb3e68a3783e@g18g2000vbn.googlegroups.com>
Source record: 7275

On Sep 30, 10:52 pm, "Cannuck" <a...@cadabra.com> wrote:
> Hi
>
> Wanting to put up the CHannelmaster HD antenna 8bay
>
> I have heard some about putting two up. Each aiming towards a different
> major city to get the best reception for the HD.
>
> Any advice on this? Any reason to or not to or better ideas?
>
> Thanks

you can get rotators to turn a single antenna. the price is probably
about the same, 2 antennas, feedlines, and a switch, or one antenna
and a rotator. it may also depend on what you have to mount the
antennas on.

4176. Re: Antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 00:23:05 UTC
From: Cannuck <abra@cadabra.com>
Message-ID: <iR9po.23062$qU5.16615@newsfe20.iad>
Source record: 7276

Yes, thanks for the comeback

I wanted to stay away from a rotor as both my cities of market are in good direction to point.

The store says the cable tee will work for the splitter or switch.

Just looking for a second opinion.

THanks

"K1TTT" <k1ttt@arrl.net> wrote in message news:248b1e2d-d657-45cc-9982-fb3e68a3783e@g18g2000vbn.googlegroups.com...
On Sep 30, 10:52 pm, "Cannuck" <a...@cadabra.com> wrote:
> Hi
>
> Wanting to put up the CHannelmaster HD antenna 8bay
>
> I have heard some about putting two up. Each aiming towards a different
> major city to get the best reception for the HD.
>
> Any advice on this? Any reason to or not to or better ideas?
>
> Thanks

you can get rotators to turn a single antenna. the price is probably about the same, 2 antennas, feedlines, and a switch, or one antenna and a rotator. it may also depend on what you have to mount the antennas on.

4177. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 05:45:16 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E04A043911C7nonenowhere@61.9.134.55>
Source record: 7277

LA4RT Jon <dev@null.com> wrote in news:1mk4m3smaq.fsf@uninett.no:

...
> N6LF made extensive measurements and essenstially confirmed this. He
> wrote a 7 part series of articles for QEX. You can download them at
> his site:
> http://www.antennasbyn6lf.com/2009/12/series-of-qex-articles-on-ground-
> system-experiments.html

Hi Jon,

All of the articles are interesting. I have previously read the last, but wasn't aware it was only one of a series.

Looking at Article 3, Fig 1 suggests that efficiency improves very slowly beyond about 32 radials lying on the surface, and 4 such radials are about 5.4dB below 32 radials.

In Fig 2, he shows 4 radials just 6" (150mm) above ground as about 5dB better than 4 radials on the ground.

My interpretation of Fig 1 and Fig 2 then is that 4 radials at 6" are about 0.5dB behind 32 radials lying on the ground. That is the type of effect I was referring to when I said "If my models are valid, and they use 'average ground', the indication is that while it may require a large number of buried radials (>16) before efficiency levels off a bit, similar efficiency can be obtained with just three radials elevated more than 100mm above the soil" in my first post.

Rudy reports some further small improvement (<1dB) in raising the radials to 4'(1.2m).

These are very similar effect to those predicted by my NEC4 model. In the case of my model of radials from 100mm depth to some distance above ground, the improvement was mostly in the range of heights from 0mm to about 20mm. Obviously, the model is sensitive to soil type, and different soil types can be expected to yield different response... but it would seem that just 3 radials at 1 to 3m height give similar system efficiency to 16+ radials shallow buried for a range of common soil types.

I know my interpretation of Rudy's measurements and my NEC4 model don't fall in line with some traditional thinking, and will not appeal to many.

I think it is time to build a prototype.

Thanks for the links.

Owen

4178. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 06:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1285912800@panix.com>
Source record: 7278
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

4179. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 07:31:00 UTC
From: "Helmut Wabnig"
Message-ID: <ch3ba6p371kujr1lu2r7u45gbcj7js9kqh@4ax.com>
Source record: 7279

On Wed, 29 Sep 2010 16:36:06 -0700 (PDT), Dave D
<xray66@earthlink.net> wrote:

>Just thought I'd throw this out there to see if anybody had any
>ideas... I was recently playing with an 800 to 1000 MHz Log design. It
>came out quite well in the model. It was showing that it should do
>about 1 to 1.5 average SWR, with a couple little spikes of 2.0 or so.
>So I went ahead and built it.
>
>Now I know from past experience, that testing logs is very tricky.
>Unless you have a phase stable cable right up to the feed point, you
>can get all kinds of crazy readings. But still, you can usually get
>the gist of what's going on. So I go to test the actual finished
>antenna, and across the intended range, it's showing SWR as high as 7
>or 8, and the best it goes down to is maybe 3. Totally different than
>the model. As a test, I went to the NEC model and took off all the UHF
>elements, and just added one VHF element to the low end... It showed
>around 155 MHz in the model. I did the same thing on the actual
>antenna and got 1.1 around 153 MHz. So at that range, it's right on.
>But I am baffled as to why it is so terrible on the UHF. I tried
>shorting the back end and not shorting. No real difference.
>
>Any ideas?
>
>Thanks,
Would love to see fotos of the antenna you built.
Is there a stub at the end or is there a termination resistor?

w.

4180. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 10:23:30 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E04CF6FCB34Anonenowhere@61.9.134.55>
Source record: 7280

Owen Duffy <none@no.where> wrote in
news:Xns9E04A043911C7nonenowhere@61.9.134.55:

...

I should have noted that the efficiency figures I spoke of from NEC models
are technically not directly comparable with Rudy's |S21|, the error in
interpeting |S21| as system gain is likely to be small for the kind of load
impedances encountered.

Owen

4181. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 11:06:45 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <647b0cf9-6633-4327-987c-ee977990e59a@j18g2000yqd.googlegroups.com>
Source record: 7281

On Oct 1, 12:45 am, Owen Duffy <n...@no.where> wrote:
> Obviously, the model is sensitive to soil type, and different
> soil types can be expected to yield different response... but it would
> seem that just 3 radials at 1 to 3m height give similar system efficiency
> to 16+ radials shallow buried for a range of common soil types.

The two links below may be of interest in comparing NEC modeling with empirical results.

The first link is a clip from the "benchmark" 1937 I.R.E paper of BL&E, showing that the radiated fields measured 3/10 of a mile from monopoles ranging from about 45 to past 90 degrees in height, and using 113 each 0.412-lambda buried radials is within several percent of the theoretical maximum for a perfect monopole of those heights when driven against a zero-ohm connection to a perfect ground plane. The BL&E tests were conducted in the sandy soil of New Jersey, where earth conductivity was/is 4 mS/m or less. Those measured results indicate those systems were radiating 90% or more of the applied power, and that the conductivity of the earth in which those radials were buried is relatively unimportant.

The second link is a NEC model of a 1/4-lambda monopole driven against four, elevated counterpoise wires with no antenna system connection to a perfect ground plane, showing that its peak gain is 5.15 dBi -- which is the theoretical maximum for a perfect 1/4-lambda monopole driven against a zero-ohm connection to a perfect ground plane.

Adding an ohm or two in the connection from the source to the four elevated radials reduces the gain/field of the NEC model such that it is approximately what was shown in the BL&E study, indicating that a similar value must have been present in their buried radial ground system consisting of 113 each 0.412-lambda wires.

Using NEC-4 to incorporate buried (or elevated) radials into the model should show groundwave fields within 1 km of the monopole that are very close to the theoretical maximum for the applied power when radiated along a perfect ground plane, if the model is optimal, and accurate.

The theoretical maximum inverse distance voltage field intensity at 1 km for 1 kW of radiated power from a perfect 1/4-lambda monopole system is about 313 mV/m.

http://i62.photobucket.com/albums/h85/rfry-100/G.gif

http://i62.photobucket.com/albums/h85/rfry-100/MonopoleWithElevatedRadials.jpg

RF

4182. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 17:24:22 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i855g6$fg60$1@tr22n12.aset.psu.edu>
Source record: 7282

Owen wrote:

> So, my original question is no so much suggesting everyone else got it
> wrong, but why don't I seem more people doing it this way. Could I be
> forgive in thinking that the popular, nearly universal, way is to uplift
> the BL&E research at MF and apply it to 80m?

There are lots of reasons that people don't use elevated radials versus buried ones. But before that, keep in mind that comparing elevated to buried is not really comparing 4 elevated to 120 buried. 120 is overkill, and not many of us who have verticals have that many. I found that 32 was getting into diminishing returns for me, so stopped.

Also buried radials are more forgiving of length variations. My case was that the antenna had to be located a good bit closer to one end of the yard than the other. So the radials on one side were from 10 to 25 feet shorter.

Also, many of us are married, and the spouse doesn't like all that many wires running around. My wife also mows the yard, something that would be relegated to me if I had a lot of wires running around the yard.

And I've used and been around an elevated radial system. It was a royal pain. You have to declare a rather large area off limits, we added little ties to it to warn people, and it didn't really help at night. That experience told me that elevated HF radials was not the way I wanted to go - ever.

Even if you are way out in the middle of nowhere, an elevated radial vertical is a liability unless you put a wire link fence around it - check with your insurance company.

Just my opinion of course, but it seems to be shared by many.

So with the buried radials not being all that much more work,(unless you insist on 120 of them) the greater flexibility of buried radials when dealing with real estate limitations, the appearance and liability issues, just makes a buried radial system a more attractive and practical option to many of us.

- 73 de Mike N3LI -

4183. Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 17:26:32 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <rp5ca6pdc8kdbb7mdjbsitos8mqa9gg0cv@4ax.com>
Source record: 7283

I would like to model the Channel Master CM4228HD Antenna with EZNEC.
It looks like a good deal to me at its price.

I need screen to Bow ties distance

length of bow ties

I think the distance between the bowties will be either 1/4 or 1/2
wave (from picture)

I think the included angle in each of the bow ties is about 30 degrees
as pictured.

The phasing lines are obvious from the picture.

There is a picture at
http://www.digitalhome.ca/forum/showthread.php?t=95467

Of course I will share the model!

John Ferrell W8CCW

4184. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 20:02:52 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E053D859684Fnonenowhere@61.9.134.55>
Source record: 7284

Richard Fry <rfry@adams.net> wrote in
news:647b0cf9-6633-4327-987c-ee977990e59a@j18g2000yqd.googlegroups.com:

> On Oct 1, 12:45 am, Owen Duffy <n...@no.where> wrote:
...
> Using NEC-4 to incorporate buried (or elevated) radials into the model
> should show groundwave fields within 1 km of the monopole that are
> very close to the theoretical maximum for the applied power when
> radiated along a perfect ground plane, if the model is optimal, and
> accurate.

It may do, I can not comment. My interest is for an antenna for sky wave path, and I have not explored ground wave performance.

In the cases of 32 buried radials and three elevated radials, the patterns are similar, efficiencies are similar, and maximum gain is similar. Reducing the number of buried radials degrades its performance significantly.

The elevated radials configuration allows a shortened radiator with capacity hat with negligible degradation in performance. I haven't modelled the same thing over buried radials, but I expect performance degradation would be significantly worse.

Owen

4185. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 21:00:09 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i85i4penq1@news.jpl.nasa.gov>
Source record: 7285

Richard Clark wrote:
> On Thu, 30 Sep 2010 14:44:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> It was written by BL&E that
>> 120 radials work,
>
> 2, 15, 30, 60, and 113.
>
> No discussion whatever of 120.
>

I stand corrected.. thanks..
So they extrapolated to 120 as a "nice round number" for the future
purposes of the FCC.

4186. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 21:02:23 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i85i8venq2@news.jpl.nasa.gov>
Source record: 7289

Richard Clark wrote:
> On Thu, 30 Sep 2010 14:44:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
> wrote:
>
>> For a lot of operators, a 1
>> dB change in performance might not be noticeable.
>
> That 1dB is at the periphery of a radius where surface area
> (customers) mounts up by the square.
>

For broadcasters, sure. But the discussion is in reference to the potential performance difference for ham use, and I would think that there is more than 1 dB variation in the "other end" of the link. The hard core DXer or QRPer digging the signal out of the noise will care, but that's a small fraction of the overall ham population.

4187. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 21:13:32 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i85itt$v2l$1@news.jpl.nasa.gov>
Source record: 7290

Owen wrote:
> On 01/10/10 07:44, Jim Lux wrote:
>>
>> The other thing is whether the difference is big enough to "make a
>> difference" in observed system performance. For a lot of operators, a 1
>> dB change in performance might not be noticeable. If you're in a "either
>> propagation is there, or it isn't" situation the difference between good
>> and bad is 10s of dB. There are relatively few people who work at 0dB
>> SNR (where tenths count) on a regular and continuing basis, and they're
>> not necessarily the ones who are interested in doing experiments on
>> antennas on the scale needed.
>
> Yes, there will be differing view on what is significant difference. I
> am not in the school of declaring less than one or two S points is
> insignificant in general.

yeah, but there's a big difference between 6-12 dB and 1dB.. I think most users would care about 6 dB. Many fewer about 1 dB. And even fewer care about 1 dB AND have the desire and means to perform the experiment in a controlled way. (well, this latter category probably has less than 10 people in it, and only 1 has published in the last 50 years)

>
> In the case of a four square in the DX segment, users are looking for
> performance... and it seems to me that the elevated three radials, eight
> wave vertical with capacity had is very close to quarter wave over
> buried radials... depending of course on the soil type.

Hmm.. and there the real question is what kind of performance are we talking about: the power radiated in a desired direction (Tx) or the ability to null unwanted signals (Rx). Given the generally high noise levels on low bands for Rx, a 1 dB change in efficiency of the antenna might not make any difference for the latter.

A bigger effect on a phased array is the relative phasing. For a 4 element array, you can have pretty big errors in phase on transmit without changing the forward gain much (30 degree phase error on one element might give you a 1dB change). But a 30 degree phase error on receive could turn a -30dB null into a -7dB one..

And for that, the lower loss of your elevated radials might make things "pickier".. that is, as frequency or surroundings change, the reactive term for each element changes, which could change the power distribution and phasing among the elements (depending on the feed system used). (obviously, one of the "current forcing" drive schemes would be less sensitive to this)

>
> You mention the modelling tools, I am not so much concerned as to
> whether the elevated radials model is good, but whether the NEC4 buried
> radials model is good, and likewise for radials on and just above the
> ground because those models are setting the benchmark for the
> performance of the alternative.

The modeling performance of NEC4 for buried wires and wires just above the surface is quite good. Where I would be suspicious is for a wire ON the surface or partly embedded in the surface.

Look for that paper by Burke and Poggio on validating NEC3 and NEC4 (it was published at some conference in Ankara Turkey)

4188. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 21:16:23 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i85j37$v2l$2@news.jpl.nasa.gov>
Source record: 7288

Owen Duffy wrote:
> LA4RT Jon <dev@null.com> wrote in news:1mk4m3smaq.fsf@uninett.no:
>
> I know my interpretation of Rudy's measurements and my NEC4 model don't
> fall in line with some traditional thinking, and will not appeal to many.

I think you can take the fact that Rudy's measurements match the model
pretty well as experimental validation of the model. indeed, NEC4 works.

Traditional thinking (or more accurately, mindless repetition of
tradition) could well be wrong, eh?

>
> I think it is time to build a prototype.
>
> Thanks for the links.
>
> Owen

4189. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 21:29:01 UTC
From: nm5k@wt.net
Message-ID: <9da74c26-4c84-4f8d-8a23-ebc3235a7a0f@30g2000yqm.googlegroups.com>
Source record: 7286

On Oct 1, 4:00 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Richard Clark wrote:
> > On Thu, 30 Sep 2010 14:44:53 -0700, Jim Lux <james.p....@jpl.nasa.gov>
> > wrote:
>
> >> It was written by BL&E that
> >> 120 radials work,
>
> > 2, 15, 30, 60, and 113.
>
> > No discussion whatever of 120.
>
> I stand corrected.. thanks..
> So they extrapolated to 120 as a "nice round number" for the future
> purposes of the FCC.

The only reason the FCC used 120, is overkill for the
stations to be able to avoid a costly survey.
If they didn't use 120, they had to do tests to prove
that the system was efficient enough. So most used
120 to avoid all that.
For most cases, 120 is almost twice overkill..
For ham use 60 is usually plenty to get well into
the near optimum range. Any more than that is
a small increase, and usually not worth the cost
of the wire.
Since Owen posted this question, I did a lot more
checking around, and I had already seen the MW BC
examples.
Seems I'm not the only one that doubts that a small
number of barely elevated radials will give a large
increase over ones on the ground.
One that is in my camp is... Yuri will love this..
W8JI.. Tom seems to agree with my stance from
what I can tell. He has done tests in this regard
and his results did not show much of an increase
over the ground installed radials.
In fact, he gave one example where they changed a
MW station from four elevated radials to the usual
buried radials.. I assume 120 of them..
They then had to explain to the FCC why the buried
radials suddenly gave 5 db+ gain over the supposedly
"near perfect" elevated set.. :/
He also did tests on 80m comparing this same thing.

The results did not pan out and pretty much were in
the same ballpark as the results I saw when I tried it.
IE: the elevated radials are slightly better than the same
number on the ground, but only by a small amount.
His tests showed that the usual buried radials using
60 or more greatly outperformed the three or four
elevated radials. By 5 db+..
Myself, I think for four elevated radials to equal even
sixteen on the ground would require them to be almost
1/8 wave off the ground.
So it seems I'm not alone in my doubt of this
supposed free lunch program. W8JI seems to be
in my doubtful camp. A few others too actually.

4190. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 21:30:46 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E054C6BFA1D7nonenowhere@61.9.134.55>
Source record: 7287

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in news:i85i4penq1
@news.jpl.nasa.gov:

> Richard Clark wrote:
>> On Thu, 30 Sep 2010 14:44:53 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
>> wrote:
>>
>>> It was written by BL&E that
>>> 120 radials work,
>>
>> 2, 15, 30, 60, and 113.
>>
>> No discussion whatever of 120.

There might not have been much "discussion" though it is mentioned, but
the summary does contain the following:

"It is also found that a ground system consisting of 120 buried radial
wires, each on half wave long, is desirable".

>>
>
> I stand corrected.. thanks..
> So they extrapolated to 120 as a "nice round number" for the future
> purposes of the FCC.

It does appear that if someone blessed the number 120, it was probably
BL&E who did it, even if they were talking about half wave radials.

Owen

4191. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 22:33:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E0556F99F3E9nonenowhere@61.9.134.55>
Source record: 7291

Thanks Jim, all fair comment and noted.

The end application is a four square phased array for the 80m DX window.

The location is at another ham's property, a rural location with ground ranging from dryish clay to rock.

I do expect noise to be lowish compared to residential precincts.

The excercise is really about a design for a monopole that gives reasonably good performance if extended to the four square configuration.

Yes, I note your points about the phase sensitivity to components. That would be a challenge even with buried radials as although we have been in drought for a long time with 'controlled' low moisture content of the soil, rain changes that and the soil is no longer as homogenous.

Nothing is as perfect as a modeller's world, but the discussion and some of the links offered give confidence that a shortened vertical with capacity hat and three radials, and shunt coil matched should give similar performance to full quarter wave verticals with 32 buried radials.

I have just reread Cebik's article on buried radials, and my own models seem fairly consistent.

As you say, Rudy's work is further confirmation allowing for the difference in configuration and the |S21| use.

Owen

4192. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-01 22:58:46 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <c927e6b8-fe3f-4984-b594-4a7adee68af6@l20g2000yqm.googlegroups.com>
Source record: 7292

On Oct 1, 3:02 pm, Owen Duffy <n...@no.where> wrote:
> Richard Fry <r...@adams.net> wrote:
> > Using NEC-4 to incorporate buried (or elevated) radials into the model
> > should show groundwave fields within 1 km of the monopole that are
> > very close to the theoretical maximum for the applied power when
> > radiated along a perfect ground plane, if the model is optimal, and
> > accurate.
>
> It may do, I can not comment. My interest is for an antenna for sky wave
> path, and I have not explored ground wave performance.

Just to point out that for vertical monopole heights of 5/8-lambda and less, the peak elevation plane relative field (E / E max) _always_ occurs in the horizontal plane, regardless of the r-f losses in the buried radial system or counterpoise wires they are driven against, and the conductivity of the earth in which those radial wires are buried, or above which they are elevated.

IOW, the relative field actually "launched" at all angles above the horizontal plane from such antenna systems _always_ is LESS than that in the horizontal plane. The reason for this is related to the r-f current distribution, and its relative phase along the lengths of those monopoles.

NEC analyses showing low to zero relative field in the horizontal plane being launched by a monopole of 5/8-lambda height and less and regardless of the r-f ground they are driven against need to be understood in due context. The link next below leads to further development of this ...

http://i62.photobucket.com/albums/h85/rfry-100/MW_ElPat_Compare.gif

The longest, great-circle, single-hop, skywave paths are related to the relative fields launched by a monopole system at elevation angles of less than ten degrees (see Figure 55 in the link below) -- where a NEC analysis may show very low relative field.

But if such low relative fields really were true for the fields actually launched by such monopoles, then the nighttime skywave coverage of MW AM broadcast stations would be much different than is shown by real-world experience (and applicable theory).

http://i62.photobucket.com/albums/h85/rfry-100/Blaw-Knox_Comparison.gif

RF

4193. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-02 01:23:57 UTC
From: seeger@rain.cise.ufl.edu
Message-ID: <i861jdfql1@usenet.osg.ufl.edu>
Source record: 7293

In article <rp5ca6pdc8kdbb7mdjbsitos8mqa9gg0cv@4ax.com>,
John Ferrell <jferrell13@triad.rr.com> wrote:
|
| I would like to model the Channel Master CM4228HD Antenna with EZNEC.
| It looks like a good deal to me at its price.

Ken Nist (KQ6QV) has done a lot of TV antenna modelling with EZNEC,
and many of his antenna models (*.ez) are available on this page:

http://www.hdtvprimer.com/SIMS/

However, the CM4228a.ez on that page probably is the old CM4228 rather
than the new CM4228HD. His page analyzing the new CM4228HD antenna is:

http://www.hdtvprimer.com/ANTENNAS/TemporaryPage.html

His main page comparing commercially available antennas is:

http://www.hdtvprimer.com/ANTENNAS/comparing.html

Holl_ands has done a lot of modelling (using 4nec2), including the
new CM4228HD (this page has his 4nec2 model files):

http://imageevent.com/holl_ands/multibay/8bayrefl/cm4228hd

| http://www.digitalhome.ca/forum/showthread.php?t=95467

Also on that site is an entire forum thread for modifying the
new CM4228HD:

http://www.digitalhome.ca/forum/showthread.php?t=103749

John, further searching should turn up more information and details.
AFAIR, the reflector on the new model facilitates reception on the
VHF-hi band, which may or may not be sufficient (it is, afterall,
designed for the UHF band). Too, there are a lot of DIY options...

Best Regards,
Chuck

4194. Grounding An Antenna Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-02 11:14:07 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i8746g$br6$1@news.eternal-september.org>
Source record: 7294

Hello,

I have the normal lightning arresters for my outside (receive only)
antenna, but am still worried.

It has proven just about impossible to have my son to remember to
disconnect my receiver when lightning and thunder is nearby when I am away.

Was thinking about putting in one of those A/B switches (please see:
http://www.grove-ent.com/SWC01.html) that Grove sells in the antenna
line next to my Receiver.

This, being so simple, perhaps he can remember to switch to the Off
position. Maybe ?

I realize that if there is any strike nearby, and it gets thru the
arrestors, this switch being in the off position isn't going to do much
of anything.

But it might help for "low" voltage surges, etc.
What do you think ?

My main question: would it help even more if this Off position grounded
the antenna ?

Thanks,
Bob

4195. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-02 11:28:36 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <i87513$9th$1@tioat.net>
Source record: 7295

On 10/01/2010 06:13 PM, Jim Lux wrote:
> Owen wrote:
>> On 01/10/10 07:44, Jim Lux wrote:
>>>
> A bigger effect on a phased array is the relative phasing. For a 4
> element array, you can have pretty big errors in phase on transmit
> without changing the forward gain much (30 degree phase error on one
> element might give you a 1dB change). But a 30 degree phase error on
> receive could turn a -30dB null into a -7dB one..
>

How come ?
Can you elaborate how can these differences happen ?

Thanks
--
Ing. Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4196. Re: Grounding An Antenna Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-02 12:18:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <29a162c8-59b7-4daa-8ed5-22ba0fc51c9d@h7g2000yqn.googlegroups.com>
Source record: 7296

On Oct 2, 11:14 am, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> I have the normal lightning arresters for my outside (receive only)
> antenna, but am still worried.
>
> It has proven just about impossible to have my son to remember to
> disconnect my receiver when lightning and thunder is nearby when I am away.
>
> Was thinking about putting in one of those A/B switches (please
see:http://www.grove-ent.com/SWC01.html) that Grove sells in the antenna
> line next to my Receiver.
>
> This, being so simple, perhaps he can remember to switch to the Off
> position. Maybe ?
>
> I realize that if there is any strike nearby, and it gets thru the
> arrestors, this switch being in the off position isn't going to do much
> of anything.
>
> But it might help for "low" voltage surges, etc.
> What do you think ?
>
> My main question: would it help even more if this Off position grounded
> the antenna ?
>
> Thanks,
> Bob

well, if your son can't remember then why don't you just disconnect
when you leave. i tried having my dog disconnect, but he has a poor
memory for that also and usually hides under the table when there is
thunder.

otherwise, if you don't trust the lightning arrester you have, why
have it? if it doesn't stop the transient then any switch inside
probably won't either. grounding again inside is also a problem, if
the current is inside already then sending it to another ground
probably won't help, it will just go somewhere else.

4197. Re: Grounding An Antenna Question ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-02 15:21:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b9jea6935r3b17vvegqfusv7bquaihvvjr@4ax.com>
Source record: 7297

On Sat, 02 Oct 2010 07:14:07 -0400, Bob <rgsros@notme.invalid> wrote:

>I have the normal lightning arresters for my outside (receive only)
>antenna, but am still worried.

Hi Bob,

Research this group through Google for methods of building a grounded antenna: loop, shunt-fed, folded dipole/monopole, etc.

OR

Build an electronic switchable antenna switch (AKA relay) that is only connected to your antenna when someone's butt is planted in the chair.

73's
Richard Clark, KB7QHC

4198. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-02 22:12:17 UTC
From: Jim Lux <jimlux@earthlink.net>
Message-ID: <5b933dce-c697-4fcc-9b3b-1cfecf59fb15@s24g2000pri.googlegroups.com>
Source record: 7298

On Oct 2, 4:28 am, Alejandro Lieber <alejan...@Use-Author-Supplied-
Address.invalid> wrote:
> On 10/01/2010 06:13 PM, Jim Lux wrote:
>
> > Owen wrote:
> >> On 01/10/10 07:44, Jim Lux wrote:
>
> > > A bigger effect on a phased array is the relative phasing. For a 4
> > > element array, you can have pretty big errors in phase on transmit
> > > without changing the forward gain much (30 degree phase error on one
> > > element might give you a 1dB change). But a 30 degree phase error on
> > > receive could turn a -30dB null into a -7dB one..
>
> How come ?
> Can you elaborate how can these differences happen ?
>

it's the difference between the effect on a peak vs effect on a null.

consider a simple 2 element array.. for sake of argument, say it's 1/4 wavelength apart and phased 90 degrees, so it has a cardioid pattern.... a gain of 2 in one direction (where the signals from the two antennas align), and a gain of zero in the opposite direction. The gain is 1+cos(phi - spacing*cos(theta)) where phi is the feed phasing, and theta is the direction.. in the preferred direction
1+cos(90 - 90*cos(0)) = 1+cos(0) = 2
in the 45 degree direction: 1+cos(90-90*cos(45)) = 1+cos(90-90*.707) = 1.895
in the 90 degree direction: 1+cos(90-90*cos(90)) = 1+cos(90) = 1
in the 180 degree direction: 1+cos(90-90*cos(180)) = 1+cos(90-90*-1) = 1+cos(180) = 0

Now spoil the feed phase (phi) by 10 degrees... (80
on boresight: 1+cos(80-90*cos(0)) = 1+cos(-10) = 1.984
on 45: 1+cos(80-90*cos(45)) = 1.959
on 90: 1+cos(80-90*cos(90)) = 1.174
at 180: 1+cos(80-90*cos(180)) = 1+cos(80+90) = 1.52E-2

The gain on boresight didn't change much... from 2 to 1.984 (0.03dB)
But the null in the back came up from zero to 1.5E-2.. (instead of -infinity, it's now -18dB)

Change the phase error to 45 degrees...)
@theta=0: 1+cos(45-90*cos(0)) = 1.707
@theta=180: 1+cos(45-90*cos(180)) = .292

So, from the 10 degree error case, the forward gain went from 1.984 to 1.707, about 0.6dB...
but the null went from 1.52E-2 to .292 (from -17dB to -5 dB)..

The thing to remember on any gain antenna is that it takes very little power to disrupt a null (after all, a -30dB null means that if you're radiating 1kW in the forward direction, you're radiating 1 W in the null.. so just another watt will double the energy in the null, turning it from -30dB to -27dB...)

(And, you can see why making antennas with sidelobes <-60dB is VERY challenging...)

Now, change the phasing to, say, 80 degrees.. in the preferred direction, the gain is now 1+cos(10degrees)

4199. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 01:38:46 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <dsmfa65a6e83go2ddurmchcjq1o6mfdbng@4ax.com>
Source record: 7299

On Sat, 2 Oct 2010 01:23:57 +0000 (UTC), seeger@rain.cise.ufl.edu
(Charles Seeger) wrote:

>In article <rp5ca6pdc8kdbb7mdjbsitos8mqa9gg0cv@4ax.com>,
>John Ferrell <jferrell13@triad.rr.com> wrote:
>|
>| I would like to model the Channel Master CM4228HD Antenna with EZNEC.
>| It looks like a good deal to me at its price.
>
>Ken Nist (KQ6QV) has done a lot of TV antenna modelling with EZNEC,
>and many of his antenna models (*.ez) are available on this page:
>
> http://www.hdtvprimer.com/SIMS/
>
>However, the CM4228a.ez on that page probably is the old CM4228 rather
>than the new CM4228HD. His page analyzing the new CM4228HD antenna is:
>
> http://www.hdtvprimer.com/ANTENNAS/TemporaryPage.html
>
>His main page comparing commercially available antennas is:
>
> http://www.hdtvprimer.com/ANTENNAS/comparing.html
>
>Holl_ands has done a lot of modelling (using 4nec2), including the
>new CM4228HD (this page has his 4nec2 model files):
>
> http://imageevent.com/holl_ands/multibay/8bayrefl/cm4228hd
>
>| http://www.digitalhome.ca/forum/showthread.php?t=95467
>
>Also on that site is an entire forum thread for modifying the
>new CM4228HD:
>
> http://www.digitalhome.ca/forum/showthread.php?t=103749
>
>John, further searching should turn up more information and details.
>AFAIR, the reflector on the new model facilitates reception on the
>VHF-hi band, which may or may not be sufficient (it is, afterall,
>designed for the UHF band). Too, there are a lot of DIY options...
>
>Best Regards,
>Chuck
Thank you!

I am going to have to spend some time with these. My EZNEC + 5 does not like all of the .EZ files but there is plenty of meat there to be dissected. My interests are academic in the antennas. I don't spend much time watching TV these days.

I have not looked for .ez file examples for a while on the net. When last I looked, most of the sites I found were only interested in selling models. Being an old time frugal Ham I am very cautious with my hobby dollars!

John Ferrell W8CCW

4200. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 02:10:49 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i88oo1$h6q$1@news.eternal-september.org>
Source record: 7300

On 10/2/2010 6:38 PM, John Ferrell wrote:

> ...
> I have not looked for .ez file examples for a while on the net. When
> last I looked, most of the sites I found were only interested in
> selling models. Being an old time frugal Ham I am very cautious with
> my hobby dollars!
>
>
> John Ferrell W8CCW

Remember the first set you made from the scavenged parts of old radios and TV's? Remember the excitment of your first piece of old military gear, reworked and placed into service? Remember mail ordering tuning caps, filtering caps, tubes for that first big amp?

Good on you mate! Those were the days when amateurs were hams and men were men--heck, even the boys back then were men by todays' standards!

Sounds like you had it right, did it right, and are still doing it right--to me!

Regards,
JS

4201. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 11:46:24 UTC
From: Frank <frank@spamfree.telus.net>
Message-ID: <k2_po.1159$u9.578@edtnps82>
Source record: 7151

"John Ferrell" <jferrell13@triad.rr.com> wrote in message
news:rp5ca6pdc8kdbb7mdjbsitos8mqa9gg0cv@4ax.com...
>I would like to model the Channel Master CM4228HD Antenna with EZNEC.
> It looks like a good deal to me at its price.
>
> I need screen to Bow ties distance
>
> length of bow ties
>
> I think the distance between the bowties will be either 1/4 or 1/2
> wave (from picture)
>
> I think the included angle in each of the bow ties is about 30 degrees
> as pictured.
>
> The phasing lines are obvious from the picture.
>
> There is a picture at
> http://www.digitalhome.ca/forum/showthread.php?t=95467
>
> Of course I will share the model!
>
> John Ferrell W8CCW

The following NEC code is for a measured 2 bay bow-tie. Should be the
same as an 8 bay model.

Frank (VE6CB)

```
CM UHF TV Antenna (Measured dimensions).
CE
GW 1 12 0 1 0.25 0 7 1.5 0.081
GM 1 1 0 180 0 0 0 0
GM 2 1 0 0 180 0 0 0
GM 4 1 0 0 0 0 0 8 ! End of two dipole array.
GW 9 17 0 1 -0.25 0 1 8.25 0.081 ! Parallel transmission line.
GW 10 17 0 -1 -0.25 0 -1 8.25 0.081 ! Parallel transmission line.
GW 11 4 0 -1 4.25 0 1 4.25 0.081 ! Feedpoint segment.
GW 12 36 -8 -9 -2 -8 9 -2 0.081 ! First horizontal grid element
GM 1 12 0 0 0 0 0 1 12 1 12 36 ! Creats 12 horizontal grid elements
GW 25 24 -8 -9 -2 -8 -9 10 0.081 ! First vertical grid element
GM 1 9 0 0 0 0 2 0 25 1 25 24 ! Creats 9 vertical grid elements
GM 0 0 0 0 0 0 0 120 ! Moves entire structure 10 ft high
GS 0 0 0.025400
GE 1 -1 0
```

```
GN 2 0 0 0 13.0000 0.0050
FR 0 1 0 0 635 1
EX 0 11 2 0 1 0
LD 5 0 0 0 2.5E7
RP 0 1801 1 1000 -90 0 0.10000 1.00000
EN
```

4202. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 12:26:19 UTC
From: Cannuck <abra@cadabra.com>
Message-ID: <gD_po.13149$Sk.8654@newsfe16.iad>
Source record: 7152

I enjoy making my antennas also

But this 8bay hd antenna is pretty cheap. I see it for pick up at 69 dollars
in Toronto. Plus some taxes of course but looks like a pretty solid antenna
for that price. I cannot imagine how much time one would spend getting all
the parts then assembling. I think just too easy to buy today.

Good luck with the build.
I am going to buy two tomorrow, throw them on the tower and be done with it.

"Frank" <frank@spamfree.telus.net> wrote in message
news:k2_po.1159$u9.578@edtnps82...
>
> "John Ferrell" <jferrell13@triad.rr.com> wrote in message
> news:rp5ca6pdc8kdbb7mdjbsitos8mqa9gg0cv@4ax.com...
>>I would like to model the Channel Master CM4228HD Antenna with EZNEC.
>> It looks like a good deal to me at its price.
>>
>> I need screen to Bow ties distance
>>
>> length of bow ties
>>
>> I think the distance between the bowties will be either 1/4 or 1/2
>> wave (from picture)
>>
>> I think the included angle in each of the bow ties is about 30 degrees
>> as pictured.
>>
>> The phasing lines are obvious from the picture.
>>
>> There is a picture at
>> http://www.digitalhome.ca/forum/showthread.php?t=95467
>>
>> Of course I will share the model!
>>
>> John Ferrell W8CCW
>
> The following NEC code is for a measured 2 bay bow-tie. Should be the
> same as an 8 bay model.
>
> Frank (VE6CB)
>
>
> CM UHF TV Antenna (Measured dimensions).
> CE

```
> GW 1 12 0 1 0.25 0 7 1.5 0.081
> GM 1 1 0 180 0 0 0 0
> GM 2 1 0 0 180 0 0 0
> GM 4 1 0 0 0 0 0 8 ! End of two dipole array.
> GW 9 17 0 1 -0.25 0 1 8.25 0.081 ! Parallel transmission line.
> GW 10 17 0 -1 -0.25 0 -1 8.25 0.081 ! Parallel transmission line.
> GW 11 4 0 -1 4.25 0 1 4.25 0.081 ! Feedpoint segment.
> GW 12 36 -8 -9 -2 -8 9 -2 0.081 ! First horizontal grid element
> GM 1 12 0 0 0 0 0 1 12 1 12 36 ! Creats 12 horizontal grid elements
> GW 25 24 -8 -9 -2 -8 -9 10 0.081 ! First vertical grid element
> GM 1 9 0 0 0 0 2 0 25 1 25 24 ! Creats 9 vertical grid elements
> GM 0 0 0 0 0 0 0 120 ! Moves entire structure 10 ft high
> GS 0 0 0.025400
> GE 1 -1 0
> GN 2 0 0 0 13.0000 0.0050
> FR 0 1 0 0 635 1
> EX 0 11 2 0 1 0
> LD 5 0 0 0 2.5E7
> RP 0 1801 1 1000 -90 0 0.10000 1.00000
> EN
>
>
```

4203. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 14:30:26 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <b94ha6d1ena175q2o371p9d9l6dqin0esg@4ax.com>
Source record: 7153

On Sun, 3 Oct 2010 08:26:19 -0400, "Cannuck" <abra@cadabra.com> wrote:

>I enjoy making my antennas also
>
>But this 8bay hd antenna is pretty cheap. I see it for pick up at 69 dollars
>in Toronto. Plus some taxes of course but looks like a pretty solid antenna
>for that price. I cannot imagine how much time one would spend getting all
>the parts then assembling. I think just too easy to buy today.
>
>Good luck with the build.
>I am going to buy two tomorrow, throw them on the tower and be done with it.
>
I am inclined to agree with you. I expect this to be my recomendation
for the folks around me who are looking for an antenna for HD.

However, there is this young fellow who is bent on building his own.
Given that he just might execute this project and then move on to more
antenna projects, I think I owe it to my early mentors to cultivate
his curiousity.

Perhaps acquiring this antenna and using it's performance as an
objective for diy models will fit well.

I am a Channel Master fan. I don't think you can beat their
price/perfomance in any of their products.
John Ferrell W8CCW

4204. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 14:34:53 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <6t4ha657fn4ass3eg48pp7lvt5k5ke25tt@4ax.com>
Source record: 7154

On Sun, 03 Oct 2010 11:46:24 GMT, "Frank" <frank@spamfree.telus.net>
wrote:

>
>"John Ferrell" <jferrell13@triad.rr.com> wrote in message
>news:rp5ca6pdc8kdbb7mdjbsitos8mqa9gg0cv@4ax.com...
>>I would like to model the Channel Master CM4228HD Antenna with EZNEC.
>> It looks like a good deal to me at its price.
>>
>> I need screen to Bow ties distance
>>
>> length of bow ties
>>
>> I think the distance between the bowties will be either 1/4 or 1/2
>> wave (from picture)
>>
>> I think the included angle in each of the bow ties is about 30 degrees
>> as pictured.
>>
>> The phasing lines are obvious from the picture.
>>
>> There is a picture at
>> http://www.digitalhome.ca/forum/showthread.php?t=95467
>>
>> Of course I will share the model!
>>
>> John Ferrell W8CCW
>
>The following NEC code is for a measured 2 bay bow-tie. Should be the
>same as an 8 bay model.
>
>Frank (VE6CB)
>
>
>CM UHF TV Antenna (Measured dimensions).
>CE
>GW 1 12 0 1 0.25 0 7 1.5 0.081
>GM 1 1 0 180 0 0 0 0
>GM 2 1 0 0 180 0 0 0
>GM 4 1 0 0 0 0 0 8 ! End of two dipole array.
>GW 9 17 0 1 -0.25 0 1 8.25 0.081 ! Parallel transmission line.
>GW 10 17 0 -1 -0.25 0 -1 8.25 0.081 ! Parallel transmission line.
>GW 11 4 0 -1 4.25 0 1 4.25 0.081 ! Feedpoint segment.
>GW 12 36 -8 -9 -2 -8 9 -2 0.081 ! First horizontal grid element

```
>GM 1 12 0 0 0 0 0 1 12 1 12 36 ! Creats 12 horizontal grid elements
>GW 25 24 -8 -9 -2 -8 -9 10 0.081 ! First vertical grid element
>GM 1 9 0 0 0 0 2 0 25 1 25 24 ! Creats 9 vertical grid elements
>GM 0 0 0 0 0 0 0 120 ! Moves entire structure 10 ft high
>GS 0 0 0.025400
>GE 1 -1 0
>GN 2 0 0 0 13.0000 0.0050
>FR 0 1 0 0 635 1
>EX 0 11 2 0 1 0
>LD 5 0 0 0 2.5E7
>RP 0 1801 1 1000 -90 0 0.10000 1.00000
>EN
>
```

This example may be what it takes to get me to get onboard with NEC.
EZNEC has me spoiled!

So little time and so many projects...

I love my busy, cluttered life and all the puzzles to solve!
John Ferrell W8CCW

4205. Re: how to cut whip of 2 meter antenna ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 19:57:50 UTC
From: Steve <kenwood1701@hotmail.com>
Message-ID: <4ca8e024$0$31278$607ed4bc@cv.net>
Source record: 7155
Cross-posted to: alt.ham-radio,alt.ham-radio.vhf-uhf,rec.radio.amateur.antenna

For the best cut I use a hand Phaser

73

Panzer240 wrote:

>"James" <jnipperxxx@nospamfdn.com> wrote in
>news:VsednRfMq7Up3d7RnZ2dnUVZ_uadnZ2d@posted.localnet:
>
>
>
>>
>>
>>
>
>When I worked in the Mobile radio business as a tech, we used to use a small
>triangular file. Score the whip with it and then take a pair of lineman's
>pliers and just snap it off. Quick and simple.
>
>
>

4206. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 22:31:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E0760D418658nonenowhere@61.9.134.55>
Source record: 7156

Mark wrote:

> I always think in terms of wavelength when calculating
> the approximate efficiency of an elevated radial set.
> For instance, three radials at 1/2 wave up will be pretty
> much equal to about 120 on the ground.
> Three at 1/4 wave will be equal to about 50-60 on the ground.
> Three at 1/8 wave might be equal to 15-20 on the ground.
> Three at cigarette pack height will be equal to about twice
> as many as actually used at best. "slightly guessing
> on that one, but my real world tests seem to pretty much
> agree".
> So being as the increase is fairly small at such low heights
> in wavelength, it is probably practical to just bury them so
> people won't trip over them.. :/

I have explored what you have said in an NEC4 model of a quarter wave monopole with three quarter wave radials at varying heights over 'average ground'. The results are summarised at http://www.vk1od.net/lost/Clip053a.png . The reference for the graph is the efficiency of the same antenna with 120 buried radials in the same soil type.

If the models are correct, laying just a few radials on or very close to the ground (eg the popular method of pinned into the turf) would appear to be a very poor option. The model indicates efficiency improves with a very small increase in height above the dirt, just 30mm is a 6dB improvement of lying on the dirt, just half a metre achieves 90% of the available efficiency.

Owen

4207. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 22:57:48 UTC
From: danny <k6mhe@k6mhe.net>
Message-ID: <i8b1pc0uln@news2.newsguy.com>
Source record: 7157

On Sun, 03 Oct 2010 22:31:07 +0000, Owen Duffy wrote:
>
> I have explored what you have said in an NEC4 model of a quarter wave
> monopole with three quarter wave radials at varying heights over
> 'average ground'. The results are summarised at
> http://www.vk1od.net/lost/Clip053a.png . The reference for the graph is
> the efficiency of the same antenna with 120 buried radials in the same
> soil type.
>
> If the models are correct, laying just a few radials on or very close to
> the ground (eg the popular method of pinned into the turf) would appear
> to be a very poor option. The model indicates efficiency improves with a
> very small increase in height above the dirt, just 30mm is a 6dB
> improvement of lying on the dirt, just half a metre achieves 90% of the
> available efficiency.
>
> Owen

Owen,

Based upon your findings above, have you thought of increasing the height
of your model to determine at what height would be necessary to equal the
same efficiency as your 120 radial reference?

Danny, K6MHE

4208. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 23:28:31 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E076A8FC312Cnonenowhere@61.9.134.55>
Source record: 7158

danny <k6mhe@k6mhe.net> wrote in news:i8b1pc0uln@news2.newsguy.com:

> Owen,
>
> Based upon your findings above, have you thought of increasing the
> height of your model to determine at what height would be necessary to
> equal the same efficiency as your 120 radial reference?

I don't think it is a simple as that Danny. With sufficient height, the pattern changes significantly and so you cannot compare the antennas on efficiency alone.

It might seem intuitive that a ground plane a very long distance (say km) above earth would approach 100% efficiency, and we tend to assume that for VHF ground planes many wavelengths above ground, the model does not indicate that. At sufficient horizontal distance above flat earth, some rays must reflect off the ground and so warm to soil to some extent, no matter how high the antenna.

The study was more to answer the question whether elevated radials were effective, and how high they needed to achieve similar performance. The model suggests that just three radials at 2m height is about 1dB down on 120 buried radials, or about 90% of the efficiency or EIRP (since patterns are almost identical).

Owen

4209. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-03 23:32:51 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <i8b3r3$5uu$1@tioat.net>
Source record: 7159

On 10/03/2010 07:31 PM, Owen Duffy wrote:
>
> I have explored what you have said in an NEC4 model of a quarter wave
> monopole with three quarter wave radials at varying heights over 'average
> ground'. The results are summarised at
> http://www.vk1od.net/lost/Clip053a.png . The reference for the graph is
> the efficiency of the same antenna with 120 buried radials in the same
> soil type.
>
> If the models are correct, laying just a few radials on or very close to
> the ground (eg the popular method of pinned into the turf) would appear
> to be a very poor option. The model indicates efficiency improves with a
> very small increase in height above the dirt, just 30mm is a 6dB
> improvement of lying on the dirt, just half a metre achieves 90% of the
> available efficiency.
>
> Owen

Thanks Owen for the Clip053a.png
The results are just amazing.

But I just cann't understand why the current in the radials, don't
induce a significant current in the earth, that ends as an important
lost power.
--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4210. Re: Channel Master CM4228HD Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 00:05:55 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <IISdneR8rr7_hzTRnZ2dnUVZ_v6dnZ2d@bright.net>
Source record: 7160

Dear John: Well said.
Last year, a colleague (also a radio amateur) had his EE class design a UHF (14-52) antenna using EZNEC, then construct the antenna, and then he took the resulting antennas to an antenna range for testing (he had a grant to cover the cost including cost of EZNEC).
The design of an antenna to cover not only 14-52, but also 7-13 is more of a challenge. In this area, we have one station in the 7-13 range. I use a Wineguard HD1080, which is a two bay with extensions on each fat dipole. A second colleague with an antenna that was in bad shape after 30 years, just replaced the old antenna with an Antenna Craft HBU33 with a huge jump in signal and significant reduction in wind load.
Channel Master is good too. Much discussion exists - as has been observed - about the 4228.

Obviously, it is improbable to have an eight bay antenna realize its theoretical gain over the BW needed. I would stop with four.
73, Mac N8TT
--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"John Ferrell" <jferrell13@triad.rr.com> wrote in message news:b94ha6d1ena175q2o371p9d9l6dqin0esg@4ax.com...
> On Sun, 3 Oct 2010 08:26:19 -0400, "Cannuck" <abra@cadabra.com> wrote:
>
>>I enjoy making my antennas also
>>
>>But this 8bay hd antenna is pretty cheap. I see it for pick up at 69
>>dollars
>>in Toronto. Plus some taxes of course but looks like a pretty solid
>>antenna
>>for that price. I cannot imagine how much time one would spend getting all
>>the parts then assembling. I think just too easy to buy today.
>>
>>Good luck with the build.
>>I am going to buy two tomorrow, throw them on the tower and be done with
>>it.
>>
> I am inclined to agree with you. I expect this to be my recomendation
> for the folks around me who are looking for an antenna for HD.
>
> However, there is this young fellow who is bent on building his own.
> Given that he just might execute this project and then move on to more
> antenna projects, I think I owe it to my early mentors to cultivate
> his curiousity.

>
> Perhaps acquiring this antenna and using it's performance as an
> objective for diy models will fit well.
>
> I am a Channel Master fan. I don't think you can beat their
> price/perfomance in any of their products.
> John Ferrell W8CCW

4211. Is a screw driver antenna just a tuner with a wire attached to it?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 01:40:58 UTC
From: Professor <sjdeines@gmail.com>
Message-ID: <28bb1fc0-6b69-4023-80c5-57fd0b0def03@j18g2000yqd.googlegroups.com>
Source record: 7161

Is a Screw Driver antenna nothing more than an antenna tuner you mount
to a vehicle with a piece of wire attached to it?

4212. Re: Is a screw driver antenna just a tuner with a wire attached to it?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 01:49:26 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8bbr7$8dh$4@news.eternal-september.org>
Source record: 7162

On 10/3/2010 6:40 PM, Professor wrote:
> Is a Screw Driver antenna nothing more than an antenna tuner you mount
> to a vehicle with a piece of wire attached to it?

The first screwdriver antenna was homebrewed using a cheap cordless
screwdriver to adjust match ...

But, a real screwdriver antenna is one you have to get out and adjust
with a screwdriver every time you go over a big bump ... or it rains ...
or a bit of corrosion happens ... <straight face>

Regards,
JS

4213. FA: Vintage Ham Radio Gear ... super nice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 04:16:36 UTC
From: OldGold <sharknews@aol.com>
Message-ID: <6ae08da3-d51e-49df-ac45-df4dcf35b5cd@n3g2000yqb.googlegroups.com>
Source record: 7163

I have the all the gear from a vintage Ham Shack for auction. Mostly vintage Drake gear. Really super clean and nice.

Drake L - 4 B Linear Amplifier + L-4 PS Power

Drake MN - 2000 Matching Network ~ Ham

Drake R-4C Ham Receiver

Drake T-4XC Transmitter ~ Ham

DRAKE FS4 SYNTHESIZER ~ Ham

Drake MS-4 Speaker + Drake AC-4 Power Supply

CDE Transmit Receive Direction Control ~ Ham

Shure model 444 Base Microphone Ham

Follow the link for photos and a full descriptions of each piece of gear....

http://members.ebay.com/ws/eBayISAPI.dll?ViewUserPage&userid=iam30

Thanks

4214. Re: FA: Vintage Ham Radio Gear ... super nice

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 06:14:40 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8brci$5ng$2@news.eternal-september.org>
Source record: 7164

On 10/3/2010 9:16 PM, OldGold wrote:

> ...
> http://members.ebay.com/ws/eBayISAPI.dll?ViewUserPage&userid=iam30
>
>
> Thanks

The picture of the drake amp sure brings back memories from the 70's. If I remember correctly, about 600 watts am was about all you expect from the amp when using a sane drive and 1KW input. (something I rarely did back then)

A solid amp, but was made obsolete with the high power mosfet amps coming out in the 80's. The first homebrew 1KW amp I ran was ~85% efficient, 850w am out on 1KW in ... and if you take filament power into consideration, the drake was simply blown away by advancements in efficiency ...

Still, an excellent collectors item and the one in the pics looks like it was well taken care of ... however, I wonder about the state of the 3-500Z's ... they are getting expensive and in shorter supply, at least around my area.

Regards,
JS

4215. Re: Is a screw driver antenna just a tuner with a wire attached to it?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 11:25:35 UTC
From: Conor <conor@gmx.co.uk>
Message-ID: <8gtrteFa10U2@mid.individual.net>
Source record: 7165

On 04/10/2010 02:40, Professor wrote:
> Is a Screw Driver antenna nothing more than an antenna tuner you mount
> to a vehicle with a piece of wire attached to it?

No.

--
Conor

I'm not prejudiced. I hate everyone equally.

4216. Re: Is a screw driver antenna just a tuner with a wire attached to it?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 14:12:23 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <5emja6ln07gm60189qhnm847l7ge09o1l3@4ax.com>
Source record: 7166

On Sun, 3 Oct 2010 18:40:58 -0700 (PDT), Professor
<sjdeines@gmail.com> wrote:

>Is a Screw Driver antenna nothing more than an antenna tuner you mount
>to a vehicle with a piece of wire attached to it?

Sort of.

After you accept that as the objective the clean up involves:
Physical details ... rugged beyond belief, small enough to be
acceptable... maintainable...weatherproof... under daily hurricane
conditions... affordable materials

install issues... different vehicles require a lot of flexibility in
mounting.

I have a project underway where I expect to have a Homebrew T-Match
tuner at the base of a vertical antenna at my QTH. I plan to drive
the mechanics with three $10 electric screwdrivers. Locating the
tuner at the antenna will allow the feed line to operate at a low SWR
which will keep feed line losses to a minimum and rf out of the shack.
Since the contraption will be in the garden shed most of the difficult
aspects of a vehicle mounted screwdriver antenna will be out flanked.

If you sit down and plan it through I expect you will conclude that
the only reasons that you might have to homebrew a vehicle mounted
Home brew Screwdriver antenna is that you have excess time and
materials or you think you can improve on the commercial offerings.

Sometimes my only real motivation is that I have to homebrew an item
before I can fully appreciate the commercial offerings!

BTW, an SGC-237 tuner and a 28 foot whip will tune all of the HF ham
bands automatically and fast! That set up will cost a lot more than a
commercial screwdriver but you can consider that as an ideal
arrangement and compromise your way back from there.

Good Luck,

John Ferrell W8CCW

4217. Re: Is a screw driver antenna just a tuner with a wire attached to it?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 18:15:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4bb6626c-a18e-466a-8f1c-78e2780b1113@k10g2000yqa.googlegroups.com>
Source record: 7167

On Oct 4, 9:12 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> BTW, an SGC-237 tuner and a 28 foot whip will tune all of the HF ham
> bands automatically and fast! ... you can consider that as an ideal
> arrangement ...

The feedpoint impedance of a 28 foot whip on 3.8 MHz is ~5-j620 ohms (according to EZNEC) which means considerable tuner/ground losses (~9dB) = not ideal IMO, compared to a 1/4WL monopole. If one wants reasonable performance on 80m, best to stick with not much less than 3/16WL = ~46'.

The Take-Off-Angle of a 28 foot whip on 28.4 MHz is ~43 degrees = not ideal IMO, compared to a 5/8WL monopole. If one wants reasonable performance on 10m, best to stick with not much more than 5/8WL = ~23'.

There's no single monopole length that is optimum from 3.5 MHz to 29 MHz. Just about the best compromise we can reach with an autotuner at the base, IMO, is the 46' monopole for 80m-20m operation or the 23' monopole for 40m-10m operation.
--
73, Cecil, w5dxp.com

4218. Re: Is a screw driver antenna just a tuner with a wire attached to it?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 20:01:26 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i8dbqm$r76$1@news.jpl.nasa.gov>
Source record: 7168

Cecil Moore wrote:
> On Oct 4, 9:12 am, John Ferrell <jferrel...@triad.rr.com> wrote:
>> BTW, an SGC-237 tuner and a 28 foot whip will tune all of the HF ham
>> bands automatically and fast! ... you can consider that as an ideal
>> arrangement ...
>
> The feedpoint impedance of a 28 foot whip on 3.8 MHz is ~5-j620 ohms
> (according to EZNEC) which means considerable tuner/ground losses
> (~9dB) = not ideal IMO, compared to a 1/4WL monopole. If one wants
> reasonable performance on 80m, best to stick with not much less than
> 3/16WL = ~46'.
>
> The Take-Off-Angle of a 28 foot whip on 28.4 MHz is ~43 degrees = not
> ideal IMO, compared to a 5/8WL monopole. If one wants reasonable
> performance on 10m, best to stick with not much more than 5/8WL =
> ~23'.
>
> There's no single monopole length that is optimum from 3.5 MHz to 29
> MHz. Just about the best compromise we can reach with an autotuner at
> the base, IMO, is the 46' monopole for 80m-20m operation or the 23'
> monopole for 40m-10m operation.
>

Which is why the whips that SGC sells (and others use) are typically two monopoles in one.. I have fairly good luck with a 9ish foot CB whip with about 25-30 feet of wire roughly spiraled up it. The precise length isn't real critical, as long as you don't wind up with an anti-resonance in a ham band making it hard to match.

4219. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 22:45:37 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <i8dlehrvk1@tioat.net>
Source record: 7169

On 10/02/2010 07:12 PM, Jim Lux wrote:
> On Oct 2, 4:28 am, Alejandro Lieber<alejan...@Use-Author-Supplied-
> Address.invalid> wrote:
>> On 10/01/2010 06:13 PM, Jim Lux wrote:
>>
>>> Owen wrote:
>>>> On 01/10/10 07:44, Jim Lux wrote:
>>
>>> A bigger effect on a phased array is the relative phasing. For a 4
>>> element array, you can have pretty big errors in phase on transmit
>>> without changing the forward gain much (30 degree phase error on one
>>> element might give you a 1dB change). But a 30 degree phase error on
>>> receive could turn a -30dB null into a -7dB one..
>>
>> How come ?
>> Can you elaborate how can these differences happen ?
>>
>
> it's the difference between the effect on a peak vs effect on a null.
>
> consider a simple 2 element array.. for sake of argument, say it's 1/4
> wavelength apart and phased 90 degrees, so it has a cardioid
> pattern.... a gain of 2 in one direction (where the signals from the
> two antennas align), and a gain of zero in the opposite direction.
> The gain is 1+cos(phi - spacing*cos(theta)) where phi is the feed
> phasing, and theta is the direction.. in the preferred direction
> 1+cos(90 - 90*cos(0)) = 1+cos(0) = 2
> in the 45 degree direction: 1+cos(90-90*cos(45)) = 1+cos(90-90*.707) =
> 1.895
> in the 90 degree direction: 1+cos(90-90*cos(90)) = 1+cos(90) = 1
> in the 180 degree direction: 1+cos(90-90*cos(180)) = 1+cos(90-90*-1) =
> 1+cos(180) = 0
>
> Now spoil the feed phase (phi) by 10 degrees... (80
> on boresight: 1+cos(80-90*cos(0)) = 1+cos(-10) = 1.984
> on 45: 1+cos(80-90*cos(45)) = 1.959
> on 90: 1+cos(80-90*cos(90)) = 1.174
> at 180: 1+cos(80-90*cos(180)) = 1+cos(80+90) = 1.52E-2
>
> The gain on boresight didn't change much... from 2 to 1.984 (0.03dB)
> But the null in the back came up from zero to 1.5E-2.. (instead of -
> infinity, it's now -18dB)
>
> Change the phase error to 45 degrees...)

> @theta=0: 1+cos(45-90*cos(0)) = 1.707
> @theta=180: 1+cos(45-90*cos(180)) = .292
>
> So, from the 10 degree error case, the forward gain went from 1.984 to
> 1.707, about 0.6dB...
> but the null went from 1.52E-2 to .292 (from -17dB to -5 dB)..
>
>
> The thing to remember on any gain antenna is that it takes very little
> power to disrupt a null (after all, a -30dB null means that if you're
> radiating 1kW in the forward direction, you're radiating 1 W in the
> null.. so just another watt will double the energy in the null,
> turning it from -30dB to -27dB...)
>
> (And, you can see why making antennas with sidelobes<-60dB is VERY
> challenging...)
>
>
> Now, change the phasing to, say, 80 degrees.. in the preferred
> direction, the gain is now 1+cos(10degrees)

Thank you Jim for the explanation. Sorry I wasn't more specific.
I was refering to the difference between receiving and transmiting gain.
--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4220. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 23:20:27 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i8dnfr$4i2$1@news.jpl.nasa.gov>
Source record: 7171

Alejandro Lieber wrote:
>
> Thank you Jim for the explanation. Sorry I wasn't more specific.
> I was refering to the difference between receiving and transmiting gain.

The gain effect is the same, but for a lot of radio applications, gain
is important on transmit, but less so on receive, where good back/side
performance (e.g. low gain in undesired directions) is important.

That is, my transmitter doesn't care about a strong interfering signal
from a different direction, but my receiver sure does.

4221. Re: Problem matching real Log Periodic to NEC

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-04 23:31:09 UTC
From: Dave D <xray66@earthlink.net>
Message-ID: <831abb3f-7580-4119-b225-5793bbb95fcc@i4g2000prf.googlegroups.com>
Source record: 7170

I'll try to get a shot Helmut...

Well, I tried the 61 material ferrites, and it lowered the SWR significantly. No matter where/how the cable comes off, it appears to work best right behind the feed point. Only one of the large 1" ones seems to be needed. I tried adding more, but it didn't really make a difference. It's still not perfect, but it's way better than it was before.

4222. Feed to a folded dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 00:43:51 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <e060ba9b-fb0e-4ffd-bad0-beee278d4daf@26g2000yqv.googlegroups.com>
Source record: 7172

Hi

I'm anticipating converting my coax fed, ninety foot long, folded terminated dipole to a ladder line fed folded dipole, without a terminating resister, fed using an Icom AH-4 antenna coupler. Am I correct in believing that the best ladder line to use for that purpose would be the 300 Ohm type to match the nominal impedance of the folded dipole itself.

--
Tom Horne, W3TDH

4223. Re: Feed to a folded dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 01:47:42 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E0882273A342nonenowhere@61.9.134.55>
Source record: 7173

Tom Horne <hornetd@gmail.com> wrote in news:e060ba9b-fb0e-4ffd-bad0-beee278d4daf@26g2000yqv.googlegroups.com:

> Hi
>
> I'm anticipating converting my coax fed, ninety foot long, folded
> terminated dipole to a ladder line fed folded dipole, without a
> terminating resister, fed using an Icom AH-4 antenna coupler. Am I
> correct in believing that the best ladder line to use for that purpose
> would be the 300 Ohm type to match the nominal impedance of the folded
> dipole itself.

Mostly, a TTFD would be used as a multiband antenna. If that remains the case, the folded dipole option is probably not as good as an ordinary centre fed dipole, and there is no special magic to the 300 ohm line.

Speaking of which, you may find the article http://vk1od.net/transmissionline/300/davis.htm of interest, expecially if you intend using it on 80m or below.

Owen

4224. Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 02:31:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <1b9f0821-e110-4722-852a-e0bef00afada@g18g2000yqk.googlegroups.com>
Source record: 7174

Antennas usually are made of aluminum as copper is somewhat heavier
and silver and gold is to expensive. Since lead is now banned in a lot
of places especially with solder you can now buy solder that is doped
with Bismuth !
Now you can't coat your elements with it but if you have a solder
bath you can run copper wire thru it. The bismuth is brittle
but with the underlying copper it is stiff enough to stick it on the
antenna elements. I am assuming that the applied current would travel
along the bismuth coating instead of the aluminum and therefore should
increase gain for antennas that use coupling methods such as the Yagi
tho bandwidth may well suffer some what.
What do you think?

4225. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 02:45:55 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8e3h6mkj4@news.eternal-september.org>
Source record: 7175

On 10/4/2010 7:31 PM, Art Unwin wrote:
> Antennas usually are made of aluminum as copper is somewhat heavier
> and silver and gold is to expensive. Since lead is now banned in a lot
> of places especially with solder you can now buy solder that is doped
> with Bismuth !
> Now you can't coat your elements with it but if you have a solder
> bath you can run copper wire thru it. The bismuth is brittle
> but with the underlying copper it is stiff enough to stick it on the
> antenna elements. I am assuming that the applied current would travel
> along the bismuth coating instead of the aluminum and therefore should
> increase gain for antennas that use coupling methods such as the Yagi
> tho bandwidth may well suffer some what.
> What do you think?

What do I think? I think I'd rather have a platinum antenna! Sure, it would be a lot heavier than aluminum, or even copper. Sure, I'd have to keep it in a bank ... but, I'd still like it!

Regards,
JS

4226. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 10:48:44 UTC
From: david <none@nospam.com>
Message-ID: <i8evqc$7un$1@news.eternal-september.org>
Source record: 7176

On Mon, 04 Oct 2010 19:31:38 -0700, Art Unwin rearranged some electrons to say:

> Antennas usually are made of aluminum as copper is somewhat heavier and
> silver and gold is to expensive. Since lead is now banned in a lot of
> places especially with solder you can now buy solder that is doped with
> Bismuth !
> Now you can't coat your elements with it but if you have a solder bath
> you can run copper wire thru it. The bismuth is brittle but with the
> underlying copper it is stiff enough to stick it on the antenna
> elements. I am assuming that the applied current would travel along the
> bismuth coating instead of the aluminum and therefore should increase
> gain for antennas that use coupling methods such as the Yagi tho
> bandwidth may well suffer some what. What do you think?

Lead free solder is still mostly tin.

4227. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 16:36:37 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8fk6o$l8c$1@news.eternal-september.org>
Source record: 7177

On 10/5/2010 8:06 AM, Jim Higgins wrote:

> ...
> I think the RF current flowing thru the crystallized bismuth will
> result in the Peltier occurring and will cause the outer ends of the
> elements to become very cold and the inner ends to become very hot and
> that the heat will soften the inner portions and the cold will cause
> heavy icing on the outer portions weighing them down considerably, the
> combination resulting in the elements bending and destroying the
> antenna.

You guys are just nuts to consider messing around with a device capable
of emitting Orgone Radiation!

I mean, you may doom yourself to a life of having to use medical
marijuana to alleviate the migraine headaches and pain! Not even
getting into the heavy genetic damage which is likely to occur!

Regards,
JS

4228. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 16:46:11 UTC
From: "R.Scott" <w7psk@yahoo.com>
Message-ID: <2317f350-3cfa-4802-9309-eb3266d736e8@z34g2000pro.googlegroups.com>
Source record: 7178

I think I will stick with good ole lightweight and relatively cheap Al
You Miny Um.

4229. Re: Feed to a folded dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 16:50:41 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i8fl11ljj1@news.jpl.nasa.gov>
Source record: 7180

Tom Horne wrote:
> Hi
>
> I'm anticipating converting my coax fed, ninety foot long, folded
> terminated dipole to a ladder line fed folded dipole, without a
> terminating resister, fed using an Icom AH-4 antenna coupler. Am I
> correct in believing that the best ladder line to use for that purpose
> would be the 300 Ohm type to match the nominal impedance of the folded
> dipole itself.
>

Is this a multiband application?
If you want to keep all the wires, I'd make it a fat dipole (rather than folded).
Why not put the AH4 at the feedpoint and feed with Coax? The box *is* a bit heavy, but it is weatherproof, and you could run the power/control wires alongside your coax.

4230. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 16:53:57 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8fl78$l8c$6@news.eternal-september.org>
Source record: 7179

On 10/5/2010 9:46 AM, R.Scott wrote:
> I think I will stick with good ole lightweight and relatively cheap Al
> You Miny Um.
>

Aye! Beer and aluminum! That is the way to go ... <grin>

Regards,
JS

4231. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 19:12:51 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E093F3721577nonenowhere@61.9.134.55>
Source record: 7181

Art Unwin <arthurunwin@gmail.com> wrote in news:1b9f0821-e110-4722-852a-e0bef00afada@g18g2000yqk.googlegroups.com:

> Antennas usually are made of aluminum as copper is somewhat heavier
> and silver and gold is to expensive. Since lead is now banned in a lot
> of places especially with solder you can now buy solder that is doped
> with Bismuth !
> Now you can't coat your elements with it but if you have a solder
> bath you can run copper wire thru it. The bismuth is brittle
> but with the underlying copper it is stiff enough to stick it on the
> antenna elements. I am assuming that the applied current would travel
> along the bismuth coating instead of the aluminum and therefore should
> increase gain for antennas that use coupling methods such as the Yagi
> tho bandwidth may well suffer some what.
> What do you think?
>

I am not sure whether you are considering coating the elements with solder, tin, or bismuth... but they *all* degrade the RF resistance of an aluminium element.

Nevertheless, hams are suckers for snake oil salesmen. Just look at the products sold for antenna wire, open wire feed line and whips... so you might have an opportunity there Art.

Owen

4232. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 20:16:40 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <eadfb327-ec2e-4db7-8b96-83b620842229@p26g2000yqb.googlegroups.com>
Source record: 7182

On Oct 5, 2:12 pm, Owen Duffy <n...@no.where> wrote:
> Art Unwin <arthurun...@gmail.com> wrote in

> > Now you can't coat your elements with it but if you have a solder
> > bath you can run copper wire thru it. The bismuth is brittle
> > but with the underlying copper it is stiff enough to stick it on the
> > antenna elements. I am assuming that the applied current would travel
> > along the bismuth coating instead of the aluminum and therefore should
> > increase gain for antennas that use coupling methods such as the Yagi
> > tho bandwidth may well suffer some what.
> > What do you think?
>
> I am not sure whether you are considering coating the elements with
> solder, tin, or bismuth... but they *all* degrade the RF resistance of an
> aluminium element.
>
> Nevertheless, hams are suckers for snake oil salesmen. Just look at the
> products sold for antenna wire, open wire feed line and whips... so you
> might have an opportunity there Art.
>
> Owen

Hmmmm!
Isn't the idea to get current to flow on the surface
without the skin depth problem? For instance, when you make a Meander
antenna distributed loads are not existent as they cancel out. This
also means that skin depth is non existant as there is no magnetic
field. Thus there is nothing to prevent the current going beyond where
the skin depth is usually situated where it can continue on to flow on
the surface the path of least resistance.
Now the element resistance is of no concern as it is not now part of
the radiation circuit! Instead of two resistances we only have the
one which pertains to radiation, the sole object of a radiator.
Capacitance and inductance does nothing to advance radiation, tho it
is quite useful to have in other areas of science so why fool with it?
Magnetism and polarization only comes into the picture after
propagation is initiated when particles/electrons are ejected with
helical spin and acceleration which generates various movements,
fields etc after the fact.
Remember, for both transmission and receive the only object that can
break up the parts of electrical and magnetic fields together with
time varying current is the Faraday cage, so it is useful to start
with the cage function to get a true story of radiation. A radiator is
only efficient when you can present a flow path for applied current
where the

source becomes totally resistive.
I threw Bismuth in since it is part and parcel of the superconductor scenario. grin." Super" has many pleasant conoctations for a salesman to use.

4233. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 22:58:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3818e35e-e37a-4cc7-b3bf-49161cd12d9b@j5g2000yqh.googlegroups.com>
Source record: 7183

On Oct 5, 8:16 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Oct 5, 2:12 pm, Owen Duffy <n...@no.where> wrote:
>
>
>
> > Art Unwin <arthurun...@gmail.com> wrote in
> > > Now you can't coat your elements with it but if you have a solder
> > > bath you can run copper wire thru it. The bismuth is brittle
> > > but with the underlying copper it is stiff enough to stick it on the
> > > antenna elements. I am assuming that the applied current would travel
> > > along the bismuth coating instead of the aluminum and therefore should
> > > increase gain for antennas that use coupling methods such as the Yagi
> > > tho bandwidth may well suffer some what.
> > > What do you think?
>
> > I am not sure whether you are considering coating the elements with
> > solder, tin, or bismuth... but they *all* degrade the RF resistance of an
> > aluminium element.
>
> > Nevertheless, hams are suckers for snake oil salesmen. Just look at the
> > products sold for antenna wire, open wire feed line and whips... so you
> > might have an opportunity there Art.
>
> > Owen
>
> Hmmmm!
> Isn't the idea to get current to flow on the surface
> without the skin depth problem? For instance, when you make a Meander
> antenna distributed loads are not existent as they cancel out. This
> also means that skin depth is non existant as there is no magnetic
> field. Thus there is nothing to prevent the current going beyond where
> the skin depth is usually situated where it can continue on to flow on
> the surface the path of least resistance.
> Now the element resistance is of no concern as it is not now part of
> the radiation circuit!   Instead of two resistances we only have the
> one which pertains to radiation, the sole object of a radiator.
> Capacitance and inductance does nothing to advance radiation, tho it
> is quite useful to have in other areas of science so why fool with it?
> Magnetism and polarization only comes into the picture after
> propagation is initiated when particles/electrons are ejected with
> helical spin and acceleration which generates various movements,
> fields etc after the fact.
> Remember, for both transmission and receive the only object that can
> break up the parts of electrical and magnetic fields together with

> time varying current is the Faraday cage, so it is useful to start
> with the cage function to get a true story of radiation. A radiator is
> only efficient when you can present a flow path for applied current
> where the
> source becomes totally resistive.
> I threw Bismuth in since it is part and parcel of the superconductor
> scenario. grin." Super" has many pleasant conoctations for a salesman
> to use.

you see art, they just don't understand how the magical levitating
solar neutrinos will jump from the diamagnetic bismuth much more
efficiently than from aluminum... and they never will understand until
you can explain how my ferromagnetic vertical antennas that obviously
can't support a coating of your magical levitating solar neutrinos
could possibly work at all.

4234. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-05 23:05:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <02d536d6-477f-409a-8a35-9ab4670b0715@x7g2000yqg.googlegroups.com>
Source record: 7184

On Oct 3, 11:32 pm, Alejandro Lieber <alejan...@Use-Author-Supplied-
Address.invalid> wrote:
> On 10/03/2010 07:31 PM, Owen Duffy wrote:
>
>
>
>
>
> > I have explored what you have said in an NEC4 model of a quarter wave
> > monopole with three quarter wave radials at varying heights over 'average
> > ground'. The results are summarised at
> >http://www.vk1od.net/lost/Clip053a.png. The reference for the graph is
> > the efficiency of the same antenna with 120 buried radials in the same
> > soil type.
>
> > If the models are correct, laying just a few radials on or very close to
> > the ground (eg the popular method of pinned into the turf) would appear
> > to be a very poor option. The model indicates efficiency improves with a
> > very small increase in height above the dirt, just 30mm is a 6dB
> > improvement of lying on the dirt, just half a metre achieves 90% of the
> > available efficiency.
>
> > Owen
>
> Thanks Owen for the Clip053a.png
> The results are just amazing.
>
> But I just cann't understand why the current in the radials, don't
> induce a significant current in the earth, that ends as an important
> lost power.
> --
> Alejandro Lieber LU1FCR
> Rosario Argentina
>
> Real-Time F2-Layer Critical Frequency Map foF2:http://1fcr.com.ar

because the currents in the radials cancel out below them which
reduces the current in the ground. as long as there are enough of
them and relatively symmetric. look at a radial field from below, lay
on the ground and look up at the radials all branching out from the
center... now visualize the current in each one, note that they are
all in phase, the current flows out from the middle to the ends all at
the same time. now if you start adding up the vector representations
of the fields from each little piece you will see that ideally they

all cancel out. in the middle that is likely pretty good, but as you move out from the middle you get farther away from the radials on one side than the other so cancellation isn't as good, but the current is also lower so not as much gets coupled to the ground.

4235. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 00:04:05 UTC
From: tom <news4792@taring.org>
Message-ID: <4cabbcf8$0$55707$8046368a@newsreader.iphouse.net>
Source record: 7185

On 10/5/2010 10:06 AM, Jim Higgins wrote:
> On Mon, 4 Oct 2010 19:31:38 -0700 (PDT), Art Unwin
> <arthurunwin@gmail.com> wrote:
>
>> Antennas usually are made of aluminum as copper is somewhat heavier
>> and silver and gold is to expensive. Since lead is now banned in a lot
>> of places especially with solder you can now buy solder that is doped
>> with Bismuth !
>> Now you can't coat your elements with it but if you have a solder
>> bath you can run copper wire thru it. The bismuth is brittle
>> but with the underlying copper it is stiff enough to stick it on the
>> antenna elements. I am assuming that the applied current would travel
>> along the bismuth coating instead of the aluminum and therefore should
>> increase gain for antennas that use coupling methods such as the Yagi
>> tho bandwidth may well suffer some what.
>> What do you think?

As we all know, you are CLUELESS! And you never check underlying facts.
Never. Ever.

>
>
> I think the RF current flowing thru the crystallized bismuth will
> result in the Peltier occurring and will cause the outer ends of the
> elements to become very cold and the inner ends to become very hot and
> that the heat will soften the inner portions and the cold will cause
> heavy icing on the outer portions weighing them down considerably, the
> combination resulting in the elements bending and destroying the
> antenna.
`

As the Brothers Guinness said in their famous television ads - "BRILLIANT!!"

tom
K0TAR

4236. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 00:04:30 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <69153163-b439-4d89-8d09-aca5e66ecd96@i5g2000yqe.googlegroups.com>
Source record: 7186

On Oct 5, 5:58 pm, K1TTT <k1...@arrl.net> wrote:
> On Oct 5, 8:16 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Oct 5, 2:12 pm, Owen Duffy <n...@no.where> wrote:
>
> > > Art Unwin <arthurun...@gmail.com> wrote in
> > > > Now you can't coat your elements with it but if you have a solder
> > > > bath you can run copper wire thru it. The bismuth is brittle
> > > > but with the underlying copper it is stiff enough to stick it on the
> > > > antenna elements. I am assuming that the applied current would travel
> > > > along the bismuth coating instead of the aluminum and therefore should
> > > > increase gain for antennas that use coupling methods such as the Yagi
> > > > tho bandwidth may well suffer some what.
> > > > What do you think?
>
> > > I am not sure whether you are considering coating the elements with
> > > solder, tin, or bismuth... but they *all* degrade the RF resistance of an
> > > aluminium element.
>
> > > Nevertheless, hams are suckers for snake oil salesmen. Just look at the
> > > products sold for antenna wire, open wire feed line and whips... so you
> > > might have an opportunity there Art.
>
> > > Owen
>
> > Hmmmm!
> > Isn't the idea to get current to flow on the surface
> > without the skin depth problem? For instance, when you make a Meander
> > antenna distributed loads are not existent as they cancel out. This
> > also means that skin depth is non existant as there is no magnetic
> > field. Thus there is nothing to prevent the current going beyond where
> > the skin depth is usually situated where it can continue on to flow on
> > the surface the path of least resistance.
> > Now the element resistance is of no concern as it is not now part of
> > the radiation circuit!   Instead of two resistances we only have the
> > one which pertains to radiation, the sole object of a radiator.
> > Capacitance and inductance does nothing to advance radiation, tho it
> > is quite useful to have in other areas of science so why fool with it?
> > Magnetism and polarization only comes into the picture after
> > propagation is initiated when particles/electrons are ejected with
> > helical spin and acceleration which generates various movements,
> > fields etc after the fact.

> > Remember, for both transmission and receive the only object that can
> > break up the parts of electrical and magnetic fields together with
> > time varying current is the Faraday cage, so it is useful to start
> > with the cage function to get a true story of radiation. A radiator is
> > only efficient when you can present a flow path for applied current
> > where the
> > source becomes totally resistive.
> > I threw Bismuth in since it is part and parcel of the superconductor
> > scenario. grin." Super" has many pleasant conoctations for a salesman
> > to use.
>
> you see art, they just don't understand how the magical levitating
> solar neutrinos will jump from the diamagnetic bismuth much more
> efficiently than from aluminum... and they never will understand until
> you can explain how my ferromagnetic vertical antennas that obviously
> can't support a coating of your magical levitating solar neutrinos
> could possibly work at all.

Ferromagnetic materials will work but the diamagnetic vectors get a
bit swamped in competition. Any good physics book will explain that
phenomina or alternatively look up wilkpedia.
Didn't you once state that physics was your major?
Your statements appears to put that as a matter of fiction. Why not
explain radiation from your point of view? You can have your posting
removed after a given time in case you embarrase yourself. Tom where
did all these weirdoes come from ?

4237. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 00:39:11 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d5af513f-6bb5-4b9d-9852-8ec96dcd5f30@a15g2000yqm.googlegroups.com>
Source record: 7187

On Oct 6, 12:04 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Oct 5, 5:58 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Oct 5, 8:16 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Oct 5, 2:12 pm, Owen Duffy <n...@no.where> wrote:
>
> > > > Art Unwin <arthurun...@gmail.com> wrote in
> > > > > Now you can't coat your elements with it but if you have a solder
> > > > > bath you can run copper wire thru it. The bismuth is brittle
> > > > > but with the underlying copper it is stiff enough to stick it on the
> > > > > antenna elements. I am assuming that the applied current would travel
> > > > > along the bismuth coating instead of the aluminum and therefore should
> > > > > increase gain for antennas that use coupling methods such as the Yagi
> > > > > tho bandwidth may well suffer some what.
> > > > > What do you think?
>
> > > > I am not sure whether you are considering coating the elements with
> > > > solder, tin, or bismuth... but they *all* degrade the RF resistance of an
> > > > aluminium element.
>
> > > > Nevertheless, hams are suckers for snake oil salesmen. Just look at the
> > > > products sold for antenna wire, open wire feed line and whips... so you
> > > > might have an opportunity there Art.
>
> > > > Owen
>
> > > Hmmmm!
> > > Isn't the idea to get current to flow on the surface
> > > without the skin depth problem? For instance, when you make a Meander
> > > antenna distributed loads are not existent as they cancel out. This
> > > also means that skin depth is non existant as there is no magnetic
> > > field. Thus there is nothing to prevent the current going beyond where
> > > the skin depth is usually situated where it can continue on to flow on
> > > the surface the path of least resistance.
> > > Now the element resistance is of no concern as it is not now part of
> > > the radiation circuit!   Instead of two resistances we only have the
> > > one which pertains to radiation, the sole object of a radiator.
> > > Capacitance and inductance does nothing to advance radiation, tho it
> > > is quite useful to have in other areas of science so why fool with it?
> > > Magnetism and polarization only comes into the picture after
> > > propagation is initiated when particles/electrons are ejected with

> > > helical spin and acceleration which generates various movements,
> > > fields etc after the fact.
> > > Remember, for both transmission and receive the only object that can
> > > break up the parts of electrical and magnetic fields together with
> > > time varying current is the Faraday cage, so it is useful to start
> > > with the cage function to get a true story of radiation. A radiator is
> > > only efficient when you can present a flow path for applied current
> > > where the
> > > source becomes totally resistive.
> > > I threw Bismuth in since it is part and parcel of the superconductor
> > > scenario. grin." Super" has many pleasant conoctations for a salesman
> > > to use.
>
> > you see art, they just don't understand how the magical levitating
> > solar neutrinos will jump from the diamagnetic bismuth much more
> > efficiently than from aluminum... and they never will understand until
> > you can explain how my ferromagnetic vertical antennas that obviously
> > can't support a coating of your magical levitating solar neutrinos
> > could possibly work at all.
>
> Ferromagnetic materials will work but the diamagnetic vectors get a
> bit swamped in competition. Any good physics book will explain that
> phenomina or alternatively look up wilkpedia.
> Didn't you once state that physics was your major?
> Your statements appears to put that as a matter of fiction. Why not
> explain radiation from your point of view? You can have your posting
> removed after a given time in case you embarrase yourself. Tom where
> did all these weirdoes come from ?

no, i'm an ee, not a scientist... my company wanted to change my title
to scientist once, i told them only if i could put 'mad' in front of
it and they let me keep the engineer title. I have to go with the
writings of the masters as mr. b would put it, except i got with the
final set of maxwell's equations as published in books like jackson
and other contemporary writers... which, by the way, do explain that
gauss'es law is a part of maxwell's equations and is a dynamic
equation even without the explicit 't' in it.

4238. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 01:07:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d50bf9d1-25d8-454d-b816-6afa5f84b940@f25g2000yqc.googlegroups.com>
Source record: 7188

On Oct 5, 7:04 pm, tom <news4...@taring.org> wrote:
> On 10/5/2010 10:06 AM, Jim Higgins wrote:
>
> > On Mon, 4 Oct 2010 19:31:38 -0700 (PDT), Art Unwin
> > <arthurun...@gmail.com> wrote:
>
> >> Antennas usually are made of aluminum as copper is somewhat heavier
> >> and silver and gold is to expensive. Since lead is now banned in a lot
> >> of places especially with solder you can now buy solder that is doped
> >> with Bismuth !
> >> Now you can't coat your elements with it but if you have a solder
> >> bath you can run copper wire thru it. The bismuth is brittle
> >> but with the underlying copper it is stiff enough to stick it on the
> >> antenna elements. I am assuming that the applied current would travel
> >> along the bismuth coating instead of the aluminum and therefore should
> >> increase gain for antennas that use coupling methods such as the Yagi
> >> tho bandwidth may well suffer some what.
> >> What do you think?
>
> As we all know, you are CLUELESS! And you never check underlying facts.
>   Never. Ever.
>
>
>
> > I think the RF current flowing thru the crystallized bismuth will
> > result in the Peltier occurring and will cause the outer ends of the
> > elements to become very cold and the inner ends to become very hot and
> > that the heat will soften the inner portions and the cold will cause
> > heavy icing on the outer portions weighing them down considerably, the
> > combination resulting in the elements bending and destroying the
> > antenna.
>
> `
> As the Brothers Guinness said in their famous television ads - "BRILLIANT!!"
>
> tom
> K0TAR

Tom, you like many others, feel that your postings are like a private
E mail, but it is not. Your writings
and past postings are available for all to see and judge what sort of
person you are. You continually embarrase yourself. I invite all to
view your past postings to see what manner of man you really are.
As for the Peltier effect that you are referring to, it is you who

needs to check the facts as to who posted that. It certainly was not I. But if you have the real facts then spit it out to show that you know them and can prove it, until then you are spitting into the wind. So Tom back to you. What are the "real" facts that you wish to point to and be specific with respect to the connecting physics for supporting data? You may have a open physics book at your side when responding so you can read up on diamagnetic, levitation, neutrons etc since it is very clear that you were able to jump semesters at will leaving large holes in your educational standing which does not allow you to debate in a reasonable fashion.
OR
You can continue with verbal bullying without
contribution or follow up discussion with other members of the group.

4239. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 01:39:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a0eeeadc-659d-47c5-b20d-fc82d2980be2@26g2000yqv.googlegroups.com>
Source record: 7189

On Oct 5, 7:39 pm, K1TTT <k1...@arrl.net> wrote:
> On Oct 6, 12:04 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Oct 5, 5:58 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Oct 5, 8:16 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Oct 5, 2:12 pm, Owen Duffy <n...@no.where> wrote:
>
> > > > > Art Unwin <arthurun...@gmail.com> wrote in
> > > > > > Now you can't coat your elements with it but if you have a solder
> > > > > > bath you can run copper wire thru it. The bismuth is brittle
> > > > > > but with the underlying copper it is stiff enough to stick it on the
> > > > > > antenna elements. I am assuming that the applied current would travel
> > > > > > along the bismuth coating instead of the aluminum and therefore should
> > > > > > increase gain for antennas that use coupling methods such as the Yagi
> > > > > > tho bandwidth may well suffer some what.
> > > > > > What do you think?
>
> > > > > I am not sure whether you are considering coating the elements with
> > > > > solder, tin, or bismuth... but they *all* degrade the RF resistance of an
> > > > > aluminium element.
>
> > > > > Nevertheless, hams are suckers for snake oil salesmen. Just look at the
> > > > > products sold for antenna wire, open wire feed line and whips... so you
> > > > > might have an opportunity there Art.
>
> > > > > Owen
>
> > > > Hmmmm!
> > > > Isn't the idea to get current to flow on the surface
> > > > without the skin depth problem? For instance, when you make a Meander
> > > > antenna distributed loads are not existent as they cancel out. This
> > > > also means that skin depth is non existant as there is no magnetic
> > > > field. Thus there is nothing to prevent the current going beyond where
> > > > the skin depth is usually situated where it can continue on to flow on
> > > > the surface the path of least resistance.
> > > > Now the element resistance is of no concern as it is not now part of
> > > > the radiation circuit!   Instead of two resistances we only have the
> > > > one which pertains to radiation, the sole object of a radiator.
> > > > Capacitance and inductance does nothing to advance radiation, tho it
> > > > is quite useful to have in other areas of science so why fool with it?

> > > > Magnetism and polarization only comes into the picture after
> > > > propagation is initiated when particles/electrons are ejected with
> > > > helical spin and acceleration which generates various movements,
> > > > fields etc after the fact.
> > > > Remember, for both transmission and receive the only object that can
> > > > break up the parts of electrical and magnetic fields together with
> > > > time varying current is the Faraday cage, so it is useful to start
> > > > with the cage function to get a true story of radiation. A radiator is
> > > > only efficient when you can present a flow path for applied current
> > > > where the
> > > > source becomes totally resistive.
> > > > I threw Bismuth in since it is part and parcel of the superconductor
> > > > scenario. grin." Super" has many pleasant conoctations for a salesman
> > > > to use.
>
> > > you see art, they just don't understand how the magical levitating
> > > solar neutrinos will jump from the diamagnetic bismuth much more
> > > efficiently than from aluminum... and they never will understand until
> > > you can explain how my ferromagnetic vertical antennas that obviously
> > > can't support a coating of your magical levitating solar neutrinos
> > > could possibly work at all.
>
> > Ferromagnetic materials will work but the diamagnetic vectors get a
> > bit swamped in competition. Any good physics book will explain that
> > phenomina or alternatively look up wilkpedia.
> > Didn't you once state that physics was your major?
> > Your statements appears to put that as a matter of fiction. Why not
> > explain radiation from your point of view? You can have your posting
> > removed after a given time in case you embarrase yourself. Tom where
> > did all these weirdoes come from ?
>
> no, i'm an ee, not a scientist... my company wanted to change my title
> to scientist once, i told them only if i could put 'mad' in front of
> it and they let me keep the engineer title. I have to go with the
> writings of the masters as mr. b would put it, except i got with the
> final set of maxwell's equations as published in books like jackson
> and other contemporary writers... which, by the way, do explain that
> gauss's law is a part of maxwell's equations and is a dynamic
> equation even without the explicit 't' in it.

So what is your point exactly? Are you holding on to
radiation by "waves" instead of "particles" or what?
What is the specific relevant law of Gauss that you are referring to?
Show me specifically what Jackson states so I can get a handle on the
specific problem in question. I have no idea what is troubling you
whether it be levitation which you call "magical", "Neutrinos" which
occupy every cubic metre in the atmosphere on Earth. Or, the "double
slot" experiment which opposes a particular law of Gauss. Spit it out
specifically and I and the rest of the group can then discuss it. As
an aside, Gauss's work is in the form of cgs units which are not the

same as Maxwell's units so you have to be careful as how you explain
"this matches that" in your response when and if it comes up.
Regards
Art

4240. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 02:41:45 UTC
From: tom <news4792@taring.org>
Message-ID: <4cabe1e8$0$55715$8046368a@newsreader.iphouse.net>
Source record: 7190

On 10/5/2010 8:07 PM, Art Unwin wrote:
> On Oct 5, 7:04 pm, tom<news4...@taring.org> wrote:
>> On 10/5/2010 10:06 AM, Jim Higgins wrote:
>>> I think the RF current flowing thru the crystallized bismuth will
>>> result in the Peltier occurring and will cause the outer ends of the
>>> elements to become very cold and the inner ends to become very hot and
>>> that the heat will soften the inner portions and the cold will cause
>>> heavy icing on the outer portions weighing them down considerably, the
>>> combination resulting in the elements bending and destroying the
>>> antenna.
>>
>> `
>> As the Brothers Guinness said in their famous television ads - "BRILLIANT!!"
>>
>> tom
>> K0TAR
>
> Tom, you like many others, feel that your postings are like a private
> E mail, but it is not. Your writings
> and past postings are available for all to see and judge what sort of
> person you are. You continually embarrase yourself. I invite all to
> view your past postings to see what manner of man you really are.
> As for the Peltier effect that you are referring to, it is you who
> needs to check the facts as to who posted that. It certainly was not
> I. But if you have the real facts then spit it out to show that you
> know them and can prove it, until then you are spitting into the wind.
> So Tom back to you. What are the "real" facts that you wish to point
> to and be specific with respect to the connecting physics for
> supporting data? You may have a open physics book at your side when
> responding so you can read up on diamagnetic, levitation, neutrons etc
> since it is very clear that you were able to jump semesters at will
> leaving large holes in your educational standing which does not allow
> you to debate in a reasonable fashion.
> OR
> You can continue with verbal bullying without
> contribution or follow up discussion with other members of the group.

Anyone reading can see you responded, mostly anyway, to Jim, not to me,
although I can guess that your feelings are pointed my way regardless.

Such is life to be tilted at by a Quixote pretender.

tom
K0TAR

4241. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 02:52:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <54554b61-691e-4877-92bb-b2edf734a55e@i5g2000yqe.googlegroups.com>
Source record: 7191

On Oct 5, 8:39 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Oct 5, 7:39 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Oct 6, 12:04 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Oct 5, 5:58 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Oct 5, 8:16 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > On Oct 5, 2:12 pm, Owen Duffy <n...@no.where> wrote:
>
> > > > > > Art Unwin <arthurun...@gmail.com> wrote in
> > > > > > > Now you can't coat your elements with it but if you have a solder
> > > > > > > bath you can run copper wire thru it. The bismuth is brittle
> > > > > > > but with the underlying copper it is stiff enough to stick it on the
> > > > > > > antenna elements. I am assuming that the applied current would travel
> > > > > > > along the bismuth coating instead of the aluminum and therefore should
> > > > > > > increase gain for antennas that use coupling methods such as the Yagi
> > > > > > > tho bandwidth may well suffer some what.
> > > > > > > What do you think?
>
> > > > > > I am not sure whether you are considering coating the elements with
> > > > > > solder, tin, or bismuth... but they *all* degrade the RF resistance of an
> > > > > > aluminium element.
>
> > > > > > Nevertheless, hams are suckers for snake oil salesmen. Just look at the
> > > > > > products sold for antenna wire, open wire feed line and whips... so you
> > > > > > might have an opportunity there Art.
>
> > > > > > Owen
>
> > > > > Hmmmm!
> > > > > Isn't the idea to get current to flow on the surface
> > > > > without the skin depth problem? For instance, when you make a Meander
> > > > > antenna distributed loads are not existent as they cancel out. This
> > > > > also means that skin depth is non existant as there is no magnetic
> > > > > field. Thus there is nothing to prevent the current going beyond where
> > > > > the skin depth is usually situated where it can continue on to flow on
> > > > > the surface the path of least resistance.
> > > > > Now the element resistance is of no concern as it is not now part of
> > > > > the radiation circuit!   Instead of two resistances we only have the
> > > > > one which pertains to radiation, the sole object of a radiator.

> > > > > Capacitance and inductance does nothing to advance radiation, tho it
> > > > > is quite useful to have in other areas of science so why fool with it?
> > > > > Magnetism and polarization only comes into the picture after
> > > > > propagation is initiated when particles/electrons are ejected with
> > > > > helical spin and acceleration which generates various movements,
> > > > > fields etc after the fact.
> > > > > Remember, for both transmission and receive the only object that can
> > > > > break up the parts of electrical and magnetic fields together with
> > > > > time varying current is the Faraday cage, so it is useful to start
> > > > > with the cage function to get a true story of radiation. A radiator is
> > > > > only efficient when you can present a flow path for applied current
> > > > > where the
> > > > > source becomes totally resistive.
> > > > > I threw Bismuth in since it is part and parcel of the superconductor
> > > > > scenario. grin." Super" has many pleasant conoctations for a salesman
> > > > > to use.
>
> > > > you see art, they just don't understand how the magical levitating
> > > > solar neutrinos will jump from the diamagnetic bismuth much more
> > > > efficiently than from aluminum... and they never will understand until
> > > > you can explain how my ferromagnetic vertical antennas that obviously
> > > > can't support a coating of your magical levitating solar neutrinos
> > > > could possibly work at all.
>
> > > Ferromagnetic materials will work but the diamagnetic vectors get a
> > > bit swamped in competition. Any good physics book will explain that
> > > phenomina or alternatively look up wilkpedia.
> > > Didn't you once state that physics was your major?
> > > Your statements appears to put that as a matter of fiction. Why not
> > > explain radiation from your point of view? You can have your posting
> > > removed after a given time in case you embarrase yourself. Tom where
> > > did all these weirdoes come from ?
>
> > no, i'm an ee, not a scientist... my company wanted to change my title
> > to scientist once, i told them only if i could put 'mad' in front of
> > it and they let me keep the engineer title. I have to go with the
> > writings of the masters as mr. b would put it, except i got with the
> > final set of maxwell's equations as published in books like jackson
> > and other contemporary writers... which, by the way, do explain that
> > gauss's law is a part of maxwell's equations and is a dynamic
> > equation even without the explicit 't' in it.
>
> So what is your point exactly? Are you holding on to
> radiation by "waves" instead of "particles" or what?
> What is the specific relevant law of Gauss that you are referring to?
> Show me specifically what Jackson states so I can get a handle on the
> specific problem in question. I have no idea what is troubling you
> whether it be levitation which you call "magical", "Neutrinos" which
> occupy every cubic metre in the atmosphere on Earth. Or, the "double
> slot" experiment which opposes a particular law of Gauss. Spit it out

> specifically and I and the rest of the group can then discuss it. As
> an aside, Gauss's work is in the form of cgs units which are not the
> same as Maxwell's units so you have to be careful as how you explain
> "this matches that" in your response when and if it comes up.
> Regards
> Art

With respect to the works of the Masters which one could include the books by Jackson and others.
They all state that Gauss;'s law on MAGNETISM
was included in Maxwell's laws or equations on radiation. I know of no text book that outlines the connection between ":statics" and the equations of Maxwell. A debate was held on this forum on the connection between statics and Maxwell which was held in denial by all. After a year or so the statement was made that" the Jackson book outlined the connection between Gauss and Maxwell" so the connection of statics was wrongly connected to the Gaussian law on" magnetics" and not his laws on "statics.".
The boundary laws of Maxwell which is the basis
of all of his equations are also those of statics which, when made dynamic, are the one and the same equation arrived at by Maxwell . I know of no mention in any book on radiation that equates as fact that classical physics mathematically supports the position of particles as the root of propagation which is in agreement with Einsteins laws on Relativity. Point being that mass is required for "acceleration of charge" as with particles./ electrons
and to my knowledge has not been stated as the Gaussian connection to Maxwell..... anywhere!
I would appreciate it if you or anybody can point to where I am in error and where your position can be determined as credible.
Regards
Art.

4242. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 04:35:08 UTC
From: nm5k@wt.net
Message-ID: <b760fa54-93e8-45ba-9296-75569895c213@a15g2000yqm.googlegroups.com>
Source record: 7192

On Oct 4, 9:31 pm, Art Unwin <arthurun...@gmail.com> wrote:

> What do you think?

It's quite well known that the best antennas are built from zircon
encrusted wire, which is trimmed using only zircon encrusted
tweezers.
If you can look at the wire ends on a sunny day and can see
noticeable tweezer glint, you know you have a world class
antenna system worthy of the masters praise and endorsement.

4243. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 04:56:13 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8gvhlvce1@news.eternal-september.org>
Source record: 7193

On 10/5/2010 9:35 PM, nm5k@wt.net wrote:

> ...
> It's quite well known that the best antennas are built from zircon
> encrusted wire, which is trimmed using only zircon encrusted
> tweezers.
> If you can look at the wire ends on a sunny day and can see
> noticeable tweezer glint, you know you have a world class
> antenna system worthy of the masters praise and endorsement.

WOW! Another one of those which you always wondered about, but were too ashamed to ask about. I just knew there were others like me who must have wondered about it. Now that you have just tossed it out like so much fact ... I realize I was silly not to have asked.

We are much better off for having had you share that with the group.

Many thanks,
JS :-)

4244. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 07:13:37 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E09B96978108nonenowhere@61.9.134.55>
Source record: 7194

Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid> wrote
in news:i8b3r3$5uu$1@tioat.net:

...
>
> Thanks Owen for the Clip053a.png
> The results are just amazing.
>
> But I just cann't understand why the current in the radials, don't
> induce a significant current in the earth, that ends as an important
> lost power.

The model results do not support the common Rules of Thumb (RoT) or explanations that I have often seen on the subject of elevated radials.

The model suggests that as the 3 radial system is lowered, efficiency (meaning total power radiated in the hemisphere divided by power input) changes little until the radials are 100mm above ground, and the efficiency drops quickly, more quickly as the height approaches zero.

I interpret that to mean that there is little elecric flux in the soil due to antenna currents for this configuration until the radials are very close to the soil, and then the loss effects grow very rapidly. I assume that the losses are mainly due to dielectric effects in normal soils, but that might be different if you had magnetic material in the soil.

Is this surprising? I think that if you wanted to make a device to warm soil by dielectric heating using RF, you wouldn't expect it to be very effective if the conductors weren't very close to the soil.

Using more radials reduces the losses.

If you can visualise the electric field flux in the case of the monopole over three radials, and compare it to a horizontal dipole, you may get an insight to why a low dipole is more effective at heating the soil.

Owen

4245. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 07:47:11 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cac298b$0$21004$65785112@news.neostrada.pl>
Source record: 7195

"Art Unwin" <arthurunwin@gmail.com> wrote
news:54554b61-691e-4877-92bb-b2edf734a55e@i5g2000yqe.googlegroups.com...
>
> > > >
>
>> So what is your point exactly? Are you holding on to
> radiation by "waves" instead of "particles" or what?

In reality are the continuous flow and the oscillatory flow. Flow of the
particles. The oscillatry flow is the wave.
In the ink printer works the oscillatory flow. In antennas and the space
also.

>With respect to the works of the Masters which one could include the
books by Jackson and others.
>They all state that Gauss;'s law on MAGNETISM
was included in Maxwell's laws or equations on radiation. I know of no
text book that outlines the connection between ":statics" and the
equations of Maxwell. A debate was held on this forum on the
connection between statics and Maxwell which was held in denial by
all. After a year or so the statement was made that" the Jackson book
outlined the connection between Gauss and Maxwell" so the connection
of statics was wrongly connected to the Gaussian law on" magnetics"
and not his laws on "statics.".
>The boundary laws of Maxwell which is the basis
of all of his equations are also those of statics which, when made
dynamic, are the one and the same equation arrived at by Maxwell . I
know of no mention in any book on radiation that equates as fact that
classical physics mathematically supports the position of particles as
the root of propagation which is in agreement with Einsteins laws on
Relativity. Point being that mass is required for "acceleration of
charge" as with particles./ electrons
and to my knowledge has not been stated as the Gaussian connection to
Maxwell..... anywhere!
>I would appreciate it if you or anybody can point to where I am in
error and where your position can be determined as credible.

"Maxwell equations" have nothing common with Maxwell.
http://www.ivorcatt.com/2810.htm

"Heaviside said that mathematics was an experimental science. He organised
Maxwell's mathematical work into the four equations which we now call
"Maxwell's Equations".
S*

4246. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 11:29:32 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <9af82722-d108-4d7c-bf85-3b56e9a76eb0@e14g2000yqe.googlegroups.com>
Source record: 7196

> The model suggests that as the 3 radial system is lowered, efficiency
> (meaning total power radiated in the hemisphere divided by power input)
> changes little until the radials are 100mm above ground, and the
> efficiency drops quickly, more quickly as the height approaches zero.

All monopoles need an electrical reference point to be "driven against."

Using a symmetrical arrangement of two or more 1/4-lambda-resonant, horizontal wires elevated sufficiently above the earth provides that by acting at their junction under the base of the monopole as a point with constant electrical characteristics with respect to the current flowing in the antenna system.

NEC shows the peak free-space gain of such a system using a 1/4-wave monopole to be the same as that of a 1/2-wave dipole in free space, e.g., 2.15 dBi. When that system is operating within a few electrical degrees above a perfect ground plane then the peak gain rises to 5.15 dBi, because all of the radiation is re-directed/confined to one hemisphere.

Horizontal wires lying on, or buried several inches below the surface of the earth do not have the same electrical characteristics or function as when they are elevated. Instead, they serve to collect the r-f currents generated by the displacement field radiation of the monopole -- which currents flow in the earth out to about 1/2 wavelength from the base of the monopole.

If the earth was a perfect conductor then those currents could travel through the earth without loss, and a single, short ground rod would serve as an electrical reference point for the r-f current flowing in the antenna system. The sum of those r-f currents flowing in the earth around the monopole, and collected by that ground rod will be equal to the base current in the 1/4-wave, series-fed monopole. The gain of this configuration is 5.15 dBi, the same as when using a few elevated, resonant wires as a counterpoise.

But the earth is not a perfect conductor. For that reason it is necessary, when using buried radials, to install enough of them in the surface area out to about 1/2 wavelength to collect those r-f currents before they have traveled through much of the lossy earth to reach those wires.

The benchmark 1937 I.R.E. paper of RCA's Brown, Lewis and Epstein showed that 113 x 0.412-lambda buried radial wires used with monopoles of about 45 to 90 degrees in height produced a radiated groundwave

field when measured at 3/10 of a mile that was within several percent of the theoretical maximum for a perfect monopole radiator with a zero-ohm connection to a perfect ground plane -- and this despite the fact that earth conductivity at/near their test site was not better than 4 mS/m.

As an aside: NEC analyses for far-field conditions show an elevation gain of zero in the horizontal plane for a monopole over real earth, and peak relative field gain at some elevation angle above the horizontal plane. However the radiated, relative fields that exist at, and relatively close to the edge of the near-field boundary of the radiation hemisphere of all monopoles of 5/8 wavelength and less are very nearly equal to the cosine of the elevation angle -- which value is 1.0 at zero degrees (the horizon), and zero at the zenith. If they were not, then the fields measured by BL&E would be much different than they recorded in their 1937 paper.

It is only after those fields propagate a significant distance over a real earth path that they depart significantly, and progressively more significantly with distance, from the relative fields described by the cosine value of the elevation angle.

RF

4247. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 11:31:55 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <b74f424f-809d-479a-8893-0991d28db7ee@l20g2000yqm.googlegroups.com>
Source record: 7197

On Oct 4, 10:31 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Antennas usually are made of aluminum as copper is somewhat heavier
> and silver and gold is to expensive. Since lead is now banned in a lot
> of places especially with solder you can now buy solder that is doped
> with Bismuth !
> Now you can't coat your elements with it but if you have a solder
> bath you can run copper wire thru it. The bismuth is brittle
> but with the underlying copper it is stiff enough to stick it on the
> antenna elements. I am assuming that the applied current would travel
> along the bismuth coating instead of the aluminum and therefore should
> increase gain for antennas that use coupling methods such as the Yagi
> tho bandwidth may well suffer some what.
> What do you think?

Obviously a reduction in IR losses will improve any antenna. Art how
much do you thing making an antenna out of silver instead of aluminum
would reduce the IR losses.
Jimmie

4248. Re: Elevated vs buried radials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 11:47:28 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <259e29d4-d02a-4534-b394-b24880e7f4cb@c10g2000yqh.googlegroups.com>
Source record: 7198

On Oct 6, 6:29 am, Richard Fry <r...@adams.net> wrote:
> However the radiated, relative fields that exist
> at, and relatively close to the edge of the near-field boundary of the
> radiation hemisphere of all monopoles of 5/8 wavelength and less are
> very nearly equal to the cosine of the elevation angle etc

CORRECTION: change "5/8 wavelength" to 1/4 wavelength.

4249. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 12:53:52 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <4f8c5ae2-842a-4de1-9c1c-98b05e9769e7@a15g2000yqm.googlegroups.com>
Source record: 7199

On Oct 6, 6:31 am, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Oct 4, 10:31 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Antennas usually are made of aluminum as copper is somewhat heavier
> > and silver and gold is to expensive. Since lead is now banned in a lot
> > of places especially with solder you can now buy solder that is doped
> > with Bismuth !
> > Now you can't coat your elements with it but if you have a solder
> > bath you can run copper wire thru it. The bismuth is brittle
> > but with the underlying copper it is stiff enough to stick it on the
> > antenna elements. I am assuming that the applied current would travel
> > along the bismuth coating instead of the aluminum and therefore should
> > increase gain for antennas that use coupling methods such as the Yagi
> > tho bandwidth may well suffer some what.
> > What do you think?
>
> Obviously a reduction in IR losses will improve any antenna. Art how
> much do you thing making an antenna out of silver instead of aluminum
> would reduce the IR losses.
> Jimmie

I think I will back off and let you get back to the porn
without interruption since that is what you apparently want instead of
antennas talk.

4250. Re: Feed to a folded dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 14:39:15 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <5d0cb421-88b5-4bfb-800e-0250d2cc0e87@m1g2000vbh.googlegroups.com>
Source record: 7200

On Oct 5, 12:50 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Tom Horne wrote:
> > Hi
>
> > I'm anticipating converting my coax fed, ninety foot long, folded
> > terminated dipole to a ladder line fed folded dipole, without a
> > terminating resister, fed using an Icom AH-4 antenna coupler. Am I
> > correct in believing that the best ladder line to use for that purpose
> > would be the 300 Ohm type to match the nominal impedance of the folded
> > dipole itself.
>
> Is this a multiband application?
> If you want to keep all the wires, I'd make it a fat dipole (rather than
> folded).
> Why not put the AH4 at the feedpoint and feed with Coax? The box *is* a
> bit heavy, but it is weatherproof, and you could run the power/control
> wires alongside your coax.

Jim

Yes it is a multiband application. Why would I use an Icom AH-4
antenna coupler on a single band antenna? What would be the
advantage to wiring it as a "fat dipole"?

--
Tom Horne, W3TDH

4251. Re: Feed to a folded dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 15:10:51 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <7eace038-f8f4-40ef-9004-45d5acd3d5df@f25g2000yqc.googlegroups.com>
Source record: 7201

On Oct 5, 12:50 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Tom Horne wrote:
> > Hi
>
> > I'm anticipating converting my coax fed, ninety foot long, folded
> > terminated dipole to a ladder line fed folded dipole, without a
> > terminating resister, fed using an Icom AH-4 antenna coupler. Am I
> > correct in believing that the best ladder line to use for that purpose
> > would be the 300 Ohm type to match the nominal impedance of the folded
> > dipole itself.
>
> Is this a multiband application?
> If you want to keep all the wires, I'd make it a fat dipole (rather than
> folded).
> Why not put the AH4 at the feedpoint and feed with Coax? The box *is* a
> bit heavy, but it is weatherproof, and you could run the power/control
> wires alongside your coax.

As to why not put the coupler at the feed point I would point out that
the statement "The box *is* a
> bit heavy," would pass as a masters dissertation in understatement. An entire center support would have to be created or I would have to rig a catenary at the present support points and lower the antenna closer to the ground to permit the catenary to take the weight of the antenna coupler. I would point out that this present Folded Terminated Dipole is not Tilted but instead is rigged as a flat top. Height is might; so the old radio axiom goes; so I would rather not have to lower the antenna just to avoid using ladder line. Additionally in order to compensate for the bending of the trees that support the antenna now I would have to rig a second counterweight and puller system to keep the antenna itself from being torn apart since the first one would be in use to keep a constant tension on the catenary. That is a lot of work in order to avoid the use of some ladder line that probably has a lower loss than the additional coax that would replace it.

--
Tom Horne, W3TDH

4252. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 15:47:37 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <p9iun7-h98.ln1@mail.specsol.com>
Source record: 7202

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> In reality are the continuous flow and the oscillatory flow. Flow of the
> particles. The oscillatry flow is the wave.

In reality you are a babbling kook.

--
Jim Pennino

Remove .spam.sux to reply.

4253. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 15:54:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3miun7-h98.ln1@mail.specsol.com>
Source record: 7203

Art Unwin <arthurunwin@gmail.com> wrote:
> Antennas usually are made of aluminum as copper is somewhat heavier
> and silver and gold is to expensive. Since lead is now banned in a lot
> of places especially with solder you can now buy solder that is doped
> with Bismuth !
> Now you can't coat your elements with it but if you have a solder
> bath you can run copper wire thru it. The bismuth is brittle
> but with the underlying copper it is stiff enough to stick it on the
> antenna elements. I am assuming that the applied current would travel
> along the bismuth coating instead of the aluminum and therefore should
> increase gain for antennas that use coupling methods such as the Yagi
> tho bandwidth may well suffer some what.
> What do you think?

Since the conductivity of aluminum is about 43 times higher than that of
bisimuth, I think you are babbling.

--
Jim Pennino

Remove .spam.sux to reply.

4254. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 16:41:56 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8i8sv$3qf$3@news.eternal-september.org>
Source record: 7204

On 10/6/2010 8:47 AM, jimp@specsol.spam.sux.com wrote:
> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>
>> In reality are the continuous flow and the oscillatory flow. Flow of the
>> particles. The oscillatry flow is the wave.
>
> In reality you are a babbling kook.
>
>

Too much ayawaska me thinks ... the religious "meaning" in antennas just
doesn't exist ...

Regards,
JS

4255. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 16:55:02 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i8i9l6$g80q$2@tr22n12.aset.psu.edu>
Source record: 7205

jimp@specsol.spam.sux.com wrote:
> Art Unwin <arthurunwin@gmail.com> wrote:
>> Antennas usually are made of aluminum as copper is somewhat heavier
>> and silver and gold is to expensive. Since lead is now banned in a lot
>> of places especially with solder you can now buy solder that is doped
>> with Bismuth !
>> Now you can't coat your elements with it but if you have a solder
>> bath you can run copper wire thru it. The bismuth is brittle
>> but with the underlying copper it is stiff enough to stick it on the
>> antenna elements. I am assuming that the applied current would travel
>> along the bismuth coating instead of the aluminum and therefore should
>> increase gain for antennas that use coupling methods such as the Yagi
>> tho bandwidth may well suffer some what.
>> What do you think?
>
> Since the conductivity of aluminum is about 43 times higher than that of
> bisimuth, I think you are babbling.

Yeah, I too some of that from my neighbors yard, tried to make an antenna.

Cops came and took me away.

When I asked them why, they said it was none of my Bismuth.

- Mike -

4256. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 17:24:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <60bpa69inu2db8jb1o2be927hntfssl0hd@4ax.com>
Source record: 7206

On Wed, 6 Oct 2010 04:31:55 -0700 (PDT), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>Obviously a reduction in IR losses will improve any antenna. Art how
>much do you thing making an antenna out of silver instead of aluminum
>would reduce the IR losses.

InfraRed loss in an antenna?

or perhaps:

Iï¿½R Voltage Loss in an antenna?

or perhaps:

Iï¿½ï¿½R Power Loss in an antenna?

****

Yes, Iï¿½ï¿½R loss is the entire point (and positive characteristic) of an
antenna, especially if R is radiation resistance.

Hmmm, Iï¿½R loss could be said to be a naturally occurring fact of life
along the length of any antenna if we consider the distribution of
potential.

Ouch, InfraRed loss could burn you - but it would be curious to note
that if an antenna is truly an equal performer (transmit/receive) what
would we hear from the antenna when the sun rises in the morning?

As to the receive-mode phenomenon of this sunrise observation, if that
antenna were coated with diamagnetic water (dew), then we would
observe particles leaping (-um- steaming) off of it (with sizzle)!

73's
Richard Clark, KB7QHC

4257. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 17:36:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <56ee30ec-c4bb-47d3-9f61-a28ef18650ba@p26g2000yqb.googlegroups.com>
Source record: 7207

On Oct 6, 2:47 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> In reality are the continuous flow and the oscillatory flow. Flow of the
> particles. The oscillatry flow is the wave.

Seems you have it backwards. The slow-moving free electrons oscillate
back and forth at HF, moving forward and backward very little
(calculate it for yourself). The energy flow from source to load is in
the form of photons/fields/waves traveling at the speed of light
which is impossible for electrons. As far as ham radio antenna
functions go, electrons and photons are the only things known to
physics to be active in transferring and radiating RF energy.
--
73, Cecil, w5dxp.com

4258. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 18:13:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cacbc66$0$27027$65785112@news.neostrada.pl>
Source record: 7208

"Cecil Moore" <w5dxp@hotmail.com>wrote
news:56ee30ec-c4bb-47d3-9f61-a28ef18650ba@p26g2000yqb.googlegroups.com...
On Oct 6, 2:47 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> In reality are the continuous flow and the oscillatory flow. Flow of the
> particles. The oscillatry flow is the wave.

>Seems you have it backwards. The slow-moving free electrons oscillate
back and forth at HF, moving forward and backward very little
(calculate it for yourself).

Symmetrical back and forth take place only in the simple equations.
In EACH wave the forth is stronger than back.

>The energy flow from source to load is in
the form of photons/fields/waves traveling at the speed of light
which is impossible for electrons.

Photons in a wire?

>As far as ham radio antenna
functions go, electrons and photons are the only things known to
physics to be active in transferring and radiating RF energy.

Electrons were discovered. Photons are the products of speculations.
S*

4259. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 18:28:51 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3orun7-le9.ln1@mail.specsol.com>
Source record: 7209

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Cecil Moore" <w5dxp@hotmail.com>wrote
> news:56ee30ec-c4bb-47d3-9f61-a28ef18650ba@p26g2000yqb.googlegroups.com...
> On Oct 6, 2:47 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>> In reality are the continuous flow and the oscillatory flow. Flow of the
>> particles. The oscillatry flow is the wave.
>
>>Seems you have it backwards. The slow-moving free electrons oscillate
> back and forth at HF, moving forward and backward very little
> (calculate it for yourself).
>
> Symmetrical back and forth take place only in the simple equations.
> In EACH wave the forth is stronger than back.

Babbling, work salad, nonsense.

>>The energy flow from source to load is in
> the form of photons/fields/waves traveling at the speed of light
> which is impossible for electrons.
>
> Photons in a wire?

No, you idiot.

>>As far as ham radio antenna
> functions go, electrons and photons are the only things known to
> physics to be active in transferring and radiating RF energy.
>
> Electrons were discovered. Photons are the products of speculations.
> S*

No, you idiot.

Photons have been observed.

--
Jim Pennino

Remove .spam.sux to reply.

4260. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-06 19:13:03 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <55ipa6lub3sgfr5vo8070odkonktuhoqi9@4ax.com>
Source record: 7210

>> Symmetrical back and forth take place only in the simple equations.
>> In EACH wave the forth is stronger than back.

The intellectual product of a Stalinist education system.

Or the most lucid manifesto available from the Tea Party.

73's
Richard Clark, KB7QHC

4261. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 00:36:46 UTC
From: tom <news4792@taring.org>
Message-ID: <4cad161c$0$24416$8046368a@newsreader.iphouse.net>
Source record: 7211

On 10/6/2010 2:13 PM, Richard Clark wrote:
>>> Symmetrical back and forth take place only in the simple equations.
>>> In EACH wave the forth is stronger than back.
>
> The intellectual product of a Stalinist education system.
>
> Or the most lucid manifesto available from the Tea Party.
>
> 73's
> Richard Clark, KB7QHC

Ah, I almost forgot, it's election time.

Could you please let it go just one election season? It is boring and repetitious crap and way beneath your normal responses.

tom
K0TAR

4262. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 00:45:47 UTC
From: tom <news4792@taring.org>
Message-ID: <4cad1839$0$55712$8046368a@newsreader.iphouse.net>
Source record: 7212

On 10/6/2010 12:24 PM, Richard Clark wrote:
> On Wed, 6 Oct 2010 04:31:55 -0700 (PDT), JIMMIE
> <JIMMIEDEE123@YAHOO.COM> wrote:
>
>> Obviously a reduction in IR losses will improve any antenna. Art how
>> much do you thing making an antenna out of silver instead of aluminum
>> would reduce the IR losses.
>
> InfraRed loss in an antenna?
>
> or perhaps:
>
> Iï¿½R Voltage Loss in an antenna?
>
> or perhaps:
>
> Iï¿½ï¿½R Power Loss in an antenna?
>
> **********
>
> Yes, Iï¿½ï¿½R loss is the entire point (and positive characteristic) of an
> antenna, especially if R is radiation resistance.
>
> Hmmm, Iï¿½R loss could be said to be a naturally occurring fact of life
> along the length of any antenna if we consider the distribution of
> potential.
>
> Ouch, InfraRed loss could burn you - but it would be curious to note
> that if an antenna is truly an equal performer (transmit/receive) what
> would we hear from the antenna when the sun rises in the morning?
>
> As to the receive-mode phenomenon of this sunrise observation, if that
> antenna were coated with diamagnetic water (dew), then we would
> observe particles leaping (-um- steaming) off of it (with sizzle)!
>
> 73's
> Richard Clark, KB7QHC

What an idea! IR night vision could be used to tune antennas!

I redact my previous obfuscation against you Art. You are BRIALLAINT!

tom
K0TAR

4263. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 00:53:04 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8j5lscnd2@news.eternal-september.org>
Source record: 7213

On 10/6/2010 5:45 PM, tom wrote:

> ...
> What an idea! IR night vision could be used to tune antennas!
>
> I redact my previous obfuscation against you Art. You are BRIALLAINT!
>
> tom
> K0TAR

First consuming Ayawaska and then putting on a 3d pair of glasses
actually allows you to see the photons shooting out from the antenna. I
believe it is the "time dilation effect" from the Ayawaska which is
responsible for this, seemingly, "superman ability" occurring.

As always, first consult your local shaman or witchdoctor before taking
Ayawaska ...

Regards,
JS

4264. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 06:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1286431501@panix.com>
Source record: 7214
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

4265. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 08:05:40 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cad7f5c$0$27032$65785112@news.neostrada.pl>
Source record: 7215

"Richard Clark" <kb7qhc@comcast.net> wrote
news:55ipa6lub3sgfr5vo8070odkonktuhoqi9@4ax.com...
>>> Symmetrical back and forth take place only in the simple equations.
>>> In EACH wave the forth is stronger than back.
>
> The intellectual product of a Stalinist education system.

"It was shown by Stokes that in a water wave the particles of fluid possess,
apart from their orbital motion, a steady second-order drift velocity
(usually called the mass-transport velocity)."

In all schools the second-order effects are neglected.
In Stokes time no radio. But the above apply to all waves.

You should start with the selfeducation.
S*

4266. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 08:26:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cad8456$0$22810$65785112@news.neostrada.pl>
Source record: 7216

"tom" <news4792@taring.org> wrote
news:4cad161c$0$24416$8046368a@newsreader.iphouse.net...
> On 10/6/2010 2:13 PM, Richard Clark wrote:
>>>> Symmetrical back and forth take place only in the simple equations.
>>>> In EACH wave the forth is stronger than back.
>>
>> The intellectual product of a Stalinist education system.
>>
>> Or the most lucid manifesto available from the Tea Party.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> Ah, I almost forgot, it's electron time.

And the field emissions.
>
> Could you please let it go just one electron season? It is boring and
> repetitious crap and way beneath your normal responses.

Electrons, mass transport and the field emission are reality. EM is a myth.
S*

4267. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 15:22:17 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8kojlauj3@news.eternal-september.org>
Source record: 7217

On 10/7/2010 1:05 AM, Szczepan Bialek wrote:

> ...
> "It was shown by Stokes that in a water wave the particles of fluid possess,
> apart from their orbital motion, a steady second-order drift velocity
> (usually called the mass-transport velocity)."
> ...

Sounds like you are using a stream of salt water as a radiator! Is the
pump Bismuth coated to prevent corrosion?

Regards,
JS

4268. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 16:22:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4ssra6th7vlr2flq8nefjroqu3n691mvap@4ax.com>
Source record: 7218

On Thu, 7 Oct 2010 10:26:49 +0200, "Szczepan Bialek" <sz.bialek@wp.pl>
wrote:
> "tom" <news4792@taring.org> wrote
>> Ah, I almost forgot, it's electron time.

Evidence of the revisionist Stalinist influence.

73's
Richard Clark, KB7QHC

4269. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 16:31:05 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <9791o7-eb8.ln1@mail.specsol.com>
Source record: 7221

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Richard Clark" <kb7qhc@comcast.net> wrote
> news:55ipa6lub3sgfr5vo8070odkonktuhoqi9@4ax.com...
>>>> Symmetrical back and forth take place only in the simple equations.
>>>> In EACH wave the forth is stronger than back.
>>
>> The intellectual product of a Stalinist education system.
>
> "It was shown by Stokes that in a water wave the particles of fluid possess,
> apart from their orbital motion, a steady second-order drift velocity
> (usually called the mass-transport velocity)."
>
> In all schools the second-order effects are neglected.
> In Stokes time no radio. But the above apply to all waves.
>
> You should start with the selfeducation.
> S*

Babbling, kook word salad.

--
Jim Pennino

Remove .spam.sux to reply.

4270. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 16:35:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <64tra61ievksg38av85g1n5ejllf4uucno@4ax.com>
Source record: 7219

On Thu, 7 Oct 2010 10:05:40 +0200, "Szczepan Bialek" <sz.bialek@wp.pl>
wrote:

>In all schools the second-order effects are neglected.

Rabble of the lumpenproletariat. Continuing to wander in the fog is a
sure sign of never achieving class consciousness, and is therefore
worthless in the context of revolutionary struggle.

73's
Richard Clark, KB7QHC

4271. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 16:41:56 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i8kt8n$4qf$1@news.eternal-september.org>
Source record: 7220

> Since the conductivity of aluminum is about 43 times higher than that of
> bisimuth, I think you are babbling.

You meant I could use the aluminum window frames as a big antenna? :)

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
^ ^ 00:36:01 up 8 days 1:53 1 user load average: 0.00 0.11 0.08
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4272. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 17:35:38 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cae04f4$0$27038$65785112@news.neostrada.pl>
Source record: 7222

"John Smith" <assemblywizard@gmail.com> wrote
news:i8kojlauj3@news.eternal-september.org...
> On 10/7/2010 1:05 AM, Szczepan Bialek wrote:
>
>> ...
>> "It was shown by Stokes that in a water wave the particles of fluid
>> possess,
>> apart from their orbital motion, a steady second-order drift velocity
>> (usually called the mass-transport velocity)."
>> ...
>
> Sounds like you are using a stream of salt water as a radiator! Is the
> pump Bismuth coated to prevent corrosion?

In each radiator is a stream of electrons. The oscillating pump is in the
transmitter. But where is the tank with the electrons?

It is in the buried or elevated radials. R. Roy wrote: "If the earth was a
perfect conductor then those currents could travel
through the earth without loss, and a single, short ground rod would
serve as an electrical reference point for the r-f current flowing in
the antenna system. The sum of those r-f currents flowing in the
earth around the monopole, and collected by that ground rod will be
equal to the base current in the 1/4-wave, series-fed monopole"

The soil is different in each place. The air is similar. So the elevated
radials are universal. They catch the electrons from the air.
S*

4273. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 18:00:10 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <aee1o7-h99.ln1@mail.specsol.com>
Source record: 7223

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> In each radiator is a stream of electrons. The oscillating pump is in the
> transmitter. But where is the tank with the electrons?

Where is the source of drugs that make you post this babbling nonsense?

--
Jim Pennino

Remove .spam.sux to reply.

4274. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 18:31:22 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8l3m6ilp3@news.eternal-september.org>
Source record: 7224

On 10/7/2010 10:35 AM, Szczepan Bialek wrote:

> ...
> In each radiator is a stream of electrons. The oscillating pump is in the
> transmitter. But where is the tank with the electrons?
> ...

Now, that is just plain silly! How are you going to Bismuth plate an
oscillating electron pump? <straight face>

Regards,
JS

4275. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 18:36:15 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8l3vb$17k$1@news.eternal-september.org>
Source record: 7225

On 10/7/2010 9:41 AM, Man-wai Chang wrote:

> ...
> You meant I could use the aluminum window frames as a big antenna? :)
> ...

Absolutely! But, don't you find the aluminum round tubing more suitable?

Regards,
JS

4276. Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 18:58:38 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i8l595fgn1@news.eternal-september.org>
Source record: 7226

Hi,

A bit off topic, but I figure you folks are the true theorists out there, and would probably know about this.

Am thinking about purchasing a shortwave defined radio receiver from WinRadio (http://www.winradio.com/home/g33ddc.htm).

Here is copy from part of their spec sheet:

"The receiver's robust front-end is equipped with an ultra-high-linearity amplifier which results in exceptional strong-signal performance. This already robust front-end is further enhanced with a user-selectable preselector that can operate either in a fully automatic or user-configurable mode. As many as 119 different filter combinations can be constructed by the user (91 bandpass, 14 low-pass and 14 high-pass). The front-end employs 34 subminiature electromechanical relays (rather than often used but distortion-prone semiconductor switches) to ensure high dynamic range."

Was really surprised to see: The front-end employs 34 subminiature electromechanical relays (rather than often used but distortion-prone semiconductor switches) to ensure high dynamic range.

I am retired now, so haven't kept up withese things, or the state of the art nowadays, but are they still using electromechanical relays for front ends feeding a 16 bit A to D ?

Haven't semiconductor switches, caught up with reed relays for this application by now, or do they "still" provide a lower "on" resistance, etc. ?

Any thoughts would be most appreciated.

Thanks,
Bob

4277. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 19:11:05 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8l60l$17k$4@news.eternal-september.org>
Source record: 7227

On 10/7/2010 11:58 AM, Bob wrote:

> ...
> Any thoughts would be most appreciated.
>
> Thanks,
> Bob

I have a lot of SW radios and amateur gear. When you have used a SDR, you are simply left with one question, "Why would anyone, anywhere, use anything different?

I mean, it is still fun to fire up an old one and watch the tubes glow ... nostalgia, I guess.

Regards,
JS

4278. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 19:16:19 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8l6ag$17k$5@news.eternal-september.org>
Source record: 7228

On 10/7/2010 11:58 AM, Bob wrote:

> ...
> Haven't semiconductor switches, caught up with reed relays for this
> application by now, or do they "still" provide a lower "on" resistance,
> etc. ?
> ...
> Thanks,
> Bob

Forgot to respond to this part ... my whole experience with repairing electronic gear has been, first suspect a mechanical problem (switch, ground, etc.), then suspect a capacitor, then a resistor ... dead last is a semiconductor ... it is taken for granted that properly engineered equipment is the point of discussion ...

Regards,
JS

4279. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 19:24:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnias7eo.afe.gsm@cable.mendelson.com>
Source record: 7229

John Smith wrote:

> I have a lot of SW radios and amateur gear. When you have used a SDR,
> you are simply left with one question, "Why would anyone, anywhere, use
> anything different?

Propigation is always good on the internet. With a fast (15mbit download)
internet connection why bother with a radio at all?

To be honest, I often don't. I skype chat, I call people on a VoIP phone,
I email, I use facebook, I watch TV from around the world, I listen to
radio from around the world.

TV and radio are especially nice because I can get the programs I want when
I have time to pay attention to them.

I also use my radios because I want to. I expect different things from them
and chalenges to get them.

To answer the original post, reed relays are relatively cheap and have very
high isolation between the poles. Electronic switches are available and cheap
but not with as good isolation (at least not at the price of the relays).

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
To help restaurants, as part of the "stimulus package", everyone must order
dessert. As part of the socialized health plan, you are forbidden to eat it. :-)

4280. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 19:39:03 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnias87f.ame.gsm@cable.mendelson.com>
Source record: 7230

Bob wrote:
> Was really surprised to see: The front-end employs 34 subminiature
> electromechanical relays (rather than often used but distortion-prone
> semiconductor switches) to ensure high dynamic range.
>
> I am retired now, so haven't kept up withese things, or the state of the
> art nowadays, but are they still using electromechanical relays for
> front ends feeding a 16 bit A to D ?

Actually from a manufacturing point of view it sounds like they have taken the matching board from a "100 watt" automatic tuner and converted it to a preselector/filter board by chainging the programing on the controller chip.

In this case the "the front end ...." stuff is marketing hype.

If they got enough of them as a close out, it would be a cheaper than having to make one from scratch, no matter what was in it.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
To help restaurants, as part of the "stimulus package", everyone must order dessert. As part of the socialized health plan, you are forbidden to eat it. :-)

4281. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 20:49:12 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <48310028-245d-43c0-8b5e-60dd393d9850@i5g2000yqe.googlegroups.com>
Source record: 7055

On Oct 7, 11:58 am, Bob <rgs...@notme.invalid> wrote:
> Hi,
>
> A bit off topic, but I figure you folks are the true theorists out
> there, and would probably know about this.
>
> Am thinking about purchasing a shortwave defined radio receiver from
> WinRadio (http://www.winradio.com/home/g33ddc.htm).
>
> Here is copy from part of their spec sheet:
>
>   "The receiver's robust front-end is equipped with an
> ultra-high-linearity amplifier which results in exceptional
> strong-signal performance. This already robust front-end is further
> enhanced with a user-selectable preselector that can operate either in a
> fully automatic or user-configurable mode. As many as 119 different
> filter combinations can be constructed by the user (91 bandpass, 14
> low-pass and 14 high-pass). The front-end employs 34 subminiature
> electromechanical relays (rather than often used but distortion-prone
> semiconductor switches) to ensure high dynamic range."
>
> Was really surprised to see: The front-end employs 34 subminiature
> electromechanical relays (rather than often used but distortion-prone
> semiconductor switches) to ensure high dynamic range.
>
> I am retired now, so haven't kept up withese things, or the state of the
> art nowadays, but are they still using electromechanical relays for
> front ends feeding a 16 bit A to D ?
>
> Haven't semiconductor switches, caught up with reed relays for this
> application by now, or do they "still" provide a lower "on" resistance,
> etc. ?
>
> Any thoughts would be most appreciated.
>
> Thanks,
> Bob
Excuse me, Bob, but no where in the description do they mention reed
relays. I really doubt they are using reed relays because of the open
capacitance of the contacts, plus, reed relays often stick shut
because of fatigue, static electricity, and if left closed for a long
time, metal migration will stick them closed.

Bet they are using regular relays, but in miniature form.

Paul

4282. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-07 21:51:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c5aa4faa-7d19-4e5b-be9c-45861cd2236c@l20g2000yqm.googlegroups.com>
Source record: 7247

On Oct 7, 4:41 pm, Man-wai Chang <toylet.toy...@gmail.com> wrote:
> > Since the conductivity of aluminum is about 43 times higher than that of
> > bisimuth, I think you are babbling.
>
> You meant I could use the aluminum window frames as a big antenna? :)
>
> --
> @~@ Might, Courage, Vision, SINCERITY.
> / v \ Simplicity is Beauty! May the Force and Farce be with you!
> /(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
> ^ ^ 00:36:01 up 8 days 1:53 1 user load average: 0.00 0.11 0.08
> 不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援
(CSSA):http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

YES! i have done that and it works great... even better than
bedsprings because you can make it vertically polarized by feeding in
the right place.

4283. Re: Feed to a folded dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 00:08:56 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i8lneo$bd4$1@news.jpl.nasa.gov>
Source record: 7233

Tom Horne wrote:
> On Oct 5, 12:50 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> Tom Horne wrote:
>>> Hi
>>> I'm anticipating converting my coax fed, ninety foot long, folded
>>> terminated dipole to a ladder line fed folded dipole, without a
>>> terminating resister, fed using an Icom AH-4 antenna coupler. Am I
>>> correct in believing that the best ladder line to use for that purpose
>>> would be the 300 Ohm type to match the nominal impedance of the folded
>>> dipole itself.
>> Is this a multiband application?
>> If you want to keep all the wires, I'd make it a fat dipole (rather than
>> folded).
>> Why not put the AH4 at the feedpoint and feed with Coax? The box *is* a
>> bit heavy, but it is weatherproof, and you could run the power/control
>> wires alongside your coax.
>
> Jim
>
> Yes it is a multiband application. Why would I use an Icom AH-4
> antenna coupler on a single band antenna?

Because the wire length was fixed for some other reason (installation
convenience) or you wanted to operate over a wider band than a regular
dipole would be acceptably matched for..

(mostly because you suggested having the AH4 in the first place)

What would be the
> advantage to wiring it as a "fat dipole"?

Wider bandwidth of the underlying antenna, so potentially lower losses
in the tuner.
Redundant wires in case one breaks.
Less modification of the existing antenna.

>
> --
> Tom Horne, W3TDH

4284. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 00:23:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i8lo9jqoo1@news.jpl.nasa.gov>
Source record: 7231

> Haven't semiconductor switches, caught up with reed relays for this
> application by now, or do they "still" provide a lower "on" resistance,
> etc. ?
>

Semiconductor switches have issues with intermodulation, etc. and power consumption. For wideband RF, you're not going to be using cheap 4066 CMOS muxes.. if you need to handle strong signals, that implies decent diodes with a fair amount of current.

High quality sealed relays are inexpensive, very reliable, etc.

4285. Re: Feed to a folded dipole.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 00:48:57 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i8lppq$n70$1@news.jpl.nasa.gov>
Source record: 7232

Tom Horne wrote:

> As to why not put the coupler at the feed point I would point out that
> the statement "The box *is* a
>> bit heavy," would pass as a masters dissertation in understatement. An entire center support would have to be created or I would have to rig a catenary at the present support points and lower the antenna closer to the ground to permit the catenary to take the weight of the antenna coupler. I would point out that this present Folded Terminated Dipole is not Tilted but instead is rigged as a flat top. Height is might; so the old radio axiom goes; so I would rather not have to lower the antenna just to avoid using ladder line. Additionally in order to compensate for the bending of the trees that support the antenna now I would have to rig a second counterweight and puller system to keep the antenna itself from being torn apart since the first one would be in use to keep a constant tension on the catenary. That is a lot of work in order to avoid the use of some ladder line that probably has a lower loss than the additional coax that would replace it.
>

OK.. makes sense.. So you'd have antenna in the air, open wire line to
tuner which is sitting on the ground or somewhere convenient, then coax
to the rig.

As for loss.. open wire line is lower loss when matched than coax, but
in the highly mismatched case, the loss might be greater than the loss
of the coax, if you move the tuner.

This is kind of unintuitive, so we'll run some examples

What's the feedpoint Z of a 90 foot dipole in the various bands?
using W9CF's online loss calculator with 33 ft of 450 ohm window line
For 3.8 MHZ (24-541j), loss is 1.3dB (tuner sees 13.3-15.5j)
For 7.2 MHz (29+768j) loss 0.79 dB (tuner sees 11.6-247j)
For 14.2 (124-681j) loss 0.51 dB (tuner sees 135-663j)

For comparison 33 ft of RG-8X has .17 dB of loss (matched) at 3.8MHz,
.25 at 7.2, and 0.35 at 14.2

Now, the question might be, what's the loss in the tuner matching
29+768j to 50 ohms (tuner at feedpoint) vs loss in tuner matching
11.6-247j to 50 ohms (tuner feeding 33 ft of 450 ohm window line to antenna)

W9CF's tuner applet says 0.3 dB for the first case and 1.7 for the second..

SO..
Tuner at feedpoint at ladder/coax transition
Loss in 450 ohm line 0 0.79
Loss in Tuner 0.3 1.7
Loss in 50 ohm line 0.25 0

Total: 0.55 2.49
That makes the tuner at the feedpoint almost 2 dB better..

Similar numbers for 3.8MHz
24 -541j 2dB tuner loss to 50 ohms + 0.17dB feedline = 2.17
13.3-15.5j 0.9dB tuner loss + 1.3 feedline loss = 2.2 dB

pretty much a wash

---- take home message>> 90 feet is probably a "bad" length to use for this application
---- take home message2>> open wire line is only low loss when well matched.
---- take home message 3>> it's worth it to put the matching network at the feedpoint, when there is a large mismatch.

Running a quick NEC4 model of a 90 foot dipole 10 meters off the ground

FREQ. - - UNNORMALIZED IMPEDANCE - -

RESISTANCE REACTANCE MAGNITUDE PHASE
MHZ OHMS OHMS OHMS DEGREES

3.500 1.93208E+01 -6.73980E+02 6.74257E+02 -88.36
3.600 2.08586E+01 -6.28432E+02 6.28778E+02 -88.10
3.700 2.25078E+01 -5.84283E+02 5.84717E+02 -87.79
3.800 2.42755E+01 -5.41393E+02 5.41937E+02 -87.43
3.900 2.61693E+01 -4.99631E+02 5.00315E+02 -87.00
4.000 2.81973E+01 -4.58878E+02 4.59744E+02 -86.48

FREQ. - - UNNORMALIZED IMPEDANCE - -
RESISTANCE REACTANCE MAGNITUDE PHASE
MHZ OHMS OHMS OHMS DEGREES
7.000 2.38419E+02 6.75860E+02 7.16680E+02 70.57
7.100 2.56679E+02 7.21609E+02 7.65901E+02 70.42
7.200 2.76540E+02 7.68679E+02 8.16910E+02 70.21
7.300 2.98181E+02 8.17175E+02 8.69877E+02 69.95

FREQ. - - UNNORMALIZED IMPEDANCE - -
RESISTANCE REACTANCE MAGNITUDE PHASE
MHZ OHMS OHMS OHMS DEGREES

14.000 1.39739E+02 -7.64444E+02 7.77111E+02 -79.64
14.100 1.31779E+02 -7.21947E+02 7.33876E+02 -79.66
14.200 1.24816E+02 -6.80698E+02 6.92047E+02 -79.61
14.300 1.18762E+02 -6.40602E+02 6.51518E+02 -79.50

4286. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 04:07:56 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <4CAE991C.3070705@gmail.com>
Source record: 7234

```
>> You meant I could use the aluminum window frames as a big antenna? :)
> Absolutely!

For both AM & FM?

> But, don't you find the aluminum round tubing more suitable?

But the window frame is right here! :)
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
^ ^ 12:03:01 up 8 days 13:20 1 user load average: 0.00 0.01 0.00
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4287. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 07:14:12 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4caec4cc$0$27028$65785112@news.neostrada.pl>
Source record: 7235

Uzytkownik "John Smith" <assemblywizard@gmail.com> napisal w wiadomosci
news:i8l3m6ilp3@news.eternal-september.org...
> On 10/7/2010 10:35 AM, Szczepan Bialek wrote:
>
>> ...
>> In each radiator is a stream of electrons. The oscillating pump is in the
>> transmitter. But where is the tank with the electrons?
>> ...
>
> Now, that is just plain silly! How are you going to Bismuth plate an
> oscillating electron pump? <straight face>

Art wrote: "What do you think?"

So I wrote that antennas are made of metalic conductors, salt waters and
live tree. It seem that material is not important.
The key factor is the oscillating, nonsymetrical flow of electrons. We need
the tank, the pump and an antenna. May be with or without Bismuth plate.
S*

4288. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 10:46:06 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2650fd30-92a0-43e0-8df0-f256e6bf9c28@f25g2000yqc.googlegroups.com>
Source record: 7250

On Oct 5, 2:31 am, Art Unwin <arthurun...@gmail.com> wrote:
> Antennas usually are made of aluminum as copper is somewhat heavier
> and silver and gold is to expensive. Since lead is now banned in a lot
> of places especially with solder you can now buy solder that is doped
> with Bismuth !
> Now you can't coat your elements with it but if you have a solder
> bath you can run copper wire thru it. The bismuth is brittle
> but with the underlying copper it is stiff enough to stick it on the
> antenna elements. I am assuming that the applied current would travel
> along the bismuth coating instead of the aluminum and therefore should
> increase gain for antennas that use coupling methods such as the Yagi
> tho bandwidth may well suffer some what.
> What do you think?

testing, 1, 2, 3... can you hear me now??

4289. testing, 1, 2, 3

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 10:48:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1737749f-9edc-4354-b6c1-f30da7551865@f25g2000yqc.googlegroups.com>
Source record: 7249

can you hear me now??

4290. testing, 1, 2, 3

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 11:04:16 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f1d591ce-6a4f-49ec-9376-1c27067d92f2@a15g2000yqm.googlegroups.com>
Source record: 7244

can you hear me now?

4291. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 12:10:39 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <af48549f-31c1-4cb8-90aa-1f884caf91f9@t8g2000yqk.googlegroups.com>
Source record: 7245

On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> The key factor is the oscillating, nonsymetrical flow of electrons.

"... for a copper wire of radius 1 mm carrying a steady current of 10
amps, the drift velocity (of the free electrons) is only about 0.024
cm/sec!"

The key factor is the generation, by the oscillating electrons, of RF
photons/fields/waves (traveling at the speed of light) .
--
73, Cecil, w5dxp.com

4292. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 14:57:11 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c06d6f2c-5410-4d9b-82fb-9599f8f6f4a5@t20g2000yqa.googlegroups.com>
Source record: 7241

On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "John Smith" <assemblywiz...@gmail.com> napisal w
wiadomoscinews:i8l3m6ilp3@news.eternal-september.org...
>
> > On 10/7/2010 10:35 AM, Szczepan Bialek wrote:
>
> >> ...
> >> In each radiator is a stream of electrons. The oscillating pump is in the
> >> transmitter. But where is the tank with the electrons?
> >> ...
>
> > Now, that is just plain silly! How are you going to Bismuth plate an
> > oscillating electron pump? <straight face>
> Art wrote: "What do you think?"
>
> So I wrote that antennas are made of metalic conductors, salt waters and
> live tree. It seem that material is not important.
> The key factor is the oscillating, nonsymetrical flow of electrons. We need
> the tank, the pump and an antenna. May be with or without Bismuth plate.
> S*

The implication by many is that the radiation particles or electrons
are extracted from the actual radiator.
Where did this notion come from and what is its justification?

4293. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 15:07:44 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <dccua6hodfap7l1jbv6mjtgq2ljigaf8fn@4ax.com>
Source record: 7236

On Thu, 07 Oct 2010 14:58:38 -0400, Bob <rgsros@notme.invalid> wrote:

>Hi,
>
>A bit off topic, but I figure you folks are the true theorists out
>there, and would probably know about this.
>
>Am thinking about purchasing a shortwave defined radio receiver from
>WinRadio (http://www.winradio.com/home/g33ddc.htm).
>
>Here is copy from part of their spec sheet:
>
> "The receiver's robust front-end is equipped with an
>ultra-high-linearity amplifier which results in exceptional
>strong-signal performance. This already robust front-end is further
>enhanced with a user-selectable preselector that can operate either in a
>fully automatic or user-configurable mode. As many as 119 different
>filter combinations can be constructed by the user (91 bandpass, 14
>low-pass and 14 high-pass). The front-end employs 34 subminiature
>electromechanical relays (rather than often used but distortion-prone
>semiconductor switches) to ensure high dynamic range."
>
>Was really surprised to see: The front-end employs 34 subminiature
>electromechanical relays (rather than often used but distortion-prone
>semiconductor switches) to ensure high dynamic range.
>
>I am retired now, so haven't kept up withese things, or the state of the
>art nowadays, but are they still using electromechanical relays for
>front ends feeding a 16 bit A to D ?
>
>Haven't semiconductor switches, caught up with reed relays for this
>application by now, or do they "still" provide a lower "on" resistance,
>etc. ?
>
>Any thoughts would be most appreciated.
>
>Thanks,
>Bob
Really good relays are available at very low cost today. Like less
than a dollar each! Between the Low Pass filter and the inboard
antenna tuner my TenTec Jupiter there are about 30 relays.

Other than overrall circuit size and switching speed I see no
advantage for semiconductors as compared to relays.

As far as "Why Ham Radio instead of internet?" :
I worked Japan last night (not my first time) on PSK-31/20 Meters with
40 watts and off the side of the Beam. The feeling was not unlike my
first Ham Radio contact 50 years ago....

It is my kind of getting high!
John Ferrell W8CCW

4294. Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 15:14:13 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <p0dua6d62e2m896jbfgo7k5ggp5gdgrp86@4ax.com>
Source record: 7237

I have been faithfully using a coil of coax as a common mode choke for a while without any idea if it is really doing any thing.

Googling turns up more url's than I can follow. I would appreciate any suggestions as to how might measure the effects of the common mode choke. 30 to 17 meters is my favored range of operation. I have a pretty well equipted shack.
John Ferrell W8CCW

4295. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 16:19:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6b37ae96-d484-4315-9891-c95ba54b46c0@d25g2000yqc.googlegroups.com>
Source record: 7239

On Oct 8, 3:14 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> I have been faithfully using a coil of coax as a common mode choke for
> a while without any idea if it is really doing any thing.
>
> Googling turns up more url's than I can follow. I would appreciate any
> suggestions as to how might measure the effects of the common mode
> choke. 30 to 17 meters is my favored range of operation. I have a
> pretty well equipted shack.
> John Ferrell W8CCW

http://www.k1ttt.net/technote/airbalun.html

4296. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 17:24:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d42831d5-49bf-4807-8a61-5bfec95ca9a3@w19g2000yqb.googlegroups.com>
Source record: 7240

On Oct 8, 10:14 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> Googling turns up more url's than I can follow. I would appreciate any
> suggestions as to how might measure the effects of the common mode
> choke.

This web page might save you some time and effort.

http://www.k1ttt.net/technote/airbalun.html
--
73, Cecil, w5dxp.com

4297. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 18:00:32 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <0r24o7-idi.ln1@mail.specsol.com>
Source record: 7238

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> So I wrote that antennas are made of metalic conductors, salt waters and
> live tree. It seem that material is not important.

That's because you are a babbling idiot.

The material is very important in the real world.

> The key factor is the oscillating, nonsymetrical flow of electrons. We need
> the tank, the pump and an antenna. May be with or without Bismuth plate.
> S*

Babbling, kook, word salad, nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

4298. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 18:58:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <68qua6tv3qbcbbjr33ljj5mo6f9bq0p2gj@4ax.com>
Source record: 7242

On Fri, 08 Oct 2010 11:14:13 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>how might measure the effects of the common mode

Take one piece of wire;
loop it into a half-dozen loose turns (1" diam);
connect a Red LED to the wire ends;
place loop around coax;
slide it along the coax for a distance of something more than a
quarterwave length of the frequency under consideration.

How bright did the LED get anywhere along that length?

73's
Richard Clark, KB7QHC

4299. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 19:03:31 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E0C3DA188D5Anonenowhere@61.9.134.55>
Source record: 7243

John Ferrell <jferrell13@triad.rr.com> wrote in
news:p0dua6d62e2m896jbfgo7k5ggp5gdgrp86@4ax.com:

> I have been faithfully using a coil of coax as a common mode choke for
> a while without any idea if it is really doing any thing.

You would not be alone. They seem to be the most popular suggestion for dealing with common mode current issues, but I suspect it is often a case of "fools rush in where angels fear to tread". The anecodotal support for Ugly Baluns is not convincing, and quantitive measurements explain why.

They are cheap, and it is the only factor I see consistently shaping recomendations, cheap rather than effective in the application. Of course, doing nothing is cheaper, and better value if it is as effective!

> Googling turns up more url's than I can follow. I would appreciate any
> suggestions as to how might measure the effects of the common mode
> choke. 30 to 17 meters is my favored range of operation. I have a
> pretty well equipted shack.

Well, I better not give you any more references to follow.

The so called 'Ugly Baluns' are so popular, and peform so poorly. They achieve very high choking impedance around a narrow region about self resonance. If you have a narrowband application (eg single band antenna) AND arrange that self resonance at the band of interest, then they are capable of excellent peformance (very high choking impedance).

If your need is broadband operation, look to ferrite cored baluns.

As far as measuring common mode current goes, people have described common mode current meters, and some are available commercially. The problem is that common mode current is a standing wave, and a single measurement (at a single location) says very little.

The indirect effects of common mode current are not so easy the 'measure' as such, but you can asses the impact by things like sensitivity of line VSWR to line length and placement / routing, RFI to ham shack gear, other household equipment, neighbors equipment etc. You might also try to assess degradation of ambient noise due to common mode current. Distortion of transmitted pattern is more challenging to assess.

Owen

4300. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 19:11:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <82ba1174-61fc-4482-b5ad-e439240602fe@i5g2000yqe.googlegroups.com>
Source record: 7246

On Oct 8, 2:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > Uzytkownik "John Smith" <assemblywiz...@gmail.com> napisal w
wiadomoscinews:i8l3m6ilp3@news.eternal-september.org...
>
> > > On 10/7/2010 10:35 AM, Szczepan Bialek wrote:
>
> > >> ...
> > >> In each radiator is a stream of electrons. The oscillating pump is in the
> > >> transmitter. But where is the tank with the electrons?
> > >> ...
>
> > > Now, that is just plain silly! How are you going to Bismuth plate an
> > > oscillating electron pump? <straight face>
> > Art wrote: "What do you think?"
>
> > So I wrote that antennas are made of metalic conductors, salt waters and
> > live tree. It seem that material is not important.
> > The key factor is the oscillating, nonsymetrical flow of electrons. We need
> > the tank, the pump and an antenna. May be with or without Bismuth plate.
> > S*
>
> The implication by many is that the radiation particles or electrons
> are extracted from the actual radiator.
> Where did this notion come from and what is its justification?

there is no justification, just mr.b's delusion that is even worse
than your levitating neutrinos. He thinks that its the actual
electrons that jump off the antenna and flow to the receivers.
Now ain't that a gas?

4301. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 19:23:16 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <58b8e756-5eb6-4b1d-aed9-c75b94d5eef8@h7g2000yqn.googlegroups.com>
Source record: 7248

On Oct 8, 2:11 pm, K1TTT <k1...@arrl.net> wrote:
> On Oct 8, 2:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > Uzytkownik "John Smith" <assemblywiz...@gmail.com> napisal w
wiadomoscinews:i8l3m6ilp3@news.eternal-september.org...
>
> > > > On 10/7/2010 10:35 AM, Szczepan Bialek wrote:
>
> > > >> ...
> > > >> In each radiator is a stream of electrons. The oscillating pump is in the
> > > >> transmitter. But where is the tank with the electrons?
> > > >> ...
>
> > > > Now, that is just plain silly! How are you going to Bismuth plate an
> > > > oscillating electron pump? <straight face>
> > > Art wrote: "What do you think?"
>
> > > So I wrote that antennas are made of metalic conductors, salt waters and
> > > live tree. It seem that material is not important.
> > > The key factor is the oscillating, nonsymetrical flow of electrons. We need
> > > the tank, the pump and an antenna. May be with or without Bismuth plate.
> > > S*
>
> > The implication by many is that the radiation particles or electrons
> > are extracted from the actual radiator.
> > Where did this notion come from and what is its justification?
>
> there is no justification, just mr.b's delusion that is even worse
> than your levitating neutrinos. He thinks that its the actual
> electrons that jump off the antenna and flow to the receivers.
> Now ain't that a gas?

Well we do have opinions exceptpenniokio but where is the backup data?
I would imagine that some old timers are getting near the end of their
antennas life, as what started with a thick radiator has now got down
to a couple of mills and drooping
and only a few electrons left.
On the other hand it is well established that billions of particles
inhabit every cubic metre on earth and the question is that if we
don't allow these particles or neutrinos to settle or rest a dense

fog is going to envelope the earth killing mankind and allowing the dynasaurs to come back. We already have some dynasoars in the making on this thread!

4302. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 19:54:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d5725ae2-ac77-4e6b-aeda-d43c363a0ef0@k10g2000yqa.googlegroups.com>
Source record: 7051

On Oct 8, 7:23 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Oct 8, 2:11 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Oct 8, 2:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > > Uzytkownik "John Smith" <assemblywiz...@gmail.com> napisal w
wiadomoscinews:i8l3m6ilp3@news.eternal-september.org...
>
> > > > > On 10/7/2010 10:35 AM, Szczepan Bialek wrote:
>
> > > > >> ...
> > > > >> In each radiator is a stream of electrons. The oscillating pump is in the
> > > > >> transmitter. But where is the tank with the electrons?
> > > > >> ...
>
> > > > > Now, that is just plain silly! How are you going to Bismuth plate an
> > > > > oscillating electron pump? <straight face>
> > > > Art wrote: "What do you think?"
>
> > > > So I wrote that antennas are made of metalic conductors, salt waters and
> > > > live tree. It seem that material is not important.
> > > > The key factor is the oscillating, nonsymetrical flow of electrons. We need
> > > > the tank, the pump and an antenna. May be with or without Bismuth plate.
> > > > S*
>
> > > The implication by many is that the radiation particles or electrons
> > > are extracted from the actual radiator.
> > > Where did this notion come from and what is its justification?
>
> > there is no justification, just mr.b's delusion that is even worse
> > than your levitating neutrinos. He thinks that its the actual
> > electrons that jump off the antenna and flow to the receivers.
> > Now ain't that a gas?
>
> Well we do have opinions exceptpenniokio but where is the backup data?

YOU want backup data?? talk about the pot calling the kettle black,
where is the backup data for your levitating neutrinos?

4303. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 19:55:16 UTC
From: No Spam <nospam@nospam.com>
Message-ID: <i8nsv4hsj2@news.albasani.net>
Source record: 7052

On Thu, 07 Oct 2010 17:23:15 -0700, Jim Lux wrote:

>> Haven't semiconductor switches, caught up with reed relays for this
>> application by now, or do they "still" provide a lower "on" resistance,
>> etc. ?
>>
>>
>
> Semiconductor switches have issues with intermodulation, etc. and power
> consumption. For wideband RF, you're not going to be using cheap 4066
> CMOS muxes.. if you need to handle strong signals, that implies decent
> diodes with a fair amount of current.
>
> High quality sealed relays are inexpensive, very reliable, etc.

Just a note ...
The signal that will make a switching diode go nonlinear will be Strong signals (mostly AM/FM/TV) that are not even in the desired band. Several receiver manufacturers even place a 20db BCB BP filters as the first thing after the antenna connection and before the attn circuit (also diode controlled)to prevent these signals from even reaching the first BPF diode switching network. A bad thing for people interested in BCB-DX.

I think relays in the front end of any RX is a good thing. Relay reliability has improved allot in the last 30 years too so longevity should not be an issue in a receiver.

4304. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 19:55:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7acd2615-f948-4959-8da8-0376ccb89c5e@d17g2000yqm.googlegroups.com>
Source record: 7053

On Oct 8, 10:46 am, K1TTT <k1...@arrl.net> wrote:
> On Oct 5, 2:31 am, Art Unwin <arthurun...@gmail.com> wrote:
>
> > Antennas usually are made of aluminum as copper is somewhat heavier
> > and silver and gold is to expensive. Since lead is now banned in a lot
> > of places especially with solder you can now buy solder that is doped
> > with Bismuth !
> > Now you can't coat your elements with it but if you have a solder
> > bath you can run copper wire thru it. The bismuth is brittle
> > but with the underlying copper it is stiff enough to stick it on the
> > antenna elements. I am assuming that the applied current would travel
> > along the bismuth coating instead of the aluminum and therefore should
> > increase gain for antennas that use coupling methods such as the Yagi
> > tho bandwidth may well suffer some what.
> > What do you think?
>
> testing, 1, 2, 3... can you hear me now??

i guess the logjam finally broke. google has been bouncing and
queuing these up for days now!

4305. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 19:56:52 UTC
From: No Spam <nospam@nospam.com>
Message-ID: <i8nt23hsj3@news.albasani.net>
Source record: 7054

On Fri, 08 Oct 2010 11:14:13 -0400, John Ferrell wrote:

> I have been faithfully using a coil of coax as a common mode choke for a
> while without any idea if it is really doing any thing.
>
> Googling turns up more url's than I can follow. I would appreciate any
> suggestions as to how might measure the effects of the common mode
> choke. 30 to 17 meters is my favored range of operation. I have a pretty
> well equipted shack.
> John Ferrell W8CCW

I have had some success with short pieces of copper tubing slipped over
coax. however, I have no way of checking it to measure how effective this
is

4306. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 21:43:31 UTC
From: Antonio Vernucci <vernucci@tin.it>
Message-ID: <4caf9071$0$23149$4fafbaef@reader1.news.tin.it>
Source record: 7056

Bob,

you made an easy question and a difficult (for me) question.

The easy question.

> Haven't semiconductor switches, caught up with reed relays for this
> application by now, or do they "still" provide a lower "on" resistance, etc. ?

The problem of using diode-based switches is not in their higher "on" resistance, but in the fact that, even if strongly forward biased, they do not behave linearly, like a pure resistance. So, in presence of strong in-band or out-of-band signals, they can create intermodulation products. Increasing the diode forward biasing improves the situation, but the intermodulation performance of a mechanical contact anyway remains superior. Accordingly, some of the latest state-of-the-art transceivers (e.g. ICOM IC-7700) boast the use of mechanical switches instead of diode-based switches.

The difficult question.

> I am retired now, so haven't kept up withese things, or the state of the art
> nowadays, but are they still using electromechanical relays for
> front ends feeding a 16 bit A to D ?

I would re-formulate your question in this way: which is the point of avoiding the use of diodes OUTSIDE the A/D converter, if the A/D converter chip anyway includes switching diodes INSIDE it. This question is to be put to somebody who is familiar with the internal electrical design of A/D converter chips, and knows whether their internal structure is such to cause intermodulation products in presence of strong signals.

73

Tony I0JX
Rome, Italy

4307. Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-08 23:27:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <pi9va6dbsmmivv197g9nensd5ce98rh118@4ax.com>
Source record: 7057

On Thu, 7 Oct 2010 13:49:12 -0700 (PDT), "pdrahn@coinet.com"
<co_farmer@yahoo.com> wrote:

> I really doubt they are using reed relays because of the open
>capacitance of the contacts,

Measuring in at 0.1pF? the 1N914 (UHF switching diode) is easily 10
times this and more.

>plus, reed relays often stick shut

Ma Bell used them in the millions with 99.999% up-time.

>because of fatigue,

We are talking about a switch rated in the 100 Millions to Billions of
operations.

>static electricity, and if left closed for a long
>time, metal migration will stick them closed.

That is true with issues compounding this, but as the receiver has its
own spectral display, problems will be shown to you directly.

>Bet they are using regular relays, but in miniature form.

Which would suffer the same issues you offer above.

Reed relay usage design is not for the faint of heart, but when
properly matched (an ugly word here) to the load, then they can
provide service beyond your (and your children's) lifetime in this
application.

73's
Richard Clark, KB7QHC

4308. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 07:06:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb0148b$0$20999$65785112@news.neostrada.pl>
Source record: 7058

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:af48549f-31c1-4cb8-90aa-1f884caf91f9@t8g2000yqk.googlegroups.com...
On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> The key factor is the oscillating, nonsymetrical flow of electrons.

>"... for a copper wire of radius 1 mm carrying a steady current of 10
amps, the drift velocity (of the free electrons) is only about 0.024
cm/sec!"

In the oryginal Hertz dipole electrons jumps accros the big gap with the
high frequency. Calculate the velocity.

>The key factor is the generation, by the oscillating electrons, of RF
photons/fields/waves (traveling at the speed of light) .

Electrons do not need go-between. Electric waves are in substances and in
the plasma (rare plasma in space).
S*

4309. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 07:18:46 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb0175f$0$22792$65785112@news.neostrada.pl>
Source record: 7059

Uzytkownik "Art Unwin" <arthurunwin@gmail.com> napisal w wiadomosci
news:c06d6f2c-5410-4d9b-82fb-9599f8f6f4a5@t20g2000yqa.googlegroups.com...
On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Art wrote: "What do you think?"
>
>> So I wrote that antennas are made of metalic conductors, salt waters and
> live tree. It seem that material is not important.
> The key factor is the oscillating, nonsymetrical flow of electrons. We
> need
> the tank, the pump and an antenna. May be with or without Bismuth plate.
> S*

>The implication by many is that the radiation particles or electrons
are extracted from the actual radiator.
>Where did this notion come from and what is its justification?

Electrons are expelled in the result of the voltage doubling in the end of
an antenna.

The transmitter create the pulsatin flow of electrons.
"Unsteady flow is present in man, machine and nature. The flow of blood in
arteries and capillaries in the human body is pulsatile- composed of a mean
flow superposed with an oscillating component. The tides that wash in and
out of rivers, harbors and estuaries are unsteady flows with very long
periods of oscillation. Many engineering devices employ pulsatile and
oscillating flow. Pulsating flow is defined here as a periodic flow with a
net displacement of fluid over each flow cycle. Oscillating flow is defined
as a periodic flow with a zero mean over each cycle."

"a periodic flow with a net displacement of fluid over each flow cycle"
needs a tank of electrons. It has many names: ground, counterpoise, radials
and chassis.
S*

4310. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 07:25:02 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb018d8$0$27032$65785112@news.neostrada.pl>
Source record: 7060

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:82ba1174-61fc-4482-b5ad-e439240602fe@i5g2000yqe.googlegroups.com...
On Oct 8, 2:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> > Art wrote: "What do you think?"
>
>> > So I wrote that antennas are made of metalic conductors, salt waters
>> > and
> > live tree. It seem that material is not important.
> > The key factor is the oscillating, nonsymetrical flow of electrons. We
> > need
> > the tank, the pump and an antenna. May be with or without Bismuth plate.
> > S*
>
>> The implication by many is that the radiation particles or electrons
> are extracted from the actual radiator.
> Where did this notion come from and what is its justification?

>there is no justification, just mr.b's delusion that is even worse
than your levitating neutrinos. He thinks that its the actual
electrons that jump off the antenna and flow to the receivers.
Now ain't that a gas?

It seems that you do not know too much about the pulsatile and oscillating
flow.
"Unsteady flow is present in man, machine and nature. The flow of blood in
arteries and capillaries in the human body is pulsatile- composed of a mean
flow superposed with an oscillating component. The tides that wash in and
out of rivers, harbors and estuaries are unsteady flows with very long
periods of oscillation. Many engineering devices employ pulsatile and
oscillating flow. Pulsating flow is defined here as a periodic flow with a
net displacement of fluid over each flow cycle. Oscillating flow is defined
as a periodic flow with a zero mean over each cycle." From:
http://gltrs.grc.nasa.gov/cgi-bin/GLTRS/browse.pl?1995/CR-198416.html
S*

4311. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 08:33:28 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i8p9crdpe1@news.eternal-september.org>
Source record: 7061

```
>> You meant I could use the aluminum window frames as a big antenna? :)
>
> YES! i have done that and it works great... even better than
> bedsprings because you can make it vertically polarized by feeding in
> the right place.

Did u solder a wire from the radio to the window frame? How did you do it?
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
^ ^ 16:31:01 up 9 days 17:48 1 user load average: 0.13 0.11 0.05
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4312. From OP: Re: Reed Relays ? (a bit off topic)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 11:20:06 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <i8pj5g$b9g$1@news.eternal-september.org>
Source record: 7062

Hi All,

Thanks for all the info.
I've learned a lot, as usual, from the replies.
Thanks for taking the time; appreciate it.

Regards,
Bob (outside of Boston)

BTW: know of anyone who might be interested in a Yaesu FRG 7700 ?
if so, please contact via: rgsroseX@comcast.net (remove the X)

On 10/7/2010 2:58 PM, Bob wrote:
> Hi,
>
> A bit off topic, but I figure you folks are the true theorists out
> there, and would probably know about this.
>
> Am thinking about purchasing a shortwave defined radio receiver from
> WinRadio (http://www.winradio.com/home/g33ddc.htm).
>
> Here is copy from part of their spec sheet:
>
> "The receiver's robust front-end is equipped with an
> ultra-high-linearity amplifier which results in exceptional
> strong-signal performance. This already robust front-end is further
> enhanced with a user-selectable preselector that can operate either in a
> fully automatic or user-configurable mode. As many as 119 different
> filter combinations can be constructed by the user (91 bandpass, 14
> low-pass and 14 high-pass). The front-end employs 34 subminiature
> electromechanical relays (rather than often used but distortion-prone
> semiconductor switches) to ensure high dynamic range."
>
> Was really surprised to see: The front-end employs 34 subminiature
> electromechanical relays (rather than often used but distortion-prone
> semiconductor switches) to ensure high dynamic range.
>
> I am retired now, so haven't kept up withese things, or the state of the
> art nowadays, but are they still using electromechanical relays for
> front ends feeding a 16 bit A to D ?
>
> Haven't semiconductor switches, caught up with reed relays for this
> application by now, or do they "still" provide a lower "on" resistance,
> etc. ?

>
> Any thoughts would be most appreciated.
>
> Thanks,
> Bob

4313. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 11:34:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8de3c04d-6803-48f5-92e0-d662f669c4af@c10g2000yqh.googlegroups.com>
Source record: 7063

On Oct 9, 8:33 am, Man-wai Chang <toylet.toy...@gmail.com> wrote:
> >> You meant I could use the aluminum window frames as a big antenna? :)
>
> > YES! i have done that and it works great... even better than
> > bedsprings because you can make it vertically polarized by feeding in
> > the right place.
>
> Did u solder a wire from the radio to the window frame? How did you do it?
>
> --
>   @~@   Might, Courage, Vision, SINCERITY.
>   / v \ Simplicity is Beauty! May the Force and Farce be with you!
> /(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
>   ^ ^   16:31:01 up 9 days 17:48 1 user load average: 0.13 0.11 0.05
> 不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援
(CSSA):http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

just an alligator clip.

4314. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 11:36:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3a373878-bd6f-4822-99ed-02d66dd8cf72@f25g2000yqc.googlegroups.com>
Source record: 7064

On Oct 9, 7:25 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:82ba1174-61fc-4482-b5ad-e439240602fe@i5g2000yqe.googlegroups.com...
> On Oct 8, 2:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Oct 8, 2:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> > Art wrote: "What do you think?"
>
> >> > So I wrote that antennas are made of metalic conductors, salt waters
> >> > and
> > > live tree. It seem that material is not important.
> > > The key factor is the oscillating, nonsymetrical flow of electrons. We
> > > need
> > > the tank, the pump and an antenna. May be with or without Bismuth plate.
> > > S*
>
> >> The implication by many is that the radiation particles or electrons
> > > are extracted from the actual radiator.
> > > Where did this notion come from and what is its justification?
> > >there is no justification, just mr.b's delusion that is even worse
>
> than your levitating neutrinos. He thinks that its the actual
> electrons that jump off the antenna and flow to the receivers.
> Now ain't that a gas?
>
> It seems that you do not know too much about the pulsatile and oscillating
> flow.
> "Unsteady flow is present in man, machine and nature. The flow of blood in
> arteries and capillaries in the human body is pulsatile- composed of a mean
> flow superposed with an oscillating component. The tides that wash in and
> out of rivers, harbors and estuaries are unsteady flows with very long
> periods of oscillation. Many engineering devices employ pulsatile and
> oscillating flow. Pulsating flow is defined here as a periodic flow with a
> net displacement of fluid over each flow cycle. Oscillating flow is defined
> as a periodic flow with a zero mean over each cycle."
From:http://gltrs.grc.nasa.gov/cgi-bin/GLTRS/browse.pl?1995/CR-198416.html
> S*

great laugh isn't he art... you two should collaborate on a grand new
theory of em particulate flow, between your magical levitating
diamagnetic solar neutrinos that we are all drowning in and his

'pulsatile' electron flow maybe you could come up with something that has even more humor potential!

4315. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 13:57:41 UTC
From: danny <k6mhe@k6mhe.com>
Message-ID: <i8pscl029hk@news1.newsguy.com>
Source record: 7065

On Fri, 08 Oct 2010 11:14:13 -0400, John Ferrell wrote:

> I have been faithfully using a coil of coax as a common mode choke for a
> while without any idea if it is really doing any thing.
>
> Googling turns up more url's than I can follow. I would appreciate any
> suggestions as to how might measure the effects of the common mode
> choke. 30 to 17 meters is my favored range of operation. I have a pretty
> well equipted shack.
> John Ferrell W8CCW

Here is one of the better papers I've found on this subject.

www.audiosystemsgroup.com/RFI-Ham.pdf

Danny, K6MHE

4316. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 17:59:36 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <o8b1b6lk4vvo7hlmtndbfe8o3kf8dfnv0j@4ax.com>
Source record: 7066

On Fri, 08 Oct 2010 11:14:13 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>I have been faithfully using a coil of coax as a common mode choke for
>a while without any idea if it is really doing any thing.
>
>Googling turns up more url's than I can follow. I would appreciate any
>suggestions as to how might measure the effects of the common mode
>choke. 30 to 17 meters is my favored range of operation. I have a
>pretty well equipted shack.
>John Ferrell W8CCW
Thanks for all the replies.
Some I have already seen and some are new to me.

Now to digest them and try a Lab project or two...
John Ferrell W8CCW

4317. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 18:20:53 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb0b28e$0$27034$65785112@news.neostrada.pl>
Source record: 7067

Uzytkownik "K1TTT" <k1ttt@arrl.net>wrote
news:3a373878-bd6f-4822-99ed-02d66dd8cf72@f25g2000yqc.googlegroups.com...

>great laugh isn't he art... you two should collaborate on a grand new
theory of em particulate flow, between your magical levitating
diamagnetic solar neutrinos that we are all drowning in and his
'pulsatile' electron flow maybe you could come up with something that
has even more humor potential!

Look at "Simplest Crystal Radi" in:
http://hackingwithgum.com/2009/06/08/how-crystal-radios-really-work/

There is the antenna, diode and ground. Is there the "pulsatile electron
flow "?

If the transmitter produces the AC current and at the end of the antenna the
voltage is doubled and the field emission take place is there the "pulsatile
electron flow "?

In radials no voltage doubling so the field emissions take place only in one
end.

Is it too dificult for you. You are an engineer.
S*

4318. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 19:28:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3250409d-36ef-4926-8e92-fa2dedffd284@a36g2000yqc.googlegroups.com>
Source record: 7068

On Oct 9, 6:20 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net>wrotenews:3a373878-bd6f-4822-99ed-02d66dd8cf72@f25g20
00yqc.googlegroups.com...
>
> >great laugh isn't he art... you two should collaborate on a grand new
>
> theory of em particulate flow, between your magical levitating
> diamagnetic solar neutrinos that we are all drowning in and his
> 'pulsatile' electron flow maybe you could come up with something that
> has even more humor potential!
>
> Look at "Simplest Crystal Radi"
in:http://hackingwithgum.com/2009/06/08/how-crystal-radios-really-work/
>
> There is the antenna, diode and ground. Is there the "pulsatile electron
> flow "?
>
> If the transmitter produces the AC current and at the end of the antenna the
> voltage is doubled and the field emission take place is there the "pulsatile
> electron flow "?
>
> In radials no voltage doubling so the field emissions take place only in one
> end.
>
> Is it too dificult for you. You are an engineer.
> S*

how does the electron know if it is at the end of an antenna wire or
the end of a radial wire?

4319. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 20:26:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E0D4BB2FB824nonenowhere@61.9.134.55>
Source record: 7069

John Ferrell <jferrell13@triad.rr.com> wrote in
news:o8b1b6lk4vvo7hlmtndbfe8o3kf8dfnv0j@4ax.com:

>
> Now to digest them and try a Lab project or two...
> John Ferrell W8CCW

The challenge is to read the material and lose the stuff that is just plain wrong. When you find content that is wrong, it damages the credibility of the whole paper.

To demonstrate how poorly common mode current is understand, the following is a quote from MFJ's web site page describing their MFJ-835 twin needle "RF IN-LINE CURRENT METER, BAL.LINE, 1-30MHZ, 3AMP":

"How do you detect imbalance in open-wire or ladder line? By measuring and comparing each feedline wire current -- your feedline is balanced if the currents are equal."

Well, the line is balanced if the currents are equal in magnitude and opposite in phase (ie 180° out of phase). The MFJ-835 compares ONLY the magnitude, and it is true that if there is zero common mode current, a properly calibrated MFJ-835 will indicate balance, but it is NOT true that if the MFJ-835 indicates balance (equal magnitudes) that there is necessarily zero common mode current.

You will find articles on the net where authors have expounded the perfection of their station using the MFJ-835 as proof of zero common mode current, some even explaining how they continuously monitor balance (apparently at a fixed point in the line). The instrument is not suited to the job, and their results are flawed. The articles would make a good read if they weren't flawed.

Owen

4320. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-09 22:48:14 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <e287o7-ivs.ln1@mail.specsol.com>
Source record: 7070

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Look at "Simplest Crystal Radi" in:
> http://hackingwithgum.com/2009/06/08/how-crystal-radios-really-work/
>
> There is the antenna, diode and ground. Is there the "pulsatile electron
> flow "?
>
> If the transmitter produces the AC current and at the end of the antenna the
> voltage is doubled and the field emission take place is there the "pulsatile
> electron flow "?
>
> In radials no voltage doubling so the field emissions take place only in one
> end.
>
> Is it too dificult for you. You are an engineer.
> S*

Babbling gibberish.

--
Jim Pennino

Remove .spam.sux to reply.

4321. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 09:06:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb1821d$0$22815$65785112@news.neostrada.pl>
Source record: 7071

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:3250409d-36ef-4926-8e92-fa2dedffd284@a36g2000yqc.googlegroups.com...
On Oct 9, 6:20 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Look at "Simplest Crystal Radi" in:
>> http://hackingwithgum.com/2009/06/08/how-crystal-radios-really-work/
>
>> There is the antenna, diode and ground. Is there the "pulsatile electron
> flow "?
>
> If the transmitter produces the AC current and at the end of the antenna
> the
> voltage is doubled and the field emission take place is there the
> "pulsatile
> electron flow "?
>
>> In radials no voltage doubling so the field emissions take place only in
>> one
> end.
>
>> Is it too dificult for you. You are an engineer.

>how does the electron know if it is at the end of an antenna wire or
the end of a radial wire?

The first sensible question.

"Radials and Counterpoises have two basic purposes:
1. To improve the RF ground conductivity for the ground current return path.
Unless you live in a salt-water swamp, your ground conductivity makes a very
poor path for the return of ground currents. This increases the ground
losses and reduces the efficiency of an antenna that needs a good RF ground.

E. More radial wires are generally better. As the number gets larger, they
improve the RF Ground less and less, to the point where there is no
difference when adding one more radial to a system that already has 120
installed. Minimum systems of as few as 4 wires can provide an acceptable
ground and increase the antenna's efficiency by a significant amount.
Generally, 6-8 radials is the minimum that should be used." From:
http://www.sgcworld.com/radialstechnote.html

As you see in the radials are many ends. There is the lower voltage and
almost no radiation (electron loss). Radial work like the receiver antena
(caught electrons from air)

Without the radials your stations can work only in a "salt-water swamp".

S*

4322. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 11:06:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <34c1ca64-f4b1-4b06-ae9f-cf6934d2d025@a19g2000vbi.googlegroups.com>
Source record: 7072

On Oct 10, 9:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:3250409d-36ef-4926-8e92-fa2dedffd284@a36g2000yqc.googlegroups.com...
> On Oct 9, 6:20 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> Look at "Simplest Crystal Radi" in:
> >>http://hackingwithgum.com/2009/06/08/how-crystal-radios-really-work/
>
> >> There is the antenna, diode and ground. Is there the "pulsatile electron
> > flow "?
>
> > If the transmitter produces the AC current and at the end of the antenna
> > the
> > voltage is doubled and the field emission take place is there the
> > "pulsatile
> > electron flow "?
>
> >> In radials no voltage doubling so the field emissions take place only in
> >> one
> > end.
>
> >> Is it too dificult for you. You are an engineer.
> >how does the electron know if it is at the end of an antenna wire or
>
> the end of a radial wire?
>
> The first sensible question.
>
> "Radials and Counterpoises have two basic purposes:
> 1. To improve the RF ground conductivity for the ground current return path.
> Unless you live in a salt-water swamp, your ground conductivity makes a very
> poor path for the return of ground currents. This increases the ground
> losses and reduces the efficiency of an antenna that needs a good RF ground.
>
> E. More radial wires are generally better. As the number gets larger, they
> improve the RF Ground less and less, to the point where there is no
> difference when adding one more radial to a system that already has 120
> installed. Minimum systems of as few as 4 wires can provide an acceptable
> ground and increase the antenna's efficiency by a significant amount.
> Generally, 6-8 radials is the minimum that should be used."

From:http://www.sgcworld.com/radialstechnote.html
>
> As you see in the radials are many ends. There is the lower voltage and
> almost no radiation (electron loss). Radial work like the receiver antena
> (caught electrons from air)
>
> Without the radials your stations can work only in a "salt-water swamp".
>
> S*

yes, but how does the electron in a single radial know it is at the
end of a radial and not double as opposed to the electron at the end
of an antenna that does double??

4323. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 13:13:39 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb1bc0d$0$22816$65785112@news.neostrada.pl>
Source record: 7073

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:34c1ca64-f4b1-4b06-ae9f-cf6934d2d025@a19g2000vbi.googlegroups.com...
On Oct 10, 9:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Generally, 6-8 radials is the minimum that should be used." From:
>> http://www.sgcworld.com/radialstechnote.html
>
>> As you see in the radials are many ends. There is the lower voltage and
> almost no radiation (electron loss). Radial work like the receiver antena
> (caught electrons from air)
>
>> Without the radials your stations can work only in a "salt-water swamp".
>
>yes, but how does the electron in a single radial know it is at the
end of a radial and not double

In each end the voltage has tendency to be doubled (standing wave). If you
have radials and the LED you can measure the voltage. It will be lower in 10
radials than in 6.

>as opposed to the electron at the end
of an antenna that does double??

You know what to do to have low VSWR. Low VSWR means that the voltage is so
high that the intensive emission of electrons take place.

At higher voltage the emission or sparks make low VSWR.
S*

4324. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 14:07:31 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ac3b44ec-0418-45f5-ab07-5fa7f6adbfe5@g18g2000vbn.googlegroups.com>
Source record: 7074

On Oct 10, 1:13 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:34c1ca64-f4b1-4b06-ae9f-cf6934d2d025@a19g2000vbi.googlegroups.com...
> On Oct 10, 9:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> Generally, 6-8 radials is the minimum that should be used." From:
> >>http://www.sgcworld.com/radialstechnote.html
>
> >> As you see in the radials are many ends. There is the lower voltage and
> > almost no radiation (electron loss). Radial work like the receiver antena
> > (caught electrons from air)
>
> >> Without the radials your stations can work only in a "salt-water swamp".
>
> >yes, but how does the electron in a single radial know it is at the
>
> end of a radial and not double
>
> In each end the voltage has tendency to be doubled (standing wave). If you
> have radials and the LED you can measure the voltage. It will be lower in 10
> radials than in 6.

oh, so it does double at the end of a radial.. that is different from
what you said earlier.

>
> >as opposed to the electron at the end
>
> of an antenna that does double??
>
> You know what to do to have low VSWR. Low VSWR means that the voltage is so
> high that the intensive emission of electrons take place.
>
> At higher voltage the emission or sparks make low VSWR.
> S*

oh, so the swr changes with transmitter power? that is an observable
prediction that is obviously false... go back to square 1 and start
your theory over again.

4325. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 14:18:00 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i8shup$gf7$2@news.eternal-september.org>
Source record: 7075

> just an alligator clip.

Thx

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
^ ^ 22:13:01 up 10 days 23:30 2 users load average: 0.05 0.02 0.00
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4326. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 14:18:16 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i8shv9$gf7$3@news.eternal-september.org>
Source record: 7076

```
> testing, 1, 2, 3... can you hear me now??

Contact!
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
^ ^ 22:13:01 up 10 days 23:30 2 users load average: 0.05 0.02 0.00
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4327. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 16:10:51 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <b559o7-r26.ln1@mail.specsol.com>
Source record: 7077

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> As you see in the radials are many ends. There is the lower voltage and
> almost no radiation (electron loss). Radial work like the receiver antena
> (caught electrons from air)
>
> Without the radials your stations can work only in a "salt-water swamp".

Babbling nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

4328. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 17:07:51 UTC
From: you <you@shadows.orgs>
Message-ID: <you-BFF871.09074910102010@news.starband.net>
Source record: 7078

In article <4cb1821d$0$22815$65785112@news.neostrada.pl>,
"Szczepan Bialek" <sz.bialek@wp.pl> wrote:

>
> The first sensible question.
>
> "Radials and Counterpoises have two basic purposes:
> 1. To improve the RF ground conductivity for the ground current return path.
> Unless you live in a salt-water swamp, your ground conductivity makes a very
> poor path for the return of ground currents. This increases the ground
> losses and reduces the efficiency of an antenna that needs a good RF ground.
>
> E. More radial wires are generally better. As the number gets larger, they
> improve the RF Ground less and less, to the point where there is no
> difference when adding one more radial to a system that already has 120
> installed. Minimum systems of as few as 4 wires can provide an acceptable
> ground and increase the antenna's efficiency by a significant amount.
> Generally, 6-8 radials is the minimum that should be used." From:
> http://www.sgcworld.com/radialstechnote.html

If you believe ANYTHING that was published by SGC, you need to go back
to school and relearn everything you ever thought you knew about RF
Antenna Systems. There is a reason Don Stoner, left the company decades
ago, and PeeAir couldn't design his way out of a Wet Paper Bag.

> As you see in the radials are many ends. There is the lower voltage and
> almost no radiation (electron loss). Radial work like the receiver antena
> (caught electrons from air)
>
> Without the radials your stations can work only in a "salt-water swamp".
>
> S*

4329. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 17:20:28 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <p2t3b697j43kj0qoj7jk43tn7im48dj44t@4ax.com>
Source record: 7079

On Sat, 09 Oct 2010 20:26:29 GMT, Owen Duffy <none@no.where> wrote:

>John Ferrell <jferrell13@triad.rr.com> wrote in
>news:o8b1b6lk4vvo7hlmtndbfe8o3kf8dfnv0j@4ax.com:
>
>>
>> Now to digest them and try a Lab project or two...
>> John Ferrell W8CCW
>
>The challenge is to read the material and lose the stuff that is just
>plain wrong. When you find content that is wrong, it damages the
>credibility of the whole paper.
>

Yes.

I think the write up on K1TTT's site will satisfy my curiousity and
find its way into my Permanent Reference File...
I still need a little more time.

BTW, I think my next lesson will be to understand Hairpin Matching. I
plan to start with the page on your website. If I get stuck I will
bring it back here!

So many fun things to learn, so little time!

John Ferrell W8CCW

4330. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 18:54:08 UTC
From: Szczepan Bia&#65533;ek <sz.bialek@wp.pl>
Message-ID: <4cb20be0$0$27027$65785112@news.neostrada.pl>
Source record: 7080

"you" <you@shadows.orgs> wrote
news:you-BFF871.09074910102010@news.starband.net...
> In article <4cb1821d$0$22815$65785112@news.neostrada.pl>,
> "Szczepan Bialek" <sz.bialek@wp.pl> wrote:
>

>> "Radials and Counterpoises have two basic purposes:
>> 1. To improve the RF ground conductivity for the ground current return
>> path.
" From:
>> http://www.sgcworld.com/radialstechnote.html
>
> If you believe ANYTHING that was published by SGC, you need to go back
> to school and relearn everything you ever thought you knew about RF
> Antenna Systems. There is a reason Don Stoner, left the company decades
> ago, and PeeAir couldn't design his way out of a Wet Paper Bag.

We are discussing on the pulsatile flows of electrons and emission of them
from antenna end at transmitting.
At receiving the pulsative flow is in the oppsite direction.
Do you agree?
S*

4331. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 19:00:13 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8t2fuqno4@news.eternal-september.org>
Source record: 7081

On 10/10/2010 11:54 AM, Szczepan Biaï¿½ek wrote:

>> ...
> We are discussing on the pulsatile flows of electrons and emission of them
> from antenna end at transmitting.
> At receiving the pulsative flow is in the oppsite direction.
> Do you agree?
> S*

Yeah, have heard that described before ... medical marijuana has gotten
a lot more potent, huh?

Regards,
JS

4332. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 19:04:05 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb20e31$0$21005$65785112@news.neostrada.pl>
Source record: 7082

"K1TTT" <k1ttt@arrl.net>wrote
news:ac3b44ec-0418-45f5-ab07-5fa7f6adbfe5@g18g2000vbn.googlegroups.com...
On Oct 10, 1:13 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> In each end the voltage has tendency to be doubled (standing wave). If
>> you
> have radials and the LED you can measure the voltage. It will be lower in
> 10
> radials than in 6.

>oh, so it does double at the end of a radial.. that is different from
what you said earlier.

Existence of the standing waves was shown by Oliver Lodge. They are in each
wire.

>
> >as opposed to the electron at the end
>> of an antenna that does double??
>
>> You know what to do to have low VSWR. Low VSWR means that the voltage is
>> so
> high that the intensive emission of electrons take place.
>
>> At higher voltage the emission or sparks make low VSWR.
>
>oh, so the swr changes with transmitter power?

I wrote: "You know what to do to have low VSWR". Do you?

> that is an observable
prediction that is obviously false... go back to square 1 and start
your theory over again.

Here no new theory. Pulsative flow and the field emission are very old.

Is the pulsative flow of electrons in antennas?
S*

4333. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-10 19:59:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E0E4716F589nonenowhere@61.9.134.55>
Source record: 7083

John Ferrell <jferrell13@triad.rr.com> wrote in
news:p2t3b697j43kj0qoj7jk43tn7im48dj44t@4ax.com:

> BTW, I think my next lesson will be to understand Hairpin Matching. I
> plan to start with the page on your website.

My page shows how to do it more thay why it works.

If you are interested in why it works, consider an L network to transform a 20+j0 ohm antenna up to 50+j0. Think of a hi-pass configuration (series C, shunt L), and find values for C and L. Understanding the L match is essential to truly understanding the hairpin or beta match.

When you have worked that out, you will realise that you can create the series capacitive reactance by shortening the antenna (DE) a little. Yes, that also changes feedpoint R, but only very slowly compared to X.

The inductive reactance could be supplied by a coil, but at VHF it is more practical to use a s/c stub (which is the hairpin).

Back to how rather than why, if you use 4NEC2 to model antennas, it displays a parallel equivalent of the feedpoint impedance. If you shorten the antenna so that the parallel equivalent is 50 ohms // -X (Y=1/50 +j/X), then the hairpin has to supply X (B=-j/X) to cancel the -X (B=j/X).

Another application of the same concept is to shorten a loaded 80m mobile whip (which has low feedpoint R) so that the parallel equivalent is 50 ohms // -X, and shunt it with an inductor of reactance X to cancel -X.

Owen

4334. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 00:11:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6b9f95ac-f817-4401-b3a2-7bea2b2e5590@w4g2000vbh.googlegroups.com>
Source record: 7084

On Oct 10, 3:04 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>wrotenews:ac3b44ec-0418-45f5-ab07-5fa7f6adbfe5@g18g2000vbn.goog
legroups.com...
> On Oct 10, 1:13 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In each end the voltage has tendency to be doubled (standing wave). If
> >> you
> > > have radials and the LED you can measure the voltage. It will be lower in
> > > 10
> > > radials than in 6.
> > >oh, so it does double at the end of a radial.. that is different from
>
> what you said earlier.
>
> Existence of the standing waves was shown by Oliver Lodge. They are in each
> wire.
>
>
>
> > > >as opposed to the electron at the end
> >> of an antenna that does double??
>
> >> You know what to do to have low VSWR. Low VSWR means that the voltage is
> >> so
> > > high that the intensive emission of electrons take place.
>
> >> At higher voltage the emission or sparks make low VSWR.
>
> >oh, so the swr changes with transmitter power?
> I wrote: "You know what to do to have low VSWR". Do you?
> > > that is an observable
>
> prediction that is obviously false... go back to square 1 and start
> your theory over again.
>
> Here no new theory. Pulsative flow and the field emission are very old.
>
> Is the pulsative flow of electrons in antennas?
> S*

no, the flow of electrons stays in the antenna and is sinusoidal...
they do not jump off the antenna.

4335. help with wireless video link

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 00:47:30 UTC
From: zeb7k@hotmail.com
Message-ID: <41cd08e4-4829-4578-8d16-392b6a969d98@z25g2000vbn.googlegroups.com>
Source record: 7085

I'm a pretty green in this area so I thought I would ask the
enthusiasts:

I want to set up a wireless video link between my house and a
construction site 1000 feet away. The area between is heavily wooded
and hilly. I want to use a regular non-IP analog CCTV camera with 520
TV lines of
resolution. A 2.4GHz transmitter/receiver pair of 2 watts is my guess
as to the link I will need. I will probably try powering my camera
with a car battery.

What bothers me is that I've searched eBay up and down and cannot find
a setup like this that uses anything more than a 420 TVL camera (and
usually eBay has everything).

My questions are:

#1 Are my selections of frequency and power feasible? What would the
advantages of the 1.2GHz or 5.8GHz bands be?

#2 Am I bumping up into some bandwidth limit with a 520 TVL camera?
How come I am not finding any higher-resolution long-distance
offerings?

Thanks.

--zeb

4336. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 07:38:13 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8uet7$e46$3@news.eternal-september.org>
Source record: 7086

On 10/10/2010 5:11 PM, K1TTT wrote:

> ...
> no, the flow of electrons stays in the antenna and is sinusoidal...
> they do not jump off the antenna.

Do you people realize, I puke every time this putrid piece of chit posts
... just in case you were wondering ... why would anyone tolerate doodoo?

Regards,
JS

4337. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 07:43:40 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb2c035$0$27039$65785112@news.neostrada.pl>
Source record: 7087

"K1TTT" <k1ttt@arrl.net> wrote
news:6b9f95ac-f817-4401-b3a2-7bea2b2e5590@w4g2000vbh.googlegroups.com...
On Oct 10, 3:04 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Is the pulsative flow of electrons in antennas?

>no, the flow of electrons stays in the antenna and is sinusoidal...

In a cristal radio is the diode. The electrons flow from the antenna to
ground. Where they come from?

>they do not jump off the antenna.

They must do it in the transmitting antenna.
They are members of "pulsatile- composed of a mean
flow superposed with an oscillating component".

In reality no "sinusoidal...". The forward motion is always stronger than
the back.
S*

4338. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 09:47:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <49c3d654-d7be-40a0-95f8-d84c14620119@l35g2000vbr.googlegroups.com>
Source record: 7088

On Oct 11, 3:38 am, John Smith <assemblywiz...@gmail.com> wrote:
> On 10/10/2010 5:11 PM, K1TTT wrote:
>
> > ...
> > no, the flow of electrons stays in the antenna and is sinusoidal...
> > they do not jump off the antenna.
>
> Do you people realize, I puke every time this putrid piece of chit posts
> ... just in case you were wondering ... why would anyone tolerate doodoo?
>
> Regards,
> JS

great way to loose weight!

4339. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 09:48:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <679e1231-e6eb-45f3-8f73-4c6af928617f@f26g2000vbm.googlegroups.com>
Source record: 7089

On Oct 11, 3:43 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:6b9f95ac-f817-4401-b3a2-7bea2b2e5590@w4g2000vbh.googlegroups.com...
> On Oct 10, 3:04 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Is the pulsative flow of electrons in antennas?
> >no, the flow of electrons stays in the antenna and is sinusoidal...
>
> In a cristal radio is the diode. The electrons flow from the antenna to
> ground. Where they come from?
>
> >they do not jump off the antenna.
>
> They must do it in the transmitting antenna.
> They are members of "pulsatile- composed of a mean
> flow superposed with an oscillating component".
>
> In reality no "sinusoidal...". The forward motion is always stronger than
> the back.
> S*

give me a number. if i transmit 1kw on 14mhz how much dc current must
my transmitter be supplying in addition to the 1kw ac sinusoid that my
meter measures??

4340. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 11:52:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e91c6d42-4a28-45d9-a72f-0b3fa472c375@k11g2000vbf.googlegroups.com>
Source record: 7090

On Oct 11, 2:43 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:6b9f95ac-f817-4401-b3a2-7bea2b2e5590@w4g2000vbh.googlegroups.com...
> On Oct 10, 3:04 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> In a cristal radio is the diode. The electrons flow from the antenna to
> ground. Where they come from?

"... for a copper wire of radius 1 mm carrying a steady current of 10
amps, the (electron) drift velocity is only about 0.024 cm/sec". At
100 ns per RF cycle, the above electron moves back and forth about 10
nanometers, i.e. it doesn't "flow" anywhere except at DC.

At RF those electrons never make it from the antenna to ground and
instead essentially vibrate in place. The only thing that flows at the
speed of light is photons/fields/waves. The slow-moving vibrating
electron carriers form a bucket brigade for the fast moving photonic
energy. That fact of physics wasn't fully understood until the field
of quantum physics matured. EM fields and waves turned out to be
particles that are photonic in nature.
--
73, Cecil, w5dxp.com

4341. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 17:25:26 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb3488f$0$22794$65785112@news.neostrada.pl>
Source record: 7091

"John Smith" <assemblywizard@gmail.com> wrote
news:i8t2fuqno4@news.eternal-september.org...
> On 10/10/2010 11:54 AM, Szczepan Bia&#65533;ek wrote:
>
> >> ...
>> We are discussing on the pulsatile flows of electrons and emission of
>> them
>> from antenna end at transmitting.
>> At receiving the pulsative flow is in the oppsite direction.
>> Do you agree?
>> S*
>
> Yeah, have heard that described before ... medical marijuana has gotten a
> lot more potent, huh?

What do you take that in your head is only the magnetic whirl and no place
for electrns?
S*

4342. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 19:12:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <712b1ea9-98fe-498a-8560-cc7ecedc66be@z28g2000yqh.googlegroups.com>
Source record: 7092

On Oct 11, 1:25 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "John Smith" <assemblywiz...@gmail.com>
wrotenews:i8t2fuqno4@news.eternal-september.org...
>
> > On 10/10/2010 11:54 AM, Szczepan Bia³ek wrote:
>
> > >> ...
> >> We are discussing on the pulsatile flows of electrons and emission of
> >> them
> >> from antenna end at transmitting.
> >> At receiving the pulsative flow is in the oppsite direction.
> >> Do you agree?
> >> S*
>
> > Yeah, have heard that described before ... medical marijuana has gotten a
> > lot more potent, huh?
>
> What do you take that in your head is only the magnetic whirl and no place
> for electrns?
> S*

no whirls... the mathematical operator is called curl, but it does not
relate to the often pictured whirl or vortex.

4343. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 21:19:38 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i8vv1g$1ia$3@news.eternal-september.org>
Source record: 7093

On 10/11/2010 2:47 AM, K1TTT wrote:

> ...
> great way to loose weight!

Brother, some arse has found a way to duplicate my posts, exactly ...
even for me, that is NOT a response I would have advanced ... it is
mildly annoying, I'll give 'em that ... but hey, it happens ...

Regards,
JS

4344. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 22:37:57 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i903kb$1ia$8@news.eternal-september.org>
Source record: 7094

On 10/11/2010 10:25 AM, Szczepan Bialek wrote:

> ...
> What do you take that in your head is only the magnetic whirl and no place
> for electrns?
> S*

Look, the lamer which has discovered how to mimic me is having a lot of
fun ... it is kinda funny ... I will give him/her that ... marijuana and
"magnetic whirl" is/are not subjects I deal with ... you can disregard
any posts bearing my name, on this thread ...

Regards,
JS

4345. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-11 23:46:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <dfff006b-6545-4023-98cb-ee9e3c52e733@d17g2000yqm.googlegroups.com>
Source record: 7095

On Oct 11, 6:37 pm, John Smith <assemblywiz...@gmail.com> wrote:
> On 10/11/2010 10:25 AM, Szczepan Bialek wrote:
>
> > ...
> > What do you take that in your head is only the magnetic whirl and no place
> > for electrns?
> > S*
>
> Look, the lamer which has discovered how to mimic me is having a lot of
> fun ... it is kinda funny ... I will give him/her that ... marijuana and
> "magnetic whirl" is/are not subjects I deal with ... you can disregard
> any posts bearing my name, on this thread ...
>
> Regards,
> JS

thats ok, we disregard anything you say anywhere.

4346. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 01:04:54 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i90c7s$i9r$2@news.eternal-september.org>
Source record: 7096

On 10/11/2010 4:46 PM, K1TTT wrote:

> ...
> thats ok, we disregard anything you say anywhere.

I like it when there is mutual agreement. Damn man, you aren't worth the "paper" you write on ... I just love watching you go about it though ... keep up the good work. <wink>

You are the best lesson in getting BS to float which I have ever witnessed. Seen some good ones, but I will admit, you are top of class!

Carry on, stiff upper lip, all that ...

Regards,
JS

4347. Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 02:17:20 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i90gfm$59i$1@news.eternal-september.org>
Source record: 7097

http://borderinvasionpics.com/

Amateurs have had a long standing of being "American Pie", of being of the backbone of America. I know a lot of us where Boy Scouts, Girls Scouts, had a great respect for the American flag, God, country, family, etc.

I think we should take our radios, our antennas, and any other items which we can support our country, our family, our friends, and our fellow American citizens with ... what say you?

I think lines are being drawn in the sand ... I think we need to decide what sides we stand on, don't you?

And, I am sorry, to go off topic ... please accept my apologies.

Regards,
JS

4348. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 02:24:32 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <635438f6-032c-4cf5-b170-bad943bae893@n26g2000yqh.googlegroups.com>
Source record: 7098

On Oct 11, 7:17 pm, John Smith <assemblywiz...@gmail.com> wrote:
> http://borderinvasionpics.com/
>
> Amateurs have had a long standing of being "American Pie", of being of
> the backbone of America. I know a lot of us where Boy Scouts, Girls
> Scouts, had a great respect for the American flag, God, country, family,
> etc.
>
> I think we should take our radios, our antennas, and any other items
> which we can support our country, our family, our friends, and our
> fellow American citizens with ... what say you?
>
> I think lines are being drawn in the sand ... I think we need to decide
> what sides we stand on, don't you?
>
> And, I am sorry, to go off topic ... please accept my apologies.
>
> Regards,
> JS

Not only off topic, but unable to construct meaningful sentences and
paragraphs.

4349. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 02:47:27 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i90i85$59i$2@news.eternal-september.org>
Source record: 7099

On 10/11/2010 7:24 PM, pdrahn@coinet.com wrote:

> ...
> Not only off topic, but unable to construct meaningful sentences and
> paragraphs.

Totally over the head? Don't worry about it. What I wrote is only for those who catch on. Don't worry though, the good Lord created such men as to take care of you and never lose a stride! The design is incredible and beautiful!

Regards,
JS

4350. Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 03:38:52 UTC
From: Jon <jon8338@peoplepc.com>
Message-ID: <vdGdnX7DvtfQRS7RnZ2dnUVZ_gmdnZ2d@earthlink.com>
Source record: 7100

I have a Realistic DX-160 0.15-30Mhz Solid State Communications Receiver for which I want to build or obtain an antenna.

I can buy 500' of 14awg twisted strand insulated copper wire from Lowes for $40. Then what? I have two trees about 200' apart I could get the ladder and string the wire. Would that work?

I used to have a dipole antenna but it never seemed to make any difference. What component is in the nodes, anyway? A capacitor? A resistor?

In the meantime while I try and figure it out, I'm working on acquiring an 8' ground rod. Plus grounding the coaxial.

Is this radio even worth an antenna?

What about a vertical mast antenna? I don't need to transmit, just receive. How good do those work?

Is a wire antenna best strung E-W or N-S? I want Europe, not Spanish.

Apparently the end of the wire can act as a node to a wave 2 or 3 times as long as the wire. The length of the wire can divide into waves 1/2, 1/3, 1/4 etc. the length of the wire.

http://mypeoplepc.com/members/jon8338/math/id39.html

All I know has taught me I know nothing. Jon

4351. Re: Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 07:04:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <m128b6tlc3vmid55bu8f0gdi7mhrq5lp05@4ax.com>
Source record: 7101

On Mon, 11 Oct 2010 23:38:52 -0400, "Jon" <jon8338@peoplepc.com>
wrote:

>I used to have a dipole antenna but it never seemed to make any difference.

Add a preselector (tuner).

>Is this radio even worth an antenna?

Yes.

73's
Richard Clark, KB7QHC

4352. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 08:11:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb41858$0$22813$65785112@news.neostrada.pl>
Source record: 7102

"K1TTT" <k1ttt@arrl.net> wrote
news:712b1ea9-98fe-498a-8560-cc7ecedc66be@z28g2000yqh.googlegroups.com...
>
>no whirls... the mathematical operator is called curl, but it does not
relate to the often pictured whirl or vortex.

The math is for the geometrcal description.

In Maxwell hypothesis are the molecullar vortices. The line of force rotate.
Around the wire are the rings like the Helmholtz smoke rings. The line of
force can rotate continously or oscillate. Nothing flow along the line of
force. Maxwell did this model for the transverse waves. They are in solids
and the math is used for the torsional vibrations.

Next Heaviside did more simple math for the TEM. It is tought as EM. But I
dont understand it.
S*

4353. Re: Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 13:07:41 UTC
From: Man-wai Chang <toylet.toylet@gmail.com>
Message-ID: <i91mj0$210$1@news.eternal-september.org>
Source record: 7103

```
On 12-Oct-10 11:38, Jon wrote:
> I have a Realistic DX-160 0.15-30Mhz Solid State Communications Receiver
> for which I want to build or obtain an antenna.

Is this DX-160 military grade?
```

--
@~@ Might, Courage, Vision, SINCERITY.
/ v \ Simplicity is Beauty! May the Force and Farce be with you!
/(_)\ (x86_64 Ubuntu 9.10) Linux 2.6.35.7
^ ^ 21:07:01 up 12 days 22:24 1 user load average: 1.04 1.03 1.00
不借貸! 不詐騙! 不援交! 不打交! 不打劫! 不自殺! 請考慮綜援 (CSSA):
http://www.swd.gov.hk/tc/index/site_pubsvc/page_socsecu/sub_addressesa

4354. Re: Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 13:41:50 UTC
From: Bill Ogden <billogden@optonline.net>
Message-ID: <4cb4659a$0$20189$607ed4bc@cv.net>
Source record: 7105

You will probably receive lots of suggestions about your antenna. My comments are:

1. Longer is not better. Once an antenna becomes too long, it becomes more directional (in odd ways) and may have more tendenacy to overload the receiver. On the normal shortwave bands, receiver sensitivity is not the issue (assuming a reasonably practical receiver); the signal-to-noise ratio is the key element. A longer antenna can increase the signal but it usually also increases the noise to the same degree and this does not accomplish anything (except possibly overload the receiver).
2. A preselector can help prevent overload and may be a reasonable idea on a less expensive receiver. (But it is not necessary; try working without it.)
3. A vertical or horizontal antenna (or a combination) can work. A horizontal antenna may be less prone to "static" in your area.
4. Does the receiver have two antenna input terminals, with neither "grounded" to the chassis? If so, a dipole might be appropriate. More likely, it has a single terminal possibly with a second terminal optionally "grounded". In this case, a single wire to the antenna might be better. (The "feedline" to the antenna is part of the antenna also; try to keep it away from electrically noisy things.)
5. With a single wire antenna, try the receiver with and without a "ground" connection. It will probably be better with the "ground". You are unlikely to need a ground stake. Try connecting to the "third pin" (ground) of your electrical socket. Or, try two or three wires of different lengths (15 - 25 feet) laying on the ground (or under a carpet, etc). For receiving only, you can try many different things --- there is no "right" answer.
6. For listening on typical shortwave bands, an outside antenna wire perhaps 35-40 feet long should be sufficient. For what you describe, the compass orientation will not matter much. If possible, have the antenna up at least 30 feet and a little away from the house.
7. You did not ask about a feedline. For a single wire you could use coax. What might be better is twin line with the antenna end of one side of the feedline connected to nothing. The receiver end of this "nothing side" would be connected to the ground terminal of the receiver.

All my suggestions will be shot down on various technical points, but they may be reasonable for getting started.

Possibly the most important thing is to start understanding shortwave propagation. What times are best to listen for Europe on which shortwave bands? There are no definite rules here; the condition of the ionosphere varies from day to day and hour to hour.

Bill
W2WO

4355. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 13:43:31 UTC
From: amdx <amdx@knology.net>
Message-ID: <6a87e$4cb465a7$18ec6dd7$6945@KNOLOGY.NET>
Source record: 7104

"John Smith" <assemblywizard@gmail.com> wrote in message
news:i90gfm$59i$1@news.eternal-september.org...
> http://borderinvasionpics.com/
>
> Amateurs have had a long standing of being "American Pie", of being of the
> backbone of America. I know a lot of us where Boy Scouts, Girls Scouts,
> had a great respect for the American flag, God, country, family, etc.
>
> I think we should take our radios, our antennas, and any other items which
> we can support our country, our family, our friends, and our fellow
> American citizens with ... what say you?
>
> I think lines are being drawn in the sand ... I think we need to decide
> what sides we stand on, don't you?
>
> And, I am sorry, to go off topic ... please accept my apologies.
>
> Regards,
> JS
This is a political problem, once the people convince the politicians this
is our country and we deserve, and desire to protect our boarder it will be
done in months.
I think with all the violence spilling over, it could finally happen as it
should have 20 yrs ago.
MikeK

4356. Re: help with wireless video link

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 13:48:12 UTC
From: w8erd@hughes.net
Message-ID: <9187c455-f7db-430c-8c92-058fd8a2deac@l8g2000yql.googlegroups.com>
Source record: 7106

You would be better off using 900 MHz, as the penetration thru trees
and terrain is better than at higher frequencies.
eyespyvideo.com has all the necessary components, including
transmitter, receiver, antennas, cables, camera, etc. They have
cameras with the resolution you desire. Use the highest gain antennas
available at each end.

73,

Bob W8ERD

On Oct 10, 8:47 pm, ze...@hotmail.com wrote:
> I'm a pretty green in this area so I thought I would ask the
> enthusiasts:
>
> I want to set up a wireless video link between my house and a
> construction site 1000 feet away. The area between is heavily wooded
> and hilly. I want to use a regular non-IP analog CCTV camera with 520
> TV lines of
> resolution. A 2.4GHz transmitter/receiver pair of 2 watts is my guess
> as to the link I will need. I will probably try powering my camera
> with a car battery.
>
> What bothers me is that I've searched eBay up and down and cannot find
> a setup like this that uses anything more than a 420 TVL camera (and
> usually eBay has everything).
>
> My questions are:
>
> #1 Are my selections of frequency and power feasible? What would the
> advantages of the 1.2GHz or 5.8GHz bands be?
>
> #2 Am I bumping up into some bandwidth limit with a 520 TVL camera?
> How come I am not finding any higher-resolution long-distance
> offerings?
>
> Thanks.
>
> --zeb

4357. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 13:51:24 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5bac5d70-2f57-4747-af40-a0ee0e572739@c10g2000yqh.googlegroups.com>
Source record: 7107

On Oct 12, 4:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> But I dont understand it.
> S*

that is the first true thing you have said... once you do come back.

4358. Re: help with wireless video link

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 16:44:56 UTC
From: zeb7k@hotmail.com
Message-ID: <7d6899f7-b758-4dc6-93d2-af0126e1c760@26g2000yqv.googlegroups.com>
Source record: 7108

Excellent link. Thanks.

4359. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 17:11:46 UTC
From: Michael Coslo <mjc5@psu.edu>
Message-ID: <i924si$ls0o$1@tr22n12.aset.psu.edu>
Source record: 7109

K1TTT wrote:

> no, the flow of electrons stays in the antenna and is sinusoidal...
> they do not jump off the antenna.

Accch! Look what happens when I take a weekend off!

Okay now. I have the N3LI legal department working overtime now.

I am the person who invented the particles leaving the antenna theory. Not Art, in fact I declare prior Art, or even prior to Art.

Ive posted it before but probably before you joined the group, so here goes.....

The process of electromagnetic communications is all based upon tiny little turds that reside on your antenna. Very small turds they are, yet very powerful.

While transmitting, the little turds jump off the antenna, fly into the atmosphere or aether, and then eventually land on a receiver's antenna, completing the circuit.

This is why it is important to transmit every so often, so that your antenna does not gain too much weight. During solar maximum, inactive Hams often have their crappy antennas fall down.

Near the ocean the situation is worse, ya gotta transmit even more often, lest ye be shoveling s**t against the tide.

And it is a well known fact that antennas that are used more for transmitting take on a much higher polish, because there are less little turds, and everyone knows you cant polish a.... oh never mind.

Anyhow, despite some twisted language, it is obvious that these particles are a mer attempt to subvert the original and correct theory.

- Mike -

4360. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 18:38:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb4ab24$0$20996$65785112@news.neostrada.pl>
Source record: 7110

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:5bac5d70-2f57-4747-af40-a0ee0e572739@c10g2000yqh.googlegroups.com...
On Oct 12, 4:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> But I dont understand it.
> S*

>that is the first true thing you have said... once you do come back.

I have problem with the Faraday effect:
http://www.teachspin.com/instruments/faraday/index.shtml

"Although Michael Faraday discovered this effect in 1845, it wasn't modeled
quantum mechanically until the 1960's. These theoretical calculations are
too sophisticated for the undergraduate student, but an excellent simplified
QM model is carefully presented in David Van Baak's AJP paper. (D.A. Van
Baak, Resonant Faraday Rotation as a Probe of Atomic Dispersion, Am. J.
Phys.64 (6) June 1996)"

In Maxwell's model inside of the solenoid are rotating wortices and they
rotate the plane of polarization.

In Heaviside's model inside of the solenoid is a flux. Do you know
(understand) how the flux can rotate something?
S*

4361. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 19:29:26 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d658fa58-9fb8-443b-af11-88f5f6a83d49@z28g2000yqh.googlegroups.com>
Source record: 7111

On Oct 12, 2:38 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:5bac5d70-2f57-4747-af40-a0ee0e572739@c10g2000yqh.googlegroups.com...
> On Oct 12, 4:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> But I dont understand it.
> > S*
> >that is the first true thing you have said... once you do come back.
>
> I have problem with the Faraday
effect:http://www.teachspin.com/instruments/faraday/index.shtml
>
> "Although Michael Faraday discovered this effect in 1845, it wasn't modeled
> quantum mechanically until the 1960's. These theoretical calculations are
> too sophisticated for the undergraduate student, but an excellent simplified
> QM model is carefully presented in David Van Baak's AJP paper. (D.A. Van
> Baak, Resonant Faraday Rotation as a Probe of Atomic Dispersion, Am. J.
> Phys.64 (6) June 1996)"
>
> In Maxwell's model inside of the solenoid are rotating wortices and they
> rotate the plane of polarization.
>
> In Heaviside's model inside of the solenoid is a flux. Do you know
> (understand) how the flux can rotate something?
> S*

you don't understand that the faraday effect relies on a material to
do the rotation. the magnetic field itself does not cause the
rotation it only aligns the molecules such that the polarization of
the light is affected. you could just as well ask how can your hand
rotate something when you turn a polarization filter or piece of
feldspar with your fingers. if the material is not present the light
does not rotate, and there are no vortices.

4362. J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 22:18:39 UTC
From: Peter <pm@hotmail.com>
Message-ID: <v7-dnQYYBKpUQynRnZ2dnUVZ8kydnZ2d@westnet.com.au>
Source record: 7112

I can't see that it makes much difference, but is there any deference which way the coax is connected to a J pole antenna. Is it better to have the centre of the coax connected to the main element or the stub?
I notice that most if not all J pole designs on the net have the centre of the coax connected to the main element, however when I refer to a 1977 ARRL antenna book it has it connected the other way.

Is there any difference?

Peter

4363. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-12 23:02:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E106630A7B1Dnonenowhere@61.9.134.55>
Source record: 7113

"Peter" <pm@hotmail.com> wrote in
news:v7-dnQYYBKpUQynRnZ2dnUVZ8kydnZ2d@westnet.com.au:

> I can't see that it makes much difference, but is there any deference
> which way the coax is connected to a J pole antenna. Is it better to
> have the centre of the coax connected to the main element or the stub?
> I notice that most if not all J pole designs on the net have the
> centre of the coax connected to the main element, however when I refer
> to a 1977 ARRL antenna book it has it connected the other way.
>
> Is there any difference?

It is doubtful that one is better than the other, though the various proponents are usually adamant that there is only one 'correct' way.

A better method is to feed the coax inside the tube at the centre / bottom of the U section, and have it emerge at the feedpoint where you bond the shield to tube at the emergence, and take the centre conductor directly to the other side and connect it. Not as adjustable, but this method incorporates a balun.

You can get nearly the same effect by strapping the coax to the outside of the tube and bonding the shield at the bottom of the U section (as well as at the 'feed point' of course)... but no one seems to do it. Not surprising, as it is a measure to reduce common mode current which most J pole devotees pretend does not exist.

Owen

4364. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 07:37:33 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb561c6$0$20997$65785112@news.neostrada.pl>
Source record: 7114

"K1TTT" <k1ttt@arrl.net> wrote
news:d658fa58-9fb8-443b-af11-88f5f6a83d49@z28g2000yqh.googlegroups.com...
On Oct 12, 2:38 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
> wiadomoscinews:5bac5d70-2f57-4747-af40-a0ee0e572739@c10g2000yqh.googlegroups.com...
> On Oct 12, 4:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> But I dont understand it.
> > S*
> >that is the first true thing you have said... once you do come back.
>
>> I have problem with the Faraday
>> effect:http://www.teachspin.com/instruments/faraday/index.shtml
>
>> "Although Michael Faraday discovered this effect in 1845, it wasn't
>> modeled
> quantum mechanically until the 1960's. These theoretical calculations are
> too sophisticated for the undergraduate student, but an excellent
> simplified
> QM model is carefully presented in David Van Baak's AJP paper. (D.A. Van
> Baak, Resonant Faraday Rotation as a Probe of Atomic Dispersion, Am. J.
> Phys.64 (6) June 1996)"
>
>> In Maxwell's model inside of the solenoid are rotating wortices and they
> rotate the plane of polarization.
>
>> In Heaviside's model inside of the solenoid is a flux. Do you know
> (understand) how the flux can rotate something?
> S*

>you don't understand that the faraday effect relies on a material to
do the rotation. the magnetic field itself does not cause the
rotation it only aligns the molecules such that the polarization of
the light is affected. you could just as well ask how can your hand
rotate something when you turn a polarization filter or piece of
feldspar with your fingers. if the material is not present the light
does not rotate, and there are no vortices.

In Maxwell's model: "In Maxwell's 1861 paper 'On Physical Lines of Force',
magnetic field strength H was directly equated with pure vorticity (spin),
whereas B was a weighted vorticity that was weighted for the density of the
vortex sea. Maxwell considered magnetic permeability ? to be a measure of
the density of the vortex sea. "

What is in Heaviside model?
S*

4365. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 12:30:49 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <57b71a9e-1a25-4d5c-a73e-27213b200dbb@y31g2000vbt.googlegroups.com>
Source record: 7115

On Oct 13, 3:37 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:d658fa58-9fb8-443b-af11-88f5f6a83d49@z28g2000yqh.googlegroups.com...
> On Oct 12, 2:38 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
> > wiadomoscinews:5bac5d70-2f57-4747-af40-a0ee0e572739@c10g2000yqh.googlegroups.com...
> > On Oct 12, 4:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > > But I dont understand it.
> > > S*
> > >that is the first true thing you have said... once you do come back.
>
> >> I have problem with the Faraday
> >> effect:http://www.teachspin.com/instruments/faraday/index.shtml
>
> >> "Although Michael Faraday discovered this effect in 1845, it wasn't
> >> modeled
> > quantum mechanically until the 1960's. These theoretical calculations are
> > too sophisticated for the undergraduate student, but an excellent
> > simplified
> > QM model is carefully presented in David Van Baak's AJP paper. (D.A. Van
> > Baak, Resonant Faraday Rotation as a Probe of Atomic Dispersion, Am. J.
> > Phys.64 (6) June 1996)"
>
> >> In Maxwell's model inside of the solenoid are rotating wortices and they
> > rotate the plane of polarization.
>
> >> In Heaviside's model inside of the solenoid is a flux. Do you know
> > (understand) how the flux can rotate something?
> > S*
> >you don't understand that the faraday effect relies on a material to
>
> do the rotation. the magnetic field itself does not cause the
> rotation it only aligns the molecules such that the polarization of
> the light is affected. you could just as well ask how can your hand
> rotate something when you turn a polarization filter or piece of
> feldspar with your fingers. if the material is not present the light
> does not rotate, and there are no vortices.
>

> In Maxwell's model: "In Maxwell's 1861 paper 'On Physical Lines of Force',
> magnetic field strength H was directly equated with pure vorticity (spin),
> whereas B was a weighted vorticity that was weighted for the density of the
> vortex sea. Maxwell considered magnetic permeability ? to be a measure of
> the density of the vortex sea. "
>
> What is in Heaviside model?
> S*- Hide quoted text -
>
> - Show quoted text -

whatever was written in 1861 was either proved wrong or at least
incomplete. you are 140 years out of date, first year college physics
and electrical engineering fields courses teach stuff that would have
totally amazed maxwell and friends in their simplicity and accuracy.

4366. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 13:29:09 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <aa11c0cc-51c0-49a2-b403-0fe11060c77e@t7g2000vbj.googlegroups.com>
Source record: 7116
Body handling: HTML body converted to readable text

On Oct 12, 7:02 pm, Owen Duffy wrote:
> "Peter" wrote innews:v7-dnQYYBKpUQynRnZ2dnUVZ8kydnZ2d@westnet.com.au:
>
> > I can't see that it makes much difference, but is there any deference
> > which way the coax is connected to a J pole antenna. Is it better to
> > have the centre of the coax connected to the main element or the stub?
> > I notice that most if not all J pole designs on the net have the
> > centre of the coax connected to the main element, however when I refer
> > to a 1977 ARRL antenna book it has it connected the other way.
>
> > Is there any difference?
>
> It is doubtful that one is better than the other, though the various
> proponents are usually adamant that there is only one 'correct' way.
>
> A better method is to feed the coax inside the tube at the centre /
> bottom of the U section, and have it emerge at the feedpoint where you
> bond the shield to tube at the emergence, and take the centre conductor
> directly to the other side and connect it. Not as adjustable, but this
> method incorporates a balun.
>
> You can get nearly the same effect by strapping the coax to the outside
> of the tube and bonding the shield at the bottom of the U section (as
> well as at the 'feed point' of course)... but no one seems to do it. Not
> surprising, as it is a measure to reduce common mode current which most J
> pole devotees pretend does not exist.
>
> Owen

Owen
Every set of instructions I found when I was building my collinear J-
pole included a BalUn in the design. Some of the users of these
antennas are not fanatics but simply find it easier to use six turns
of coax as the the BalUn. And as to why it is simply easier to
apply. Since I am getting to the place were I don't like the
inelegance of the coax BalUn I will soon be changing over to a ferrite
bead BalUn for the sake of it's lesser ice collecting properties, it's
improved appearance, and smaller visual profile. Not everyone
believes that the antenna that they are using is magic. Many have
other reasons for not doing it in a particular way. Other than the No
BalUn voodoo are there other reasons that you don't like J-poles?
--
Tom Horne, W3TDH

4367. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 16:46:02 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E112651A9D6Bnonenowhere@61.9.134.55>
Source record: 7117

Tom Horne <hornetd@gmail.com> wrote in
news:aa11c0cc-51c0-49a2-b403-0fe11060c77e@t7g2000vbj.googlegroups.com:

...
> other reasons for not doing it in a particular way. Other than the No
> BalUn voodoo are there other reasons that you don't like J-poles?

It is not that I "don't like J-Poles", but that they have certain characteristics that should be considered in their design and implementation.

They are an 'end fed' antenna, and there is necessarily some common mode current excited on the feed line / supporting mast structure. A balun helps to reduce that, and I described an integrated balun that is an elegant construction, though a further ferrite current mode choke would be of benefit.

The plumber's delight construction which is often hailed as an advantage is actually a frustration when trying to reduce common mode current.

Though the J-Pole is often promoted as a easy thing to implement, they figure disproportionately in online forums with questions like "I adjusted my SWR real good in the shop, and when I raise the thing, the SWR changes". The common sensitivity of measured SWR to antenna position and line placement is a sure sign of high common mode current.

The common mode current doesn't necessarily stop them working, but it does frustrate setup, a trap for the inexperienced.

BTW, J-Poles are not popular commercially in this country, I cannot recall ever seeing a commercial J-Pole for non-amateur use. Perhaps there is a message there about convenience and predictability for the installers.

If a J-Pole suits your requirement, go for it. They warrant an effective common mode choke, if for no other reason than to make VSWR less dependent on the layout below the feed point.

Owen

4368. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 16:53:07 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i94o5j$9k5k$1@tr22n12.aset.psu.edu>
Source record: 7118

On 10/13/10 12:46 PM, Owen Duffy wrote:

> It is not that I "don't like J-Poles", but that they have certain
> characteristics that should be considered in their design and
> implementation.
>
> They are an 'end fed' antenna, and there is necessarily some common mode
> current excited on the feed line / supporting mast structure. A balun
> helps to reduce that, and I described an integrated balun that is an
> elegant construction, though a further ferrite current mode choke would
> be of benefit.

The big question I have always had regarding the balun was are we reducing performance by eliminating feedline radiation? For a lot of antennas, that may be a big part of the antenna system.

- Mike -

4369. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 17:10:50 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <dc65a064-04a1-4172-86ac-e465e860bbdf@h25g2000vba.googlegroups.com>
Source record: 7119

On Oct 13, 11:53 am, Mike Coslo <m...@psu.edu> wrote:
> The big question I have always had regarding the balun was are we
> reducing performance by eliminating feedline radiation?

For shorter wavelengths, like 2m, feedline radiation is bad news for
the radiation take-off-angle. It essentially makes the antenna a lot
longer than 5/8WL, i.e. end-fire, sending most of the radiation up at
a high take-off-angle.
--
73, Cecil, w5dxp.com

4370. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 17:14:15 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E112B19E5F97nonenowhere@61.9.134.55>
Source record: 7120

Mike Coslo <mjc5@psu.edu> wrote in news:i94o5j$9k5k$1@tr22n12.aset.psu.edu:

> The big question I have always had regarding the balun was are we
> reducing performance by eliminating feedline radiation? For a lot of
> antennas, that may be a big part of the antenna system.

Claiming feed line contribution to radiation as a performance factor is usually a specious claim, and more likely to be made by someone with a commercial imperative than a genuine interest in radiation performance. You know, if you can't solve a problem characteristic, call it out as a feature.

In this case, feed line radiation would usually skew the pattern upwards, not necessarily a desirable feature, probably not desirable in most situations.

Owen

4371. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 17:42:50 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i94r2q$ok7s$1@tr22n12.aset.psu.edu>
Source record: 7121

On 10/13/10 1:14 PM, Owen Duffy wrote:
> Mike Coslo<mjc5@psu.edu> wrote in news:i94o5j$9k5k$1@tr22n12.aset.psu.edu:
>
>> The big question I have always had regarding the balun was are we
>> reducing performance by eliminating feedline radiation? For a lot of
>> antennas, that may be a big part of the antenna system.
>
> Claiming feed line contribution to radiation as a performance factor is
> usually a specious claim, and more likely to be made by someone with a
> commercial imperative than a genuine interest in radiation performance. You
> know, if you can't solve a problem characteristic, call it out as a
> feature.

I don't disagree, but certain antennas - the EH antenna comes to mind, which resemble a tuned circuit on a stick. Get rid of the feed line radiation, and you almost get rid of the whole antenna. But like you say, its a "feature".

It's also not good practice.

> In this case, feed line radiation would usually skew the pattern upwards,
> not necessarily a desirable feature, probably not desirable in most
> situations.

Not too desirable. Thanks for the clarification. Mine was a general sort of response, not limited to this antenna.

- 73 de Mike N3LI -

4372. Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 17:49:31 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i94rfc$ok7u$1@tr22n12.aset.psu.edu>
Source record: 7122

I have an application, as part of a bugcatcher antenna, where I would like to run a number of wires, maybe 6, to the coil as connections to taps, and run them at an approximate 90 degree angle to the coil.

Will these wires have much of an effect? I'm going to try it regardless, but it might be good to avoid something that is obvious to the more seasoned Ops in here.

- 73 de Mike N3LI -

4373. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 18:40:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb5fd26$0$22795$65785112@news.neostrada.pl>
Source record: 7123

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:57b71a9e-1a25-4d5c-a73e-27213b200dbb@y31g2000vbt.googlegroups.com...
On Oct 13, 3:37 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> In Maxwell's model: "In Maxwell's 1861 paper 'On Physical Lines of
>> Force',
> magnetic field strength H was directly equated with pure vorticity (spin),
> whereas B was a weighted vorticity that was weighted for the density of
> the
> vortex sea. Maxwell considered magnetic permeability ? to be a measure of
> the density of the vortex sea. "
>
>> What is in Heaviside model?
> S*- Hide quoted text -
>
> - Show quoted text -

>whatever was written in 1861 was either proved wrong or at least
incomplete. you are 140 years out of date, first year college physics
and electrical engineering fields courses teach stuff that would have
totally amazed maxwell and friends in their simplicity and accuracy.

Thinks are rather a little diferent:
http://en.wikipedia.org/wiki/Oliver_Heaviside

Heaviside wrote:
" It will be understood that I preach the gospel according to my
interpretation of Maxwell.[4]"

" In 1884 he recast Maxwell's mathematical analysis from its original
cumbersome form (they had already been recast as quaternions) to its modern
vector terminology, thereby reducing the original twenty equations in twenty
unknowns down to the four differential equations in two unknowns we now know
as Maxwell's equations. The four re-formulated Maxwell's equations describe
the nature of static and moving electric charges and magnetic dipoles, and
the relationship between the two, namely electromagnetic induction."

But it does not meant that the college physics is 120 years old. In the
teaching programs are all theories.
Electrons and plasma born later and are also in teaching program.
S*

4374. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 19:20:51 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1051d8da-fb18-4338-a030-2ac017d839e7@l14g2000yqb.googlegroups.com>
Source record: 7124

On Oct 13, 2:40 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:57b71a9e-1a25-4d5c-a73e-27213b200dbb@y31g2000vbt.googlegroups.com...
> On Oct 13, 3:37 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In Maxwell's model: "In Maxwell's 1861 paper 'On Physical Lines of
> >> Force',
> > magnetic field strength H was directly equated with pure vorticity (spin),
> > whereas B was a weighted vorticity that was weighted for the density of
> > the
> > vortex sea. Maxwell considered magnetic permeability ? to be a measure of
> > the density of the vortex sea. "
>
> >> What is in Heaviside model?
> > S*- Hide quoted text -
>
> > - Show quoted text -
> >whatever was written in 1861 was either proved wrong or at least
>
> incomplete. you are 140 years out of date, first year college physics
> and electrical engineering fields courses teach stuff that would have
> totally amazed maxwell and friends in their simplicity and accuracy.
>
> Thinks are rather a little diferent:http://en.wikipedia.org/wiki/Oliver_Heaviside
>
> Heaviside wrote:
>
> " It will be understood that I preach the gospel according to my
> interpretation of Maxwell.[4]"
>
> " In 1884 he recast Maxwell's mathematical analysis from its original
> cumbersome form (they had already been recast as quaternions) to its modern
> vector terminology, thereby reducing the original twenty equations in twenty
> unknowns down to the four differential equations in two unknowns we now know
> as Maxwell's equations. The four re-formulated Maxwell's equations describe
> the nature of static and moving electric charges and magnetic dipoles, and
> the relationship between the two, namely electromagnetic induction."
>
> But it does not meant that the college physics is 120 years old. In the
> teaching programs are all theories.
> Electrons and plasma born later and are also in teaching program.
> S*

why don't you go buy a modern physics or electromagnetics text,
something printed in the last 25-30 years and get up to date

4375. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-13 23:18:08 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <i95enm$ls6u$1@tr22n12.aset.psu.edu>
Source record: 7125

On 10/13/2010 1:49 PM, Mike Coslo wrote:
> I have an application, as part of a bugcatcher antenna, where I would
> like to run a number of wires, maybe 6, to the coil as connections to
> taps, and run them at an approximate 90 degree angle to the coil.
>
> Will these wires have much of an effect? I'm going to try it regardless,
> but it might be good to avoid something that is obvious to the more
> seasoned Ops in here.
>
> - 73 de Mike N3LI -
Hi Mike:

I would try it. I remember vaguely of a commercial mobile antenna that
did just that. If I remember correctly they mounted the switch on a
bracket on the coil to keep the connecting wires as short as possible.
It will be hard to keep the bugs out though.

John W3JXP

4376. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 00:32:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <32a5bf3b-9e3f-4f63-b3f0-5123c457a5ee@30g2000yqm.googlegroups.com>
Source record: 7126

On Oct 13, 12:49 pm, Mike Coslo <m...@psu.edu> wrote:
> Will these wires have much of an effect?

Many years ago, one of the 75m CA shootout hams did this very thing
and it worked well.
--
73, Cecil, w5dxp.com

4377. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 00:38:00 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <2954cb63-b795-41a5-b1cf-6b7b8b4b7e38@d25g2000yqc.googlegroups.com>
Source record: 7127

On Oct 13, 2:20 pm, K1TTT <k1...@arrl.net> wrote:
> why don't you go buy a modern physics or electromagnetics text,
> something printed in the last 25-30 years and get up to date

Or get pretty close to up to date with "QED", by Feynman.

"So now, I present to you the three basic actions, from which all the
phenomena of light and electrons arise:

-Action #1: A photon goes from place to place.
-Action #2: An electron goes from place to place.
-Action #3: An electron emits or absorbs a photon."
--
73, Cecil, w5dxp.com

4378. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 07:47:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb6b57f$0$22802$65785112@news.neostrada.pl>
Source record: 7128

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:1051d8da-fb18-4338-a030-2ac017d839e7@l14g2000yqb.googlegroups.com...

>
>Why don't you go buy a modern physics or electromagnetics text,
something printed in the last 25-30 years and get up to date

I know what is in books. I am interesting in the reality. Now I know that in
a cristal radio the electrons flow from an antenna to ground because there
is the diode.

So in a transmmiter station the electrons must flow (pulsatile flow combined
with the oscillations) in the opposite direction. Could you detect it?
S*

4379. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 11:38:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e190e3a5-3b14-4611-ae8f-7d67927c483f@w4g2000vbh.googlegroups.com>
Source record: 7129

On Oct 14, 2:47 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> I know what is in books. I am interesting in the reality. Now I know that in
> a cristal radio the electrons flow from an antenna to ground because there
> is the diode.

You are confusing the impulse (photonic) flow of EM energy, with the
electron carriers which move hardly at all at HF. Hint: Electrons
cannot move at the speed of light yet we know that EM energy moves at
the speed of light.

In a somewhat similar manner, the impulse energy in a tsunami wave
travels a lot faster than the water molecule carriers which move
mostly up and down. Tsunami waves are hardly noticeable in the open
ocean.
--
73, Cecil, w5dxp.com

4380. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 11:54:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <42e5d6c3-4ad7-417e-aaf9-8c783a27ba8d@y31g2000vbt.googlegroups.com>
Source record: 7130

On Oct 14, 7:47 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:1051d8da-fb18-4338-a030-2ac017d839e7@l14g2000yqb.googlegroups.com...
>
>
>
> >Why don't you go buy a modern physics or electromagnetics text,
>
> something printed in the last 25-30 years and get up to date
>
> I know what is in books. I am interesting in the reality. Now I know that in
> a cristal radio the electrons flow from an antenna to ground because there
> is the diode.
>
> So in a transmmiter station the electrons must flow (pulsatile flow combined
> with the oscillations) in the opposite direction. Could you detect it?
> S*

the reality is what is described in the current texts used in
colleges. and no, you can not measure a net flow of electrons in a
transmitting antenna.

4381. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 14:40:29 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i974ou$8k32$1@tr22n12.aset.psu.edu>
Source record: 7131

On 10/13/10 7:18 PM, John Passaneau wrote:
> On 10/13/2010 1:49 PM, Mike Coslo wrote:
>> I have an application, as part of a bugcatcher antenna, where I would
>> like to run a number of wires, maybe 6, to the coil as connections to
>> taps, and run them at an approximate 90 degree angle to the coil.
>>
>> Will these wires have much of an effect? I'm going to try it regardless,
>> but it might be good to avoid something that is obvious to the more
>> seasoned Ops in here.
>>
>> - 73 de Mike N3LI -
> Hi Mike:
>
> I would try it. I remember vaguely of a commercial mobile antenna that
> did just that. If I remember correctly they mounted the switch on a
> bracket on the coil to keep the connecting wires as short as possible.
> It will be hard to keep the bugs out though.

After the PAQSO party,my loading coil was incredibly full of bugs.

I'm hoping that I can at least avoid the constant trips outside to
change taps on 75/80 meters. The antenna performs well, but that sharp
tuning can be an issue.

- 73 de Mike N3LI -

4382. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 14:43:46 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i974v2$8k34$1@tr22n12.aset.psu.edu>
Source record: 7132

On 10/13/10 8:32 PM, Cecil Moore wrote:
> On Oct 13, 12:49 pm, Mike Coslo<m...@psu.edu> wrote:
>> Will these wires have much of an effect?
>
> Many years ago, one of the 75m CA shootout hams did this very thing
> and it worked well.

Good to hear. I've been really happy with the performance of the antenna, but 80 meters was like a step aerobics class. Contesting just has too many frequency changes.

- 73 de Mike N3LI -

4383. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 17:01:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb73792$0$22809$65785112@news.neostrada.pl>
Source record: 7133

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:e190e3a5-3b14-4611-ae8f-7d67927c483f@w4g2000vbh.googlegroups.com...
On Oct 14, 2:47 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> I know what is in books. I am interesting in the reality. Now I know that
>> in
> a cristal radio the electrons flow from an antenna to ground because there
> is the diode.

>You are confusing the impulse (photonic) flow of EM energy, with the
electron carriers which move hardly at all at HF. Hint: Electrons
cannot move at the speed of light yet we know that EM energy moves at
the speed of light.

Air particles move at speed of sound. For this reason the speed of sound is
temperature dependent.
The same must be with electrons. Do not confuse the mean velocity with the
max. In air the mean speed is also close to zero.

>In a somewhat similar manner, the impulse energy in a tsunami wave
travels a lot faster than the water molecule carriers which move
mostly up and down.

Water molecules move mostly horizontally. See:
http://en.wikipedia.org/wiki/Stokes_drift

>Tsunami waves are hardly noticeable in the open
ocean.

Because tsunami is the simple flow.
S*

4384. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 17:05:17 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb73857$0$20995$65785112@news.neostrada.pl>
Source record: 7134

"K1TTT" <k1ttt@arrl.net> wrote
news:42e5d6c3-4ad7-417e-aaf9-8c783a27ba8d@y31g2000vbt.googlegroups.com...
On Oct 14, 7:47 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> So in a transmmiter station the electrons must flow (pulsatile flow
>> combined
>> with the oscillations) in the opposite direction. Could you detect it?
>
>the reality is what is described in the current texts used in
colleges. and no, you can not measure a net flow of electrons in a
transmitting antenna.

Yes. But you can.
S*

4385. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 17:10:32 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb73992$0$27043$65785112@news.neostrada.pl>
Source record: 7135

"Michael Coslo" <mjc5@psu.edu> wrote
news:i924si$ls0o$1@tr22n12.aset.psu.edu...
> K1TTT wrote:
>
>> no, the flow of electrons stays in the antenna and is sinusoidal...
>> they do not jump off the antenna.
>
> Accch! Look what happens when I take a weekend off!
>
> Okay now. I have the N3LI legal department working overtime now.
>
> I am the person who invented the particles leaving the antenna theory.
> Not Art, in fact I declare prior Art, or even prior to Art.
>
> Ive posted it before but probably before you joined the group, so here
> goes.....
>
>
> The process of electromagnetic communications is all based upon tiny
> little turds that reside on your antenna. Very small turds they are, yet
> very powerful.
>
> While transmitting, the little turds jump off the antenna, fly into the
> atmosphere or aether, and then eventually land on a receiver's antenna,
> completing the circuit.

So they should be taken from the ground, send in the ether, land on a
receiver's antenna and flow to ground, completing the circuit. Is it
possible to detect it?
>
> This is why it is important to transmit every so often, so that your
> antenna does not gain too much weight. During solar maximum, inactive Hams
> often have their crappy antennas fall down.
>
> Near the ocean the situation is worse, ya gotta transmit even more often,
> lest ye be shoveling s**t against the tide.
>
> And it is a well known fact that antennas that are used more for
> transmitting take on a much higher polish, because there are less little
> turds, and everyone knows you cant polish a.... oh never mind.
>
> Anyhow, despite some twisted language, it is obvious that these particles
> are a mer attempt to subvert the original and correct theory.

S*

4386. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 17:16:14 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a1e9985a-66a8-4705-a905-e724608ac564@t7g2000vbj.googlegroups.com>
Source record: 7136

On Oct 14, 9:43 am, Mike Coslo <m...@psu.edu> wrote:
> Good to hear. I've been really happy with the performance of the
> antenna, but 80 meters was like a step aerobics class. Contesting just
> has too many frequency changes.

If it's good enough for an antenna tuner (MFJ-949E) then it should be
good enough for a loading coil. After all, the same amount of power is
involved.
--
73, Cecil, w5dxp.com

4387. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 22:00:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <1b3e8f8d-85c2-4215-967e-e3690f98f607@x42g2000yqx.googlegroups.com>
Source record: 7137

On Oct 14, 5:10 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Michael Coslo" <m...@psu.edu> wrotenews:i924si$ls0o$1@tr22n12.aset.psu.edu...
>
>
>
> > K1TTT wrote:
>
> >> no, the flow of electrons stays in the antenna and is sinusoidal...
> >> they do not jump off the antenna.
>
> > Accch! Look what happens when I take a weekend off!
>
> > Okay now. I have the N3LI legal department working overtime now.
>
> > I am the person who invented the particles leaving the antenna theory.
> > Not Art, in fact I declare prior Art, or even prior to Art.
>
> > Ive posted it before but probably before you joined the group, so here
> > goes.....
>
> > The process of electromagnetic communications is all based upon tiny
> > little turds that reside on your antenna. Very small turds they are, yet
> > very powerful.
>
> > While transmitting, the little turds jump off the antenna, fly into the
> > atmosphere or aether, and then eventually land on a receiver's antenna,
> > completing the circuit.
>
> So they should be taken from the ground, send in the ether, land on a
> receiver's antenna and flow to ground, completing the circuit. Is it
> possible to detect it?
>

sure, put your antenna in a glass bottle, seal it in with good glue so
nothing can slip out that way... then transmit, the inside of the
bottle will instantly be covered with little turds so you won't be
able to see the antenna any more... case closed.

4388. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-14 22:06:38 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <b7WdnToQYOR84yrRnZ2dnUVZ_t-dnZ2d@earthlink.com>
Source record: 7138

"Mike Coslo" <mjc5@psu.edu> wrote in message
news:i974ou$8k32$1@tr22n12.aset.psu.edu...
> I'm hoping that I can at least avoid the constant trips outside to change
> taps on 75/80 meters. The antenna performs well, but that sharp tuning can
> be an issue.
>
> - 73 de Mike N3LI -

Most loaded antennas that are very short for the frequency will be sharp tuning. If the tuning is very broad, it is usually an indication of a lossy antenna system

4389. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 00:31:24 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4l7fb611vd11jkjb8qg4ffj6sd0b36erdd@4ax.com>
Source record: 7139

On Wed, 13 Oct 2010 13:49:31 -0400, Mike Coslo <mjc5@psu.edu> wrote:

> I would
>like to run a number of wires, maybe 6, to the coil as connections to
>taps, and run them at an approximate 90 degree angle to the coil.

Hi Mike,

Run those wires to what? What length wires?

> Will these wires have much of an effect?

Sure. Will it matter? You (the reader who performs this aside from you, but including you) wouldn't necessarily know where the antenna would have resonated to begin with, and any change could hardly surprise you in that regard. Aside from issues of resonance, we would consider loss. As you are running them at 90 degrees (the ambiguity has me wondering, do they spoke into the coil, or out?), then you are seeking to avoid wire spacing issues that force Ohmic loss through proximity. Given that, loss would seem to be a non-starter. If the wires are long (again, the ambiguity of where they go), then they become part of the radiator, and as such would intercouple. As the entire construction is a wild card in resonance, this would not seem to be problematic anyway. On the other hand, it could diffuse control and present some odd tuning characteristics. This would only add to the lore and you might be able to call it the Beneficial Coslo Effect and we are blessed with the BCE 'Tenna (I won't use the full word, as doing that will depreciate the legendary value). As we all know, any new name inherits at least 6dB gain in performance.

73's
Richard Clark, KB7QHC

4390. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 12:00:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e4760f9b-1f60-4608-b039-c09e955e4fd0@g8g2000yqa.googlegroups.com>
Source record: 7140

On Oct 14, 12:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Water molecules move mostly horizontally. See:http://en.wikipedia.org/wiki/Stokes_drift

What percentage of water molecules are moving more horizontally than
vertically for what percentage of the time? That percentage is
certainly pretty small. Even for those normal steady-state waves, it
appears that the vertical motion at the surface is still greater than
the horizontal motion for at least half of the cycle. *Anywhere except
at the very surface, the vertical motion is obviously greater than the
horizontal motion*. But the subject was a transient tsunami wave where
the horizontal motion is virtually non-existent because of inertia.
Thanks for the example that proves my point.
--
73, Cecil, w5dxp.com

4391. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 13:14:55 UTC
From: Cannuck <abra@cadabra.com>
Message-ID: <dtYto.276$Gy.274@newsfe07.iad>
Source record: 7141

Borders aren't the problem, where are the secure borders in America anyway? Not that mulitibillion dollar fence between mexico and U.S., that has more holes than swiss cheese. And not the border between Canada and U.S. that is more micky mouse than any other country in the world. Only concerned about taxes.

So borders aren't the problem and the west really should increase its population by allowing more in to bring more manufacturing and jobs to the west. You will all want to protect your high paying jobs, however as Amateurs know the world got smaller and things have changed. Why doesn't the west change with the times?

The original poster here is just a thumper, with no economic knowledge, no biblical knowledge, but raises a good point, the west does need to remove its borders so the country's econonomy can rebound. We need cheaper labor in other words. The more people the more the price is reduced.

"amdx" <amdx@knology.net> wrote in message
news:6a87e$4cb465a7$18ec6dd7$6945@KNOLOGY.NET...
>
> "John Smith" <assemblywizard@gmail.com> wrote in message
> news:i90gfm$59i$1@news.eternal-september.org...
>> http://borderinvasionpics.com/
>>
>> Amateurs have had a long standing of being "American Pie", of being of
>> the backbone of America. I know a lot of us where Boy Scouts, Girls
>> Scouts, had a great respect for the American flag, God, country, family,
>> etc.
>>
>> I think we should take our radios, our antennas, and any other items
>> which we can support our country, our family, our friends, and our fellow
>> American citizens with ... what say you?
>>
>> I think lines are being drawn in the sand ... I think we need to decide
>> what sides we stand on, don't you?
>>
>> And, I am sorry, to go off topic ... please accept my apologies.
>>
>> Regards,
>> JS
> This is a political problem, once the people convince the politicians
> this
> is our country and we deserve, and desire to protect our boarder it will
> be
> done in months.

> I think with all the violence spilling over, it could finally happen as
> it
> should have 20 yrs ago.
> MikeK
>
>

4392. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 13:24:15 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i99klv$rk2u$1@tr22n12.aset.psu.edu>
Source record: 7142

On 10/14/10 8:31 PM, Richard Clark wrote:
> On Wed, 13 Oct 2010 13:49:31 -0400, Mike Coslo<mjc5@psu.edu> wrote:
>
>> I would
>> like to run a number of wires, maybe 6, to the coil as connections to
>> taps, and run them at an approximate 90 degree angle to the coil.
>
> Hi Mike,
>
> Run those wires to what? What length wires?
>
>> Will these wires have much of an effect?
>
> Sure. Will it matter? You (the reader who performs this aside from
> you, but including you) wouldn't necessarily know where the antenna
> would have resonated to begin with, and any change could hardly
> surprise you in that regard. Aside from issues of resonance, we would
> consider loss. As you are running them at 90 degrees (the ambiguity
> has me wondering, do they spoke into the coil, or out?), then you are
> seeking to avoid wire spacing issues that force Ohmic loss through
> proximity. Given that, loss would seem to be a non-starter. If the
> wires are long (again, the ambiguity of where they go), then they
> become part of the radiator, and as such would intercouple. As the
> entire construction is a wild card in resonance, this would not seem
> to be problematic anyway. On the other hand, it could diffuse control
> and present some odd tuning characteristics. This would only add to
> the lore and you might be able to call it the Beneficial Coslo Effect
> and we are blessed with the BCE 'Tenna (I won't use the full word, as
> doing that will depreciate the legendary value). As we all know, any
> new name inherits at least 6dB gain in performance.

Initial idea is to run the separate wires as taps on the coil. I'm intending to run them on the outside of the coil, probably separated about an inch away. The wires would then go to a (insert whizbang gadget here that I'm still figuring out) which then switches taps as needed. I'll probably start with manual switching. There is also the matter of that tuning coil at the bottom of the antenna to ground, which varies between 8 turns of number 12 on a 1.5 inch diameter coil on 75/80 meters, to no coil at all on 20 meters, which is the highest frequency it will tune at.

The antenna itself is semi-standard bugcatcher, a four foot bottom section, followed by the six inch coil, (standard GLA systems) followed by another roughly foot and a half section, then a 16 inch Capacity hat, then a spring and topped off with a 102 inch whip. Taps at the present

short out the remaining coil below themselves. The whole thing is mounted on the spare tire holder - the spare resides in the back of the vehicle while mobiling.

Needless to say, this thing is tall. There is a monofilament line attached to the top of the antenna with loops at various places, that I pull and hook around a convenient place in the interior. 50 pound test is what saves this antenna from trees, branches, etc. Since people can't see the line, the setup - which as you can imagine gets some stares to begin with - eyes bug out when it appears to be moving all by itself. But I digress.

Anyhow, I pretty much assumed that there might be some small tuning differences on the lower frequencies, but I was just making sure that I wasn't running the road to perfidy with any hidden "gotchyas" - like if a stinger goes too far into a loading coil - one of those things that might not be completely intuitive until after the fact.

- 73 de Mike N3LI -

4393. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 13:26:33 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i99kq9$rk2u$2@tr22n12.aset.psu.edu>
Source record: 7143

On 10/14/10 6:00 PM, K1TTT wrote:
> On Oct 14, 5:10 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> "Michael Coslo"<m...@psu.edu> wrotenews:i924si$ls0o$1@tr22n12.aset.psu.edu...
>>
>>
>>
>>> K1TTT wrote:
>>
>>>> no, the flow of electrons stays in the antenna and is sinusoidal...
>>>> they do not jump off the antenna.
>>
>>> Accch! Look what happens when I take a weekend off!
>>
>>> Okay now. I have the N3LI legal department working overtime now.
>>
>>> I am the person who invented the particles leaving the antenna theory.
>>> Not Art, in fact I declare prior Art, or even prior to Art.
>>
>>> Ive posted it before but probably before you joined the group, so here
>>> goes.....
>>
>>> The process of electromagnetic communications is all based upon tiny
>>> little turds that reside on your antenna. Very small turds they are, yet
>>> very powerful.
>>
>>> While transmitting, the little turds jump off the antenna, fly into the
>>> atmosphere or aether, and then eventually land on a receiver's antenna,
>>> completing the circuit.
>>
>> So they should be taken from the ground, send in the ether, land on a
>> receiver's antenna and flow to ground, completing the circuit. Is it
>> possible to detect it?
>>
>
> sure, put your antenna in a glass bottle, seal it in with good glue so
> nothing can slip out that way... then transmit, the inside of the
> bottle will instantly be covered with little turds so you won't be
> able to see the antenna any more... case closed.

Wasn't that a Jim Croce song? "If I could save turds in a bottle.....

- 73 de Mike N3LI -

4394. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 16:11:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4cef63da-14c5-4e8e-a4d0-8e7262462002@d25g2000yqc.googlegroups.com>
Source record: 7144

On Oct 15, 1:14 pm, "Cannuck" <a...@cadabra.com> wrote:
> So borders aren't the problem and the west really should increase its
> population by allowing more in to bring more manufacturing and jobs to the
> west. You will all want to protect your high paying jobs, however as
> Amateurs know the world got smaller and things have changed. Why doesn't the
> west change with the times?
>

because we are not living in a free market driven economy. the
government regulations put a minimum wage requirement and taxes on
everyone so there is no way that bringing in more labor would reduce
the price of manufacturing so we could compete with china and other
cheap labor countries.

4395. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 16:29:32 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <1221d0b6-be12-40bc-be41-9f511f73e3a1@x20g2000pro.googlegroups.com>
Source record: 7145

On Oct 15, 6:24 am, Mike Coslo <m...@psu.edu> wrote:
> On 10/14/10 8:31 PM, Richard Clark wrote:
>
>
>
> > On Wed, 13 Oct 2010 13:49:31 -0400, Mike Coslo<m...@psu.edu> wrote:
>
> >> I would
> >> like to run a number of wires, maybe 6, to the coil as connections to
> >> taps, and run them at an approximate 90 degree angle to the coil.
>
> > Hi Mike,
>
> > Run those wires to what? What length wires?
>
> >>   Will these wires have much of an effect?
>
> > Sure. Will it matter? You (the reader who performs this aside from
> > you, but including you) wouldn't necessarily know where the antenna
> > would have resonated to begin with, and any change could hardly
> > surprise you in that regard. Aside from issues of resonance, we would
> > consider loss. As you are running them at 90 degrees (the ambiguity
> > has me wondering, do they spoke into the coil, or out?), then you are
> > seeking to avoid wire spacing issues that force Ohmic loss through
> > proximity. Given that, loss would seem to be a non-starter. If the
> > wires are long (again, the ambiguity of where they go), then they
> > become part of the radiator, and as such would intercouple. As the
> > entire construction is a wild card in resonance, this would not seem
> > to be problematic anyway. On the other hand, it could diffuse control
> > and present some odd tuning characteristics. This would only add to
> > the lore and you might be able to call it the Beneficial Coslo Effect
> > and we are blessed with the BCE 'Tenna (I won't use the full word, as
> > doing that will depreciate the legendary value). As we all know, any
> > new name inherits at least 6dB gain in performance.
>
> Initial idea is to run the separate wires as taps on the coil. I'm
> intending to run them on the outside of the coil, probably separated
> about an inch away. The wires would then go to a (insert whizbang gadget
> here that I'm still figuring out) which then switches taps as needed.
> I'll probably start with manual switching. There is also the matter of
> that tuning coil at the bottom of the antenna to ground, which varies
> between 8 turns of number 12 on a 1.5 inch diameter coil on 75/80
> meters, to no coil at all on 20 meters, which is the highest frequency
> it will tune at.

>
> The antenna itself is semi-standard bugcatcher, a four foot bottom
> section, followed by the six inch coil, (standard GLA systems) followed
> by another roughly foot and a half section, then a 16 inch Capacity hat,
> then a spring and topped off with a 102 inch whip. Taps at the present
> short out the remaining coil below themselves. The whole thing is
> mounted on the spare tire holder - the spare resides in the back of the
> vehicle while mobiling.
>
> Needless to say, this thing is tall. There is a monofilament line
> attached to the top of the antenna with loops at various places, that I
> pull and hook around a convenient place in the interior. 50 pound test
> is what saves this antenna from trees, branches, etc. Since people
> can't see the line, the setup - which as you can imagine gets some
> stares to begin with - eyes bug out when it appears to be moving all by
> itself. But I digress.
>
> Anyhow, I pretty much assumed that there might be some small tuning
> differences on the lower frequencies, but I was just making sure that I
> wasn't running the road to perfidy with any hidden "gotchyas" - like if
> a stinger goes too far into a loading coil - one of those things that
> might not be completely intuitive until after the fact.
>
>   - 73 de Mike N3LI -

Really sounds like you are reinventing the old Swan mobile antennas. I
have an almost new in the box, motor driven unit that has the
switching mechanism just like you are thinking about. The motor in the
bottom unit has a dial-cord wound around it's shaft. The other end of
the coil loop goes over a pulley and a sliding contact is attached to
the dial-cord.

Is this what you are envisioning?

Paul, KD7HB

4396. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 16:56:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5d0hb6phl8kjjg5v6svlofljc30jgnppaq@4ax.com>
Source record: 7146

On Fri, 15 Oct 2010 09:24:15 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>Initial idea is to run the separate wires as taps on the coil. I'm
>intending to run them on the outside of the coil, probably separated
>about an inch away. The wires would then go to a (insert whizbang gadget
>here that I'm still figuring out) which then switches taps as needed.
>I'll probably start with manual switching.

Hi Mike,

A rare confab of actual antenna design details. No controversy. No
wonder there are so few postings. Mike, on this cat walk of
fashionable posing, you are a buzz-kill.

How long are those tap wires? In other words, is this manual switch
sitting on your dashboard?

>There is also the matter of
>that tuning coil at the bottom of the antenna to ground, which varies
>between 8 turns of number 12 on a 1.5 inch diameter coil on 75/80
>meters, to no coil at all on 20 meters, which is the highest frequency
>it will tune at.

Why have a coil there at all?

>The antenna itself is semi-standard bugcatcher, a four foot bottom
>section, followed by the six inch coil, (standard GLA systems) followed
>by another roughly foot and a half section, then a 16 inch Capacity hat,
>then a spring and topped off with a 102 inch whip.

Uh-huh. So you have a "top" hat that is actually very close to the
center? A center hat as I might be wont to describe it?

I've often thought (and probably modeled at some point in the last 20
years) about putting such "top" hats at regular intervals along a
vertical radiator. Sort of like a bottle washing brush kind of
design.

>Taps at the present
>short out the remaining coil below themselves.

Back when we had more designers writing here, instead of Xerox junkies
and home-spun Platocrats, the discussion of shorted coils made them
apoplectic where those turns became huge losses. This is different
from the screwdriver approach which shields those turns.

>Anyhow, I pretty much assumed that there might be some small tuning
>differences on the lower frequencies,

Well, as I inferred, IFF you knew what frequency any unadorned (unchanged) original design was going to reside at; then I could well imagine it would shove that understanding under the bus. IFF, on the other hand, you have no idea (other than a general one of plus or minus one MHz) of where the initial state of tune was, then it probably wouldn't matter.

>but I was just making sure that I
>wasn't running the road to perfidy with any hidden "gotchyas" - like if
>a stinger goes too far into a loading coil - one of those things that
>might not be completely intuitive until after the fact.

But of course you will (I'm looking forward to those stories) - otherwise you would have bought an antenna with a guarantee. In regard to this last I have to tailor a quote from one of my favorite authors, Walter Mosely:
"...you won't get to enjoy the honey,
if you worry the bees be stingin' you."

73's
Richard Clark, KB7QHC

4397. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 18:35:53 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i9a6ua$ds7g$1@tr22n12.aset.psu.edu>
Source record: 7147

On 10/15/10 12:56 PM, Richard Clark wrote:

> A rare confab of actual antenna design details. No controversy. No
> wonder there are so few postings. Mike, on this cat walk of
> fashionable posing, you are a buzz-kill.

8^)

> How long are those tap wires? In other words, is this manual switch
> sitting on your dashboard?

The initial plan is to have something perhaps located on the lower mast so that I can experiment with it. the final version will be eletrically or electronically switched, (most likely electrically) the switching taking place at the antenna - probably located on the lower mast.

>> There is also the matter of
>> that tuning coil at the bottom of the antenna to ground, which varies
>> between 8 turns of number 12 on a 1.5 inch diameter coil on 75/80
>> meters, to no coil at all on 20 meters, which is the highest frequency
>> it will tune at.
>
> Why have a coil there at all?

It's sort of the butternut HF6V (and family) thing, I can tune the thing, but unless I place a Matching coil there, the minimum SWR might be around 2.5 to one or even higher, except where the antenna is becoming a more normal length. In the end, it's no doubt to compensate for the crazy low impedance on a short antenna.

>> The antenna itself is semi-standard bugcatcher, a four foot bottom
>> section, followed by the six inch coil, (standard GLA systems) followed
>> by another roughly foot and a half section, then a 16 inch Capacity hat,
>> then a spring and topped off with a 102 inch whip.
>
> Uh-huh. So you have a "top" hat that is actually very close to the
> center? A center hat as I might be wont to describe it?

Yup. I had looked at placing it higher, but that ended up defeating my tie down idea, and those cap hats are kinda like wind dams - In the end I wanted it attached to some sturdy part of the antenna.

>> Taps at the present
>> short out the remaining coil below themselves.
>
> Back when we had more designers writing here, instead of Xerox junkies
> and home-spun Platocrats, the discussion of shorted coils made them

> apoplectic where those turns became huge losses. This is different
> from the screwdriver approach which shields those turns.

I'm wondering where the issue comes from. As I look at it, the shorting
is making the bottom part of the mast slightly longer. I have to imagine
that not shorting it would be worse. Dunno, though.

>> Anyhow, I pretty much assumed that there might be some small tuning
>> differences on the lower frequencies,
>
> Well, as I inferred, IFF you knew what frequency any unadorned
> (unchanged) original design was going to reside at; then I could well
> imagine it would shove that understanding under the bus. IFF, on the
> other hand, you have no idea (other than a general one of plus or
> minus one MHz) of where the initial state of tune was, then it
> probably wouldn't matter.

I'll end up knowing, my tap system so far is a modified clip that has a
marked place on the coil. It works ver well, when very well is defined
as stays on and sends to power where I want it.

What got me started was last weekend, out late at night in just about
the most rural area in Pennsylvania, dragging out a stepstool to change
80 meter taps. New moon, and I forgot my flashlight. While the antenna
"works" pretty well for the genre, needing a stepstool is just not that
wonderful.

>
>> but I was just making sure that I
>> wasn't running the road to perfidy with any hidden "gotchyas" - like if
>> a stinger goes too far into a loading coil - one of those things that
>> might not be completely intuitive until after the fact.
>
> But of course you will (I'm looking forward to those stories) -
> otherwise you would have bought an antenna with a guarantee.

I'll be updating as I go.

- 73 de Mike N3LI -

4398. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-15 20:45:21 UTC
From: "pdrahn@coinet.com" <co_farmer@yahoo.com>
Message-ID: <371a98ab-4f78-49c9-aa47-1781ff9ec83b@b19g2000prj.googlegroups.com>
Source record: 7148

On Oct 15, 9:29 am, "pdr...@coinet.com" <co_far...@yahoo.com> wrote:
> On Oct 15, 6:24 am, Mike Coslo <m...@psu.edu> wrote:
>
>
>
> > On 10/14/10 8:31 PM, Richard Clark wrote:
>
> > > On Wed, 13 Oct 2010 13:49:31 -0400, Mike Coslo<m...@psu.edu> wrote:
>
> > >> I would
> > >> like to run a number of wires, maybe 6, to the coil as connections to
> > >> taps, and run them at an approximate 90 degree angle to the coil.
>
> > > Hi Mike,
>
> > > Run those wires to what? What length wires?
>
> > >>   Will these wires have much of an effect?
>
> > > Sure. Will it matter? You (the reader who performs this aside from
> > > you, but including you) wouldn't necessarily know where the antenna
> > > would have resonated to begin with, and any change could hardly
> > > surprise you in that regard. Aside from issues of resonance, we would
> > > consider loss. As you are running them at 90 degrees (the ambiguity
> > > has me wondering, do they spoke into the coil, or out?), then you are
> > > seeking to avoid wire spacing issues that force Ohmic loss through
> > > proximity. Given that, loss would seem to be a non-starter. If the
> > > wires are long (again, the ambiguity of where they go), then they
> > > become part of the radiator, and as such would intercouple. As the
> > > entire construction is a wild card in resonance, this would not seem
> > > to be problematic anyway. On the other hand, it could diffuse control
> > > and present some odd tuning characteristics. This would only add to
> > > the lore and you might be able to call it the Beneficial Coslo Effect
> > > and we are blessed with the BCE 'Tenna (I won't use the full word, as
> > > doing that will depreciate the legendary value). As we all know, any
> > > new name inherits at least 6dB gain in performance.
>
> > Initial idea is to run the separate wires as taps on the coil. I'm
> > intending to run them on the outside of the coil, probably separated
> > about an inch away. The wires would then go to a (insert whizbang gadget
> > here that I'm still figuring out) which then switches taps as needed.
> > I'll probably start with manual switching. There is also the matter of
> > that tuning coil at the bottom of the antenna to ground, which varies
> > between 8 turns of number 12 on a 1.5 inch diameter coil on 75/80

> > meters, to no coil at all on 20 meters, which is the highest frequency
> > it will tune at.
>
> > The antenna itself is semi-standard bugcatcher, a four foot bottom
> > section, followed by the six inch coil, (standard GLA systems) followed
> > by another roughly foot and a half section, then a 16 inch Capacity hat,
> > then a spring and topped off with a 102 inch whip. Taps at the present
> > short out the remaining coil below themselves. The whole thing is
> > mounted on the spare tire holder - the spare resides in the back of the
> > vehicle while mobiling.
>
> > Needless to say, this thing is tall. There is a monofilament line
> > attached to the top of the antenna with loops at various places, that I
> > pull and hook around a convenient place in the interior. 50 pound test
> > is what saves this antenna from trees, branches, etc. Since people
> > can't see the line, the setup - which as you can imagine gets some
> > stares to begin with - eyes bug out when it appears to be moving all by
> > itself. But I digress.
>
> > Anyhow, I pretty much assumed that there might be some small tuning
> > differences on the lower frequencies, but I was just making sure that I
> > wasn't running the road to perfidy with any hidden "gotchyas" - like if
> > a stinger goes too far into a loading coil - one of those things that
> > might not be completely intuitive until after the fact.
>
> >   - 73 de Mike N3LI -
>
> Really sounds like you are reinventing the old Swan mobile antennas. I
> have an almost new in the box, motor driven unit that has the
> switching mechanism just like you are thinking about. The motor in the
> bottom unit has a dial-cord wound around it's shaft. The other end of
> the coil loop goes over a pulley and a sliding contact is attached to
> the dial-cord.
>
> Is this what you are envisioning?
>
> Paul, KD7HB

Here is an older Ebay listing that shows a Swan mobile antenna with
manually adjustable taps.

http://cgi.ebay.com/SWAN-Swantenna-45-Five-Band-MOBILE-ANTENNA-Selectable-/370422708798

Paul, KD7HB

4399. Re: Antenna Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 01:27:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <a75c673d-2c74-4af7-b441-0fa014d90977@j18g2000yqd.googlegroups.com>
Source record: 7149

On Oct 11, 11:38 pm, "Jon" <jon8...@peoplepc.com> wrote:
> I have a Realistic DX-160 0.15-30Mhz Solid State Communications Receiver for
> which I want to build or obtain an antenna.
>
> I can buy 500' of 14awg twisted strand insulated copper wire from Lowes for
> $40. Then what? I have two trees about 200' apart I could get the ladder
> and string the wire. Would that work?
>
> I used to have a dipole antenna but it never seemed to make any difference.
> What component is in the nodes, anyway? A capacitor? A resistor?
>
> In the meantime while I try and figure it out, I'm working on acquiring an
> 8' ground rod. Plus grounding the coaxial.
>
> Is this radio even worth an antenna?
>
> What about a vertical mast antenna? I don't need to transmit, just receive.
> How good do those work?
>
> Is a wire antenna best strung E-W or N-S? I want Europe, not Spanish.
>
> Apparently the end of the wire can act as a node to a wave 2 or 3 times as
> long as the wire. The length of the wire can divide into waves 1/2, 1/3,
> 1/4 etc. the length of the wire.
>
> http://mypeoplepc.com/members/jon8338/math/id39.html
>
> All I know has taught me I know nothing. Jon

When I lived in an apartment temporarily a few years ago I had a
similar situation. The back of the apartment and my bedroom window
faced a wooded area so I strung up about 50 or 60 ft of wire using a
long piece of PVC pipe to push it up into the trees. I used it with my
MFJ tuner and enjoyed a lot of SWL time. Yes the tuner helped compared
to the antenna terminated in a banana plug and pushed into the
connector on the back of my IC 729. Take notes on how you set up the
tuner for various frequencies

Jimmie

4400. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 02:11:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <99thb6dc96tn4st13alheuvovacsjsi1gk@4ax.com>
Source record: 7150

On Fri, 15 Oct 2010 14:35:53 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>> Back when we had more designers writing here, instead of Xerox junkies
>> and home-spun Platocrats, the discussion of shorted coils made them
>> apoplectic where those turns became huge losses. This is different
>> from the screwdriver approach which shields those turns.
>
>I'm wondering where the issue comes from. As I look at it, the shorting
>is making the bottom part of the mast slightly longer. I have to imagine
>that not shorting it would be worse. Dunno, though.

Hi Mike,

That, too, was part of the raging debate. I have long forgotten the particulars, but I will hazard their argument. That is, in these highly reactive designs there are large potentials and high currents. With those circulating currents (the usual province of these considerations are in the tuner) AND the proximity of a shorted turn, you have a transformer relationship feeding the loss of the small diameter wire and/or the resistive short (rarely do switches offer optimal solutions in the face of truly enormous currents).

Screwdriver designs pre-empt this through the coil being nested inside of the conductive cylinder - no transformer action, or at least so goes the argument.

Reggie entered into these issues with his own observations about coil length, diameter, winding pitch, and placement to summarize his optimal design. You may want to look into that insofar as your base loading goes.

73's
Richard Clark, KB7QHC

4401. AIM4170 antenna analyzer -- updated presentation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 06:28:30 UTC
From: Ian Wade G3NRW <g3nrw@yahoo.co.uk>
Message-ID: <GKu+ArDOYUuMFw7I@ntlworld.com>
Source record: 7001
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

If you're interested in the AIM4170 antenna analyzer, you might find my updated presentation useful:

http://homepage.ntlworld.com/wadei/aim4170.htm

I have no commercial interest in the analyzer -- I am just a very satisfied user.

--
73
Ian, G3NRW

4402. Re: AIM4170 antenna analyzer -- updated presentation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 07:58:52 UTC
From: Brian Reay <seewebsite@invaild.com>
Message-ID: <0Xcuo.2524$6o1.2347@newsfe22.ams2>
Source record: 7002
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

"Ian Wade G3NRW" <g3nrw@yahoo.co.uk> wrote in message
news:GKu+ArDOYUuMFw7I@ntlworld.com...
> If you're interested in the AIM4170 antenna analyzer, you might find my
> updated presentation useful:
>
> http://homepage.ntlworld.com/wadei/aim4170.htm
>
> I have no commercial interest in the analyzer -- I am just a very
> satisfied user.

Good of you to post that Ian. I'm afraid I missed your lecture- one of several "clashes" where interesting lectures happened at the same time. It was almost a case of "toss a coin".

I hope you enjoyed the Convention, we (my XYL and myself) certainly did.

--
73
Brian G8OSN/W8OSN
www.g8osn.net

4403. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 08:17:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cb95f99$0$22794$65785112@news.neostrada.pl>
Source record: 7003

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:e4760f9b-1f60-4608-b039-c09e955e4fd0@g8g2000yqa.googlegroups.com...
On Oct 14, 12:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Water molecules move mostly horizontally.
>> See:http://en.wikipedia.org/wiki/Stokes_drift

> What percentage of water molecules are moving more horizontally than
vertically for what percentage of the time? That percentage is
certainly pretty small. Even for those normal steady-state waves, it
appears that the vertical motion at the surface is still greater than
the horizontal motion for at least half of the cycle.

Stokes measured the movements. They are shown there:
http://en.wikipedia.org/wiki/File:Deep_water_wave_after_three_periods.gif

Each wave transports a mass. So the movements must be nonsymmetrical in in
direction of propagation.

>*Anywhere except
at the very surface, the vertical motion is obviously greater than the
horizontal motion*. But the subject was a transient tsunami wave where
the horizontal motion is virtually non-existent because of inertia.

If the bottom of the ocean go up than the water is flowing outside this
place. It is a simple flow not a wave.
S*

4404. Re: AIM4170 antenna analyzer -- updated presentation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 09:52:22 UTC
From: Len GM0ONX <gm0onx@gooooglemail.com>
Message-ID: <i9bskk$nm0$1@news.eternal-september.org>
Source record: 7004
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

On 16/10/2010 07:28, Ian Wade G3NRW wrote:
> If you're interested in the AIM4170 antenna analyzer, you might find my
> updated presentation useful:
>
> http://homepage.ntlworld.com/wadei/aim4170.htm
>
> I have no commercial interest in the analyzer -- I am just a very
> satisfied user.
>
One of our club members gave a presentation of this unit the club
recently and its a very impressive piece of kit.

4405. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 10:49:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f1978e64-57c7-4f4c-beed-f37c4865f581@a37g2000yqi.googlegroups.com>
Source record: 7005

On Oct 16, 8:17 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>
wrotenews:e4760f9b-1f60-4608-b039-c09e955e4fd0@g8g2000yqa.googlegroups.com...
> On Oct 14, 12:01 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> Water molecules move mostly horizontally.
> >> See:http://en.wikipedia.org/wiki/Stokes_drift
> > What percentage of water molecules are moving more horizontally than
>
> vertically for what percentage of the time? That percentage is
> certainly pretty small. Even for those normal steady-state waves, it
> appears that the vertical motion at the surface is still greater than
> the horizontal motion for at least half of the cycle.
>
> Stokes measured the movements. They are shown
there:http://en.wikipedia.org/wiki/File:Deep_water_wave_after_three_periods...
>
> Each wave transports a mass. So the movements must be nonsymmetrical in in
> direction of propagation.
>
> >*Anywhere except
>
> at the very surface, the vertical motion is obviously greater than the
> horizontal motion*. But the subject was a transient tsunami wave where
> the horizontal motion is virtually non-existent because of inertia.
>
> If the bottom of the ocean go up than the water is flowing outside this
> place. It is a simple flow not a wave.
> S*

water flow and water waves are NOT good analogs for electromagnetic
waves. the only common part is that some part of the solution of
their equations includes a sine or cosine function.

4406. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 16:16:47 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <41ecd6fe-cf70-4194-8f88-7268cda3900a@c10g2000yqh.googlegroups.com>
Source record: 7006

On Oct 16, 3:17 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> If the bottom of the ocean go up than the water is flowing outside this
> place. It is a simple flow not a wave.

:-) The bottom of the ocean going up (and down), i.e. earthquake, is
the major *cause* of Tsunami waves. Once set in motion, no further
movement of the bottom of the ocean is necessary. The energy in a
Tsunami wave extends all the way from the depth of the earthquake
source to the surface. Almost all of the water molecule movement in a
Tsunami wave is up and down. There is virtually no simple flow in a
Tsunami wave since the *energy* is traveling at hundreds of meters per
second. If it was "simple flow and not a wave" the energy in the wave
would be dissipated in accelerating the water molecules to a velocity
of hundreds of meters per second. Hint: Try making a spinning top out
of an unboiled egg.
--
73, Cecil, w5dxp.com

4407. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 16:21:09 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <5edcc33a-27be-45a9-a33c-2fe771ae691b@d17g2000yqm.googlegroups.com>
Source record: 7007

On Oct 11, 9:17 pm, John Smith <assemblywiz...@gmail.com> wrote:
> http://borderinvasionpics.com/
>
> Amateurs have had a long standing of being "American Pie", of being of
> the backbone of America. I know a lot of us where Boy Scouts, Girls
> Scouts, had a great respect for the American flag, God, country, family,
> etc.
>
> I think we should take our radios, our antennas, and any other items
> which we can support our country, our family, our friends, and our
> fellow American citizens with ... what say you?
>
> I think lines are being drawn in the sand ... I think we need to decide
> what sides we stand on, don't you?
>
> And, I am sorry, to go off topic ... please accept my apologies.
>
> Regards,
> JS

Utter nonsense. "Take our radios ..." and do exactly what? You
never advocated any action. Go away.

4408. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 21:28:37 UTC
From: M0WYM <nospammers@radiowymsey.org>
Message-ID: <i9d5e2$l7h$1@news.eternal-september.org>
Source record: 7008

On 12/10/10 03:17, John Smith wrote:

> I think we should take our radios, our antennas, and any other items
> which we can support our country, our family, our friends, and our
> fellow American citizens with ... what say you?
>
> I think lines are being drawn in the sand ... I think we need to decide
> what sides we stand on, don't you?
>

Promise me that you and any like minded friend that may have will stay
within your own borders.

Thanks,

A concerned citizen of the United Kingdom.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

4409. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-16 21:29:51 UTC
From: M0WYM <nospammers@radiowymsey.org>
Message-ID: <i9d5gcbjs2@news.eternal-september.org>
Source record: 7009

On 12/10/10 03:17, John Smith wrote:

> I think we should take our radios, our antennas, and any other items
> which we can support our country, our family, our friends, and our
> fellow American citizens with ... what say you?
>
> I think lines are being drawn in the sand ... I think we need to decide
> what sides we stand on, don't you?
>

Promise me that you and any like minded friends you may have will stay
within your own borders.

Thanks,

A concerned citizen of the United Kingdom.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

4410. Re: J pole question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 02:36:04 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <3d58ab5a-e47b-4ffe-93a6-abb1bc1903a0@n26g2000yqh.googlegroups.com>
Source record: 7010

On Oct 13, 1:42 pm, Mike Coslo <m...@psu.edu> wrote:
> On 10/13/10 1:14 PM, Owen Duffy wrote:
>
> > Mike Coslo<m...@psu.edu> wrote innews:i94o5j$9k5k$1@tr22n12.aset.psu.edu:
>
> >> The big question I have always had regarding the balun was are we
> >> reducing performance by eliminating feedline radiation? For a lot of
> >> antennas, that may be a big part of the antenna system.
>
> > Claiming feed line contribution to radiation as a performance factor is
> > usually a specious claim, and more likely to be made by someone with a
> > commercial imperative than a genuine interest in radiation performance. You
> > know, if you can't solve a problem characteristic, call it out as a
> > feature.
>
> I don't disagree, but certain antennas - the EH antenna comes to mind,
> which resemble a tuned circuit on a stick. Get rid of the feed line
> radiation, and you almost get rid of the whole antenna. But like you
> say, its a "feature".
>
> It's also not good practice.
>
> > In this case, feed line radiation would usually skew the pattern upwards,
> > not necessarily a desirable feature, probably not desirable in most
> > situations.
>
> Not too desirable. Thanks for the clarification. Mine was a general sort
> of response, not limited to this antenna.
>
> - 73 de Mike N3LI -

Years ago I built a J antenna for 10m. I was actually pleasantly
surprised at how easily it tuned up compared to the 2m versions I had
buit. I checked for feedline radiation by checking for variarions in
VSWR while coupling a large mass(me) to the feedline near the feed
point. Little change was noted. Do the larger versions of this antenna
normally perform better(more predictably) or was this just a case of
dumb luck.

JImmie

4411. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 09:28:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbac1b2$0$22804$65785112@news.neostrada.pl>
Source record: 7011

"K1TTT" <k1ttt@arrl.net> wrote
news:f1978e64-57c7-4f4c-beed-f37c4865f581@a37g2000yqi.googlegroups.com...
>
>water flow and water waves are NOT good analogs for electromagnetic
waves. the only common part is that some part of the solution of
their equations includes a sine or cosine function.

Each waves are the same. They transport mass and energy. They never are
harmonic.
S*

4412. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 09:36:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbac3c2$0$22800$65785112@news.neostrada.pl>
Source record: 7012

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:41ecd6fe-cf70-4194-8f88-7268cda3900a@c10g2000yqh.googlegroups.com...
On Oct 16, 3:17 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> If the bottom of the ocean go up than the water is flowing outside this
> place. It is a simple flow not a wave.

:-) The bottom of the ocean going up (and down), i.e. earthquake, is
the major *cause* of Tsunami waves. Once set in motion, no further
movement of the bottom of the ocean is necessary. The energy in a
Tsunami wave extends all the way from the depth of the earthquake
source to the surface. Almost all of the water molecule movement in a
Tsunami wave is up and down. There is virtually no simple flow in a
Tsunami wave since the *energy* is traveling at hundreds of meters per
second.

"The measured tsunami flow velocities were within the range of 2 to 5 m/s. "
From: http://www.agu.org/journals/ABS/2006/2006GL026784.shtml

>If it was "simple flow and not a wave" the energy in the wave
would be dissipated in accelerating the water molecules to a velocity
of hundreds of meters per second. Hint: Try making a spinning top out
of an unboiled egg.

It is like the soliton.
S*
--
73, Cecil, w5dxp.com

4413. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 11:15:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5df44c57-a73f-48a1-8dd5-1c8105254539@t8g2000yqk.googlegroups.com>
Source record: 7013

On Oct 17, 9:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:f1978e64-57c7-4f4c-beed-f37c4865f581@a37g2000yqi.googlegroups.com...
>
> >water flow and water waves are NOT good analogs for electromagnetic
>
> waves. the only common part is that some part of the solution of
> their equations includes a sine or cosine function.
>
> Each waves are the same. They transport mass and energy. They never are
> harmonic.
> S*

no, waves can transport energy without mass. photons have not rest
mass, only energy... look that up in your favorite wikipedia. sound
waves require mass, but don't have to transport it, just move it back
and forth around a point, thus they move energy without net movement
of mass.

4414. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 11:17:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <dd5ef02a-1c35-47f8-9abb-b918701a58d3@l14g2000yqb.googlegroups.com>
Source record: 7014

On Oct 17, 9:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>
wrotenews:41ecd6fe-cf70-4194-8f88-7268cda3900a@c10g2000yqh.googlegroups.com...
> On Oct 16, 3:17 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> If the bottom of the ocean go up than the water is flowing outside this
> > > place. It is a simple flow not a wave.
>
> :-) The bottom of the ocean going up (and down), i.e. earthquake, is
> the major *cause* of Tsunami waves. Once set in motion, no further
> movement of the bottom of the ocean is necessary. The energy in a
> Tsunami wave extends all the way from the depth of the earthquake
> source to the surface. Almost all of the water molecule movement in a
> Tsunami wave is up and down. There is virtually no simple flow in a
> Tsunami wave since the *energy* is traveling at hundreds of meters per
> second.
>
> "The measured tsunami flow velocities were within the range of 2 to 5 m/s. "
> From: http://www.agu.org/journals/ABS/2006/2006GL026784.shtml
>
> >If it was "simple flow and not a wave" the energy in the wave
>
> would be dissipated in accelerating the water molecules to a velocity
> of hundreds of meters per second. Hint: Try making a spinning top out
> of an unboiled egg.
>
> It is like the soliton.
> S*
> --
> 73, Cecil, w5dxp.com

ah, grabbed another non-sequitar term to add to your gibberish now?
for how long will everything be a soliton to you?

4415. Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 11:42:57 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <i9eng1trb1@tioat.net>
Source record: 7015

Since I built my first 80meter/40meter 6aq5 + 6DQ6 transmitter with pi
output in 1972, when I want to vary the inductance of a coil in a
tunner, or loading coil in an antenna, I just short circuit some turns.
I see that this is the usual practice everywhere.

My question is why do we not just leave the turns open circuited instead
of short circuiting them.

It appears to me that in the short circuited turns, a very big current
must be circulating, adding heat losses and lowering the Q of the circuit.

--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4416. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 12:18:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6bc90f7b-e958-4b7c-8a40-1c2ef604f576@l8g2000yql.googlegroups.com>
Source record: 7016

On Oct 17, 11:42 am, Alejandro Lieber <alejan...@Use-Author-Supplied-
Address.invalid> wrote:
> Since I built my first 80meter/40meter 6aq5 + 6DQ6 transmitter with pi
> output in 1972, when I want to vary the inductance of a coil in a
> tunner, or loading coil in an antenna, I just short circuit some turns.
> I see that this is the usual practice everywhere.
>
> My question is why do we not just leave the turns open circuited instead
> of short circuiting them.
>
> It appears to me that in the short circuited turns, a very big current
> must be circulating, adding heat losses and lowering the Q of the circuit.
>
> --
> Alejandro Lieber LU1FCR
> Rosario Argentina
>
> Real-Time F2-Layer Critical Frequency Map foF2:http://1fcr.com.ar

you are correct. and if the coil is on a core it can overheat the
core also. leaving them open also causes problems since it looks like
a transformer with an open circuit it can develop very high voltages
and flash over the band switch. The best method is to have separate
coils that are not coupled, but that of course gets more expensive and
larger. better amps have a combination, usually shorting turns on an
air core inductor for the high bands and then adding separate toroids
and capacitors for the lower bands.

an example of what can happen with shorted turns:

http://wiki.k1ttt.net/2008%20Maintenance%20and%20Upgrade%20Blog.ashx#hf2500

4417. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 14:36:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5a3f210d-7932-4f07-b889-5b1bae1cf6cc@26g2000yqv.googlegroups.com>
Source record: 7017

On Oct 17, 6:42 am, Alejandro Lieber <alejan...@Use-Author-Supplied-
Address.invalid> wrote:
> It appears to me that in the short circuited turns, a very big current
> must be circulating, adding heat losses and lowering the Q of the circuit.

For a screwdriver antenna, the problem is solved by a conductive
sleeve over the outside of the shorted turns that keeps most of the RF
on the conductive sleeve instead of in the shorted turns of the coil.
--
73, Cecil, w5dxp.com

4418. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 14:52:33 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <64c4c400-8225-4af1-8d79-aa1b89ecf924@30g2000yqm.googlegroups.com>
Source record: 7018

On Oct 17, 2:36 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Oct 17, 6:42 am, Alejandro Lieber <alejan...@Use-Author-Supplied-
>
> Address.invalid> wrote:
> > It appears to me that in the short circuited turns, a very big current
> > must be circulating, adding heat losses and lowering the Q of the circuit.
>
> For a screwdriver antenna, the problem is solved by a conductive
> sleeve over the outside of the shorted turns that keeps most of the RF
> on the conductive sleeve instead of in the shorted turns of the coil.
> --
> 73, Cecil, w5dxp.com

that doesn't really 'solve' it, that just provides a single big
shorted turn instead of many turns.

4419. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 14:54:16 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <543e9c71-04e4-4c7b-8ccc-5fdf834e6f0b@u10g2000yqk.googlegroups.com>
Source record: 7019

On Oct 17, 4:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "The measured tsunami flow velocities were within the range of 2 to 5 m/s. "
> From: http://www.agu.org/journals/ABS/2006/2006GL026784.shtml

Good Grief! The deeper the ocean, the faster the Tsunami wave travels.
The Tsunami wave slows to a crawl when it reaches land and indeed is
forced by the slope of the land to travel horizontally. Unfortunately
for your argument, I was talking about the speed of a Tsunami wave in
the open ocean which can be as fast as a 757 jet airplane. From:

http://www.enchantedlearning.com/subjects/tsunami/

"The Speed of a Tsunami: A tsunami can travel at well over 970 kph
(600 mph) in the open ocean - as fast as a jet flies. It can take only
a few hours for a tsunami to travel across an entire ocean. A regular
wave (generated by the wind) travels at up to about 90 km/hr."

http://www.infoplease.com/ipa/A0930274.html

"For example, at the deepest ocean depths the tsunami wave speed will
be as much as 800 km/h, about the same as that of a jet aircraft.
Since the average depth of the Pacific ocean is 4000 m (14,000 feet) ,
tsunami wave speed will average about 200 m/s or over 700 km/h (500
mph)."

Exactly how much horizontal movement can there be in the water
molecules when the Tsunami wave is moving at 800 km/h (200 m/sec)?
--
73, Cecil, w5dxp.com

4420. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 15:09:28 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d7c01021-89bb-487b-8608-1976f56da7e5@h7g2000yqn.googlegroups.com>
Source record: 7020

On Oct 17, 9:52 am, K1TTT <k1...@arrl.net> wrote:
> that doesn't really 'solve' it, that just provides a single big
> shorted turn instead of many turns.

Maybe the single big shorted turn IS the solution? :-) When there are no actual shorted turns, i.e. all of the coil is exposed, does the bottom section of aluminum tubing become that same single big shorted turn? In any case, one very conductive and very wide shorted turn is a lot less lossy than a number of small shorted turns.
--
73, Cecil, w5dxp.com

4421. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 16:06:18 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbb1f05$0$21000$65785112@news.neostrada.pl>
Source record: 7021

"Cecil Moore" <w5dxp@hotmail.com>
wrotenews:543e9c71-04e4-4c7b-8ccc-5fdf834e6f0b@u10g2000yqk.googlegroups.com...
On Oct 17, 4:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> "The measured tsunami flow velocities were within the range of 2 to 5
>> m/s. "
> From: http://www.agu.org/journals/ABS/2006/2006GL026784.shtml

Good Grief! The deeper the ocean, the faster the Tsunami wave travels.
The Tsunami wave slows to a crawl when it reaches land and indeed is
forced by the slope of the land to travel horizontally. Unfortunately
for your argument, I was talking about the speed of a Tsunami wave in
the open ocean which can be as fast as a 757 jet airplane. From:

http://www.enchantedlearning.com/subjects/tsunami/

>"The Speed of a Tsunami: A tsunami can travel at well over 970 kph
(600 mph) in the open ocean - as fast as a jet flies. It can take only
a few hours for a tsunami to travel across an entire ocean. A regular
wave (generated by the wind) travels at up to about 90 km/hr."

http://www.infoplease.com/ipa/A0930274.html

> "For example, at the deepest ocean depths the tsunami wave speed will
be as much as 800 km/h, about the same as that of a jet aircraft.
Since the average depth of the Pacific ocean is 4000 m (14,000 feet) ,
tsunami wave speed will average about 200 m/s or over 700 km/h (500
mph)."

>Exactly how much horizontal movement can there be in the water
molecules when the Tsunami wave is moving at 800 km/h (200 m/sec)?

You are an expert. Electric waves travel with"c".
"Exactly how much horizontal movement can there be in the free electrons
when the electric wave is moving at 300000 km/h?
S*

4422. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 16:32:31 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbb252a$0$27023$65785112@news.neostrada.pl>
Source record: 7023

"K1TTT" <k1ttt@arrl.net> wrote
news:5df44c57-a73f-48a1-8dd5-1c8105254539@t8g2000yqk.googlegroups.com...
On Oct 17, 9:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
> wrotenews:f1978e64-57c7-4f4c-beed-f37c4865f581@a37g2000yqi.googlegroups.com...
>
>> >water flow and water waves are NOT good analogs for electromagnetic
>
>> waves. the only common part is that some part of the solution of
> their equations includes a sine or cosine function.
>
>> Each waves are the same. They transport mass and energy. They never are
> harmonic.
> S*

>no, waves can transport energy without mass. photons have not rest
mass, only energy... look that up in your favorite wikipedia. sound
waves require mass, but don't have to transport it, just move it back
and forth around a point, thus they move energy without net movement
of mass.

So read the Wiki:
"For a pure wave motion in fluid dynamics, the Stokes drift velocity is the
average velocity when following a specific fluid parcel as it travels with
the fluid flow. For instance, a particle floating at the free surface of
water waves, experiences a net Stokes drift velocity in the direction of
wave propagation.
More generally, the Stokes drift velocity is the difference between the
average Lagrangian flow velocity of a fluid parcel, and the average Eulerian
flow velocity of the fluid at a fixed position. This nonlinear phenomenon is
named after George Gabriel Stokes, who derived expressions for this drift in
his 1847 study of water waves."

This nonlinear phenomenon is in each real wave. In texbooks are a paper
waves - for kids. They are linear and symmetric.

"just move it back and forth around a point" is a simplification necessary
in schools.

S*

4423. Re: Totally off topic...but, you need to be involved.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 16:32:33 UTC
From: M0WYM <nospammers@radiowymsey.org>
Message-ID: <i9f8f1tjs1@news.eternal-september.org>
Source record: 7022

On 17/10/10 03:32, Oliver wrote:
> On Oct 16, 5:29 pm, M0WYM<nospamm...@radiowymsey.org> wrote:

>
> A concerned spammer as well

Not spamming at all Oliver old man, any more than the OP. I seriously do worry about people who have such crazy ideas. Like all those end days loonies and those para-military loopers out there in the boonies.

Charlie.

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

4424. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 16:49:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5c69cd98-c152-48ab-9d73-468091abc0b1@t8g2000yqk.googlegroups.com>
Source record: 7024

On Oct 17, 3:09 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Oct 17, 9:52 am, K1TTT <k1...@arrl.net> wrote:
>
> > that doesn't really 'solve' it, that just provides a single big
> > shorted turn instead of many turns.
>
> Maybe the single big shorted turn IS the solution? :-) When there are
> no actual shorted turns, i.e. all of the coil is exposed, does the
> bottom section of aluminum tubing become that same single big shorted
> turn?

no, it becomes a very small diameter and long shorted turn... but yes, it is a shorted turn. you don't see as much effect because it is smaller in diameter so the self inductance is smaller and it only intercepts a fraction of the flux from the end of the coil. you get more of an effect if you place an air core coil with its end near the side or bottom of a metallic enclosure, the plate looks like a shorted coil and can have large circulating currents.

> In any case, one very conductive and very wide shorted turn is a
> lot less lossy than a number of small shorted turns.
> --
> 73, Cecil, w5dxp.com

that is why they get away with it, the losses in the big fat thing are low enough that it causes less trouble than shorting turns with a switch or relays.

4425. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 16:51:43 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bea4ab6a-4411-4c12-8205-0aa414755a9a@c10g2000yqh.googlegroups.com>
Source record: 7025

On Oct 17, 4:06 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>
> wrotenews:543e9c71-04e4-4c7b-8ccc-5fdf834e6f0b@u10g2000yqk.googlegroups.com...
> On Oct 17, 4:36 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> "The measured tsunami flow velocities were within the range of 2 to 5
> >> m/s. "
> > From:http://www.agu.org/journals/ABS/2006/2006GL026784.shtml
>
> Good Grief! The deeper the ocean, the faster the Tsunami wave travels.
> The Tsunami wave slows to a crawl when it reaches land and indeed is
> forced by the slope of the land to travel horizontally. Unfortunately
> for your argument, I was talking about the speed of a Tsunami wave in
> the open ocean which can be as fast as a 757 jet airplane. From:
>
> http://www.enchantedlearning.com/subjects/tsunami/
>
> >"The Speed of a Tsunami: A tsunami can travel at well over 970 kph
>
> (600 mph) in the open ocean - as fast as a jet flies. It can take only
> a few hours for a tsunami to travel across an entire ocean. A regular
> wave (generated by the wind) travels at up to about 90 km/hr."
>
> http://www.infoplease.com/ipa/A0930274.html
>
> > "For example, at the deepest ocean depths the tsunami wave speed will
>
> be as much as 800 km/h, about the same as that of a jet aircraft.
> Since the average depth of the Pacific ocean is 4000 m (14,000 feet) ,
> tsunami wave speed will average about 200 m/s or over 700 km/h (500
> mph)."
>
> >Exactly how much horizontal movement can there be in the water
>
> molecules when the Tsunami wave is moving at 800 km/h (200 m/sec)?
>
> You are an expert. Electric waves travel with"c".
> "Exactly how much horizontal movement can there be in the free electrons
> when the electric wave is moving at 300000 km/h?
> S*

very little.

4426. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 16:55:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <301b8d03-6777-431a-a927-6e2220a2cfa2@g13g2000yqj.googlegroups.com>
Source record: 7026

On Oct 17, 4:32 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
 wrotenews:5df44c57-a73f-48a1-8dd5-1c8105254539@t8g2000yqk.googlegroups.com...
> On Oct 17, 9:28 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > "K1TTT" <k1...@arrl.net>
> > wrotenews:f1978e64-57c7-4f4c-beed-f37c4865f581@a37g2000yqi.googlegroups.com...
>
> >> >water flow and water waves are NOT good analogs for electromagnetic
>
> >> waves. the only common part is that some part of the solution of
> > their equations includes a sine or cosine function.
>
> >> Each waves are the same. They transport mass and energy. They never are
> > harmonic.
> > S*
> >no, waves can transport energy without mass. photons have not rest
>
> mass, only energy... look that up in your favorite wikipedia. sound
> waves require mass, but don't have to transport it, just move it back
> and forth around a point, thus they move energy without net movement
> of mass.
>
> So read the Wiki:
> "For a pure wave motion in fluid dynamics, the Stokes drift velocity is the
> average velocity when following a specific fluid parcel as it travels with
> the fluid flow. For instance, a particle floating at the free surface of
> water waves, experiences a net Stokes drift velocity in the direction of
> wave propagation.
> More generally, the Stokes drift velocity is the difference between the
> average Lagrangian flow velocity of a fluid parcel, and the average Eulerian
> flow velocity of the fluid at a fixed position. This nonlinear phenomenon is
> named after George Gabriel Stokes, who derived expressions for this drift in
> his 1847 study of water waves."
>
> This nonlinear phenomenon is in each real wave. In texbooks are a paper
> waves - for kids. They are linear and symmetric.
>
> "just move it back and forth around a point" is a simplification necessary
> in schools.
>
> S*

ah, but that requires fluid flow. electromagnetic waves do not require fluid flow or they could not travel at c. There may be some analogous phenomena in plasma where you can get non-linear effects but they would not propagate at c, they would be at some much smaller velocity.

4427. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 20:24:52 UTC
From: Owen <noone@no.where>
Message-ID: <EYIuo.222$9q2.59@viwinnwfe01.internal.bigpond.com>
Source record: 7027

On 17/10/10 22:42, Alejandro Lieber wrote:
> Since I built my first 80meter/40meter 6aq5 + 6DQ6 transmitter with pi
> output in 1972, when I want to vary the inductance of a coil in a
> tunner, or loading coil in an antenna, I just short circuit some turns.
> I see that this is the usual practice everywhere.
>
> My question is why do we not just leave the turns open circuited instead
> of short circuiting them.
>
> It appears to me that in the short circuited turns, a very big current
> must be circulating, adding heat losses and lowering the Q of the circuit.
>
>

Only fairly basic AC circuit theory is needed to analyse the effect of the shorted turns.

If you have a air cored solenoid inductor of n turns, and short m turns at one end, you can treat that as two independent inductors of n-m and m turns with some flux coupling factor k. The mutual inductance can be calculated, and a T equivalent of Ln Lm-n Rn Rm-n M elements constructed and solved. k of course depends on coil construction and n and m, a value can be determined by measurement of the reactance of the combination. (You might be surprised at how low k is.)

Essentially, when the power lost in the shorted turns is low (due to the combination of low k and low R), then the technique works fine.

We (hams) have some pretty inadequate word based explanations for some of these kind of things when there are simple quantitative solutions at hand.

An example is the traditional explanation of link coupling ratios. See http://vk1od.net/tx/concept/lctr.htm for a quantitative explanation using the same techniques as suggested above.

BTW, the solenoid inside an aluminium tube is a case of an inductor surrounded by a single shorted turn... but if R in that turn is very low, then little heat is generated in the tube.

We also sometimes use a movable shorted turn to adjust an inductor... a brass or preferably silver plated brass slug was often used in VHF / UHF tuned circuits.

Owen

4428. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 22:07:24 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9ae0e8e4-0af3-4d10-9422-fa9e61ee955f@t8g2000yqk.googlegroups.com>
Source record: 7028

On Oct 17, 11:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Exactly how much horizontal movement can there be in the free electrons
> when the electric wave is moving at 300000 km/h?

Already answered earlier in this thread. For HF frequencies, the
horizontal movement of the electrons is minuscule and they can be
considered to be oscillating in place. It is the photons that move at
the speed of light.
--
73, Cecil, w5dxp.com

4429. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-17 22:08:06 UTC
From: Owen <noone@no.where>
Message-ID: <vtKuo.256$tk4.180@viwinnwfe02.internal.bigpond.com>
Source record: 7029

On 18/10/10 07:24, Owen wrote:
...
> Only fairly basic AC circuit theory is needed to analyse the effect of
> the shorted turns.
>
> If you have a air cored solenoid inductor of n turns, and short m turns
> at one end, you can treat that as two independent inductors of n-m and m
> turns with some flux coupling factor k. The mutual inductance can be
> calculated, and a T equivalent of Ln Lm-n Rn Rm-n M elements constructed
> and solved. k of course depends on coil construction and n and m, a
> value can be determined by measurement of the reactance of the
> combination. (You might be surprised at how low k is.)

To give a mental arithmetic example...

Assuming ideal inductors for the moment...

Suppose you had an air cored inductor, that when you measure the
inductance of the first half of the inductor (other terminal open) you
get 10ï¿½H. You now measure the whole inductor and get 30ï¿½H. We can
calculate that M=5ï¿½H.

Now forming a T equivalent of the inductor with one half shorted,
L=10+5+(5//(10+5))=18.75ï¿½H. Notably, the current in the s/c is
3.75/15=25% of the current in the other section, so losses are about 6%
of that in the other section... not usually a big issue.

That is, if I got the maths right on the fly!

Now, real inductors have some distributed capacitance which changes this
as you approach the inductor's self resonance frequency.

This works ok because mutual inductance is lowish. Increase k by
introducing a magnetic core material for instance, and the situation
changes.

You might see the technique applied to powdered iron core inductors. Not
necessarily a good idea, but it 'works' for some because they are low
permeability powders and flux leakage is high (ie k is not nearly 1).

Owen

4430. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 03:03:19 UTC
From: "Myron A. Calhoun" <mcalhoun@sdf.org>
Message-ID: <i9gddn$5fk$1@droog.sdf-eu.org>
Source record: 7030

K1TTT <k1ttt@arrl.net> writes:
<you are correct. and if the coil is on a core it can overheat the
<core also. leaving them open also causes problems since it looks like
<a transformer with an open circuit it can develop very high voltages
<and flash over the band switch. The best method is to have separate
<....[snip]....

Isn't that the basis for a Tesla coil?

--
-- Myron A. Calhoun.
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
NRA Life Member & Certified Instructor for Rifle, Pistol, & Home Firearm Safety
Also Certified Instructor for the Kansas Concealed-Carry Handgun (CCH) license

4431. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 07:37:24 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbbf93e$0$22815$65785112@news.neostrada.pl>
Source record: 7031

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:301b8d03-6777-431a-a927-6e2220a2cfa2@g13g2000yqj.googlegroups.com...
On Oct 17, 4:32 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> More generally, the Stokes drift velocity is the difference between the
> average Lagrangian flow velocity of a fluid parcel, and the average
> Eulerian
> flow velocity of the fluid at a fixed position. This nonlinear phenomenon
> is
> named after George Gabriel Stokes, who derived expressions for this drift
> in
> his 1847 study of water waves."
>
>> This nonlinear phenomenon is in each real wave. In texbooks are a paper
> waves - for kids. They are linear and symmetric.
>
> "just move it back and forth around a point" is a simplification necessary
> in schools.
>
>ah, but that requires fluid flow. electromagnetic waves do not
require fluid flow or they could not travel at c.

EM waves are the torsional vibrations in a solid dielectric. In solids are
the strains. Tiny flows.

> There may be some
analogous phenomena in plasma where you can get non-linear effects but
they would not propagate at c, they would be at some much smaller
velocity.

The vector calculus describe only movements.
Ancient people describesd the planet movements. But the planet were
described more later.

The same is with the radio waves. They are still not described physically.
In the description must be words electrons and voltage.
S*

4432. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 07:44:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbbfadd$0$22807$65785112@news.neostrada.pl>
Source record: 7032

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:9ae0e8e4-0af3-4d10-9422-fa9e61ee955f@t8g2000yqk.googlegroups.com...
On Oct 17, 11:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> "Exactly how much horizontal movement can there be in the free electrons
> when the electric wave is moving at 300000 km/h?

>Already answered earlier in this thread. For HF frequencies, the
horizontal movement of the electrons is minuscule and they can be
considered to be oscillating in place.

Waves are described in the two method: " More generally, the Stokes drift
velocity is the difference between the
average Lagrangian flow velocity of a fluid parcel, and the average
Eulerian flow velocity of the fluid at a fixed position. This nonlinear
phenomenon is named after George Gabriel Stokes, who derived expressions
for this drift in his 1847 study of water waves."

> It is the photons that move at the speed of light.

Photons are the math joke.
Electric waves in a medium made of electrons move at the speed of light.
S*

4433. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 11:56:15 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c1448894-94b1-403c-8df6-aaeb9c6439af@v20g2000yqb.googlegroups.com>
Source record: 7033

On Oct 18, 2:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Photons are the math joke.

:-) ... he says as photons impacting his retina allow him to read the
postings and see his keyboard.
--
Cecil, w5dxp.com

4434. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 12:11:41 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f0482155-c242-4a79-9963-55e0b5f5e055@p26g2000yqb.googlegroups.com>
Source record: 7034

On Oct 17, 10:03 pm, Myron A. Calhoun <mcalh...@sdf.org> wrote:
> Isn't that the basis for a Tesla coil?

The principle behind most Tesla coils is quarter-wave (90 degree) self-
resonance. There is a standing wave current maximum at the base of the
coil and a standing wave voltage maximum at the top of the coil.
--
73, Cecil, w5dxp.com

4435. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 16:04:04 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i9hr5komf1@news.jpl.nasa.gov>
Source record: 7037

Cecil Moore wrote:
> On Oct 17, 6:42 am, Alejandro Lieber <alejan...@Use-Author-Supplied-
> Address.invalid> wrote:
>> It appears to me that in the short circuited turns, a very big current
>> must be circulating, adding heat losses and lowering the Q of the circuit.
>
> For a screwdriver antenna, the problem is solved by a conductive
> sleeve over the outside of the shorted turns that keeps most of the RF
> on the conductive sleeve instead of in the shorted turns of the coil.
> --
> 73, Cecil, w5dxp.com

But, isn't that conductive sleeve itself a shorted turn? It's
conductive, coaxial with the rest of the inductor above the sleeve, so
the magnetic field certainly passes through it.

I think the real answer is that everything is a tradeoff.

4436. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 16:20:23 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i9hs48dkv1@news.jpl.nasa.gov>
Source record: 7038

Owen wrote:
> On 17/10/10 22:42, Alejandro Lieber wrote:
>> Since I built my first 80meter/40meter 6aq5 + 6DQ6 transmitter with pi
>> output in 1972, when I want to vary the inductance of a coil in a
>> tunner, or loading coil in an antenna, I just short circuit some turns.
>> I see that this is the usual practice everywhere.
>>
>> My question is why do we not just leave the turns open circuited instead
>> of short circuiting them.
>>
>> It appears to me that in the short circuited turns, a very big current
>> must be circulating, adding heat losses and lowering the Q of the
>> circuit.
>>
>>
>
> Only fairly basic AC circuit theory is needed to analyse the effect of
> the shorted turns.
>
> If you have a air cored solenoid inductor of n turns, and short m turns
> at one end, you can treat that as two independent inductors of n-m and m
> turns with some flux coupling factor k. The mutual inductance can be
> calculated, and a T equivalent of Ln Lm-n Rn Rm-n M elements constructed
> and solved. k of course depends on coil construction and n and m, a
> value can be determined by measurement of the reactance of the
> combination. (You might be surprised at how low k is.)

One could look at one of the standard equations for solenoid inductance
(e.g. Wheeler's) and get a feel for it. The ideal fully coupled multi
turn solenoid would have inductance proportional to Nturn^2.

Wheeler (for inches) is: L (uH) = r^2 * n^2 / (9 * r + 10 * l)
so there's the n^2 term on the top, but there's also the 10*length term
on the bottom.
For 2" diameter, 5 turns/inch, I calculated Wheeler L and for comparison
Length^2/6 (so that the number would be comparable at a length of around
12")

length turns Wheeler L uH/inch Length^2
2 10 3.45 1.7241 0.67
4 20 8.16 2.0408 2.67
6 30 13.04 2.1739 6.00
8 40 17.98 2.2472 10.67
10 50 22.94 2.2936 16.67
12 60 27.91 2.3256 24.00

14 70 32.89 2.3490 32.67
16 80 37.87 2.3669 42.67
18 90 42.86 2.3810 54.00
20 100 47.85 2.3923 66.67
22 110 52.84 2.4017 80.67
24 120 57.83 2.4096 96.00
26 130 62.83 2.4164 112.67
28 140 67.82 2.4221 130.67
30 150 72.82 2.4272 150.00

You can see that for this kind of coil, the coupling from turn to turn must be pretty low.. The L looks closer to a linear function of length than to the square of turns. If it were perfectly linear, it would be as if there is NO turn to turn coupling, and is just a series combination of single turn uncoupled inductors. If you look at the uH/inch column you can see that once you get into the 10 inches long and up range, it *is* almost completely linear.

>
> Essentially, when the power lost in the shorted turns is low (due to the
> combination of low k and low R), then the technique works fine.
>
> We (hams) have some pretty inadequate word based explanations for some
> of these kind of things when there are simple quantitative solutions at
> hand.
>
> An example is the traditional explanation of link coupling ratios. See
> http://vk1od.net/tx/concept/lctr.htm for a quantitative explanation
> using the same techniques as suggested above.
>

4437. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 16:30:57 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i9hso1nsk1@news.jpl.nasa.gov>
Source record: 7036

Cecil Moore wrote:
> On Oct 17, 10:03 pm, Myron A. Calhoun <mcalh...@sdf.org> wrote:
>> Isn't that the basis for a Tesla coil?
>
> The principle behind most Tesla coils is quarter-wave (90 degree) self-
> resonance. There is a standing wave current maximum at the base of the
> coil and a standing wave voltage maximum at the top of the coil.
> --
> 73, Cecil, w5dxp.com

Not really... that used to be an explanation, because for conveniently sized coils, the length of the wire on the secondary is pretty close to a 1/4 free space wavelength at the resonant frequency. However, you can build tesla coils that deviate pretty strongly from that, and they still work well, indicating that the 1/4wavelength (or slow wave transmission line) model isn't all that hot.

The current/voltage distribution along the secondary is pretty close to linear, especially if you have a decent sized topload.

It's resonant, but not 1/4 wavelength. You can model a tesla coil's behavior to within about 5% using a simple lumped LC model. The secondary is a lumped L and the self C of the inductor plus the C of the "topload".

There's some pretty rigorous analysis out there of tesla coils these days. Paul Nicholson's analysis is probably one of the best
http://abelian.org/tssp/

and has been confirmed by measurement.

Antonio C.M. de Queiroz has some elegant analytic models of coupled resonators which adequately describe most tesla coil configurations (including magnifiers) and more to the point, his analysis predicted some new ways to operate a coil, which were proven in practice by some experimenters. (that's sort of the proof in the pudding of theory.. it predicts some behavior that hasn't been seen before, and when you look for it, you find it)
http://www.coe.ufrj.br/~acmq/tesla/magnifier.html

There are some very nice finite element codes out there for Tesla coils, as well. JavaTC is based on one of them
http://www.classictesla.com/java/javatc.html

4438. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 16:46:39 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbc79fa$0$21003$65785112@news.neostrada.pl>
Source record: 7035

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:c1448894-94b1-403c-8df6-aaeb9c6439af@v20g2000yqb.googlegroups.com...
On Oct 18, 2:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Photons are the math joke.

:-) ... he says as photons impacting his retina allow him to read the
postings and see his keyboard.

Light is not coherent. It is "produced" in the packets (photons). But the
radio waves and the radiation from the "free electron laser" are coherent.
When the photons start and when finish?
S*

4439. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 19:28:28 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E1641DD2E22nonenowhere@61.9.134.55>
Source record: 7039

Owen <noone@no.where> wrote in news:vtKuo.256$tk4.180
@viwinnwfe02.internal.bigpond.com:

Well, I didn't get the maths right, there was a sign error in the formula
below. Here is what it should have read.

Suppose you had an air cored inductor, that when you measure the
inductance of the first half of the inductor (other terminal open) you
get 10µH. You now measure the whole inductor and get 30µH. We can
calculate that M=5µH.

Now forming a T equivalent of the inductor with one half shorted,
L=10-5+(5//(10-5))=7.5µH. Notably, the current in the s/c is
50% of the current in the other section, so losses are about 25%
of that in the other section... not usually a big issue.

Of course, the situation depends on the tapping point, and is much worse
when you short just one turn... but we don't usually do that. The example
has a fairly high coupling factor k (for an air cored coil), and losses
are lower for lower k.

I am working on a note that expands on this.

Owen

4440. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 21:09:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7b005ed5-6c14-4a54-9ce9-c152ce274924@a36g2000yqc.googlegroups.com>
Source record: 7040

On Oct 18, 7:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Cecil Moore" <w5...@hotmail.com> napisal w
wiadomoscinews:9ae0e8e4-0af3-4d10-9422-fa9e61ee955f@t8g2000yqk.googlegroups.com...
> On Oct 17, 11:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> "Exactly how much horizontal movement can there be in the free electrons
> > when the electric wave is moving at 300000 km/h?
> >Already answered earlier in this thread. For HF frequencies, the
>
> horizontal movement of the electrons is minuscule and they can be
> considered to be oscillating in place.
>
> Waves are described in the two method: " More generally, the Stokes drift
> velocity is the difference between the
> average Lagrangian flow velocity of a fluid parcel, and the average
> Eulerian flow velocity of the fluid at a fixed position. This nonlinear
> phenomenon is named after George Gabriel Stokes, who derived expressions
> for this drift in his 1847 study of water waves."
>
> > It is the photons that move at the speed of light.
>
> Photons are the math joke.
> Electric waves in a medium made of electrons move at the speed of light.
> S*

the waves are photons, or the photons are waves, either way they move
at the speed of light, the electrons do not move at the speed of light.

4441. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 21:57:38 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a1280174-f597-4367-b9ff-13f10884fc84@t13g2000yqm.googlegroups.com>
Source record: 7041

On Oct 18, 11:04 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> But, isn't that conductive sleeve itself a shorted turn?

Yes, but that particular low-loss shorted turn solves the problem that
needs solving. Nobody said it was a perfect solution.
--
73, Cecil, w5dxp.com

4442. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 22:13:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <eae68b66-a11e-427d-9481-7e24e1a42602@c20g2000yqj.googlegroups.com>
Source record: 7042

On Oct 18, 9:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
> On Oct 18, 11:04 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>
> > But, isn't that conductive sleeve itself a shorted turn?
>
> Yes, but that particular low-loss shorted turn solves the problem that
> needs solving. Nobody said it was a perfect solution.
> --
> 73, Cecil, w5dxp.com

well, if its not the perfect solution then the problem is not
completely solved... so there must be a better solution to really
solve the problem.

4443. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 22:16:53 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <449052b1-4376-4dcb-805e-91a157d3802e@j25g2000yqa.googlegroups.com>
Source record: 7043

On Oct 18, 11:30 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> You can model a tesla coil's
> behavior to within about 5% using a simple lumped LC model.

How can a model that presumes faster than light speeds yield a valid outcome? Drs. Corum seem to disagree with you. Here's what I have been quoting:

http://hamwaves.com/antennas/inductance/corum.pdf

Drs. Corum seem to debunk the lumped LC model. They also once had some class notes titled: "Tesla Coils and the Failure of Lumped-Element Circuit Theory", but I can't locate it on the web.
--
73, Cecil, w5dxp.com

4444. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 22:23:39 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4d2e44e4-afd2-4350-b7c1-552f931dc2ef@j25g2000yqa.googlegroups.com>
Source record: 7044

On Oct 18, 11:20 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> You can see that for this kind of coil, the coupling from turn to turn
> must be pretty low.

For an average air-core coil, the delay through the coil seems to be
in the ballpark of half of the coil wire stretched into a straight
line, i.e. the VF of the coil is about double what is the VF of the
straight wire used to wind the coil. The turn to turn coupling exists
but turn to far away turn coupling is very low.

This seems to be the most accurate inductance calculator that I have
seen and includes the characteristic impedance and axial propagation
factor.

http://hamwaves.com/antennas/inductance.html
--
73, Cecil, w5dxp.com

4445. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 22:27:52 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <aa85b84e-e800-4518-b37d-da6f93a23928@c20g2000yqj.googlegroups.com>
Source record: 7045

On Oct 18, 5:13 pm, K1TTT <k1...@arrl.net> wrote:
> well, if its not the perfect solution then the problem is not
> completely solved... so there must be a better solution to really
> solve the problem.

The problem of transmission line losses can be solved with a perfect
lossless transmission line. Have you seen such or does reality force
us to settle for a reasonable non-perfect solution?
--
73, Cecil, w5dxp.com

4446. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 23:30:15 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i9ila7$1n0$1@news.jpl.nasa.gov>
Source record: 7046

K1TTT wrote:
> On Oct 18, 9:57 pm, Cecil Moore <w5...@hotmail.com> wrote:
>> On Oct 18, 11:04 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>>
>>> But, isn't that conductive sleeve itself a shorted turn?
>> Yes, but that particular low-loss shorted turn solves the problem that
>> needs solving. Nobody said it was a perfect solution.
>> --
>> 73, Cecil, w5dxp.com
>
> well, if its not the perfect solution then the problem is not
> completely solved... so there must be a better solution to really
> solve the problem.

one could simply slit the tube (and finger stock at top). Consider that the lower tube is serving two purposes: mechanical support and a movable contact on the inductor.

4447. Tesla Coils was Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-18 23:43:21 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i9im2p$h5r$1@news.jpl.nasa.gov>
Source record: 7047

Cecil Moore wrote:
> On Oct 18, 11:30 am, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> You can model a tesla coil's
>> behavior to within about 5% using a simple lumped LC model.
>
> How can a model that presumes faster than light speeds yield a valid
> outcome? Drs. Corum seem to disagree with you. Here's what I have been
> quoting:
>
> http://hamwaves.com/antennas/inductance/corum.pdf
>
> Drs. Corum seem to debunk the lumped LC model. They also once had some
> class notes titled: "Tesla Coils and the Failure of Lumped-Element
> Circuit Theory", but I can't locate it on the web.
>
Changed the topic.. and really, this isn't r.r.a.a territory any more..
Feel free to send me an email directly.

This has been thrashed through pretty thoroughly on the Tesla Coil
Mailing List (TCML, http://www.pupman.com/) and I'd refer interested
parties to the list archives, or, to the works by Paul Nicholson.

I've had some nice discussions with Corum the younger, but, their model
makes life harder than it needs to be. Occam and all that.

At TC resonant frequencies (100kHz), the "light time delay" from top to
bottom of a 3 foot high coil is pretty small. I don't know about faster
than light, but at 100kHz, for an object that's a meter or two in size,
assuming simultaneity isn't a big stretch.

(for the propagation of the spark, though, and the current flow in the
top load, yes, the speed of light matters, and in fact, the speed at
which the charge can get off the top load and into the spark channel is
probably one of the bigger factors affecting maximum spark length.)

People have also put current and voltage probes at the top and bottom of
the secondary coil (with fiber optic connections etc.).

Getting to the "transmission line" or "slow wave structure" aspects..

You've got an inductor with a lot of stray distributed capacitance.
Indeed, that's exactly what a transmission line can be modeled as
(distributed series L and shunt C). And with an arbitrarily complex
nonlinear distribution of L and C, you can make a transmission line that
acts like a lumped L and C of the appropriate values.

So, the question really is, do you want the simple model or the complex one. If the goal is to design better tesla coils, and the simple model gets you to fractions of a percent in terms of agreement between experiment and theory, why use the more complex model. It doesn't lead to any better understanding of how it works, either.

Now, if you want to talk about modeling the spark channel as a time varying lossy transmission line, that's something more interesting, and it DOES have value in terms of understanding/predicting the behavior. For that, I'd point readers to "Spark Discharge" by Bazelyan and Raizer, which is one of the best works in the field, and a fascinating read (and, as well, they have that cool 150 meter+ spark picture from a really, really big Marx generator, 1.2 MJ or more, in Siberia)

4448. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 01:43:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4cbcf7cd$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7048

On 10/18/2010 2:37 AM, Szczepan Bialek wrote:
>
> The vector calculus describe only movements.

Really? I did not know that.

Crap. And argh.

I thought it was more useful than that.

Who knew?

tom
K0TAR

4449. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 01:45:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4cbcf83a$0$24412$8046368a@newsreader.iphouse.net>
Source record: 7049

On 10/18/2010 2:44 AM, Szczepan Bialek wrote:
> Uzytkownik "Cecil Moore"<w5dxp@hotmail.com> napisal w wiadomosci
> news:9ae0e8e4-0af3-4d10-9422-fa9e61ee955f@t8g2000yqk.googlegroups.com...
> On Oct 17, 11:06 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>> "Exactly how much horizontal movement can there be in the free electrons
>> when the electric wave is moving at 300000 km/h?
>
>> Already answered earlier in this thread. For HF frequencies, the
> horizontal movement of the electrons is minuscule and they can be
> considered to be oscillating in place.
>
> Waves are described in the two method: " More generally, the Stokes drift
> velocity is the difference between the
> average Lagrangian flow velocity of a fluid parcel, and the average
> Eulerian flow velocity of the fluid at a fixed position. This nonlinear
> phenomenon is named after George Gabriel Stokes, who derived expressions
> for this drift in his 1847 study of water waves."
>
>> It is the photons that move at the speed of light.
>
> Photons are the math joke.
> Electric waves in a medium made of electrons move at the speed of light.
> S*
>
>

One thing I'm wondering. In your world, how does the energy jump from
electron to electron? And try to make some sort of sense for once. Please.

tom
K0TAR

4450. Swan antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 01:45:55 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <4uGdnREamIrWZSHRnZ2dnUVZ_j2dnZ2d@bright.net>
Source record: 7050

An EBAY picture of a Swan antenna c. 1960s was part of a thread. The patent number seen in the picture was below resolution. A search found what I think is the patent. It is only 7 pages long. U.S. Patent 2,961,657 Nov. 22, 1960.
Here are the classification numbers: 343/714 ; 336/150; 343/722; 343/745; 343/900; 343/906; 455/121; 455/92

Class 343 is the class for antennas.

You can go to this URL and enter patent number:
http://patft.uspto.gov/netahtml/PTO/srchnum.htm

73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net

4451. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 01:46:31 UTC
From: tom <news4792@taring.org>
Message-ID: <4cbcf875$0$24412$8046368a@newsreader.iphouse.net>
Source record: 6951

On 10/18/2010 11:46 AM, Szczepan Bialek wrote:
> "Cecil Moore"<w5dxp@hotmail.com> wrote
> news:c1448894-94b1-403c-8df6-aaeb9c6439af@v20g2000yqb.googlegroups.com...
> On Oct 18, 2:44 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> Photons are the math joke.
>
> :-) ... he says as photons impacting his retina allow him to read the
> postings and see his keyboard.
>
> Light is not coherent. It is "produced" in the packets (photons). But the
> radio waves and the radiation from the "free electron laser" are coherent.
> When the photons start and when finish?
> S*
>
>

Where did Cecil mention "coherence"?

tom
K0TAR

4452. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 02:02:14 UTC
From: tom <news4792@taring.org>
Message-ID: <4cbcfc25$0$24412$8046368a@newsreader.iphouse.net>
Source record: 6952

On 10/18/2010 2:44 AM, Szczepan Bialek wrote:
> Uzytkownik "Cecil Moore"<w5dxp@hotmail.com> napisal w wiadomosci
> news:9ae0e8e4-0af3-4d10-9422-fa9e61ee955f@t8g2000yqk.googlegroups.com...
> On Oct 17, 11:06 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>> "Exactly how much horizontal movement can there be in the free electrons
>> when the electric wave is moving at 300000 km/h?
>
>> Already answered earlier in this thread. For HF frequencies, the
> horizontal movement of the electrons is minuscule and they can be
> considered to be oscillating in place.
>
> Waves are described in the two method: " More generally, the Stokes drift
> velocity is the difference between the
> average Lagrangian flow velocity of a fluid parcel, and the average
> Eulerian flow velocity of the fluid at a fixed position. This nonlinear
> phenomenon is named after George Gabriel Stokes, who derived expressions
> for this drift in his 1847 study of water waves."
>
>> It is the photons that move at the speed of light.
>
> Photons are the math joke.
> Electric waves in a medium made of electrons move at the speed of light.
> S*
>
>

Another couple questions. Should be easy answers for you.

Since your model supposes that the "plasma" carries the signal, what
does the model predict as the radiation resistance of a dipole in free
space?

Given your model, which you have spoken about at some length but no
depth, why wouldn't your predicted radiation resistance change with
plasma density, contrary to all measurements ever made?

tom
K0TAR

4453. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 07:42:37 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbd4bf7$0$22795$65785112@news.neostrada.pl>
Source record: 6953

"tom" <news4792@taring.org> wrote
news:4cbcf875$0$24412$8046368a@newsreader.iphouse.net...
> On 10/18/2010 11:46 AM, Szczepan Bialek wrote:
>> "Cecil Moore"<w5dxp@hotmail.com> wrote
>> news:c1448894-94b1-403c-8df6-aaeb9c6439af@v20g2000yqb.googlegroups.com...
>> On Oct 18, 2:44 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>> Photons are the math joke.
>>
>> :-) ... he says as photons impacting his retina allow him to read the
>> postings and see his keyboard.
>>
>> Light is not coherent. It is "produced" in the packets (photons). But the
>> radio waves and the radiation from the "free electron laser" are
>> coherent.
>> When the photons start and when finish?
>> S*
>
> Where did Cecil mention "coherence"?

Photons and incoherence are the same. "In 1900, Max Planck was working on
black-body radiation and suggested that the energy in electromagnetic waves
could only be released in "packets" of energy".

In a black body is many dipoles which work with brakes. In radio a dipole
(or monopole) works continously.
S*

4454. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 07:49:41 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbd4d9f$0$22801$65785112@news.neostrada.pl>
Source record: 6954

"tom" <news4792@taring.org> wrote
news:4cbcf83a$0$24412$8046368a@newsreader.iphouse.net...
> On 10/18/2010 2:44 AM, Szczepan Bialek wrote:
>>
>> Waves are described in the two method: " More generally, the Stokes drift
>> velocity is the difference between the
>> average Lagrangian flow velocity of a fluid parcel, and the average
>> Eulerian flow velocity of the fluid at a fixed position. This nonlinear
>> phenomenon is named after George Gabriel Stokes, who derived
>> expressions
>> for this drift in his 1847 study of water waves."
>>
>>> It is the photons that move at the speed of light.
>>
>> Photons are the math joke.
>> Electric waves in a medium made of electrons move at the speed of light.
>> S*
>
> One thing I'm wondering. In your world, how does the energy jump from
> electron to electron? And try to make some sort of sense for once.
> Please.

They have the kinetic energy. "the energy jump from electron to electron"
by collisions.

It is a full analogy with the acoustic waves. Molecules are the medium for
acoustic and free electrpns for the electric waves.
S*

4455. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 07:58:30 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbd4fb1$0$27026$65785112@news.neostrada.pl>
Source record: 6955

"tom" <news4792@taring.org> wrote
news:4cbcfc25$0$24412$8046368a@newsreader.iphouse.net...
>
>> Electric waves in a medium made of electrons move at the speed of light.
>
> Another couple questions. Should be easy answers for you.
>
> Since your model supposes that the "plasma" carries the signal, what does
> the model predict as the radiation resistance of a dipole in free space?
>
> Given your model, which you have spoken about at some length but no depth,
> why wouldn't your predicted radiation resistance change with plasma
> density, contrary to all measurements ever made?

It is not my model but Tesla's. Probably he was spoken deeper.
You try to marry Heaviside with Tesla. TEM are not longitudinal.
Longitudinal waves have analogy with acoustic waves.
S*

>
> tom
> K0TAR

4456. Re: Tesla Coils was Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 11:51:09 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f156bdb9-7044-49c6-80be-a022e534c666@t20g2000yqa.googlegroups.com>
Source record: 6956

On Oct 18, 6:43 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>... assuming simultaneity isn't a big stretch.
> ... yes, the speed of light matters, ...

These two concepts seem to be contradictory. Some simple 1/4WL Tesla coils are obviously close to 90 degrees long and limited by the speed of light. The traveling waves cannot travel faster than the axial propagation factor, whatever that value might be. For those simple Tesla coils, there is an electrical ~1/4WL between the feedpoint and the spark. Simultaneity is impossible in the real world.

(Thanks for the email invite, but right now most of my time is dedicated to learning how to be a square dance caller.)
--
73, Cecil, w5dxp.com

4457. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 17:44:46 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <cglrb6d3446ifj4hfs7l1uiv3m6s40mojq@4ax.com>
Source record: 6957

On Mon, 18 Oct 2010 20:43:42 -0500, tom <news4792@taring.org> wrote:

>On 10/18/2010 2:37 AM, Szczepan Bialek wrote:
>>
>> The vector calculus describe only movements.
>
>Really? I did not know that.
>
>Crap. And argh.
>
>I thought it was more useful than that.
>
>Who knew?

Stalin had the science writers purge their texts of those qualities that you miss and that we enjoy here in the west (they were condemned as bourgeois inspired perversions with counter-revolution tendencies). Hence you find decrepit pensioners sneering at elitist propaganda (western science) that dismisses the party-approved water models of RF transmission. In the historical perspective, we have to remember this state inspired instruction was learned in an era of RF transmission jammers located in every neighborhood so that trying to hear the VOA or the BBC made things sound like you were listening through the breakers of the surf. Hence the "experience" of the water model was very pervasive and arguing its falsity comes up against the resistance of the old guard.

73's
Richard Clark, KB7QHC

4458. Re: Tesla Coils was Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 19:00:29 UTC
From: John Smith <assemblywizard@gmail.com>
Message-ID: <i9kpsg$je2$1@news.eternal-september.org>
Source record: 6958

On 10/19/2010 4:51 AM, Cecil Moore wrote:

> ...
> These two concepts seem to be contradictory. Some simple 1/4WL Tesla
> coils are obviously close to 90 degrees long and limited by the speed
> of light. The traveling waves cannot travel faster than the axial
> propagation factor, whatever that value might be. For those simple
> Tesla coils, there is an electrical ~1/4WL between the feedpoint and
> the spark. Simultaneity is impossible in the real world.
>
> (Thanks for the email invite, but right now most of my time is
> dedicated to learning how to be a square dance caller.)
> --
> 73, Cecil, w5dxp.com

Long, long ago, I possessed a few copies of some of Teslas' original notes, thoughts, sayings, etc. condensed in a thin little book. I can remember reading it and contemplating what he was thinking/saying. I got a distinct feeling Tesla seen his "magnifying transmitters" and the "receivers" as, on resonance, being connected together by an "invisible wire" ... I still think I may have missed a lot of what he knew/discerned/guessed/thought/etc. He was nothing short of utterly amazing ... possibly "insane like a fox."

BTW. I Square Danced from the time I was ~17 to 26, some of the best times I ever had. Got into exhibition dancing in front of large groups, just for fun ... times were a lot simpler/better then ...

Regards,
JS

4459. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-19 22:16:51 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <74ec6df8-e1a3-4d0f-a406-7ea1d514c94f@h7g2000yqn.googlegroups.com>
Source record: 6959

On Oct 19, 7:49 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "tom" <news4...@taring.org>
wrotenews:4cbcf83a$0$24412$8046368a@newsreader.iphouse.net...
>
>
>
> > On 10/18/2010 2:44 AM, Szczepan Bialek wrote:
>
> >> Waves are described in the two method: " More generally, the Stokes drift
> >> velocity is the difference between the
> >> average Lagrangian flow velocity of a fluid parcel, and the average
> >> Eulerian flow velocity of the fluid at a fixed position. This nonlinear
> >> phenomenon is named after George Gabriel Stokes, who derived
> >> expressions
> >> for this drift in his 1847 study of water waves."
>
> >>> It is the photons that move at the speed of light.
>
> >> Photons are the math joke.
> >> Electric waves in a medium made of electrons move at the speed of light.
> >> S*
>
> > One thing I'm wondering. In your world, how does the energy jump from
> > electron to electron? And try to make some sort of sense for once.
> > Please.
>
> They have the kinetic energy. "the energy jump from electron to electron"
> by collisions.
>
> It is a full analogy with the acoustic waves. Molecules are the medium for
> acoustic and free electrpns for the electric waves.
> S*

funny isn't he?

4460. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 08:20:09 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbea644$0$21001$65785112@news.neostrada.pl>
Source record: 6960

"Richard Clark" <kb7qhc@comcast.net> wrote
news:cglrb6d3446ifj4hfs7l1uiv3m6s40mojq@4ax.com...
> On Mon, 18 Oct 2010 20:43:42 -0500, tom <news4792@taring.org> wrote:
>
>>On 10/18/2010 2:37 AM, Szczepan Bialek wrote:
>>>
>>> The vector calculus describe only movements.
>>
>>Really? I did not know that.
>>
>>Crap. And argh.
>>
>>I thought it was more useful than that.
>>
>>Who knew?
>
> Stalin had the science writers purge their texts of those qualities
> that you miss and that we enjoy here in the west (they were condemned
> as bourgeois inspired perversions with counter-revolution tendencies).
> Hence you find decrepit pensioners sneering at elitist propaganda
> (western science) that dismisses the party-approved water models of RF
> transmission. In the historical perspective, we have to remember this
> state inspired instruction was learned in an era of RF transmission
> jammers located in every neighborhood so that trying to hear the VOA
> or the BBC made things sound like you were listening through the
> breakers of the surf. Hence the "experience" of the water model was
> very pervasive and arguing its falsity comes up against the resistance
> of the old guard.

Always are the two descriptions. Physical (dynamic) and geometric (kinetic).

"Geometric algebra in the sense used in this article was not developed,
however, until 1844, when it was used in a systematic way to describe the
geometrical properties and transformations of a space
"Nevertheless, another revolutionary development of the 19th-century would
completely overshadow the geometric algebras: that of vector analysis,
developed independently by Josiah Willard Gibbs and Oliver Heaviside. Vector
analysis was motivated by James Clerk Maxwell's studies of electromagnetism,
" From: http://en.wikipedia.org/wiki/Geometric_algebra
>

Tesla's longitudinal radio waves are also described.

For us is enough to know that the transversal are rotational. The geometric
desription of the rotational oscillations is very impressive. It must be in

the school program.

Stokes drift is also impressive. Do you know that the ink printer use it?
S*

4461. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 11:46:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <9594cd49-5cb3-4ef6-be24-926cec867416@k22g2000yqh.googlegroups.com>
Source record: 6961

On Oct 20, 3:20 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> For us is enough to know that the transversal are rotational.

How does one detect the imaginary plane?
--
73, Cecil, w5dxp.com

4462. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 15:47:10 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i9n2tu$ds5u$1@tr22n12.aset.psu.edu>
Source record: 6962

On 10/18/10 12:04 PM, Jim Lux wrote:
> Cecil Moore wrote:
>> On Oct 17, 6:42 am, Alejandro Lieber <alejan...@Use-Author-Supplied-
>> Address.invalid> wrote:
>>> It appears to me that in the short circuited turns, a very big current
>>> must be circulating, adding heat losses and lowering the Q of the
>>> circuit.
>>
>> For a screwdriver antenna, the problem is solved by a conductive
>> sleeve over the outside of the shorted turns that keeps most of the RF
>> on the conductive sleeve instead of in the shorted turns of the coil.
>> --
>> 73, Cecil, w5dxp.com
>
> But, isn't that conductive sleeve itself a shorted turn? It's
> conductive, coaxial with the rest of the inductor above the sleeve, so
> the magnetic field certainly passes through it.

Whic of course means that everything everywhere is a shorted turn. 8^)

> I think the real answer is that everything is a tradeoff.

That's a pretty good answer.

4463. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 15:58:50 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i9n3jq$ds62$1@tr22n12.aset.psu.edu>
Source record: 6963

On 10/18/10 6:23 PM, Cecil Moore wrote:
> On Oct 18, 11:20 am, Jim Lux<james.p....@jpl.nasa.gov> wrote:
>> You can see that for this kind of coil, the coupling from turn to turn
>> must be pretty low.
>
> For an average air-core coil, the delay through the coil seems to be
> in the ballpark of half of the coil wire stretched into a straight
> line, i.e. the VF of the coil is about double what is the VF of the
> straight wire used to wind the coil. The turn to turn coupling exists
> but turn to far away turn coupling is very low.
>
> This seems to be the most accurate inductance calculator that I have
> seen and includes the characteristic impedance and axial propagation
> factor.

So to return to my real world example, an air core solenoid used as a tuning coil for a bugcatcher antenna, would I be wanting to short the unused portions of the coil, or leave them unshorted?

Seems that unshorted would be bad.

-73 de Mike N3LI -

4464. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 16:17:32 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i9n4ms$2fe$1@news.jpl.nasa.gov>
Source record: 6967

Mike Coslo wrote:
> On 10/18/10 12:04 PM, Jim Lux wrote:
>> Cecil Moore wrote:
>>> On Oct 17, 6:42 am, Alejandro Lieber <alejan...@Use-Author-Supplied-
>>> Address.invalid> wrote:
>>>> It appears to me that in the short circuited turns, a very big current
>>>> must be circulating, adding heat losses and lowering the Q of the
>>>> circuit.
>>>
>>> For a screwdriver antenna, the problem is solved by a conductive
>>> sleeve over the outside of the shorted turns that keeps most of the RF
>>> on the conductive sleeve instead of in the shorted turns of the coil.
>>> --
>>> 73, Cecil, w5dxp.com
>>
>> But, isn't that conductive sleeve itself a shorted turn? It's
>> conductive, coaxial with the rest of the inductor above the sleeve, so
>> the magnetic field certainly passes through it.
>
> Whic of course means that everything everywhere is a shorted turn. 8^)

Indeed, but some shorted turns intercept more flux than others.
Hopefully the field in the passenger seat is small enough that the power
dissipated in one's spouse's ring is fairly low.

4465. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 16:21:57 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4CBF1725.5060605@jpl.nasa.gov>
Source record: 6966

Mike Coslo wrote:
> On 10/18/10 6:23 PM, Cecil Moore wrote:
>> On Oct 18, 11:20 am, Jim Lux<james.p....@jpl.nasa.gov> wrote:
>>> You can see that for this kind of coil, the coupling from turn to turn
>>> must be pretty low.
>>
>> For an average air-core coil, the delay through the coil seems to be
>> in the ballpark of half of the coil wire stretched into a straight
>> line, i.e. the VF of the coil is about double what is the VF of the
>> straight wire used to wind the coil. The turn to turn coupling exists
>> but turn to far away turn coupling is very low.
>>
>> This seems to be the most accurate inductance calculator that I have
>> seen and includes the characteristic impedance and axial propagation
>> factor.
>
>
> So to return to my real world example, an air core solenoid used as a
> tuning coil for a bugcatcher antenna, would I be wanting to short the
> unused portions of the coil, or leave them unshorted?
>
> Seems that unshorted would be bad.
>

Given the relatively few turns on a typical bugcatcher, and the low coupling of flux, the voltage rise would be negligible, and the fact that you're not having a high voltage across the coil in the first place (compared to turn spacing), I don't think it's an issue to leave the end free.

Practical experience: On most tesla coils, the primary is a 10-20 turn coil with turn to turn spacing of 1/4" to 1/2" or so and runs at a peak voltage around 20kV. One adjusts the tapping point to adjust the primary L to bring the system into resonance, and it usually winds up being tapped about 70% of the way into the coil. Almost never do you get arcing/corona from the free end of the coil, which is potentially at as much as twice the voltage, and if it were in free space, you'd start to see corona from the relatively small radius of curvature.

4466. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 16:30:50 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbf1946$0$22805$65785112@news.neostrada.pl>
Source record: 6964

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:9594cd49-5cb3-4ef6-be24-926cec867416@k22g2000yqh.googlegroups.com...
On Oct 20, 3:20 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> For us is enough to know that the transversal are rotational.

>How does one detect the imaginary plane?

Movements in 2D are described on the imaginary plane, in 3D by vector
calculus, in more D by tensors.
You need not know that to analise the radio waves.
But you should know that no pure transversal waves. Always are the two
components.
Heaviside did not know that.
S*

4467. Re: Common Mode chokes

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 16:53:39 UTC
From: Wes N7WS <n7ws@yahoo.com>
Message-ID: <8c227d4e-55ba-43d5-9cbe-16a9456a7cc0@j8g2000prn.googlegroups.com>
Source record: 6965

On Oct 10, 12:59 pm, Owen Duffy <n...@no.where> wrote:
> John Ferrell <jferrel...@triad.rr.com> wrote
innews:p2t3b697j43kj0qoj7jk43tn7im48dj44t@4ax.com:
>
> > BTW, I think my next lesson will be to understand Hairpin Matching. I
> > plan to start with the page on your website.
>
> My page shows how to do it more thay why it works.
>
> If you are interested in why it works, consider an L network to transform
> a 20+j0 ohm antenna up to 50+j0. Think of a hi-pass configuration (series
> C, shunt L), and find values for C and L. Understanding the L match is
> essential to truly understanding the hairpin or beta match.
>
> When you have worked that out, you will realise that you can create the
> series capacitive reactance by shortening the antenna (DE) a little. Yes,
> that also changes feedpoint R, but only very slowly compared to X.
>
> The inductive reactance could be supplied by a coil, but at VHF it is
> more practical to use a s/c stub (which is the hairpin).
>
> Back to how rather than why, if you use 4NEC2 to model antennas, it
> displays a parallel equivalent of the feedpoint impedance. If you shorten
> the antenna so that the parallel equivalent is 50 ohms // -X (Y=1/50
> +j/X), then the hairpin has to supply X (B=-j/X) to cancel the -X
> (B=j/X).
>
> Another application of the same concept is to shorten a loaded 80m mobile
> whip (which has low feedpoint R) so that the parallel equivalent is 50
> ohms // -X, and shunt it with an inductor of reactance X to cancel -X.
>
> Owen

The stub match can be used at hf too.

Using a stub, the balun can be integrated into it as well. A couple
of photos of my homebrew 20-meter monoband Yagi demonstrate.

http://k6mhe.com/n7ws/YagiFeed-1a.jpg

http://k6mhe.com/n7ws/YagiFeed-2a.jpg

Note: the antenna is sort of "upside down" as it's on a fold-over
tower that was folded over at the time

4468. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 18:04:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E1833B18A96Enonenowhere@61.9.134.55>
Source record: 6968

Mike Coslo <mjc5@psu.edu> wrote in news:i9n3jq$ds62$1
@tr22n12.aset.psu.edu:

...
> So to return to my real world example, an air core solenoid used as a
> tuning coil for a bugcatcher antenna, would I be wanting to short the
> unused portions of the coil, or leave them unshorted?
>
> Seems that unshorted would be bad.

I wrote some notes based on a simple model of an air cored single layer solenoid, they are at
http://www.vk1od.net/tx/concept/TappedCoil/index.htm .

The model suggests that shorting the unused turns is a poorer solution when the flux coupling factor is relatively high, and a very small number of turns are shorted. Poorer both because of loss and the granularity of L adjustment.

In that situation, the voltage induced in open unused turns is not very high, whereas it can be extreme in cases where most of the turns are unused.

So, a combination of methods may be optimimum, depending on the flux coupling factor, voltage withstand, granularity of variation of L, etc.

Owen

4469. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 18:08:36 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1pbub6pj937bcrud5jggv4pfr4uap1m7mc@4ax.com>
Source record: 6969

On Wed, 20 Oct 2010 10:20:09 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>Geometric algebra in the sense used in this article was not developed,
>however, until 1844

The Old Guard is often found trying to commemorate the past in
relation to their old heroes:
"In Paris, on August 28, 1844, at the Cafï¿½ de la Rï¿½gence on the Place
du Palais he met Friedrich Engels, who would become his most important
friend and life-long companion. Engels had met Marx only once before
(and briefly) at the office of the Rheinische Zeitung in 1842;[28] he
went to Paris to show Marx his recently published book, The Condition
of the Working Class in England in 1844.[29] This book convinced Marx
that the working class would be the agent and instrument of the final
revolution in history."

The faded political trash that is now used as decoupage for today's
arguments is carnival in spirit but is as nutritionally substantial as
cotton candy.

73's
Richard Clark, KB7QHC

4470. Re: Loading Coil query

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 20:34:21 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i9njod$ds7i$1@tr22n12.aset.psu.edu>
Source record: 6970

On 10/15/10 4:45 PM, pdrahn@coinet.com wrote:
> On Oct 15, 9:29 am, "pdr...@coinet.com"<co_far...@yahoo.com> wrote:

>> Is this what you are envisioning?
>>
>> Paul, KD7HB
>
> Here is an older Ebay listing that shows a Swan mobile antenna with
> manually adjustable taps.
>
> http://cgi.ebay.com/SWAN-Swantenna-45-Five-Band-MOBILE-ANTENNA-Selectable-/370422708798

Something sort of like that,- my version would have a box underneath the
loading coill where the wires would end up.

- 73 de Mike N3LI -

4471. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-20 22:19:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4f097dc5-15de-4344-956b-44ef21f638d2@t8g2000yqk.googlegroups.com>
Source record: 6971

On Oct 20, 11:46 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Oct 20, 3:20 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > For us is enough to know that the transversal are rotational.
>
> How does one detect the imaginary plane?
> --
> 73, Cecil, w5dxp.com

thats the one he lives in so its easy!

4472. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 08:09:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cbff55c$0$20987$65785112@news.neostrada.pl>
Source record: 6972

Uzytkownik "Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:1pbub6pj937bcrud5jggv4pfr4uap1m7mc@4ax.com...
> On Wed, 20 Oct 2010 10:20:09 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>Geometric algebra in the sense used in this article was not developed,
>>however, until 1844
>
> The Old Guard is often found trying to commemorate the past in
> relation to their old heroes:
> "In Paris, on August 28, 1844, at the Caf&#65533; de la R&#65533;gence on the Place
> du Palais he met Friedrich Engels, who would become his most important
> friend and life-long companion. Engels had met Marx only once before
> (and briefly) at the office of the Rheinische Zeitung in 1842;[28] he
> went to Paris to show Marx his recently published book, The Condition
> of the Working Class in England in 1844.[29] This book convinced Marx
> that the working class would be the agent and instrument of the final
> revolution in history."

As you know I am collecting the evidences. Could you tell me something about
the cristal radio?
There is the diode. The electrons flow in the one direction. The questions
are:

1. Electron must flow from the antenna to the ground,
2. In the opposite direction.
3. Radio works in the both arrangement.
>
> The faded political trash that is now used as decoupage for today's
> arguments is carnival in spirit but is as nutritionally substantial as
> cotton candy.

It would be easy to collect the information from the own laboratory. But
asking is the substantial.
S*

4473. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 12:32:40 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <70c97d69-2006-4648-8bdc-71dc62e3d417@m7g2000yqm.googlegroups.com>
Source record: 6973

On Oct 21, 3:09 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> 1. Electron must flow from the antenna to the ground,

Nope, RF electrons don't actually flow. They essentially vibrate in place. "For a copper wire of radius 1 mm carrying a steady current of 10 amps, the DC drift velocity is only about 0.24 nanometer per microsecond." At 10 MHz, the electrons would vibrate back and forth at about 0.01 nanometer per 0.1 microsecond. Consider how large 0.01 nanometer really is so for all practical purposes, electrons don't flow at all at HF frequencies. Electrons at HF are just a bucket brigade for the photons that deliver the RF energy to the diode detector. Unless a circuit is at DC steady-state, photons are involved, i.e. RF involves photons which constitute the RF fields and RF waves.
--
73, Cecil, w5dxp.com

4474. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 13:32:48 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i9pfe0$fg3s$1@tr22n12.aset.psu.edu>
Source record: 6974

On 10/20/10 2:04 PM, Owen Duffy wrote:
> Mike Coslo<mjc5@psu.edu> wrote in news:i9n3jq$ds62$1
> @tr22n12.aset.psu.edu:
>
> ...
>> So to return to my real world example, an air core solenoid used as a
>> tuning coil for a bugcatcher antenna, would I be wanting to short the
>> unused portions of the coil, or leave them unshorted?
>>
>> Seems that unshorted would be bad.
>
> I wrote some notes based on a simple model of an air cored single layer
> solenoid, they are at
> http://www.vk1od.net/tx/concept/TappedCoil/index.htm .
>
> The model suggests that shorting the unused turns is a poorer solution
> when the flux coupling factor is relatively high, and a very small number
> of turns are shorted. Poorer both because of loss and the granularity of
> L adjustment.
>
> In that situation, the voltage induced in open unused turns is not very
> high, whereas it can be extreme in cases where most of the turns are
> unused.
>
> So, a combination of methods may be optimimum, depending on the flux
> coupling factor, voltage withstand, granularity of variation of L, etc.

After taking a good look at the loading coil, its apparent that there
isn't much choice. The bottom of the coil is attached to the lower mast,
and a four pronged plate that the tap wire is attached to at the same
junction. So unless no tap is used, some portion will be shorted/
bypassed or the like.

And given that GLA systems is no longer in business, my loading coil
just got a lot more valuable, so I'll have to experiment on a new coil.
I have the Acrylic top and bottom pieces, next will be getting the rods
and make the wire cheannels.

- 73 de Mike N3LI -

4475. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 14:55:10 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e359864d-015c-4cfa-9b06-9b252c633fa5@l14g2000yqb.googlegroups.com>
Source record: 6975

On Oct 21, 8:32 am, Mike Coslo <m...@psu.edu> wrote:
> After taking a good look at the loading coil, its apparent that there
> isn't much choice. The bottom of the coil is attached to the lower mast,
> and a four pronged plate that the tap wire is attached to at the same
> junction. So unless no tap is used, some portion will be shorted/
> bypassed or the like.

So which would be better (less lossy) for a 75m Texas Bugcatcher coil
used on 40m? Short out each turn individually or use one jumper to
short out all of the turns that need to be bypassed?
--
73, Cecil, w5dxp.com

4476. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 16:09:38 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <i9pok2$f004$1@tr22n12.aset.psu.edu>
Source record: 6976

On 10/21/10 10:55 AM, Cecil Moore wrote:
> On Oct 21, 8:32 am, Mike Coslo<m...@psu.edu> wrote:
>> After taking a good look at the loading coil, its apparent that there
>> isn't much choice. The bottom of the coil is attached to the lower mast,
>> and a four pronged plate that the tap wire is attached to at the same
>> junction. So unless no tap is used, some portion will be shorted/
>> bypassed or the like.
>
> So which would be better (less lossy) for a 75m Texas Bugcatcher coil
> used on 40m? Short out each turn individually or use one jumper to
> short out all of the turns that need to be bypassed?

Kinda my original question.

Intuition tells me that ideally - in order of preference:

1. the entire unused portion of the coil should just disappear.

2. A shorting sleeve that renders the unused portion of that loading coil as a fatter part of the mast.

3. What I have now, a #12 wire from the top of the bottom part of the mast to the spot that I tuned the antenna. The bottom of the coil is attached to the same point on the bottom mast.

1. is impossible without having separate replaceable tuning coils. Crazy inconvenient.

2. This would be the world's fattest screwdriver antenna.

3. This becomes the question? Is this worth worrying about? And testing would be interesting for each frequency to determine which ones benefit from shorted/non shorted operation.

Which now leads me to ask, what would be a good way to set up such an experiment? I guess if follows on that what exactly is the phenomenon that I would be witnessing? A transformer effect in unshorted condition certainly would be a problem even for my transmitting equipment?

- 73 de Mike N3LI -

4477. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 16:35:59 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc06bfa$0$21005$65785112@news.neostrada.pl>
Source record: 6977

"Cecil Moore" <w5dxp@hotmail.com> wrote
news:70c97d69-2006-4648-8bdc-71dc62e3d417@m7g2000yqm.googlegroups.com...
On Oct 21, 3:09 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> 1. Electron must flow from the antenna to the ground,

>Nope, RF electrons don't actually flow. They essentially vibrate in
place.

The same is with the all AC. If between the live line and the ground is the
diode "Electron must flow from the line to the ground".

>"For a copper wire of radius 1 mm carrying a steady current of
10 amps, the DC drift velocity is only about 0.24 nanometer per
microsecond." At 10 MHz, the electrons would vibrate back and forth at
about 0.01 nanometer per 0.1 microsecond. Consider how large 0.01
nanometer really is so for all practical purposes, electrons don't
flow at all at HF frequencies. Electrons at HF are just a bucket
brigade for the photons that deliver the RF energy to the diode
detector. Unless a circuit is at DC steady-state, photons are
involved, i.e. RF involves photons which constitute the RF fields and
RF waves.

No matter how big the back and forth are. If is a diode electrons must flow
in one direction.
Do not be lazy and measure it.
S*

4478. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 17:38:07 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <793bb3b4-ace7-477d-ba88-0de86c115654@t20g2000yqa.googlegroups.com>
Source record: 6978

On Oct 21, 11:35 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Cecil Moore" <w5...@hotmail.com>
wrotenews:70c97d69-2006-4648-8bdc-71dc62e3d417@m7g2000yqm.googlegroups.com...
> On Oct 21, 3:09 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> 1. Electron must flow from the antenna to the ground,
> >Nope, RF electrons don't actually flow. They essentially vibrate in
>
> place.
>
> The same is with the all AC. If between the live line and the ground is the
> diode "Electron must flow from the line to the ground".
>
> >"For a copper wire of radius 1 mm carrying a steady current of
>
> 10 amps, the DC drift velocity is only about 0.24 nanometer per
> microsecond." At 10 MHz, the electrons would vibrate back and forth at
> about 0.01 nanometer per 0.1 microsecond. Consider how large 0.01
> nanometer really is so for all practical purposes, electrons don't
> flow at all at HF frequencies. Electrons at HF are just a bucket
> brigade for the photons that deliver the RF energy to the diode
> detector. Unless a circuit is at DC steady-state, photons are
> involved, i.e. RF involves photons which constitute the RF fields and
> RF waves.
>
> No matter how big the back and forth are. If is a diode electrons must flow
> in one direction.
> Do not be lazy and measure it.
> S*

I can not debate your particular area other than to point what I have
in actuality.
By removing all reactance especially the magnetic field the current
flow removed itself from the material and travels on the surface.
This is not unusual as superconductors drop to zero resistance when
the magnetic field is canceled or removed. There are only two
resistances in radiation and if no skin depth is then generated then
the material and its resistance is removed from Maxwell's equations
Now one can question my understanding as to what is happening but the
fact is my antenna
swr does not go above 3:1 no matter what band I am on! Yes, by not
understanding what is really happening it would be easy to say "dummy
load " but that is not the real answer.
So I would ask all what exactly is impossible

about the sequence of event that I describe while adding that computer
programs confirm it?
By the way the antenna is sitting om the grass
as height does not affect dish antennas!

4479. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 18:10:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ba01c6ld8mlugigf0h0mut6rahumv7o5bu@4ax.com>
Source record: 6979

On Thu, 21 Oct 2010 10:09:43 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>As you know I am collecting the evidences.

The Stasi was, like the KGB, disbanded years ago.

And yet the Old Guard persists by restructuring old methods of
collecting individual's information into new files and calling
themselves by new names.

We could be more productive in the discussion of the splicing of
Stalin's DNA into the hip new Oliogarchs.

73's
Richard Clark, KB7QHC

4480. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-21 18:22:06 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E19369C6CBFAnonenowhere@61.9.134.55>
Source record: 6980

Mike Coslo <mjc5@psu.edu> wrote in
news:i9pok2$f004$1@tr22n12.aset.psu.edu:

> On 10/21/10 10:55 AM, Cecil Moore wrote:
>> On Oct 21, 8:32 am, Mike Coslo<m...@psu.edu> wrote:
>>> After taking a good look at the loading coil, its apparent that
>>> there isn't much choice. The bottom of the coil is attached to the
>>> lower mast, and a four pronged plate that the tap wire is attached
>>> to at the same junction. So unless no tap is used, some portion will
>>> be shorted/ bypassed or the like.
>>
>> So which would be better (less lossy) for a 75m Texas Bugcatcher coil
>> used on 40m? Short out each turn individually or use one jumper to
>> short out all of the turns that need to be bypassed?
>
>
> Kinda my original question.
>
> Intuition tells me that ideally - in order of preference:
>
> 1. the entire unused portion of the coil should just disappear.

Yes, but even better, a new coil optimised for the band. Not an original
thought though!

>
> 2. A shorting sleeve that renders the unused portion of that loading
> coil as a fatter part of the mast.

Mike, some thoughts.

A word explanation of what my simple model draws out quantitatively for
an ideal coil (meaning insignificant distributed capacitance)...

Just one turn shorted / open...

If you short just one turn at the end of the coil, a current is induced
in the shorted turn. The current depends on the flux coupling factor k
and the number of turns in the rest of the coil. The loss depends on the
current squared and resistance... so whilst the current squared might be
high, resistance would be relatively low. Nevertheless, if k is high,
then the current induced in that shorted turn will increase total loss
significantly. The effect of a large current in the shorted turn is to
reduce the inductance of the combination, the higher the current (high
k), the greater the reduction in inductance.

If on the other hand, that one turn was left open a voltage is induced in the open turn. The voltage depends on k and the number of turns in the rest of the coil.

More turns shorted / open...

If more turns are shorted, the induced current is lower, and R is higher, the net effect is that additional loss is reduced. Inductance is reduced, but at a slower rate than intially.

If more turns are left open, the voltage induced in the unused turns increases and could be many times the voltage developed across the used turns. A first approximation is k times the turns ratio times voltage developed across the used turns.

Shorting each of several adjacent turns...

This approach assures the highest circulating current in the shorted turns, assuring the worst loss at all tappings.

Screwdrivers...

The approach taken in some screwdrivers uses a very low resistance shorted turn (the tube) to make contact at the tapping point, and it protects the unused coil turns (now inside the tube) from flux. Done properly, that might well be a fairly good solution... I haven't tried to measure it.

k...

Avoiding high k provides finer granularity of inductance adjustment and lower loss when few turns are shorted... but of course lower k means a physically larger coil for the same inductance, and potentially higher R which increases loss.

Owen

4481. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-22 00:00:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4cc0d434$0$55707$8046368a@newsreader.iphouse.net>
Source record: 6981

On 10/21/2010 12:38 PM, Art Unwin wrote:
> On Oct 21, 11:35 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> "Cecil Moore"<w5...@hotmail.com>
wrotenews:70c97d69-2006-4648-8bdc-71dc62e3d417@m7g2000yqm.googlegroups.com...
>> On Oct 21, 3:09 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>
>>>> 1. Electron must flow from the antenna to the ground,
>>> Nope, RF electrons don't actually flow. They essentially vibrate in
>>
>> place.
>>
>> The same is with the all AC. If between the live line and the ground is the
>> diode "Electron must flow from the line to the ground".
>>
>>> "For a copper wire of radius 1 mm carrying a steady current of
>>
>> 10 amps, the DC drift velocity is only about 0.24 nanometer per
>> microsecond." At 10 MHz, the electrons would vibrate back and forth at
>> about 0.01 nanometer per 0.1 microsecond. Consider how large 0.01
>> nanometer really is so for all practical purposes, electrons don't
>> flow at all at HF frequencies. Electrons at HF are just a bucket
>> brigade for the photons that deliver the RF energy to the diode
>> detector. Unless a circuit is at DC steady-state, photons are
>> involved, i.e. RF involves photons which constitute the RF fields and
>> RF waves.
>>
>> No matter how big the back and forth are. If is a diode electrons must flow
>> in one direction.
>> Do not be lazy and measure it.
>> S*
>
> I can not debate your particular area other than to point what I have
> in actuality.
> By removing all reactance especially the magnetic field the current
> flow removed itself from the material and travels on the surface.
> This is not unusual as superconductors drop to zero resistance when
> the magnetic field is canceled or removed. There are only two
> resistances in radiation and if no skin depth is then generated then
> the material and its resistance is removed from Maxwell's equations
> Now one can question my understanding as to what is happening but the
> fact is my antenna
> swr does not go above 3:1 no matter what band I am on! Yes, by not
> understanding what is really happening it would be easy to say "dummy
> load " but that is not the real answer.

> So I would ask all what exactly is impossible
> about the sequence of event that I describe while adding that computer
> programs confirm it?
> By the way the antenna is sitting om the grass
> as height does not affect dish antennas!

Pick a band. Pick a time. Let's have a contact.

I know what the answer will be of course, an excuse why you can't have a
Q with me or anyone else.

tom
K0TAR

4482. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-22 00:11:05 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <i9qkqp$268$1@news.jpl.nasa.gov>
Source record: 6982

Owen Duffy wrote:
> Mike Coslo <mjc5@psu.edu> wrote in news:i9n3jq$ds62$1
> @tr22n12.aset.psu.edu:
>
> ...
>> So to return to my real world example, an air core solenoid used as a
>> tuning coil for a bugcatcher antenna, would I be wanting to short the
>> unused portions of the coil, or leave them unshorted?
>>
>> Seems that unshorted would be bad.
>
> I wrote some notes based on a simple model of an air cored single layer
> solenoid, they are at
> http://www.vk1od.net/tx/concept/TappedCoil/index.htm .

I saw that yesterday and it looks good (a figure of the equivalent T
model would help)
>
> The model suggests that shorting the unused turns is a poorer solution
> when the flux coupling factor is relatively high, and a very small number
> of turns are shorted. Poorer both because of loss and the granularity of
> L adjustment.
>
> In that situation, the voltage induced in open unused turns is not very
> high, whereas it can be extreme in cases where most of the turns are
> unused.
>

But in that situation, the voltage across the unshorted turns is likely
to be low, because you've got low reactance, right? So the net effect is
small.

4483. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-22 01:49:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E19827CA867nonenowhere@61.9.134.55>
Source record: 6983

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:i9qkqp$268$1@news.jpl.nasa.gov:

> Owen Duffy wrote:
>> Mike Coslo <mjc5@psu.edu> wrote in news:i9n3jq$ds62$1
...
>> The model suggests that shorting the unused turns is a poorer
>> solution when the flux coupling factor is relatively high, and a very
>> small number of turns are shorted. Poorer both because of loss and
>> the granularity of L adjustment.
>>
>> In that situation, the voltage induced in open unused turns is not
>> very high, whereas it can be extreme in cases where most of the turns
>> are unused.
>>
>
> But in that situation, the voltage across the unshorted turns is
> likely to be low, because you've got low reactance, right? So the net
> effect is small.

Hi Jim,

It depends what you take as a reference. A rough estimate of the voltage across the unused turns is the turns ratio (unused /used) time the flux coupling factor, which in practical applications is likely to be in the range 0.2 to 0.5.

If the application was a valve amp pi coupler, the voltage impressed across the used turns could be a couple of thousand volts, and on a 10m tap, the voltage across the unused turns could easily be 5 to 10 times that.

In the case of a loading coil for a multiband whip, the current in the used turns is probably similar from band to band, but the used turns are lower for higher bands and so the flux cutting the unused turns is lower, but there are more unused turns. In this application, insulation problems are probably less severe than the PA with a bandswitch.

To my mind, the interesting thing is why shorting some turns is 'ok', and then to understand that doesn't make it 'ok' in all scenarios. For instance, someone taking a valve amp pi coupler and implementing it on a single powdered iron core changes the situation significantly.

Re the Tee circuit, yes, but it takes a while to draw it up... not nearly as quick as grinding a few numbers and creating a graph! I have a backlog of hand drawing scanned into articles to redraw already.

Owen

4484. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-22 01:53:54 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <i9qqri$i3c$1@tioat.net>
Source record: 6984

On 10/20/2010 03:04 PM, Owen Duffy wrote:
> Mike Coslo<mjc5@psu.edu> wrote in news:i9n3jq$ds62$1
> @tr22n12.aset.psu.edu:
>
> ...
>> So to return to my real world example, an air core solenoid used as a
>> tuning coil for a bugcatcher antenna, would I be wanting to short the
>> unused portions of the coil, or leave them unshorted?
>>
>> Seems that unshorted would be bad.
>
> I wrote some notes based on a simple model of an air cored single layer
> solenoid, they are at
> http://www.vk1od.net/tx/concept/TappedCoil/index.htm .
>
> The model suggests that shorting the unused turns is a poorer solution
> when the flux coupling factor is relatively high, and a very small number
> of turns are shorted. Poorer both because of loss and the granularity of
> L adjustment.
>
> In that situation, the voltage induced in open unused turns is not very
> high, whereas it can be extreme in cases where most of the turns are
> unused.
>
> So, a combination of methods may be optimimum, depending on the flux
> coupling factor, voltage withstand, granularity of variation of L, etc.
>
> Owen

Thank you very much for the explanation.

Another interesting and very practical graph would be: for a 20 turn,
50mm diameter and various winding pitches coil, how much additional
energy loss, 1, 5, 10, 20, 30, 40 additional short circuited turns add.

--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4485. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-22 08:14:25 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc147ed$0$21003$65785112@news.neostrada.pl>
Source record: 6985

"Richard Clark" <kb7qhc@comcast.net> wrote
news:ba01c6ld8mlugigf0h0mut6rahumv7o5bu@4ax.com...
> On Thu, 21 Oct 2010 10:09:43 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>As you know I am collecting the evidences.
>
> The Stasi was, like the KGB, disbanded years ago.
>
> And yet the Old Guard persists by restructuring old methods of
> collecting individual's information into new files and calling
> themselves by new names.
>
> We could be more productive in the discussion of the splicing of
> Stalin's DNA into the hip new Oliogarchs.

Wiki is more usefull than you:
http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
" Power from radio waves -- hooking up a meter to measure the voltage and
current "

"If you have a good antenna, or a strong radio station nearby, the ammeter
might read more than 50 microamps. If you have a short antenna, you might
get only 5 microamps and still be able to hear the station clearly in the
headphones. I put up a 200 foot antenna between two trees over my house, and
tuned to a 50,000 watt station about 30 miles away, and now I get 175
microamps of current through my meter."
S*

4486. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-22 09:09:45 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E19CD1AD3CF0nonenowhere@61.9.134.55>
Source record: 6986

Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid> wrote
in news:i9qqri$i3c$1@tioat.net:

> Thank you very much for the explanation.
>
> Another interesting and very practical graph would be: for a 20 turn,
> 50mm diameter and various winding pitches coil, how much additional
> energy loss, 1, 5, 10, 20, 30, 40 additional short circuited turns
> add.

Hello Alejandro,

I think the graphs in the article demonstrate that there is a simple analytical solution, giving the appropriate parameters.

There are issues about the applicability of the model to the real world, but the model does show trends about what is desirable and undesirable practice. Wheeler's formula for inductance has its shortcomings (Wheeler's formula doesn't take into account wire diameter for instance), but it is (IMHO) sufficiently accurate to expose some of the 'interesting' effects that prompted your initial question.

The model is based on basic electricity and magnetism, stuff that isn't so appeallng to new age hams.

Owen

4487. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-22 17:26:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t4i3c615njonb5i3fv0i480n0rrovhms20@4ax.com>
Source record: 6987

On Fri, 22 Oct 2010 10:14:25 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>Power from radio waves

State and party ownership of print, television and radio media served as an important manner in which to control information and society in light of Eastern Bloc leaderships viewing even marginal groups of opposition intellectuals as a potential threat to the bases underlying Communist power therein.

It quite appears that there remains the Old Guard initiative of oppressing intellectuals to dissiminate the party line in the form of corrupt and revisionist technical tracts.

73's
Richard Clark, KB7QHC

4488. Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 06:57:36 UTC
From: Saffer <Saffer.7086aa9@radiobanter.com>
Message-ID: <Saffer.7086aa9@radiobanter.com>
Source record: 6990

Hi there Im new to amateur just got my licence and am having high swr problems ive checked the coaxial cables for continuity and everything seems to be right the antenna is a buddipole and everything has been assembled correctally can anybody tell me what I might be doing wrong Stephen.

--
Saffer

4489. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 07:00:14 UTC
From: nm5k@wt.net
Message-ID: <bf836390-257d-4dea-b6f0-117f96b2c8dd@l17g2000yqe.googlegroups.com>
Source record: 6988

On Oct 21, 12:38 pm, Art Unwin <arthurun...@gmail.com> wrote:

> Now one can question my understanding as to what is happening but the
> fact is my antenna
> swr does not go above 3:1 no matter what band I am on! Yes, by not
> understanding what is really happening it would be easy to say "dummy
> load " but that is not the real answer.

What would you consider the answer to be?
It's really an inefficient toaster oven?

> So I would ask all what exactly is impossible
> about the sequence of event that I describe while adding that computer
> programs confirm it?

You want the Bush or the Obama explanation?

Lets ask both.. Hey Gee Dub, what do you think?

"Son, your misapplication of the modeling programs
have led you astray. Number one, you can't polish a
turd into a diamond. Believe me, I've already tried it
out at the Crawford ranch. Didn't pan out...
Number two, the modeling programs are not coded to
deal with turd polishing. So any results obtained from
misapplying an antenna modeling program to simulate
the performance of a polished turd is bound to end in
frustration and gross error."

Hey Barry, what's your angle?

"I think we should give him a $500.000.00 grant!"

I guess it was a split decision.. :/

> By the way the antenna is sitting om the grass
> as height does not affect dish antennas!

Actually, it does make it easier for the dog to drink
the rain water out of it. Good call!

4490. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 07:20:15 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc28cba$0$27043$65785112@news.neostrada.pl>
Source record: 6989

Uzytkownik "Richard Clark" <kb7qhc@comcast.net> napisal w wiadomosci
news:t4i3c615njonb5i3fv0i480n0rrovhms20@4ax.com...
> On Fri, 22 Oct 2010 10:14:25 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
>>Power from radio waves
>
> State and party ownership of print, television and radio media served
> as an important manner in which to control information and society in
> light of Eastern Bloc leaderships viewing even marginal groups of
> opposition intellectuals as a potential threat to the bases underlying
> Communist power therein.
>
> It quite appears that there remains the Old Guard initiative of
> oppressing intellectuals to dissiminate the party line in the form of
> corrupt and revisionist technical tracts.

I prefer Wiki:
"The voltmeter in the same radio reads 125 millivolts. Since watts (the
measure of how much power we have) is the voltage multiplied by the amperes,
we have 0.000175 times 0.125, or 0.0000218 watts, or about 22 microwatts.
The station is putting out 50 killowatts, and we are receiving one ten
billionth of that power, yet we can hear it across the room."

Could you help? The simplest radio:
" Tape the other diode wire to a cold water faucet. This makes a good
connection to the ground, and is thus called a 'ground' connection.

Hold the remaining free bare wire of the earphone in your hand. This
makes your body into the antenna for the radio. Put the earphone in your
ear. If you are close to a strong AM radio station, you will be able to hear
that station faintly in the earphone. You may hear more than one station at
once. "

The diode has the two ends. Which one should be tapped to a cold water
faucet?
S*

4491. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 13:39:29 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <152c8ba1-5ced-4e7d-a985-a1c772d57487@p26g2000yqb.googlegroups.com>
Source record: 6991

On Oct 23, 1:57 am, Saffer <Saffer.7086...@radiobanter.com> wrote:
> Hi there Im new to amateur just got my licence and am having high swr
> problems ive checked the coaxial cables for continuity and everything
> seems to be right the antenna is a buddipole and everything has been
> assembled correctally can anybody tell me what I might be doing wrong

Same on all bands with the proper coil-taps/whip-sections selected?
--
73

4492. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 14:50:28 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <h8t5c6h66k324malcs8frvvqumhcnn1l5i@4ax.com>
Source record: 6992

On Sat, 23 Oct 2010 06:57:36 +0000, Saffer
<Saffer.7086aa9@radiobanter.com> wrote:

>
>Hi there Im new to amateur just got my licence and am having high swr
>problems ive checked the coaxial cables for continuity and everything
>seems to be right the antenna is a buddipole and everything has been
>assembled correctally can anybody tell me what I might be doing wrong
>Stephen.
Please describe your conditions & set up as completely as you can.

There are a lot really smart and generous folks here to help but their
accuracy and interest is limited by the quantaty and quality input
information.

John Ferrell W8CCW

4493. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 14:55:57 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8c5a9595-d819-42c3-ac91-688844652621@t1g2000yqd.googlegroups.com>
Source record: 6993

On Oct 23, 7:20 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Richard Clark" <kb7...@comcast.net> napisal w
wiadomoscinews:t4i3c615njonb5i3fv0i480n0rrovhms20@4ax.com...
>
> > On Fri, 22 Oct 2010 10:14:25 +0200, "Szczepan Bialek"
> > <sz.bia...@wp.pl> wrote:
>
> >>Power from radio waves
>
> > State and party ownership of print, television and radio media served
> > as an important manner in which to control information and society in
> > light of Eastern Bloc leaderships viewing even marginal groups of
> > opposition intellectuals as a potential threat to the bases underlying
> > Communist power therein.
>
> > It quite appears that there remains the Old Guard initiative of
> > oppressing intellectuals to dissiminate the party line in the form of
> > corrupt and revisionist technical tracts.
>
> I prefer Wiki:
> "The voltmeter in the same radio reads 125 millivolts. Since watts (the
> measure of how much power we have) is the voltage multiplied by the amperes,
> we have 0.000175 times 0.125, or 0.0000218 watts, or about 22 microwatts.
> The station is putting out 50 killowatts, and we are receiving one ten
> billionth of that power, yet we can hear it across the room."
>
> Could you help? The simplest radio:
> " Tape the other diode wire to a cold water faucet. This makes a good
> connection to the ground, and is thus called a 'ground' connection.
>
>   Hold the remaining free bare wire of the earphone in your hand. This
> makes your body into the antenna for the radio. Put the earphone in your
> ear. If you are close to a strong AM radio station, you will be able to hear
> that station faintly in the earphone. You may hear more than one station at
> once. "
>
> The diode has the two ends. Which one should be tapped to a cold water
> faucet?
> S*

well, of course, once you put a diode in the circuit you are forcing
flow in only one direction. but try this, turn the diode around so it
only allows electron flow FROM the ground... and you will still hear
the station. so now how do electrons flowing from the remote antenna

through the air get to ground through your diode??

4494. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 17:40:27 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-DC4A54.13402623102010@5ad64b5e.bb.sky.com>
Source record: 6994

In article <Saffer.7086aa9@radiobanter.com>,
Saffer <Saffer.7086aa9@radiobanter.com> wrote:

> Hi there Im new to amateur just got my licence and am having high swr
> problems ive checked the coaxial cables for continuity and everything
> seems to be right the antenna is a buddipole and everything has been
> assembled correctally can anybody tell me what I might be doing wrong

Stephen-

How high is high? Most modern radios can tolerate SWR up to 3:1.

On a specific band, is SWR high across the entire band? I understand the Buddipole is fairly critical, especially on the lower HF bands. It may need to be adjusted for the part of the band where you want to operate.

Fred
K4DII

4495. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 18:59:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc3308a$0$21003$65785112@news.neostrada.pl>
Source record: 6995

"K1TTT" <k1ttt@arrl.net> wrote
news:8c5a9595-d819-42c3-ac91-688844652621@t1g2000yqd.googlegroups.com...
On Oct 23, 7:20 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> I prefer Wiki:
> "The voltmeter in the same radio reads 125 millivolts. Since watts (the
> measure of how much power we have) is the voltage multiplied by the
> amperes,
> we have 0.000175 times 0.125, or 0.0000218 watts, or about 22 microwatts.
> The station is putting out 50 killowatts, and we are receiving one ten
> billionth of that power, yet we can hear it across the room."
>
>> Could you help? The simplest radio:
> " Tape the other diode wire to a cold water faucet. This makes a good
> connection to the ground, and is thus called a 'ground' connection.
>
>> Hold the remaining free bare wire of the earphone in your hand. This
> makes your body into the antenna for the radio. Put the earphone in your
> ear. If you are close to a strong AM radio station, you will be able to
> hear
> that station faintly in the earphone. You may hear more than one station
> at
> once. "
>
>> The diode has the two ends. Which one should be tapped to a cold water
> faucet?
> S*

>well, of course, once you put a diode in the circuit you are forcing
flow in only one direction. but try this, turn the diode around so it
only allows electron flow FROM the ground... and you will still hear
the station.

With the same power?

> so now how do electrons flowing from the remote antenna
through the air get to ground through your diode??

You forget about chassis. In the opposite setup the wire is the antenna and
your body is the chassis.

Are you rich enough to check the simplest radio?
Is the same power in the both arrangement?

S*

4496. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 19:17:43 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <84a20f10-4ecd-4285-a6e7-3337a55eb942@l14g2000yqb.googlegroups.com>
Source record: 6996

On Oct 23, 6:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
 wrotenews:8c5a9595-d819-42c3-ac91-688844652621@t1g2000yqd.googlegroups.com...
> On Oct 23, 7:20 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> >> I prefer Wiki:
> > "The voltmeter in the same radio reads 125 millivolts. Since watts (the
> > measure of how much power we have) is the voltage multiplied by the
> > amperes,
> > we have 0.000175 times 0.125, or 0.0000218 watts, or about 22 microwatts.
> > The station is putting out 50 killowatts, and we are receiving one ten
> > billionth of that power, yet we can hear it across the room."
>
> >> Could you help? The simplest radio:
> > " Tape the other diode wire to a cold water faucet. This makes a good
> > connection to the ground, and is thus called a 'ground' connection.
>
> >> Hold the remaining free bare wire of the earphone in your hand. This
> > makes your body into the antenna for the radio. Put the earphone in your
> > ear. If you are close to a strong AM radio station, you will be able to
> > hear
> > that station faintly in the earphone. You may hear more than one station
> > at
> > once. "
>
> >> The diode has the two ends. Which one should be tapped to a cold water
> > faucet?
> > S*
> >well, of course, once you put a diode in the circuit you are forcing
>
> flow in only one direction. but try this, turn the diode around so it
> only allows electron flow FROM the ground... and you will still hear
> the station.
>
> With the same power?
>
> > so now how do electrons flowing from the remote antenna
>
> through the air get to ground through your diode??
>

> You forget about chassis. In the opposite setup the wire is the antenna and
> your body is the chassis.
>
> Are you rich enough to check the simplest radio?
> Is the same power in the both arrangement?
>
> S*

yes, its the same in both directions.

4497. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-23 20:04:32 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <hlf6c6p344uaub3j5bv7q7tb0e7ug6ruj0@4ax.com>
Source record: 6997

On Sat, 23 Oct 2010 20:59:10 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>Are you rich enough to check the simplest radio?

The fog of ingrained stereotypes lives on long after the Soviet
Information Bureau published "Falsifiers of History." Stalin
personally edited the book, rewriting entire chapters by hand (how
well we experience this here, daily). The book claimed, for instance,
that American bankers and industrialists (are you rich enough?)
provided capital for the growth of German war industries.

73's
Richard Clark, KB7QHC

4498. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 02:26:42 UTC
From: tom <news4792@taring.org>
Message-ID: <4cc3995c$0$24413$8046368a@newsreader.iphouse.net>
Source record: 6998

On 10/23/2010 9:55 AM, K1TTT wrote:
>>
>> I prefer Wiki:
>> "The voltmeter in the same radio reads 125 millivolts. Since watts (the
>> measure of how much power we have) is the voltage multiplied by the amperes,
>> we have 0.000175 times 0.125, or 0.0000218 watts, or about 22 microwatts.
>> The station is putting out 50 killowatts, and we are receiving one ten
>> billionth of that power, yet we can hear it across the room."
>>
>> Could you help? The simplest radio:
>> " Tape the other diode wire to a cold water faucet. This makes a good
>> connection to the ground, and is thus called a 'ground' connection.
>>
>> Hold the remaining free bare wire of the earphone in your hand. This
>> makes your body into the antenna for the radio. Put the earphone in your
>> ear. If you are close to a strong AM radio station, you will be able to hear
>> that station faintly in the earphone. You may hear more than one station at
>> once. "
>>
>> The diode has the two ends. Which one should be tapped to a cold water
>> faucet?
>> S*
>
> well, of course, once you put a diode in the circuit you are forcing
> flow in only one direction. but try this, turn the diode around so it
> only allows electron flow FROM the ground... and you will still hear
> the station. so now how do electrons flowing from the remote antenna
> through the air get to ground through your diode??

:) Nicely put.

But the moron either won't get it or will deny it anyway. Matters little.

But we all know that there are positrons. So maybe he's right after all.

After a few milliseconds contemplation I've decided to go with not right.

tom
K0TAR

tom
K0TAR

4499. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 06:26:48 UTC
From: Saffer <Saffer.709bc28@radiobanter.com>
Message-ID: <Saffer.709bc28@radiobanter.com>
Source record: 6999

Cecil Moore;721366 Wrote:
> On Oct 23, 1:57*am, Saffer Saffer.7086...@radiobanter.com wrote:-
> Hi there Im new to amateur just got my licence and am having high swr
> problems ive checked the coaxial cables for continuity and everything
> seems to be right the antenna is a buddipole and everything has been
> assembled correctally can anybody tell me what I might be doing wrong-
>
> Same on all bands with the proper coil-taps/whip-sections selected?
> --
> 73
Yes pretty much the same on all bands I think I might have solved my
problem the transceiver was not grounded sufficientally and when I did
this the swr came down on all bands expecting part of 40 is it correct
to say that swr is affected by station grounding ?

--
Saffer

4500. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 10:49:07 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E1BDDF23A1FAnonenowhere@61.9.134.55>
Source record: 7000

Saffer <Saffer.709bc28@radiobanter.com> wrote in news:Saffer.709bc28
@radiobanter.com:

>
> Cecil Moore;721366 Wrote:
>> On Oct 23, 1:57*am, Saffer Saffer.7086...@radiobanter.com wrote:-
>> Hi there Im new to amateur just got my licence and am having high swr
>> problems ive checked the coaxial cables for continuity and everything
>> seems to be right the antenna is a buddipole and everything has been
>> assembled correctally can anybody tell me what I might be doing wrong-
>>
>> Same on all bands with the proper coil-taps/whip-sections selected?
>> --
>> 73
> Yes pretty much the same on all bands I think I might have solved my
> problem the transceiver was not grounded sufficientally and when I did
> this the swr came down on all bands expecting part of 40 is it correct
> to say that swr is affected by station grounding ?

Ideally, the coax would carry negligible common mode current and you
would not notice such an interaction.

The Buddipole should be used with an effective balun. My preference would
be a current balun with a high choking impedance, but IIRC that is not
what Buddipole recommend.

Let the coax fall to the ground vertically, and route it away from the
antenna at right angles to minimise coupling.

VSWR will be poor on the lower bands (80, 40) if you do not have the
variable ratio balun, and set it appropriately.

You are really shy on details (eg we have as good as begged you to
quantify 'high'), so you get brief answers. Describing the problem well
to yourself is the first step in resolving it.

Owen

4501. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 11:47:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f0ae563d-5967-426c-982a-9cf493cc2de7@30g2000yqm.googlegroups.com>
Source record: 6851

On Oct 24, 2:26 am, tom <news4...@taring.org> wrote:
> On 10/23/2010 9:55 AM, K1TTT wrote:
>
>
>
>
>
> >> I prefer Wiki:
> >> "The voltmeter in the same radio reads 125 millivolts. Since watts (the
> >> measure of how much power we have) is the voltage multiplied by the amperes,
> >> we have 0.000175 times 0.125, or 0.0000218 watts, or about 22 microwatts.
> >> The station is putting out 50 killowatts, and we are receiving one ten
> >> billionth of that power, yet we can hear it across the room."
>
> >> Could you help? The simplest radio:
> >> " Tape the other diode wire to a cold water faucet. This makes a good
> >> connection to the ground, and is thus called a 'ground' connection.
>
> >>   Hold the remaining free bare wire of the earphone in your hand. This
> >> makes your body into the antenna for the radio. Put the earphone in your
> >> ear. If you are close to a strong AM radio station, you will be able to hear
> >> that station faintly in the earphone. You may hear more than one station at
> >> once. "
>
> >> The diode has the two ends. Which one should be tapped to a cold water
> >> faucet?
> >> S*
>
> > well, of course, once you put a diode in the circuit you are forcing
> > flow in only one direction. but try this, turn the diode around so it
> > only allows electron flow FROM the ground... and you will still hear
> > the station. so now how do electrons flowing from the remote antenna
> > through the air get to ground through your diode??
>
> :) Nicely put.
>
> But the moron either won't get it or will deny it anyway. Matters little.
>
> But we all know that there are positrons. So maybe he's right after all.
>
> After a few milliseconds contemplation I've decided to go with not right.
>
> tom
> K0TAR

>
> tom
> K0TAR

of course he's not right, but its fun to see him try to fit his 'new'
square theory into a nice round hole.

4502. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 13:29:50 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc434da$0$22797$65785112@news.neostrada.pl>
Source record: 6852

"K1TTT" <k1ttt@arrl.net> wrote
news:84a20f10-4ecd-4285-a6e7-3337a55eb942@l14g2000yqb.googlegroups.com...
On Oct 23, 6:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Are you rich enough to check the simplest radio?
> Is the same power in the both arrangement?
>
>yes, its the same in both directions.

"A simplified drawing of a circuit is called a schematic. A schematic for a
simple crystal radio might look like this if drawn on a napkin at a party: "
http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html

On the simplified drawing the electron flow from antena to ground.
Are you sure that the diode may be mounted in the opposite direction?
S*

4503. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 14:35:31 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com>
Source record: 6853

On Sun, 24 Oct 2010 15:29:50 +0200, "Szczepan Bialek"
<sz.bialek@wp.pl> wrote:

>
> "K1TTT" <k1ttt@arrl.net> wrote
>news:84a20f10-4ecd-4285-a6e7-3337a55eb942@l14g2000yqb.googlegroups.com...
>On Oct 23, 6:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>>> Are you rich enough to check the simplest radio?
>> Is the same power in the both arrangement?
>>
>>yes, its the same in both directions.
>
>"A simplified drawing of a circuit is called a schematic. A schematic for a
>simple crystal radio might look like this if drawn on a napkin at a party: "
>http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
>
>On the simplified drawing the electron flow from antena to ground.
>Are you sure that the diode may be mounted in the opposite direction?
>S*
>

My only question is why does my crystal radio work without a ground
connection? Yes the radio does work better with a ground but that does
not negate the fact it works without a ground. And yes the radio works
with the ground and antenna connections reversed. The diode is a piece
of galena.

4504. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 15:59:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3cec04cc-392f-4ecc-b28e-f6ab71f8fcaa@t20g2000yqa.googlegroups.com>
Source record: 6854

On Oct 24, 1:29 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:84a20f10-4ecd-4285-a6e7-3337a55eb942@l14g2000yqb.googlegroups.com...
> On Oct 23, 6:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Are you rich enough to check the simplest radio?
> > Is the same power in the both arrangement?
>
> >yes, its the same in both directions.
>
> "A simplified drawing of a circuit is called a schematic. A schematic for a
> simple crystal radio might look like this if drawn on a napkin at a party:
"http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
>
> On the simplified drawing the electron flow from antena to ground.
> Are you sure that the diode may be mounted in the opposite direction?
> S*

yes, the diode may be mounted in either direction and it works exactly
the same.

4505. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 17:13:09 UTC
From: you <you@shadows.orgs>
Message-ID: <you-F5E4F3.09130524102010@news.starband.net>
Source record: 6855

In article <cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com>,
Registered User <n4jvp@ix.netcom.com> wrote:

> On Sun, 24 Oct 2010 15:29:50 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>
> >
> > "K1TTT" <k1ttt@arrl.net> wrote
> >news:84a20f10-4ecd-4285-a6e7-3337a55eb942@l14g2000yqb.googlegroups.com...
> >On Oct 23, 6:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >>
> >>> Are you rich enough to check the simplest radio?
> >> Is the same power in the both arrangement?
> >>
> >>yes, its the same in both directions.
> >
> >"A simplified drawing of a circuit is called a schematic. A schematic for a
> >simple crystal radio might look like this if drawn on a napkin at a party: "
> >http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
> >
> >On the simplified drawing the electron flow from antena to ground.
> >Are you sure that the diode may be mounted in the opposite direction?
> >S*
> >
>
> My only question is why does my crystal radio work without a ground
> connection? Yes the radio does work better with a ground but that does
> not negate the fact it works without a ground. And yes the radio works
> with the ground and antenna connections reversed. The diode is a piece
> of galena.

Apparently, You have never heard of Capacitive Coupling......

4506. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 18:13:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <96e6be67-1659-418f-a936-ba7ee45eba4f@c20g2000yqj.googlegroups.com>
Source record: 6856

On Oct 24, 5:13 pm, you <y...@shadows.orgs> wrote:
> In article <cpg8c6l8gfss0b45u6ifvs74m8pl302...@4ax.com>,
> Registered User <n4...@ix.netcom.com> wrote:
>
>
>
> > On Sun, 24 Oct 2010 15:29:50 +0200, "Szczepan Bialek"
> > <sz.bia...@wp.pl> wrote:
>
> > > "K1TTT" <k1...@arrl.net> wrote
> > >news:84a20f10-4ecd-4285-a6e7-3337a55eb942@l14g2000yqb.googlegroups.com...
> > >On Oct 23, 6:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > >>> Are you rich enough to check the simplest radio?
> > >> Is the same power in the both arrangement?
>
> > >>yes, its the same in both directions.
>
> > >"A simplified drawing of a circuit is called a schematic. A schematic for a
> > >simple crystal radio might look like this if drawn on a napkin at a party: "
> > >http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
>
> > >On the simplified drawing the electron flow from antena to ground.
> > >Are you sure that the diode may be mounted in the opposite direction?
> > >S*
>
> > My only question is why does my crystal radio work without a ground
> > connection? Yes the radio does work better with a ground but that does
> > not negate the fact it works without a ground. And yes the radio works
> > with the ground and antenna connections reversed. The diode is a piece
> > of galena.
>
> Apparently, You have never heard of Capacitive Coupling......

shhhhhhh, we don't want to confuse mr.b any more than necessary.

4507. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-24 18:51:15 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc48032$0$20992$65785112@news.neostrada.pl>
Source record: 6857

"Registered User" <n4jvp@ix.netcom.com> wrote
news:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
> On Sun, 24 Oct 2010 15:29:50 +0200, "Szczepan Bialek"
> <sz.bialek@wp.pl> wrote:
>>
>>On the simplified drawing the electron flow from antena to ground.
>>Are you sure that the diode may be mounted in the opposite direction?
>
> My only question is why does my crystal radio work without a ground
> connection? Yes the radio does work better with a ground but that does
> not negate the fact it works without a ground.

Most receivers has a chassis as a ground.

>And yes the radio works
> with the ground and antenna connections reversed. The diode is a piece
> of galena.

Does "it works exactly the same"?
S*

4508. 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 03:23:29 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <bc6994d1-be9a-45e6-8b56-331118c9208f@26g2000yqv.googlegroups.com>
Source record: 6858

I have read that the presently available 300 ohm ladder line is
unsuitable to use at some amateur radio frequencies because of it's
construction and the losses caused by skin effect in the copper coated
steel construction. I have been using a Terminated Folded Dipole in a
flat top configuration as my HF antenna at home. Having recently
acquired an Icom AH-4 Antenna Coupler I am considering converting it
to a simple folded dipole, feeding it with 300 ohm ladder line to
match it's nominal impedance from the coupler. I know your sure that
there is a question in here someplace so is there better quality 300
ohm window line available that is entirely stranded copper in it's
construction?
--
Tom Horne, W3TDH

4509. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 03:54:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <7bv9c6571ddp5gmmu5n1kf42ha5la4v3ep@4ax.com>
Source record: 6859

On Sun, 24 Oct 2010 20:23:29 -0700 (PDT), Tom Horne
<hornetd@gmail.com> wrote:

>I have read that the presently available 300 ohm ladder line is
>unsuitable to use at some amateur radio frequencies because of it's
>construction and the losses caused by skin effect in the copper coated
>steel construction.

Hi Tom,

You really have to question your judgment of the source of what you
are reading. The rationale of losses caused by "skin effect", and for
the very reason of it being copper is a perversion.

> I have been using a Terminated Folded Dipole in a
>flat top configuration as my HF antenna at home.

Revisiting this issue of line loss (however it was derived) in the
face of the loss in the terminating resistor of your antenna has got
your expectations inverted. Consider line loss in the tenths of dB to
1dB and the antenna loss easily double that worst figure (if not
triple or quadruple).

>Having recently
>acquired an Icom AH-4 Antenna Coupler I am considering converting it
>to a simple folded dipole,

Folding it adds no virtue.

> feeding it with 300 ohm ladder line to
>match it's nominal impedance from the coupler.

If it has a nominal 300 Ohm Z, then use a conventional BalUn and coax
solution.

However, methinks you are going to treat this antenna as Z=300 at all
frequencies. No way.

> I know your sure that
>there is a question in here someplace so is there better quality 300
>ohm window line available that is entirely stranded copper in it's
>construction?

Consult the wireman.com.

73's
Richard Clark, KB7QHC

4510. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 04:54:01 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E1CA1BEF1B07nonenowhere@61.9.134.55>
Source record: 6860

Tom Horne <hornetd@gmail.com> wrote in news:bc6994d1-be9a-45e6-8b56-331118c9208f@26g2000yqv.googlegroups.com:

> I have read that the presently available 300 ohm ladder line is
> unsuitable to use at some amateur radio frequencies because of it's
> construction and the losses caused by skin effect in the copper coated
> steel construction. I have been using a Terminated Folded Dipole in a
> flat top configuration as my HF antenna at home. Having recently
> acquired an Icom AH-4 Antenna Coupler I am considering converting it
> to a simple folded dipole, feeding it with 300 ohm ladder line to
> match it's nominal impedance from the coupler. I know your sure that
> there is a question in here someplace so is there better quality 300
> ohm window line available that is entirely stranded copper in it's
> construction?
> --
> Tom Horne, W3TDH

Tom, if you made a line of the dimensions of Wireman's 300 ohm line out of HT steel, you would be looking at matched line loss at 80m in the range 30 to 40dB / 100m, depending on the permeability of the steel wire.

If you made it out of copper, you would be looking at around 0.5dB.

The thing is that copper clad steel is somewhere in that range. If the cladding is more than say, three skin depths in thickness, loss will be almost identical to copper.Skin depth in copper is 35 microns, three times that is 100 microns amongst friends.

The strands of 19 strand #18 are 200 microns in diameter.

I have no idea what the copper thickness is, but I suspect it is less than 100 microns (as they would be pure copper in that case).

As Richard suggests, be perverse, ask the Wireman if he has measured loss data for the line at 3.5MHz, not extrapolated data from higher frequency measurements, but measured data.

I am not picking on the Wireman, Richard mentioned them, but I think the same issue exists for all suppliers.

The only nominally 300 ohm line that is pure copper that I have seen is TV ribbon, but that is probably not as good as you seek.

Think about the Wireman's 551 which is a single core CCS. If it is 30% CCS, the cladding depth is about 7% IIRC, and that would make it 70 microns... might just scrape in with near copper performance on 80m.

The Rule of Thumb usually used is 2.5 to 3 times the skin depth gives near copper performance.

Owen

4511. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 07:24:44 UTC
From: nm5k@wt.net
Message-ID: <4762f6df-f820-43af-a0fa-5ad771ee8807@n26g2000yqh.googlegroups.com>
Source record: 6861

On Oct 24, 10:23 pm, Tom Horne <horn...@gmail.com> wrote:
> I have read that the presently available 300 ohm ladder line is
> unsuitable to use at some amateur radio frequencies because of it's
> construction and the losses caused by skin effect in the copper coated
> steel construction. I have been using a Terminated Folded Dipole in a
> flat top configuration as my HF antenna at home. Having recently
> acquired an Icom AH-4 Antenna Coupler I am considering converting it
> to a simple folded dipole, feeding it with 300 ohm ladder line to
> match it's nominal impedance from the coupler. I know your sure that
> there is a question in here someplace so is there better quality 300
> ohm window line available that is entirely stranded copper in it's
> construction?
> --
> Tom Horne, W3TDH

For me, it's not the wire that is a problem. It's rain..
When dry, most all the 300 ohm lines are going to
be fairly low loss. Even with the cheap wire.
But get the line good and wet, and it all goes out the
window. For this reason, I would prefer a windowed
ladder type line for this, rather than 300 ohm.
It's less effected by rain.
Most ladder type lines will be in the 450 ohm range,
but that would vary with spacing of the conductors.
But that is not critical in your case.. 300, 450, 600
ohms, doesn't really matter too much..

4512. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 11:42:19 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d89ba2bb-c1c0-42c0-966f-2d73ccdfb562@n26g2000yqh.googlegroups.com>
Source record: 6862

On Oct 24, 10:23 pm, Tom Horne <horn...@gmail.com> wrote:
> I have read that the presently available 300 ohm ladder line is
> unsuitable to use at some amateur radio frequencies because of it's
> construction and the losses caused by skin effect in the copper coated
> steel construction.

Where did you read that?
--
73, Cecil, w5dxp.com

4513. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 16:50:10 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <c7f1380a-6c0c-4787-8e19-3bfdbf02adbc@p26g2000yqb.googlegroups.com>
Source record: 6863

On Oct 24, 8:23 pm, Tom Horne <horn...@gmail.com> wrote:
> I have read that the presently available 300 ohm ladder line is
> unsuitable to use at some amateur radio frequencies because of it's
> construction and the losses caused by skin effect in the copper coated
> steel construction. I have been using a Terminated Folded Dipole in a
> flat top configuration as my HF antenna at home. Having recently
> acquired an Icom AH-4 Antenna Coupler I am considering converting it
> to a simple folded dipole, feeding it with 300 ohm ladder line to
> match it's nominal impedance from the coupler. I know your sure that
> there is a question in here someplace so is there better quality 300
> ohm window line available that is entirely stranded copper in it's
> construction?
> --
> Tom Horne, W3TDH

Tom, what length of feed line are considering? How do you intend to
install it and support it from your shack to the antenna?

I have tried both 300 ohm TV type twin lead and ladder line. Both are
quickly affected by rain and snow. But more importantly is the wind
whipping the feed line and breaking it somewhere. About once per 6
month period I had to pull the whole antenna down and either replace
the feed line or find the break and repair it.

If you are able to secure the feed line with insulators every 10 feet
or so, the wind damage should be minimal.

A couple of years ago I made my own 600 ohm open wire feed line and
the wind is no longer a problem. The wind resistance is very low and
weather is only a problem when ice collects on the feed line.

IF you are interested, the 600 ohm feed line is #14 copper with
plastic rod insulators every 10 feet. The length from shack to antenna
is about 125 feet. Two poles support the feed line on its way and the
shack end is attached to a rope and pulley so I can adjust the
tension, or let the end down for maintenance.

Just some thoughts for you. Good luck, and don't be afraid to try
different schemes.

Paul, KD7HB
Central Oregon desert

4514. Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 18:02:01 UTC
From: Ian Wade G3NRW <g3nrw@yahoo.co.uk>
Message-ID: <F3UuvlXZYcxMFwB2@ntlworld.com>
Source record: 6864

We all know that for an open-wire feedline, Zo = 276 log 2S/d, where S= the center-to-center distance between the two conductors, and d= the outer diameter of each conductor.

As far as I know, this formula applies to single-core wires. Is there any significant difference to Zo where multi-strand wire is used instead? I'm thinking of how the RF skin effect might affect things. Or is it simply a question of treating the overall diameter of all the strands as one solid conductor?

Further, if the multi-strand wire is plastic coated, what effect does that have on Zo?

--
73
Ian, G3NRW

4515. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 18:44:20 UTC
From: Mike Coslo <mjc5@psu.edu>
Message-ID: <ia4j65$gc64$1@tr22n12.aset.psu.edu>
Source record: 6865

On 10/25/10 12:50 PM, KD7HB wrote:

> Just some thoughts for you. Good luck, and don't be afraid to try
> different schemes.

300 ohm line is probably not the best choice if you want to use non-coaxial feedline. Much better is real ladder line or window line.

And there are some serious misconceptions about window line too, so you hav eto be careful of what you read.

Wes Stewart, N7WS wrote what is commonly cited as ladder line's fatal flaw:

http://users.triconet.org/wesandlinda/ladder_line.pdf

I suggest that you read it.

But the study in itself suffers from a fatal flaw. And it is actually demonstrated in the article.

Stewart had difficulties in getting his ladder line completely wet. In fact, the water created antibubbles on the surface of the line, and ran off.

Well now, how do we fix this? We apply wetting agent to the line, this will cause the water to wet the entire surface, then measure the loss.

Anyone see the problem here? Last time I checked, there is no wetting agent in rain. This is testing of artificially wetted window line, nothing more, nothing less.

I have ladder line that has been up for 10 years now, and water still beads up on it like it did when it was new. I'll not even add that it is vertical, so there won't be as much water hitting it as when it comes form a spray bottle - oh wait, I did mention it.....

The characteristics of polyethelene which is used to cover window line in fact make it very difficult to be wetted. One might be able to enforce wetting by sandblasting the line to roughen the surface, or oh yeah, apply wetting agent.

That however makes the results of the experiment of equal value to modifying coax in a detrimental way, then measuring some aspect, and saying "all coax is like this". And why would ya do it anyway?

There are reasons to use ladder or window line, and there are reasons to use coax. For example, at our club mountaintop station, we use copperweld for the dipoles, properly hung on towers. There is a shrt run of normal premium coax, just enough to lower the antennas for maintence if needed, but the coax is switched to hardline coax for most of the run

into the shack. This is a good setup if you have lots of space, a goodly number of towers, and monoband (or at least fan) antennas.

Now for the home QTH, I have some limited space, around a 100 feet. yet I still want multi-band operation. So I'm looking at more limited choices.

Monoband dipoles are pretty much out of the question. Loaded multiband dipoles? For all the ham bands? Maybe not so good. Fan dipoles? a pain, and I'd have to start supporting the antenna on a messenger line.

So that ladder line or window line fed doublet is looking pretty darn good about now. Rain or shine.

- 73 de Mike N3LI -

4516. Re: Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 19:31:38 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E1D426667799nonenowhere@61.9.134.55>
Source record: 6866

Ian Wade G3NRW <g3nrw@yahoo.co.uk> wrote in news:F3UuvlXZYcxMFwB2
@ntlworld.com:

> We all know that for an open-wire feedline, Zo = 276 log 2S/d, where S=
> the center-to-center distance between the two conductors, and d= the
> outer diameter of each conductor.

Well, that is an approximation that falls down at closer spacings.

>
> As far as I know, this formula applies to single-core wires. Is there

It applies to circular conductors.

> any significant difference to Zo where multi-strand wire is used
> instead? I'm thinking of how the RF skin effect might affect things. Or
> is it simply a question of treating the overall diameter of all the
> strands as one solid conductor?

I have seen some proposed corrections for stranded bare wires, but the
factors are small in the scheme of things for seven strand and smaller
for 19 strand.

>
> Further, if the multi-strand wire is plastic coated, what effect does
> that have on Zo?

Assuming you mean bare wires twisted and then served with insulation...

Dielectric with rel permitivitty >1 will reduce Zo.

Have a play with TWLLC at http://www.vk1od.net/calc/tl/twllc.htm .

An effective way to estimate the effective permittivity is to measure the
velocity factor of a sample of line, and use permittivity=vf^-2.

Owen
>

4517. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 19:39:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <grmbc6h0a4p2d8ur18r4aiskb0o8ao0bhe@4ax.com>
Source record: 6867

On Mon, 25 Oct 2010 14:44:20 -0400, Mike Coslo <mjc5@psu.edu> wrote:

>Stewart had difficulties in getting his ladder line completely wet. In
>fact, the water created antibubbles on the surface of the line, and ran off.

"Antibubbles?"

>Well now, how do we fix this?

That the line was resistant to becoming "completely wet" would seem to
be a boon, not a problem, for its application.

>We apply wetting agent to the line, this
>will cause the water to wet the entire surface, then measure the loss.
>
>Anyone see the problem here?

Most wetting agents are detergents (in fact the whole point of using a
detergent is for complete wetting).

Sources are obscured through other applications, but glimmers of
evidence suggest that adding a wetting agent will quadruple the
conductivity of water.

>Last time I checked, there is no wetting
>agent in rain. This is testing of artificially wetted window line,
>nothing more, nothing less.

If adding a wetting agent is called for - in spite of its absence in
rain (for now until the new political alignment shitcans EPA) - it
will undoubtedly render the line as less than useful as would be
expected in either a wet or dry environment.

How did we get here?

73's
Richard Clark, KB7QHC

4518. Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 22:31:16 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <q0ubc65b2c8jlf5ad27na3cmgirsukjt4h@4ax.com>
Source record: 6868

It looks like I am going to have the resources to install a second antenna tower. I never thought it would work out this way so I have not planned it as I put other things in place.

The question is: How close is too close?

I know more separation is better and I doubt I can predict the future well enough to model expected configurations.

The first in place is the existing crank up mast with power winches that allow me to lay the whole works down for maintenance. HF tri band in place at about 55 feet.

About 50 feet north of that tower is my field of 36 radials where I currently have a 40 meter self supporting vertical. I would really like to not compromise the radials or the operation of whatever vertical I choose.

I am thinking of putting the "new" tower about 20 feet West of the vertical & radial field. The plan calls for 4 sticks of Rohn 25 on a tilt plate with a utility pole doing the stabilizing. Winches as required.

That is a little more co ax than I would like, but my real concern is whether this will be a major hit for the vertical and other antennas.

I would appreciate any thoughts and especially experience.

John Ferrell W8CCW

4519. sharing antenna between ssb and weather fax

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 22:32:51 UTC
From: Virginia johns <Virginia.johns.70c0acb@radiobanter.com>
Message-ID: <Virginia.johns.70c0acb@radiobanter.com>
Source record: 6874

I have an ICOM 802 SSB and have set up my backstay on my sailboat as the antenna. My boat came with a Furuno weatherfax (208A) which I have never used. We can't find an antenna for it on the boat. Can I connect the weather fax to the backstay antenna and share it with the SSB ? If so do I need a switch to toggle to the device that is in use or can they compatibly share the one antenna.

Please forgive me if this is a stupid question....just learning...only have my Technician Ham license so far.

thanks for any help you can offer -

--
Virginia johns

4520. Re: Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 23:13:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tr2cc69d99vk6i1sri0ejf87hku8ejucgi@4ax.com>
Source record: 6869

On Mon, 25 Oct 2010 18:31:16 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>About 50 feet north of that tower is my field of 36 radials where I
>currently have a 40 meter self supporting vertical. I would really
>like to not compromise the radials or the operation of whatever
>vertical I choose.
>
>I am thinking of putting the "new" tower about 20 feet West of the
>vertical & radial field. The plan calls for 4 sticks of Rohn 25 on a
>tilt plate with a utility pole doing the stabilizing. Winches as
>required.

Hi John,

Consider the spacing of elements in an array (any, even vertical
arrays that are installed for directional AM stations). The
dimensions there are in the tenths (or less) of wavelengths and
couplings are very strong. You propose a second structure that is
still quite near (about .15 wave) on the basis of this simple metric
alone.

What it does is another matter. It will certainly disturb the
radiator's loading. It will certainly absorb signal. It will
certainly re-radiate that same signal. It will certainly introduce a
phase shift that combines with the original signal. The combination
can either produce a lobe or a null OR it may be unproductive in the
practical sense (all certainties go by the wayside).

One might pause and reflect that the new tower could easily (this is a
hail mary pass) serve as your 40M radiator. Why have two vertical
structures (ignoring that we will actually be talking about the
installation of a THIRD vertical structure if we include the south
tower)?

73's
Richard Clark, KB7QHC

4521. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-25 23:41:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b29b86d6-8cf4-4e46-b25a-1218242755a6@j25g2000yqa.googlegroups.com>
Source record: 6870

On Oct 24, 6:51 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Registered User" <n4...@ix.netcom.com>
wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>
> > On Sun, 24 Oct 2010 15:29:50 +0200, "Szczepan Bialek"
> > <sz.bia...@wp.pl> wrote:
>
> >>On the simplified drawing the electron flow from antena to ground.
> >>Are you sure that the diode may be mounted in the opposite direction?
>
> > My only question is why does my crystal radio work without a ground
> > connection? Yes the radio does work better with a ground but that does
> > not negate the fact it works without a ground.
>
> Most receivers has a chassis as a ground.
>
> >And yes the radio works
> > with the ground and antenna connections reversed. The diode is a piece
> > of galena.
>
> Does "it works exactly the same"?
> S*

yes

4522. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 02:16:30 UTC
From: tom <news4792@taring.org>
Message-ID: <4cc639fd$0$24411$8046368a@newsreader.iphouse.net>
Source record: 6871

On 10/25/2010 6:42 AM, Cecil Moore wrote:
> On Oct 24, 10:23 pm, Tom Horne<horn...@gmail.com> wrote:
>> I have read that the presently available 300 ohm ladder line is
>> unsuitable to use at some amateur radio frequencies because of it's
>> construction and the losses caused by skin effect in the copper coated
>> steel construction.
>
> Where did you read that?
> --
> 73, Cecil, w5dxp.com

He's right, Cecil. It's probably becoming an issue by 432, and I'd
really have to question anyone using it above 1296.

tom
K0TAR

4523. Re: Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 03:53:59 UTC
From: brett <vo1bbn@gmail.com>
Message-ID: <9afcfac8-ed2a-4ff4-b1d9-21d9dd2ccb23@u10g2000yqk.googlegroups.com>
Source record: 6872

On Oct 25, 8:31 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> It looks like I am going to have the resources to install a second
> antenna tower. I never thought it would work out this way so I have
> not planned it as I put other things in place.
>
> The question is: How close is too close?
>

>
> I would appreciate any thoughts and especially experience.
>
> John Ferrell W8CCW

I have used for the past three years a 40M vertical and and 80M loop.
I use the 40M vertical for 40 and 15M and the loop as a multiband
80-10M. The pair worked great for me at my location. The loop WAS
supported by four 25-32ft trees. When I tried to improve the system
by raising all the corners of the loop to 32 ft, by using some 32 ft
lengths of metal tubing I pieced together, my 40M vertical did not
seem to work as well. There was not a big difference in the 80-10M
loop it worked fine both setups from what I could tell. Note that I
never used the loop for transmit on 40M as the vertical worked great
and my reason to increase height was not to improve performance of the
loop but for the wire to clear the tops of the trees and not get
tangled as often.
With the metal tubing supporting the corners of the loop it seemed
like the 40Mvertical was a totally different antenna(not as good of
one). As well, resonance the 40M vertical shifted slightly. As my
antenna is in a fairly dense wooded area when it rain heavily or we
have freezing precipitation I also see a similar effect.
The metal vertical support for the corner of the loop was about 37ft
from the base of the 40M vertical. I used this setup over a period of
time and when I removed the metal support tubing , resonance shifted
back on the 40M vertical and it seem to play as it did before , like
the on I home brewed originally.
I'm sure I could have used decoupling techniques so the 40M radiator
did not "see" the vertical elements in close proximity but never did
put the tubing back up when it came down, used much better wire that
didn't tangle.
So how close is to close? I think 37ft was too close for a 40M
vertical in proximity to a 32ft support mast for optimum performance
for the vertical, but if its a second tower I'm sure the gain will be
much better than losses of coupling especially if it means a new 3
element 40Meter monobander as the antenna on the "new tower". I have
ON4UN's Low Band DXing, which is awesome and a must have for all

Ham's, John I believe uses or has used a 160M vertical in the center of a four square, and uses decoupling techniques between the two. If there is an issue with the closeness of the two, decouple at that point. Hope this helps.

4524. Re: Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 04:07:26 UTC
From: brett <vo1bbn@gmail.com>
Message-ID: <5ce58220-8f82-4272-957e-ef3b57c1e279@c20g2000yqj.googlegroups.com>
Source record: 6873

On Oct 26, 1:53 am, brett <vo1...@gmail.com> wrote:
> On Oct 25, 8:31 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
>
> > It looks like I am going to have the resources to install a second
> > antenna tower. I never thought it would work out this way so I have
> > not planned it as I put other things in place.
>
> > The question is: How close is too close?
>
> > I would appreciate any thoughts and especially experience.
>
> > John Ferrell W8CCW
>
>
> So how close is to close? I think 37ft was too close for a 40M
> vertical in proximity to a 32ft support mast for optimum performance
> for the vertical, but if its a second tower I'm sure the gain will be
> much better than losses of coupling especially if it means a new 3
> element 40Meter monobander as the antenna on the "new tower". I have
> ON4UN's Low Band DXing, which is awesome and a must have for all
> Ham's, John I believe uses or has used a 160M vertical in the center
> of a four square, and uses decoupling techniques between the two. If
> there is an issue with the closeness of the two, decouple at that
> point. Hope this helps.

MY mistake you would not put a 3element 40m monobander on a 40ft
tower, bad example. Hope the rest helps you,, good DXing.

4525. Re: sharing antenna between ssb and weather fax

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 06:04:17 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E1DADA8C5583nonenowhere@61.9.134.55>
Source record: 6875

Virginia johns <Virginia.johns.70c0acb@radiobanter.com> wrote in
news:Virginia.johns.70c0acb@radiobanter.com:

>
> I have an ICOM 802 SSB and have set up my backstay on my sailboat as
> the antenna. My boat came with a Furuno weatherfax (208A) which I
> have never used. We can't find an antenna for it on the boat. Can I
> connect the weather fax to the backstay antenna and share it with the
> SSB ? If so do I need a switch to toggle to the device that is in use
> or can they compatibly share the one antenna.
>
> Please forgive me if this is a stupid question....just learning...only
> have my Technician Ham license so far.
>
> thanks for any help you can offer -

Virginia,

It is most unlikely that you can connect both a transmitter and a
receiver to the same feedline, it will almost certainly destroy the
receiver.

You can connect two receivers to the same feedline, albeit with some
reduction in performance, but it might not matter much on the lower
parts of HF.

Some, but few, transcievers provide access to the antenna when switched
through to the receiver. If you have that facility, you could use it,
otherwise you could devise some kind of switching arrangement that
reliably prevents the Weatherfax receiver getting a dose of the
transmitter output.

Using a separate antenna for the Weatherfax might seem a solution, but
it needs to provide sufficient isolation so that the energy coupled into
the Weatherfax receiver input is below its damage threshold... and
some.

Owen

4526. Re: sharing antenna between ssb and weather fax

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 06:39:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnicctri.34n.gsm@cable.mendelson.com>
Source record: 6876

Owen Duffy wrote:

> Using a separate antenna for the Weatherfax might seem a solution, but
> it needs to provide sufficient isolation so that the energy coupled into
> the Weatherfax receiver input is below its damage threshold... and
> some.

There are lots of other options.

The simplest is a switch. Not a home TV antenna switch, but a ham radio or
commercial grade switch.

The second would be an Ameco PT-3 preamp with a the second receiver
modification. The modification is simple and can be easily done.
The downside of it is that it is not desgined to be in a boat (and therefore
not splash resistant), is extra weight, another device that uses 12 volts
and if you are using both at around the same time, they have to be near
each other in frequency.

The advantage is you get an extra 18db gain out of your receive antenna,
a sharply tuned preselector and it automaticly switches the weather fax
out of the circuit when you transmit.

The third is IMHO the best. If you have a computer on the boat, ditch the
weatherfax entirely. Use the receiver of the ham/commerical radio for
the weatherfax and the computer to decode the images.

Note that you can not legally use a ham radio on marine frequencies, BUT
you can use a marine radio on ham frequencies (with the appropriate licenses).

Ham radios with general coverage receivers are small and relatively cheap,
for example the Yaseu FT-817, the ICOM IC-703 or IC-706 and the older (but still
available used) Kenwood TS-50.

If you have a computer, you can also use it to download weather maps,
etc from the internet. If you are close (35km or less) to land, you can
get a cellular modem and out on the open water you can use a satellite phone.
Cellular modems are expensive to use if you are not in an area covered by your
regular carrier, and satellite phones are very expensive to use.

It's a question of whether you want to get your weather information from
a slow, unreliable, but free source (the weatherfax), or a more expensive,
but quicker and more reliable (download) one.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM

To help restaurants, as part of the "stimulus package", everyone must order dessert. As part of the socialized health plan, you are forbidden to eat it. :-)

4527. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 07:45:46 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc68737$0$27045$65785112@news.neostrada.pl>
Source record: 6877

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:b29b86d6-8cf4-4e46-b25a-1218242755a6@j25g2000yqa.googlegroups.com...
On Oct 24, 6:51 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Registered User" <n4...@ix.netcom.com>
> wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>
>> >And yes the radio works
> > with the ground and antenna connections reversed. The diode is a piece
> > of galena.
>
>> Does "it works exactly the same"?

>yes

Your radio is not the simplest. There is the LC. The capacitor has the two plates so on the both the voltage is doubled. No matter which one is fed to the headphones.

Could you make the super simplest radio: "Because I have a long (150 foot) antenna, a good ground, and a strong station (50,000 watts) less than 20 miles away, my radio receives enough power to light a low current LED. The LED is a 'high brighness' type (which also means that it will light dimly with a very small amount of current). I connect it instead of diode in the radio, and it glows as the radio operates, getting brighter as the sound gets louder. "

The super simplest radio should consist of an antenna, LED and ground.

Can we reverse the LED?
S*

4528. Re: Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 13:40:03 UTC
From: Ian Wade G3NRW <g3nrw@yahoo.co.uk>
Message-ID: <EjOuKjAzotxMFwQW@ntlworld.com>
Source record: 6878

From: Owen Duffy <none@no.where>
Date: Mon, 25 Oct 2010 Time: 19:31:38

>Ian Wade G3NRW <g3nrw@yahoo.co.uk> wrote in news:F3UuvlXZYcxMFwB2
>@ntlworld.com:
>
>> We all know that for an open-wire feedline, Zo = 276 log 2S/d, where S=
>> the center-to-center distance between the two conductors, and d= the
>> outer diameter of each conductor.
>
>Well, that is an approximation that falls down at closer spacings.
>
>>
>> As far as I know, this formula applies to single-core wires. Is there
>
>It applies to circular conductors.
>
>> any significant difference to Zo where multi-strand wire is used
>> instead? I'm thinking of how the RF skin effect might affect things. Or
>> is it simply a question of treating the overall diameter of all the
>> strands as one solid conductor?
>
>I have seen some proposed corrections for stranded bare wires, but the
>factors are small in the scheme of things for seven strand and smaller
>for 19 strand.
>
>>
>> Further, if the multi-strand wire is plastic coated, what effect does
>> that have on Zo?
>
>Assuming you mean bare wires twisted and then served with insulation...
>
>Dielectric with rel permitivitty >1 will reduce Zo.
>
>Have a play with TWLLC at http://www.vk1od.net/calc/tl/twllc.htm .
>
>An effective way to estimate the effective permittivity is to measure the
>velocity factor of a sample of line, and use permittivity=vf^-2.
>
>Owen
>>

Many thanks Owen.

--
73
Ian, G3NRW

4529. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 17:34:04 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e9e59415-3877-4083-aa71-87cf0a940b5a@e14g2000yqe.googlegroups.com>
Source record: 6879

On Oct 26, 2:45 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:b29b86d6-8cf4-4e46-b25a-1218242755a6@j25g2000yqa.googlegroups.com...
> On Oct 24, 6:51 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > "Registered User" <n4...@ix.netcom.com>
> > wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>
> >> >And yes the radio works
> > > with the ground and antenna connections reversed. The diode is a piece
> > > of galena.
>
> >> Does "it works exactly the same"?
> >yes
>
> Your radio is not the simplest. There is the LC. The capacitor has the two
> plates so on the both the voltage is doubled. No matter which one is fed to
> the headphones.
>
> Could you make the super simplest radio: "Because I have a long (150 foot)
> antenna, a good ground, and a strong station (50,000 watts) less than 20
> miles away, my radio receives enough power to light a low current LED. The
> LED is a 'high brighness' type (which also means that it will light dimly
> with a very small amount of current). I connect it instead of diode in the
> radio, and it glows as the radio operates, getting brighter as the sound
> gets louder. "
>
> The super simplest radio should consist of an antenna, LED and ground.
>
> Can we reverse the LED?
> S*

Very innovative
Art

4530. Re: Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 19:31:35 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <m5aec6lq3i917q95fpjo9vrunvo37ksfke@4ax.com>
Source record: 6880

On Mon, 25 Oct 2010 21:07:26 -0700 (PDT), brett <vo1bbn@gmail.com>
wrote:

>On Oct 26, 1:53ï¿½am, brett <vo1...@gmail.com> wrote:
>> On Oct 25, 8:31ï¿½pm, John Ferrell <jferrel...@triad.rr.com> wrote:
>>
>> > It looks like I am going to have the resources to install a second
>> > antenna tower. I never thought it would work out this way so I have
>> > not planned it as I put other things in place.
>>
>> > The question is: How close is too close?
>>
>> > I would appreciate any thoughts and especially experience.
>>
>> > John Ferrell W8CCW

I am going to listen and think on the subject for a while. I need to
acquire another stick of Rohn 25 anyway.

There is no urgency, I would just like to get back to some VHF work
other than repeaters.

The current tower has a Cushcraft A3S and a 3 element fan dipole that
I find works so good on all bands that I stopped at three. The dipoles
are cut for 17M, 30M, and 80M. I have no idea what is really
radiating when I manually tune up. I always start with minimum
inductance in hopes of fewer tuner losses. I have not tried 160M
though. 40M works well on both antennas so it would not be a big
issue to loose the vertical. It has served more as an all band antenna
than strictly a 40m antenna anyway. The EZNEC patterns for a 30 foot
vertical are not impressive with it, but it does work with an SGC 237
tuner.

I can get the second tower in place with very little cash outlay at
this time. I am leaning towards the project...

And I am expecting a few "issues" along the way.

John Ferrell W8CCW

4531. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 22:27:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b0068232-6e71-4e4e-99c0-a79e4cd9280f@t20g2000yqa.googlegroups.com>
Source record: 6881

On Oct 26, 7:45 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:b29b86d6-8cf4-4e46-b25a-1218242755a6@j25g2000yqa.googlegroups.com...
> On Oct 24, 6:51 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > "Registered User" <n4...@ix.netcom.com>
> > wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>
> >> >And yes the radio works
> > > with the ground and antenna connections reversed. The diode is a piece
> > > of galena.
>
> >> Does "it works exactly the same"?
> >yes
>
> Your radio is not the simplest. There is the LC. The capacitor has the two
> plates so on the both the voltage is doubled. No matter which one is fed to
> the headphones.
>
> Could you make the super simplest radio: "Because I have a long (150 foot)
> antenna, a good ground, and a strong station (50,000 watts) less than 20
> miles away, my radio receives enough power to light a low current LED. The
> LED is a 'high brighness' type (which also means that it will light dimly
> with a very small amount of current). I connect it instead of diode in the
> radio, and it glows as the radio operates, getting brighter as the sound
> gets louder. "
>
> The super simplest radio should consist of an antenna, LED and ground.
>
> Can we reverse the LED?
> S*

yes

4532. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-26 22:49:55 UTC
From: nm5k@wt.net
Message-ID: <24d65547-281c-425a-8228-46365aad6c06@a37g2000yqi.googlegroups.com>
Source record: 6882

On Oct 25, 9:16 pm, tom <news4...@taring.org> wrote:

>
> He's right, Cecil. It's probably becoming an issue by 432, and I'd
> really have to question anyone using it above 1296.
>
> tom
> K0TAR

At 432 mhz, I had better luck with the 300 ohm TV line,
than I did using mediocre CATV cable and a balun.
This was feeding a UHF TV antenna that I used for ATV
on 70 cm. The 300 ohm line had the lower loss of the two.
Until it rained.. Then it was blackout time until it dried.
I have 300 ohm line feeding a 40 m dipole strung up in
the attic. It's an emergency antenna, and I use the 300
ohm line and a tuner to work any band 40-10m.
Being as it never gets wet, it works out pretty well.
300 ohm TV line is usually pretty good. Until it gets wet. :(
In the real world, I generally prefer coax. On the HF bands
it's about all I use. But the 70 cm ATV antenna was one
case where it paid to use the TV line vs coax. Or at
least the coax I had on hand.. Which was Beldon duo-shield
RG-6 type 75 ohm CATV cable.
Going by a gut hunch, I'd say the twin lead is probably
better than mediocre coax on 1296 mhz. You would need
some fairly high quality coax to equal the loss performance
of even cheap 300 ohm line on 1296 mhz. Or I would think
anyway, judging by it's use on 70 cm. I would think the
advantage would become more lopsided towards the 300 ohm
line, the higher in frequency you go.
I could look up the appx numbers in a book, but I'm too
lazy to get up out of my chair. :/

4533. Re: sharing antenna between ssb and weather fax

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-27 03:29:42 UTC
From: Virginia johns <Virginia.johns.70d5c48@radiobanter.com>
Message-ID: <Virginia.johns.70d5c48@radiobanter.com>
Source record: 6883

Thanks Geoff. We do plan on getting weather fax on the computer too (we have a pactor modem and sailmail subscription) but since we had the older separate fax machine we thought it would be good to have it running as a backup. So thank you for all the options.

Virginia

Geoffrey S. Mendelson;721592 Wrote:
> Owen Duffy wrote:
> -
> Using a separate antenna for the Weatherfax might seem a solution, but
> it needs to provide sufficient isolation so that the energy coupled
> into
> the Weatherfax receiver input is below its damage threshold... and
> some. -
>
> There are lots of other options.
>
> The simplest is a switch. Not a home TV antenna switch, but a ham radio
> or
> commercial grade switch.
>
> The second would be an Ameco PT-3 preamp with a the second receiver
> modification. The modification is simple and can be easily done.
> The downside of it is that it is not desgined to be in a boat (and
> therefore
> not splash resistant), is extra weight, another device that uses 12
> volts
> and if you are using both at around the same time, they have to be near
> each other in frequency.
>
> The advantage is you get an extra 18db gain out of your receive
> antenna,
> a sharply tuned preselector and it automaticly switches the weather fax
> out of the circuit when you transmit.
>
> The third is IMHO the best. If you have a computer on the boat, ditch
> the
> weatherfax entirely. Use the receiver of the ham/commerical radio for
> the weatherfax and the computer to decode the images.
>
> Note that you can not legally use a ham radio on marine frequencies,
> BUT
> you can use a marine radio on ham frequencies (with the appropriate
> licenses).

>
> Ham radios with general coverage receivers are small and relatively
> cheap,
> for example the Yaseu FT-817, the ICOM IC-703 or IC-706 and the older
> (but still
> available used) Kenwood TS-50.
>
> If you have a computer, you can also use it to download weather maps,
> etc from the internet. If you are close (35km or less) to land, you can
> get a cellular modem and out on the open water you can use a satellite
> phone.
> Cellular modems are expensive to use if you are not in an area covered
> by your
> regular carrier, and satellite phones are very expensive to use.
>
> It's a question of whether you want to get your weather information
> from
> a slow, unreliable, but free source (the weatherfax), or a more
> expensive,
> but quicker and more reliable (download) one.
>
> Geoff.
>
> --
> Geoffrey S. Mendelson N3OWJ/4X1GM
> To help restaurants, as part of the "stimulus package", everyone must
> order
> dessert. As part of the socialized health plan, you are forbidden to eat
> it. :-)

--
Virginia johns

4534. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-27 08:14:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc7df81$0$20988$65785112@news.neostrada.pl>
Source record: 6884

"Art Unwin" <arthurunwin@gmail.com> wrote
news:e9e59415-3877-4083-aa71-87cf0a940b5a@e14g2000yqe.googlegroups.com...
On Oct 26, 2:45 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Could you make the super simplest radio: "Because I have a long (150
>> foot)
> antenna, a good ground, and a strong station (50,000 watts) less than 20
> miles away, my radio receives enough power to light a low current LED. The
> LED is a 'high brighness' type (which also means that it will light dimly
> with a very small amount of current). I connect it instead of diode in the
> radio, and it glows as the radio operates, getting brighter as the sound
> gets louder. "
>
>> The super simplest radio should consist of an antenna, LED and ground.
>
>> Can we reverse the LED?
> S*

>Very innovative

What indicates the DC meter close to transmitter between the antenna and
ground?
S*

4535. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-27 11:26:21 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <6fa8543d-637a-4187-9ed7-929f3af5085e@y23g2000yqd.googlegroups.com>
Source record: 6885

On Oct 25, 9:16 pm, tom <news4...@taring.org> wrote:
> He's right, Cecil. It's probably becoming an issue by 432, and I'd
> really have to question anyone using it above 1296.

Tom, if he using "an Icom AH-4 Antenna Coupler" on 1296, he's got more
problems than 300 ohm twinlead. :-)
--
73, Cecil, w5dxp.com

4536. Re: Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-27 12:10:05 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <6d062fa1-1b81-4e27-b81b-b0a6ab9ed19b@v20g2000yqb.googlegroups.com>
Source record: 6886

Ian,

Here's how results from your approximation formula diverge from more-
accurate Zo figures:
http://www.karinya.net/g3txq/temp/ladderline_zo.png

73,
Steve G3TXQ

4537. Re: Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-27 13:14:27 UTC
From: Ian Wade G3NRW <g3nrw@yahoo.co.uk>
Message-ID: <WJtKwTWzWCyMFw5e@ntlworld.com>
Source record: 6887

From: steveeh131047 <google@karinya.net>
Date: Wed, 27 Oct 2010 Time: 05:10:05

>Ian,
>
>Here's how results from your approximation formula diverge from more-
>accurate Zo figures:
>http://www.karinya.net/g3txq/temp/ladderline_zo.png
>
>73,
>Steve G3TXQ
>

But I take it that your picture still applies to single-core conductors,
and very fat conductors at that.

With the feedline I have in mind, S=55mm and d=1.2mm, so S/d=27.5, which
is way off the end of the scale in your picture.

--
73
Ian, G3NRW

4538. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-27 22:45:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a572026f-f8c3-4a75-92f5-c3a69341aef0@n13g2000vbn.googlegroups.com>
Source record: 6888

On Oct 27, 8:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Art Unwin" <arthurun...@gmail.com>
wrotenews:e9e59415-3877-4083-aa71-87cf0a940b5a@e14g2000yqe.googlegroups.com...
> On Oct 26, 2:45 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Could you make the super simplest radio: "Because I have a long (150
> >> foot)
> > antenna, a good ground, and a strong station (50,000 watts) less than 20
> > miles away, my radio receives enough power to light a low current LED. The
> > LED is a 'high brighness' type (which also means that it will light dimly
> > with a very small amount of current). I connect it instead of diode in the
> > radio, and it glows as the radio operates, getting brighter as the sound
> > gets louder. "
>
> >> The super simplest radio should consist of an antenna, LED and ground.
>
> >> Can we reverse the LED?
> > S*
> >Very innovative
>
> What indicates the DC meter close to transmitter between the antenna and
> ground?
> S*

zero

4539. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-27 23:38:05 UTC
From: tom <news4792@taring.org>
Message-ID: <4cc8b7d9$0$87580$8046368a@newsreader.iphouse.net>
Source record: 6889

On 10/27/2010 6:26 AM, Cecil Moore wrote:
> On Oct 25, 9:16 pm, tom<news4...@taring.org> wrote:
>> He's right, Cecil. It's probably becoming an issue by 432, and I'd
>> really have to question anyone using it above 1296.
>
> Tom, if he using "an Icom AH-4 Antenna Coupler" on 1296, he's got more
> problems than 300 ohm twinlead. :-)
> --
> 73, Cecil, w5dxp.com

Can you say "facetious"? I bet you can. (Apologies to Mr. Rogers)

tom
K0TAR

4540. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 00:55:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4221d48b-6004-4895-a358-7b8291f39587@30g2000yql.googlegroups.com>
Source record: 6890

On Oct 27, 6:38 pm, tom <news4...@taring.org> wrote:
> > Tom, if he using "an Icom AH-4 Antenna Coupler" on 1296, he's got more
> > problems than 300 ohm twinlead. :-)
>
> Can you say "facetious"?

The happyface-tious above should answer that question.
--
73, Cecil, w5dxp.com

4541. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 01:56:34 UTC
From: tom <news4792@taring.org>
Message-ID: <4cc8d84f$0$87585$8046368a@newsreader.iphouse.net>
Source record: 6891

On 10/27/2010 7:55 PM, Cecil Moore wrote:
> On Oct 27, 6:38 pm, tom<news4...@taring.org> wrote:
>>> Tom, if he using "an Icom AH-4 Antenna Coupler" on 1296, he's got more
>>> problems than 300 ohm twinlead. :-)
>>
>> Can you say "facetious"?
>
> The happyface-tious above should answer that question.
> --
> 73, Cecil, w5dxp.com

:-)

4542. Re: Why do we short coil turns ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 06:46:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E1FB4DBEF73Dnonenowhere@61.9.134.55>
Source record: 6892

Jim Lux <james.p.lux@jpl.nasa.gov> wrote in
news:ia9mpt$8si$1@news.jpl.nasa.gov:

> I think that for the purposes of looking at the effect of shorting/not
> shorting turns, Wheeler is more than adequate. the key is the fact
> that it encapsulates the difference between the Nturns^2 (zero length
> solenoid with all turns coincident, fully coupled) and Nturns (zero
> coupling) for dimensions that are "practical" for ham use.
>
> And the other interesting thing is that the graph of inductance vs
> length for coils of interest here is that it looks pretty linear (and
> the fact that the coil stock vendors refer to "uh/inch" kind of
> confirms that)

An interesting bit of trivia for the models I created is that the flux coupling coefficient doesn't vary much with turns for a given diameter and coil pitch.

When you make relatively large diameter coils of fine pitch, k is higher, and that creates the conditions for higher loss in shorted turns.

The implication for long loose coils is that k is low, mutual inductance is low, inductance approaches a constant L per unit length etc.

Sensibly, most air cored solenoids operate in the midrange.

Owen

4543. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 07:11:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc92248$0$20988$65785112@news.neostrada.pl>
Source record: 6893

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:a572026f-f8c3-4a75-92f5-c3a69341aef0@n13g2000vbn.googlegroups.com...
On Oct 27, 8:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> What indicates the DC meter close to transmitter between the antenna and
> ground?

>zero

1. Zero in the sunny day,
2. Zero under the storm cloud (Franklin),
3. Zero before the storm (when the St. Elmo's fire are).
S*

4544. Re: Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 10:43:16 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <iabk45$4t4$1@ra.nrl.navy.mil>
Source record: 6894

On 10/25/2010 06:31 PM, John Ferrell wrote:
> It looks like I am going to have the resources to install a second
> antenna tower. I never thought it would work out this way so I have
> not planned it as I put other things in place.
>
> The question is: How close is too close?
>
> I know more separation is better and I doubt I can predict the future
> well enough to model expected configurations.
>
> The first in place is the existing crank up mast with power winches
> that allow me to lay the whole works down for maintenance. HF tri band
> in place at about 55 feet.
>
> About 50 feet north of that tower is my field of 36 radials where I
> currently have a 40 meter self supporting vertical. I would really
> like to not compromise the radials or the operation of whatever
> vertical I choose.
>
> I am thinking of putting the "new" tower about 20 feet West of the
> vertical& radial field. The plan calls for 4 sticks of Rohn 25 on a
> tilt plate with a utility pole doing the stabilizing. Winches as
> required.
>
> That is a little more co ax than I would like, but my real concern is
> whether this will be a major hit for the vertical and other antennas.
>
> I would appreciate any thoughts and especially experience.
>
>
> John Ferrell W8CCW

Hello, and just to tack on to the other comments: If the second antenna's presence changes the feedpoint impedance of the first antenna, you can be sure the second antenna is in the induction (close coupling (non-radiating)) field of the first antenna. If the second antenna could be located about 2-3 wavelenghts from the first it would be in the far-field and its contribution to the radiation pattern of the first, if any, would be minimal. Alas, since this might not be practical, perhaps some modeling using NEC/EZNEC prior to antenna installation would allow for some optimum trade-offs regarding parasitic effects introduced by the second antenna with the goal of saving time (and money). Sincerely, and 73s from N4GGO,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

4545. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 16:39:49 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <iac90k$57m$1@tioat.net>
Source record: 6895

```
On 10/25/2010 08:41 PM, K1TTT wrote:
> On Oct 24, 6:51 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> "Registered User"<n4...@ix.netcom.com>
wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>>
>>> On Sun, 24 Oct 2010 15:29:50 +0200, "Szczepan Bialek"
>>> <sz.bia...@wp.pl> wrote:
>>
>>>> On the simplified drawing the electron flow from antena to ground.
>>>> Are you sure that the diode may be mounted in the opposite direction?
>>
>>> My only question is why does my crystal radio work without a ground
>>> connection? Yes the radio does work better with a ground but that does
>>> not negate the fact it works without a ground.
>>
>> Most receivers has a chassis as a ground.
>>
>>> And yes the radio works
>>> with the ground and antenna connections reversed. The diode is a piece
>>> of galena.
>>
>> Does "it works exactly the same"?
>> S*
>
> yes

I haven't read all the thread.

I always see the diode in series between the antenna and the headphones.

You will get a much louder audio signal if you connect a germanium diode
( 1N34 ) in parallel with the phones.

\/ antenna
|
|________
| |
-- O
diode \/ ) phones
-- O
| |
|_______|
|

____
__ ground
```

-

Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4546. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 17:11:23 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cc9aec9$0$27037$65785112@news.neostrada.pl>
Source record: 6896

"Alejandro Lieber" <alejandro@Use-Author-Supplied-Address.invalid> wrote
news:iac90k$57m$1@tioat.net...
> On 10/25/2010 08:41 PM, K1TTT wrote:
>> On Oct 24, 6:51 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>> "Registered User"<n4...@ix.netcom.com>
>>> wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>>>
>>>> And yes the radio works
>>>> with the ground and antenna connections reversed. The diode is a piece
>>>> of galena.
>>>
>>> Does "it works exactly the same"?
>>> S*
>>
>> yes
>
> I haven't read all the thread.

> I always see the diode in series between the antenna and the headphones.

Like here: http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html

>
> You will get a much louder audio signal if you connect a germanium diode
> (1N34) in parallel with the phones.

> \/ antenna
> |
> |________
> | |
> -- O
> diode \/) phones
> -- O
> | |
> |_______|
> |
> ____
> __ ground
> -
>
>

Is the direction of the diode important?
If yes, where should flow the electrons through the diode?
S*

4547. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 17:20:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <1vnop7-v0a.ln1@mail.specsol.com>
Source record: 6897

```
Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "Alejandro Lieber" <alejandro@Use-Author-Supplied-Address.invalid> wrote
> news:iac90k$57m$1@tioat.net...
>> On 10/25/2010 08:41 PM, K1TTT wrote:
>>> On Oct 24, 6:51 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>> "Registered User"<n4...@ix.netcom.com>
>>>> wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>>>>
>>>>> And yes the radio works
>>>>> with the ground and antenna connections reversed. The diode is a piece
>>>>> of galena.
>>>>
>>>> Does "it works exactly the same"?
>>>> S*
>>>
>>> yes
>>
>> I haven't read all the thread.
>
>> I always see the diode in series between the antenna and the headphones.
>
> Like here: http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
>
>>
>> You will get a much louder audio signal if you connect a germanium diode
>> ( 1N34 ) in parallel with the phones.
>
>> \/ antenna
>> |
>> |________
>> | |
>> -- O
>> diode \/ ) phones
>> -- O
>> | |
>> |_______|
>> |
>> ____
>> __ ground
>> -
>>
>>
>
```

> Is the direction of the diode important?

No.

How many times do you have to be told that before it sinks in?

--
Jim Pennino

Remove .spam.sux to reply.

4548. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 17:37:08 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e57060a3-0b89-4465-b83c-3780506fc52a@a36g2000yqc.googlegroups.com>
Source record: 6898

On Oct 28, 12:11 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> ... where should flow the electrons through the diode?

The diode (plus leads) is much longer than the total movement of the
electrons at RF. Exactly how many electrons are "flowing" through the
diode during each RF cycle?
--
73, Cecil, w5dxp.com

4549. Re: Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 21:42:14 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <05c2e946-cb8c-4985-b252-c8961c0f89a7@j18g2000yqd.googlegroups.com>
Source record: 6899

>
> But I take it that your picture still applies to single-core conductors,
> and very fat conductors at that.

Correct.

>
> With the feedline I have in mind, S=55mm and d=1.2mm, so S/d=27.5, which
> is way off the end of the scale in your picture.
>

Then your approximation formula will be fine.

Steve G3TXQ

4550. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-28 22:08:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2edb91c3-55cc-431b-9b55-ddd98126099e@p1g2000yqm.googlegroups.com>
Source record: 6900

On Oct 28, 7:11 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:a572026f-f8c3-4a75-92f5-c3a69341aef0@n13g2000vbn.googlegroups.com...
> On Oct 27, 8:14 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> What indicates the DC meter close to transmitter between the antenna and
> > ground?
> >zero
>
> 1. Zero in the sunny day,
> 2. Zero under the storm cloud (Franklin),
> 3. Zero before the storm (when the St. Elmo's fire are).
> S*

I'll give you the meter leads and you can stand out there while the
storm is approaching and we'll see what the voltage is due to the
storm. the dc voltage due to the radio transmitter is still zero.

4551. Re: Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 00:13:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <12aff723-fb20-430a-9cfe-6d786c695247@l8g2000yql.googlegroups.com>
Source record: 6901

On Oct 25, 3:31 pm, Owen Duffy <n...@no.where> wrote:
> Ian Wade G3NRW <g3...@yahoo.co.uk> wrote in news:F3UuvlXZYcxMFwB2
> @ntlworld.com:
>
> > We all know that for an open-wire feedline, Zo = 276 log 2S/d, where S=
> > the center-to-center distance between the two conductors, and d= the
> > outer diameter of each conductor.
>
> Well, that is an approximation that falls down at closer spacings.
>
>
>
> > As far as I know, this formula applies to single-core wires. Is there
>
> It applies to circular conductors.
>
> > any significant difference to Zo where multi-strand wire is used
> > instead? I'm thinking of how the RF skin effect might affect things. Or
> > is it simply a question of treating the overall diameter of all the
> > strands as one solid conductor?
>
> I have seen some proposed corrections for stranded bare wires, but the
> factors are small in the scheme of things for seven strand and smaller
> for 19 strand.
>
>
>
> > Further, if the multi-strand wire is plastic coated, what effect does
> > that have on Zo?
>
> Assuming you mean bare wires twisted and then served with insulation...
>
> Dielectric with rel permitivitty >1 will reduce Zo.
>
> Have a play with TWLLC athttp://www.vk1od.net/calc/tl/twllc.htm.
>
> An effective way to estimate the effective permittivity is to measure the
> velocity factor of a sample of line, and use permittivity=vf^-2.
>
> Owen
>
>
>
> - Hide quoted text -

>
> - Show quoted text -

Just wondering how a few mils of PVC insulation would effect the permittivity of a couple of 12 guage wires spaced a couple of inches apart.

Jimmie

4552. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 00:46:51 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <625df676-6f58-47bc-8e8e-8e07453cc28f@p1g2000yqm.googlegroups.com>
Source record: 6902

On Oct 24, 6:49 am, Owen Duffy <n...@no.where> wrote:
> Saffer <Saffer.709b...@radiobanter.com> wrote in news:Saffer.709bc28
> @radiobanter.com:
>
>
>
> > Cecil Moore;721366 Wrote:
> >> On Oct 23, 1:57*am, Saffer Saffer.7086...@radiobanter.com wrote:-
> >> Hi there Im new to amateur just got my licence and am having high swr
> >> problems ive checked the coaxial cables for continuity and everything
> >> seems to be right the antenna is a buddipole and everything has been
> >> assembled correctally can anybody tell me what I might be doing wrong-
>
> >> Same on all bands with the proper coil-taps/whip-sections selected?
> >> --
> >> 73
> > Yes pretty much the same on all bands I think I might have solved my
> > problem the transceiver was not grounded sufficientally and when I did
> > this the swr came down on all bands expecting part of 40 is it correct
> > to say that swr is affected by station grounding ?
>
> Ideally, the coax would carry negligible common mode current and you
> would not notice such an interaction.
>
> The Buddipole should be used with an effective balun. My preference would
> be a current balun with a high choking impedance, but IIRC that is not
> what Buddipole recommend.
>
> Let the coax fall to the ground vertically, and route it away from the
> antenna at right angles to minimise coupling.
>
> VSWR will be poor on the lower bands (80, 40) if you do not have the
> variable ratio balun, and set it appropriately.
>
> You are really shy on details (eg we have as good as begged you to
> quantify 'high'), so you get brief answers. Describing the problem well
> to yourself is the first step in resolving it.
>
> Owen

I tried one a few years ago to use when I go camping. Having a hot
shield did prove to be problematic. This also got it retired to the
junk bin. My favorite antenna for camping is an NVIS antenna that
takes the form of a wire Yagi-Uda aimed skyward. All I need to put it

up is a couple of suitably spaced trees.

Jimmie

4553. Re: Impedance of open wire feeder using multi-strand wire?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 00:52:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E2078C83B1Anonenowhere@61.9.134.55>
Source record: 6903

JIMMIE <JIMMIEDEE123@YAHOO.COM> wrote in
news:12aff723-fb20-430a-9cfe-6d786c695247@l8g2000yql.googlegroups.com:

> Just wondering how a few mils of PVC insulation would effect the
> permittivity of a couple of 12 guage wires spaced a couple of inches
> apart.

By "mils", do you mean thousands of an inch? (The rest of your dimensions
are imperial.)

I doubt it would make much difference

The easiest way I know of to assess the effect of the mixed dielectric
environment, is to measure the velocity factor, and use that to infer an
equivalent permittivity (as I noted in my earlier post).

Owen

4554. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 01:40:16 UTC
From: tom <news4792@taring.org>
Message-ID: <4cca25fc$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6904

On 10/28/2010 7:46 PM, JIMMIE wrote:
>
> I tried one a few years ago to use when I go camping. Having a hot
> shield did prove to be problematic. This also got it retired to the
> junk bin. My favorite antenna for camping is an NVIS antenna that
> takes the form of a wire Yagi-Uda aimed skyward. All I need to put it
> up is a couple of suitably spaced trees.
>
> Jimmie

What band?

Care to share any details? Sounds like something fun to make.

tom
K0TAR

4555. Hy-Gain BN-86 for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 03:38:53 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <iadfk6mte1@news.eternal-september.org>
Source record: 6905

I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
asking $40 for it. The instruction manual can be viewed at:

http://www.thiecom.de/pdf/BN-86.pdf

The balun can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4556. VHF relays and VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 03:40:09 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <iadfmjmte2@news.eternal-september.org>
Source record: 6906

I have two NEC 536300 relays for sale. The specs are:

50 ohms input and output
150 Watts to 470 MHz
VSWR 1.25:1
Crosstalk 40 dB
12 VDC coil
Shown in August 1965 VHFer if you still have it. I don't.

They can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

I'm asking $10 each plus shipping.
==========
I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Very good condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4557. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 07:40:09 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cca7a67$0$22792$65785112@news.neostrada.pl>
Source record: 6907

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:e57060a3-0b89-4465-b83c-3780506fc52a@a36g2000yqc.googlegroups.com...
On Oct 28, 12:11 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> ... where should flow the electrons through the diode?

>The diode (plus leads) is much longer than the total movement of the
electrons at RF. Exactly how many electrons are "flowing" through the
diode during each RF cycle?

More than zero.
S*

4558. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 11:35:59 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <39f991e6-0c79-419b-b018-729941a85be2@c20g2000yqj.googlegroups.com>
Source record: 6908

On Oct 29, 7:40 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Cecil Moore" <w5...@hotmail.com> napisal w
wiadomoscinews:e57060a3-0b89-4465-b83c-3780506fc52a@a36g2000yqc.googlegroups.com...
> On Oct 28, 12:11 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> ... where should flow the electrons through the diode?
> >The diode (plus leads) is much longer than the total movement of the
>
> electrons at RF. Exactly how many electrons are "flowing" through the
> diode during each RF cycle?
>
> More than zero.
> S*

and less than infinity...

wow, i think we have made progress here!

4559. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 16:05:15 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccaf0c8$0$22806$65785112@news.neostrada.pl>
Source record: 6909

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:39f991e6-0c79-419b-b018-729941a85be2@c20g2000yqj.googlegroups.com...
On Oct 29, 7:40 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Cecil Moore" <w5...@hotmail.com> napisal w
> wiadomoscinews:e57060a3-0b89-4465-b83c-3780506fc52a@a36g2000yqc.googlegroups.com...
>
>>>. Exactly how many electrons are "flowing" through the
> diode during each RF cycle?
>
>> More than zero.

>and less than infinity...

Already you wrote">> What indicates the DC meter close to transmitter
between the antenna and
> > ground?
> >zero"

>wow, i think we have made progress here!

Not we. Only you. "More than zero and less than infinity" is a big progress.
Congratulations.
At end you admit that there is a netto DC.
S*

4560. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 16:17:46 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5ec5d855-d010-48f6-acb9-ab3ddbbdff87@g25g2000yqn.googlegroups.com>
Source record: 6910

On Oct 29, 4:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:39f991e6-0c79-419b-b018-729941a85be2@c20g2000yqj.googlegroups.com...
> On Oct 29, 7:40 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > Uzytkownik "Cecil Moore" <w5...@hotmail.com> napisal w
> > wiadomoscinews:e57060a3-0b89-4465-b83c-3780506fc52a@a36g2000yqc.googlegroups.com...
>
> >>>. Exactly how many electrons are "flowing" through the
> > > diode during each RF cycle?
>
> >> More than zero.
> >and less than infinity...
>
> Already you wrote">> What indicates the DC meter close to transmitter
> between the antenna and
>
> > > ground?
> > >zero"
> >wow, i think we have made progress here!
>
> Not we. Only you. "More than zero and less than infinity" is a big progress.
> Congratulations.
> At end you admit that there is a netto DC.
> S*

the diode causes an imbalance, not the transmitter. it can be either
direction depending on the orientation of the diode... how does your
electron flowing explain that?

4561. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 16:32:03 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccaf710$0$22808$65785112@news.neostrada.pl>
Source record: 6911

"K1TTT" <k1ttt@arrl.net> wrote
news:5ec5d855-d010-48f6-acb9-ab3ddbbdff87@g25g2000yqn.googlegroups.com...
On Oct 29, 4:05 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> At end you admit that there is a netto DC.
> S*

>the diode causes an imbalance, not the transmitter. it can be either
direction depending on the orientation of the diode... how does your
electron flowing explain that?

You must do the next progress. The simplest radio is like a photocell. There
are the two copper plate with the semiconductor between. Electrons always
flow from the side exposed to light to side in shadow. Never in opposite.
One plate is as an antenna and the other as the chassis.
Do you agree?
S*

4562. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 16:49:20 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <iaetuf$s6k$1@tioat.net>
Source record: 6912

```
On 10/28/2010 02:20 PM, jimp@specsol.spam.sux.com wrote:
> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>
>> "Alejandro Lieber"<alejandro@Use-Author-Supplied-Address.invalid> wrote
>> news:iac90k$57m$1@tioat.net...
>>> On 10/25/2010 08:41 PM, K1TTT wrote:
>>>> On Oct 24, 6:51 pm, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>>>> "Registered User"<n4...@ix.netcom.com>
>>>>> wrotenews:cpg8c6l8gfss0b45u6ifvs74m8pl3023i0@4ax.com...
>>>>>
>>>>>> And yes the radio works
>>>>>> with the ground and antenna connections reversed. The diode is a piece
>>>>>> of galena.
>>>>>
>>>>> Does "it works exactly the same"?
>>>>> S*
>>>>
>>>> yes
>>>
>>> I haven't read all the thread.
>>
>>> I always see the diode in series between the antenna and the headphones.
>>
>> Like here: http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
>>
>>>
>>> You will get a much louder audio signal if you connect a germanium diode
>>> ( 1N34 ) in parallel with the phones.
>>
>>> \/ antenna
>>> |
>>> |________
>>> | |
>>> -- O
>>> diode \/ ) phones
>>> -- O
>>> | |
>>> |_______|
>>> |
>>> ____
>>> __ ground
>>> -
>>>
>>>
```

>>
>> Is the direction of the diode important?
>
> No.
>
> How many times do you have to be told that before it sinks in?
>
>

There is an alternate electric field between the antenna and earth.

Electrons will move down through the earphones and up through the diode.

--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4563. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 17:14:37 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccb010a$0$20990$65785112@news.neostrada.pl>
Source record: 6913

"Alejandro Lieber" <alejandro@Use-Author-Supplied-Address.invalid> wrote
news:iaetuf$s6k$1@tioat.net...
>
> There is an alternate electric field between the antenna and earth.
>
> Electrons will move down through the earphones and up through the diode.

If in parallel. And what will be in series?
S*

4564. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 18:00:19 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <iaf23j$t8p$1@tioat.net>
Source record: 6914

On 10/29/2010 02:14 PM, Szczepan Bialek wrote:
>
> "Alejandro Lieber" <alejandro@Use-Author-Supplied-Address.invalid> wrote
> news:iaetuf$s6k$1@tioat.net...
>>
>> There is an alternate electric field between the antenna and earth.
>>
>> Electrons will move down through the earphones and up through the diode.
>
> If in parallel. And what will be in series?
> S*
>
>

Nothing

--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4565. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 21:21:22 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <00ebe07b-2660-4036-9391-3e7340b0d312@e14g2000yqe.googlegroups.com>
Source record: 6915

On Oct 28, 9:40 pm, tom <news4...@taring.org> wrote:
> On 10/28/2010 7:46 PM, JIMMIE wrote:
>
>
>
> > I tried one a few years ago to use when I go camping. Having a hot
> > shield did prove to be problematic. This also got it retired to the
> > junk bin. My favorite antenna for camping is an NVIS antenna that
> > takes the form of a wire Yagi-Uda aimed skyward. All I need to put it
> > up is a couple of suitably spaced trees.
>
> > Jimmie
>
> What band?
>
> Care to share any details? Sounds like something fun to make.
>
> tom
> K0TAR

http://www.hamuniverse.com/nvisbeam.html

This is where I got the idea, Lots of other info on various designs
just by googling NVIS antenna. I usually do 40M as the antenna for 75M
is often impractical to put up but I have one just in case. There is
one place I could probably put up one for 75 over a pond.

Jimmie

4566. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-29 23:34:20 UTC
From: tom <news4792@taring.org>
Message-ID: <4ccb59f7$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6916

On 10/29/2010 4:21 PM, JIMMIE wrote:
>
> http://www.hamuniverse.com/nvisbeam.html
>
> This is where I got the idea, Lots of other info on various designs
> just by googling NVIS antenna. I usually do 40M as the antenna for 75M
> is often impractical to put up but I have one just in case. There is
> one place I could probably put up one for 75 over a pond.
>
> Jimmie

Thanks.

tom
K0TAR

4567. Re: Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 02:15:08 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <maadnWuGkp4D4lbRnZ2dnUVZ_tSdnZ2d@bright.net>
Source record: 6917

Dear John: As others have said - expect a lot of coupling. However, even a second read did not disclose what you wish to place on a 40 foot tower - or if you expect to use the new tower as the end for one or more wires.

Clearly the example of a 3 element 40 meter beam at 40 feet makes no sense.
73, Mac N8TT
--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"John Ferrell" <jferrell13@triad.rr.com> wrote in message
news:m5aec6lq3i917q95fpjo9vrunvo37ksfke@4ax.com...
> On Mon, 25 Oct 2010 21:07:26 -0700 (PDT), brett <vo1bbn@gmail.com>
> wrote:
>
>>On Oct 26, 1:53 am, brett <vo1...@gmail.com> wrote:
>>> On Oct 25, 8:31 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
>>>
>>> > It looks like I am going to have the resources to install a second
>>> > antenna tower. I never thought it would work out this way so I have
>>> > not planned it as I put other things in place.
>>>
>>> > The question is: How close is too close?
>>>
>>> > I would appreciate any thoughts and especially experience.
>>>
>>> > John Ferrell W8CCW
>
> I am going to listen and think on the subject for a while. I need to
> acquire another stick of Rohn 25 anyway.
>
> There is no urgency, I would just like to get back to some VHF work
> other than repeaters.
>
> The current tower has a Cushcraft A3S and a 3 element fan dipole that
> I find works so good on all bands that I stopped at three. The dipoles
> are cut for 17M, 30M, and 80M. I have no idea what is really
> radiating when I manually tune up. I always start with minimum
> inductance in hopes of fewer tuner losses. I have not tried 160M
> though. 40M works well on both antennas so it would not be a big
> issue to loose the vertical. It has served more as an all band antenna
> than strictly a 40m antenna anyway. The EZNEC patterns for a 30 foot
> vertical are not impressive with it, but it does work with an SGC 237
> tuner.
>

> I can get the second tower in place with very little cash outlay at
> this time. I am leaning towards the project...
>
> And I am expecting a few "issues" along the way.
>
> John Ferrell W8CCW

4568. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 07:36:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccbcb0f$0$20997$65785112@news.neostrada.pl>
Source record: 6918

"Alejandro Lieber" <alejandro@Use-Author-Supplied-Address.invalid> wrote
news:iaf23j$t8p$1@tioat.net...
>
>>> Electrons will move down through the earphones and up through the diode.
>>
>> If in parallel. And what will be in series?
>> S*
>
> Nothing

"I put up a 200 foot antenna between two trees over my house, and tuned to a
50,000 watt station about 30 miles away, and now I get 175 microamps of
current through my meter."

It is almost nothing but more than zero.
S*

4569. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 09:27:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <cfc4523a-3c1c-4407-ada4-d935f50685e5@y23g2000yqd.googlegroups.com>
Source record: 6919

On Oct 29, 6:00 pm, Alejandro Lieber <alejan...@Use-Author-Supplied-
Address.invalid> wrote:
> On 10/29/2010 02:14 PM, Szczepan Bialek wrote:
>
>
>
> > "Alejandro Lieber" <alejan...@Use-Author-Supplied-Address.invalid> wrote
> >news:iaetuf$s6k$1@tioat.net...
>
> >> There is an alternate electric field between the antenna and earth.
>
> >> Electrons will move down through the earphones and up through the diode.
>
> > If in parallel. And what will be in series?
> > S*
>
> Nothing
>
> --
> Alejandro Lieber LU1FCR
> Rosario Argentina
>
> Real-Time F2-Layer Critical Frequency Map foF2:http://1fcr.com.ar

don't take him seriously... he has a very warped idea of how
electromagnetic waves work. i just keep him talking to see what funny
ideas come out next.

4570. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 11:12:27 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <iaguir$ee9$1@tioat.net>
Source record: 6920

On 10/30/2010 04:36 AM, Szczepan Bialek wrote:
>
> "Alejandro Lieber" <alejandro@Use-Author-Supplied-Address.invalid> wrote
> news:iaf23j$t8p$1@tioat.net...
>>
>>>> Electrons will move down through the earphones and up through the
>>>> diode.
>>>
>>> If in parallel. And what will be in series?
>>> S*
>>
>> Nothing
>
> "I put up a 200 foot antenna between two trees over my house, and tuned
> to a 50,000 watt station about 30 miles away, and now I get 175
> microamps of current through my meter."
>
> It is almost nothing but more than zero.
> S*
>

You should put the meter in series with the diode or the earphone, not
in series with the antenna or the earth.

In the diode and in the earphones you have direct current that the meter
will measure, in the connection to the antenna and the earth, you have
radio frequencies that the meter will not measure correctly.
--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4571. 160m Vertical Questionas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 11:50:25 UTC
From: Dave WB4IUY <support@scootworks.com>
Message-ID: <7f09a384-c4bc-43b3-a375-191e4cca5cce@v20g2000yqb.googlegroups.com>
Source record: 6921

I have a 105' tower with a cluster of yagi's on top. There are various fixed-direction yagi's bolted to it, along it's height. There are 17 runs of feedline that come from the tower to the shack. I've always wanted to install something vertical for 160m use in the quiet winter months. The 1st and 2nd layer of guy wires are un-insulated from ground/tower. The top guy wires are broken into full 40m sloping dipoles and are remotely switched. Due to all of the other rigs running at the same time and the amount of feedline entering the shack, I don't think I want to shunt feed the tower for fear of getting loads of RF in the shack (had a friend who tried this and was never able to fix the problem with RF in the shack). Here's my question:

- Can I use insulative side-mount brackets and string a vertical up the side of the tower, seprated from the tower by a few feet, and get any kind of decent vertical antenna performance out of this? I was thinking of maybe 5' off the side of the tower, running a wire up to 105', then shoot the other 30 or so feet of wire off and fold it back down and outward at 45 degrees or so. Feed it at the bottom, and install a ground field aound the base of the tower.

I realize there will be some coupling to the tower, but don't have any way (or know how) to model this. Can anyone help with a model to determine approximately how much I'll have to compensate wire length for couplng and top foldback? Have any of you done this before?

Thanks,
ave WB4IUY
www.WB4IUY.net

4572. Re: 160m Vertical Questionas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 13:25:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <52c4a7ee-4da1-4e4e-8809-e2fbe1114168@s4g2000yql.googlegroups.com>
Source record: 6922

On Oct 30, 11:50 am, Dave WB4IUY <supp...@scootworks.com> wrote:
> I have a 105' tower with a cluster of yagi's on top. There are various
> fixed-direction yagi's bolted to it, along it's height. There are 17
> runs of feedline that come from the tower to the shack. I've always
> wanted to install something vertical for 160m use in the quiet winter
> months. The 1st and 2nd layer of guy wires are un-insulated from
> ground/tower. The top guy wires are broken into full 40m sloping
> dipoles and are remotely switched. Due to all of the other rigs
> running at the same time and the amount of feedline entering the
> shack, I don't think I want to shunt feed the tower for fear of
> getting loads of RF in the shack (had a friend who tried this and was
> never able to fix the problem with RF in the shack). Here's my
> question:
>
> - Can I use insulative side-mount brackets and string a vertical up
> the side of the tower, seprated from the tower by a few feet, and get
> any kind of decent vertical antenna performance out of this? I was
> thinking of maybe 5' off the side of the tower, running a wire up to
> 105', then shoot the other 30 or so feet of wire off and fold it back
> down and outward at 45 degrees or so. Feed it at the bottom, and
> install a ground field aound the base of the tower.
>
> I realize there will be some coupling to the tower, but don't have any
> way (or know how) to model this. Can anyone help with a model to
> determine approximately how much I'll have to compensate wire length
> for couplng and top foldback? Have any of you done this before?
>
> Thanks,
> ave WB4IUYwww.WB4IUY.net

a simpler method is to put an insulator at the top of the tower and
run up at an angle so its 20' or so away from the tower at the
ground. the further away from the base of the tower the less coupling
and the more wire there will be going up... and the more art will like
it!

4573. Re: Antenna separation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 14:09:42 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <418oc6dnnecaaf3r1lo0ht3brjtb6cab5n@4ax.com>
Source record: 6923

On Fri, 29 Oct 2010 22:15:08 -0400, "J. Mc Laughlin"
<jcm@power-net.net> wrote:

>Dear John: As others have said - expect a lot of coupling. However, even a
>second read did not disclose what you wish to place on a 40 foot tower - or
>if you expect to use the new tower as the end for one or more wires.
>
>Clearly the example of a 3 element 40 meter beam at 40 feet makes no sense.
>73, Mac N8TT

Thanks for your advice! The more views I get, the less likely it is
for me to make bad decisions.

Here is where my thinking is now:

I need to put the second tower wherever it will be most useful to my
purposes. The existing vertical array and its radials are expendable.
It can be reconstructed if desired at another time. I believe it has
served my purpose and it is time to move on. Installing a tower is not
a trivial matter and the decisions should be made to take advantage of
the opportunities it provides.

My interests are a little different than most Hams. I enjoy studying
more than operating. Building and using antennas is an important part
of the hobby (addiction?) to me. When I made the retirement move to
this location I made certain that I would be able to pursue that path.
I have enough real estate, wife does not care what I choose to do with
the hobby, and the neighbors are indifferent as well! I consider all
the antennas to be temporary and everything must be accessible. Twice
this past week I have lowered the existing Tribander to 25 feet
because of weather forecasts. Change is the rule rather than the
exception!

If I encounter excessive interaction I will just consider it another
condition to explore. I started out with the idea that this would be a
30 foot VHF-UHF structure but it appears that I can reach a little
higher and stronger than that.

I will keep the options open as best I can to provide a second
structure that lends itself to further experiments.

At least that is what I am thinking today...

John Ferrell W8CCW

4574. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 15:52:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccc3f37$0$27039$65785112@news.neostrada.pl>
Source record: 6924

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:cfc4523a-3c1c-4407-ada4-d935f50685e5@y23g2000yqd.googlegroups.com...

>
>don't take him seriously... he has a very warped idea of how
electromagnetic waves work. i just keep him talking to see what funny
ideas come out next.

Stokes drift and Tesla's electric waves are reality.

Heaviside's compilations (TEM) are funny.
S*

4575. Maco 103HV Circular Polarization

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 17:46:39 UTC
From: Terry Deslippe <tdd652@gmail.com>
Message-ID: <b98e48ac-72e0-4692-92ee-f3bb4f98edc4@b17g2000yqa.googlegroups.com>
Source record: 6925

Hello All

I have the above Beam using a switch box Dosy A-SW-4 Vert-Horz-Aux-Vert/Horz and my coax Belden 9913U. My question is does anybody know how to setup Circular Polarization when the switch is on the Vert/Horz. I have one length each of 9913U coming from Vert and from Horz.

All help is greatly appreciated
Thankyou
Terry

4576. Re: 160m Vertical Questionas

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-30 20:41:07 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <833df662-6aa2-465e-95d2-f258ae8fedd4@a37g2000yqi.googlegroups.com>
Source record: 6926

On Oct 30, 6:50 am, Dave WB4IUY <supp...@scootworks.com> wrote:
> I realize there will be some coupling to the tower, but don't have any
> way (or know how) to model this.

EZNEC will do that. A quick look says that it will work just fine.
There's not much difference in feeding the tower and feeding a wire
parallel to the tower.
--
73, Cecil, w5dxp.com

4577. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 01:45:40 UTC
From: tom <news4792@taring.org>
Message-ID: <4cccca3e$0$6700$8046368a@newsreader.iphouse.net>
Source record: 6927

On 10/30/2010 10:52 AM, Szczepan Bialek wrote:
>
> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
> news:cfc4523a-3c1c-4407-ada4-d935f50685e5@y23g2000yqd.googlegroups.com...
>
>>
>> don't take him seriously... he has a very warped idea of how
> electromagnetic waves work. i just keep him talking to see what funny
> ideas come out next.
>
> Stokes drift and Tesla's electric waves are reality.
>
> Heaviside's compilations (TEM) are funny.
> S*

And yet they have nothing to do with EM waves.

Sorry, I forgot. You don't believe in EM waves.

What's it like to live in a fantasy world?

tom
K0TAR

4578. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 07:04:06 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccd14f4$0$20995$65785112@news.neostrada.pl>
Source record: 6928

Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
news:4cccca3e$0$6700$8046368a@newsreader.iphouse.net...
> On 10/30/2010 10:52 AM, Szczepan Bialek wrote:
>>
>> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
>> news:cfc4523a-3c1c-4407-ada4-d935f50685e5@y23g2000yqd.googlegroups.com...
>>
>>>
>>> don't take him seriously... he has a very warped idea of how
>> electromagnetic waves work. i just keep him talking to see what funny
>> ideas come out next.
>>
>> Stokes drift and Tesla's electric waves are reality.
>>
>> Heaviside's compilations (TEM) are funny.
>> S*
>
> And yet they have nothing to do with EM waves.
>
> Sorry, I forgot. You don't believe in EM waves.

Tesla wrote that the EM is a myth.
>
> What's it like to live in a fantasy world?

You are living in the fantasy world.
To stop it is enough to measure the ground current.
S*

4579. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 09:32:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <57f8e871-a924-4db6-a266-ddf5cca962ec@u17g2000yqi.googlegroups.com>
Source record: 6929

On Oct 31, 7:04 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "tom" <news4...@taring.org> napisal w
wiadomoscinews:4cccca3e$0$6700$8046368a@newsreader.iphouse.net...
>
>
>
> > On 10/30/2010 10:52 AM, Szczepan Bialek wrote:
>
> >> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w wiadomosci
> >>news:cfc4523a-3c1c-4407-ada4-d935f50685e5@y23g2000yqd.googlegroups.com...
>
> >>> don't take him seriously... he has a very warped idea of how
> >> electromagnetic waves work. i just keep him talking to see what funny
> >> ideas come out next.
>
> >> Stokes drift and Tesla's electric waves are reality.
>
> >> Heaviside's compilations (TEM) are funny.
> >> S*
>
> > And yet they have nothing to do with EM waves.
>
> > Sorry, I forgot. You don't believe in EM waves.
>
> Tesla wrote that the EM is a myth.
>
>
>
> > What's it like to live in a fantasy world?
>
> You are living in the fantasy world.
> To stop it is enough to measure the ground current.
> S*

i measure no ground current from a transmitter, so i must not be
having a fantasy.

4580. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 10:32:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f3b436f2-9384-4533-b1d6-2626f2e1456b@v20g2000yqb.googlegroups.com>
Source record: 6930

On Oct 31, 7:04 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "tom" <news4...@taring.org> napisal w
wiadomoscinews:4cccca3e$0$6700$8046368a@newsreader.iphouse.net...
>
>
>
> > On 10/30/2010 10:52 AM, Szczepan Bialek wrote:
>
> >> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w wiadomosci
> >>news:cfc4523a-3c1c-4407-ada4-d935f50685e5@y23g2000yqd.googlegroups.com...
>
> >>> don't take him seriously... he has a very warped idea of how
> >> electromagnetic waves work. i just keep him talking to see what funny
> >> ideas come out next.
>
> >> Stokes drift and Tesla's electric waves are reality.
>
> >> Heaviside's compilations (TEM) are funny.
> >> S*
>
> > And yet they have nothing to do with EM waves.
>
> > Sorry, I forgot. You don't believe in EM waves.
>
> Tesla wrote that the EM is a myth.
>
>
>
> > What's it like to live in a fantasy world?
>
> You are living in the fantasy world.
> To stop it is enough to measure the ground current.
> S*

give me a number... i have 6 transmitters running 1500w rf output each
into 50 ohm antennas. There is one ground cable to all the stations,
how much dc current should i measure in that ground cable? show work,
extra points for neatness.

4581. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 17:15:23 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <bqk0q7-dmd.ln1@mail.specsol.com>
Source record: 6931

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Uzytkownik "tom" <news4792@taring.org> napisal w wiadomosci
> news:4cccca3e$0$6700$8046368a@newsreader.iphouse.net...
>> On 10/30/2010 10:52 AM, Szczepan Bialek wrote:
>>>
>>> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
>>> news:cfc4523a-3c1c-4407-ada4-d935f50685e5@y23g2000yqd.googlegroups.com...
>>>
>>>>
>>>> don't take him seriously... he has a very warped idea of how
>>> electromagnetic waves work. i just keep him talking to see what funny
>>> ideas come out next.
>>>
>>> Stokes drift and Tesla's electric waves are reality.
>>>
>>> Heaviside's compilations (TEM) are funny.
>>> S*
>>
>> And yet they have nothing to do with EM waves.
>>
>> Sorry, I forgot. You don't believe in EM waves.
>
> Tesla wrote that the EM is a myth.

Tesla died insane, much like you are now.

--
Jim Pennino

Remove .spam.sux to reply.

4582. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 18:29:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccdb584$0$20990$65785112@news.neostrada.pl>
Source record: 6932

"K1TTT" <k1ttt@arrl.net> wrote
news:f3b436f2-9384-4533-b1d6-2626f2e1456b@v20g2000yqb.googlegroups.com...
On Oct 31, 7:04 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> You are living in the fantasy world.
> To stop it is enough to measure the ground current.
> S*

>give me a number... i have 6 transmitters running 1500w rf output each
into 50 ohm antennas. There is one ground cable to all the stations,
how much dc current should i measure in that ground cable?

Everybody know that Tesla coil is pumping the earth's charge (pulsatory
flow). The same do yours 6 transmitters.

Stop writing and try to detect it in your ground cable. In the Warshaw LW
mast it would be easy. But it collapsed.
S*

4583. Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 19:49:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <657405c3-c17a-4f56-a2b9-60e32c508485@u10g2000yqk.googlegroups.com>
Source record: 6933

Browsing thru E bay I came across a 1kw
antenna tuner for sale from Cyprus.Now in my younger days I got hold
of one of these and intended to salvage a Icom AH2 to somehow make it
remote since I use Icom radios. After all there are only three motors
that have to be driven! Now I am retired I pulled my old one from
storage after seeing the same on E bay. Question is are there any
kits, salvage ideas out there that would get me going on this long
lost project?
I have never used a external tuner but this seems like a realistic
project to play with.
Of course if there is a unit out there that I can salvage a controller
that is all the better. There are very good photos of this particular
tuner on E bay but like mine it has no controller! I suppose I could
feed a 10 watt signal to it and control the motors by hand to tune but
I do like the idea of automation.
Regards
Art

4584. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 19:59:50 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <92498002-3ced-4b88-97a6-f06c0ec17e13@u17g2000yqi.googlegroups.com>
Source record: 6934

On Oct 31, 6:29 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:f3b436f2-9384-4533-b1d6-2626f2e1456b@v20g2000yqb.googlegroups.com...
> On Oct 31, 7:04 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> You are living in the fantasy world.
> > To stop it is enough to measure the ground current.
> > S*
> >give me a number... i have 6 transmitters running 1500w rf output each
>
> into 50 ohm antennas. There is one ground cable to all the stations,
> how much dc current should i measure in that ground cable?
>
> Everybody know that Tesla coil is pumping the earth's charge (pulsatory
> flow). The same do yours 6 transmitters.
>
> Stop writing and try to detect it in your ground cable. In the Warshaw LW
> mast it would be easy. But it collapsed.
> S*

i have tried, i can't detect it... how much does your theory say
should be there so i know if i am not reading sensitive enough meter.
theories that can't make measureable predictions are not very useful.

4585. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 20:00:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <057eb7af-e27a-4acc-9fe6-ac5e6bb33d9a@a37g2000yqi.googlegroups.com>
Source record: 6935

On Oct 31, 7:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
> Browsing thru E bay I came across a 1kw
> antenna tuner for sale from Cyprus.Now in my younger days I got hold
> of one of these and intended to salvage a Icom AH2 to somehow make it
> remote since I use Icom radios. After all there are only three motors
> that have to be driven! Now I am retired I pulled my old one from
> storage after seeing the same on E bay. Question is are there any
> kits, salvage ideas out there that would get me going on this long
> lost project?
> I have never used a external tuner but this seems like a realistic
> project to play with.
> Of course if there is a unit out there that I can salvage a controller
> that is all the better. There are very good photos of this particular
> tuner on E bay but like mine it has no controller! I suppose I could
> feed a 10 watt signal to it and control the motors by hand to tune but
> I do like the idea of automation.
> Regards
> Art

why would you need a tuner, isn't your super antenna flat from dc to
daylight?

4586. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 22:07:02 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <01301ab2-e44b-47e5-a36c-eda0a91d80a4@j2g2000yqf.googlegroups.com>
Source record: 6936

On Oct 31, 3:00 pm, K1TTT <k1...@arrl.net> wrote:
> On Oct 31, 7:49 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > Browsing thru E bay I came across a 1kw
> > antenna tuner for sale from Cyprus.Now in my younger days I got hold
> > of one of these and intended to salvage a Icom AH2 to somehow make it
> > remote since I use Icom radios. After all there are only three motors
> > that have to be driven! Now I am retired I pulled my old one from
> > storage after seeing the same on E bay. Question is are there any
> > kits, salvage ideas out there that would get me going on this long
> > lost project?
> > I have never used a external tuner but this seems like a realistic
> > project to play with.
> > Of course if there is a unit out there that I can salvage a controller
> > that is all the better. There are very good photos of this particular
> > tuner on E bay but like mine it has no controller! I suppose I could
> > feed a 10 watt signal to it and control the motors by hand to tune but
> > I do like the idea of automation.
> > Regards
> > Art
>
> why would you need a tuner, isn't your super antenna flat from dc to
> daylight?

I knew that was coming!
My antenna project is finished and active on the grass Now winter is
coming I need another project. I wanted the antenna to pan up and down
for best angle automatically but I am short on ideas. So seeing the
tuner on Ebay reminded me of a project that got away. The antenna has
only been tested down to top band as I am not equipted to go down
lower and the mfj only goes up to 170. I suppose I can take the tuner
to a hamfest but it has been a few years since I went to one. I am
using a window
wiper motor for the up and down so it would be nice to make that
automatic if more gain is available.

4587. Re: Help High swr

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 23:11:33 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <d4045e5b-3327-4b0b-92ea-59226ff51480@26g2000yqv.googlegroups.com>
Source record: 6937

On Oct 29, 7:34 pm, tom <news4...@taring.org> wrote:
> On 10/29/2010 4:21 PM, JIMMIE wrote:
>
>
>
> >http://www.hamuniverse.com/nvisbeam.html
>
> > This is where I got the idea, Lots of other info on various designs
> > just by googling NVIS antenna. I usually do 40M as the antenna for 75M
> > is often impractical to put up but I have one just in case. There is
> > one place I could probably put up one for 75 over a pond.
>
> > Jimmie
>
> Thanks.
>
> tom
> K0TAR

If you get one put together let me know how it works for you . My
operation have been very sporatic and I really cant compare it well
with anyting. I would think operation would be best when both stations
are using NVIS antennas but I have yet to communicate with someone who
was doing the same. I have made contacts on this antenna when another
antenna an 18ft vertical was just dead quiet, Location was in a
campsite in a valley near Boone NC.

Jimmie

4588. Military Antenna information

Newsgroup: rec.radio.amateur.antenna
Date: 2010-10-31 23:22:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <10b9689d-3003-42ed-99e1-26b9480d4833@h7g2000yqn.googlegroups.com>
Source record: 6938

OK here is what I know about it. It was a pyramid shaped antenna approximately 20 ft on a side at the base. The antenna was supported by a central mast from the apex of the pyramid and the base of the antenna was suspended about 3 or 4 ft off the ground. Corners of the base of the pyramid were tied off to tent stakes with nylon rope. It was used for HF communication in the range of 4 to 30 Mhz and I the the nomenclature for it was OGTHAGONAL ANTENNA. Thats as much info as I have if anyone could add more I would appreciate it. Is this an NVIS antenna? Manuals would be great. Last time I saw one in use it was being used for HF SSB Air to Ground communication.

Jimmie

4589. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 06:00:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1288591200@panix.com>
Source record: 6939
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

4590. Re: Military Antenna information

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 06:06:26 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <42fa3c8c-84c5-492d-a1e4-2822ccbf1165@t13g2000yqm.googlegroups.com>
Source record: 6940

On Oct 31, 7:22 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:

> the nomenclature for it was OGTHAGONAL ANTENNA.

Orthagonal, orthogonal?

4591. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 08:44:51 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cce7e10$0$27036$65785112@news.neostrada.pl>
Source record: 6941

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:92498002-3ced-4b88-97a6-f06c0ec17e13@u17g2000yqi.googlegroups.com...
On Oct 31, 6:29 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> Everybody know that Tesla coil is pumping the earth's charge (pulsatory
> flow). The same do yours 6 transmitters.
>
>> Stop writing and try to detect it in your ground cable. In the Warshaw LW
> mast it would be easy. But it collapsed.
> S*

>i have tried, i can't detect it... how much does your theory say
should be there so i know if i am not reading sensitive enough meter.
theories that can't make measureable predictions are not very useful.

You have 1500W, LW transmitters 1500kW. But the biggest is the Sun.
Planets have the excess of electrons. Receiver antennas close to transmitter
should also have.
But everywhere are an exeptions (materials dependent). Like with the Hall
effect.

In a ground cable is the pulsatory flow of electrons.
A current meter has the resistor and voltmeter. Try an osciloscop instead of
voltmeter. The voltage should not be symmetric. But I am not an expert.
S*

4592. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 11:56:17 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <f69929f8-9ba9-470f-9c9c-d32d069505d6@f33g2000yqh.googlegroups.com>
Source record: 6942

On Nov 1, 3:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Planets have the excess of electrons. Receiver antennas close to transmitter
> should also have.

Electrons are blasted away from the sun by the atomic fusion reactor
at the core. How many RF transmitters run on atomic fusion?
--
73, Cecil, w5dxp.com

4593. LUCY PINDER Nude Photoshoot - BIG TITS BABE

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 15:35:33 UTC
From: group <of.group@yahoo.com>
Message-ID: <d5b690e3-8d2b-456a-bb5a-baa282cf8da0@32g2000yqz.googlegroups.com>
Source record: 6943

LUCY PINDER Nude Photoshoot -- Due to some Restrictions I have Hidden
the videos..... CLICK on the IMAGE below the SEARCH BOX for videos
http://www.hollywoodgirls.euro.st

4594. Re: Military Antenna information

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 16:24:45 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <6774a290-ba7d-4483-8ccb-4ba7474ff705@a37g2000yqi.googlegroups.com>
Source record: 6944

On Oct 31, 7:22 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> OK here is what I know about it. It was a pyramid shaped antenna
> approximately 20 ft on a side at the base. The antenna was supported
> by a central mast from the apex of the pyramid and the base of the
> antenna was suspended about 3 or 4 ft off the ground. Corners of the
> base of the pyramid were tied off to tent stakes with nylon rope. It
> was used for HF communication in the range of 4 to 30 Mhz and I the
> the nomenclature for it was OGTHAGONAL ANTENNA. Thats as much info as
> I have if anyone could add more I would appreciate it. Is this an NVIS
> antenna? Manuals would be great. Last time I saw one in use it was
> being used for HF SSB Air to Ground communication.
>
> Jimmie

The bottom antenna on the first page of <http://csantennas.com/HF-antenna-systems.htm> is often configured as you describe. The two dipoles are attached to the same center insulator / connector assembly and run at ninety degrees to each other. Forward Air Controllers would use them to direct tactical air support. I own one of these that I acquired in a trade. When I was a zoomy they would be set up exactly as you describe during field communications exercises but I don't know if the intention was to use them as NVIS antennas or not. There was quite a lot of google hits on the spelling that Bill suggested. vis Orthogonal Antenna.
--
Tom Horne

4595. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 17:04:29 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccef32d$0$27036$65785112@news.neostrada.pl>
Source record: 6945

Uzytkownik "Cecil Moore" <w5dxp@hotmail.com> napisal w wiadomosci
news:f69929f8-9ba9-470f-9c9c-d32d069505d6@f33g2000yqh.googlegroups.com...
On Nov 1, 3:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> Planets have the excess of electrons. Receiver antennas close to
>> transmitter
> should also have.

>Electrons are blasted away from the sun by the atomic fusion reactor
at the core. How many RF transmitters run on atomic fusion?

Again a school physics.
The Sun attracts all solids body. They are reworked into plasma.
Oscillations is a by product.

Not only planets. Everything has excess of electrons.
http://www.aerospaceweb.org/question/design/q0234.shtml

And what with your receiving antenna?
S*

4596. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 17:34:19 UTC
From: you <you@shadows.orgs>
Message-ID: <you-732759.09341201112010@news.starband.net>
Source record: 6946

In article
<657405c3-c17a-4f56-a2b9-60e32c508485@u10g2000yqk.googlegroups.com>,
Art Unwin <arthurunwin@gmail.com> wrote:

> Browsing thru E bay I came across a 1kw
> antenna tuner for sale from Cyprus.Now in my younger days I got hold
> of one of these and intended to salvage a Icom AH2 to somehow make it
> remote since I use Icom radios. After all there are only three motors
> that have to be driven! Now I am retired I pulled my old one from
> storage after seeing the same on E bay. Question is are there any
> kits, salvage ideas out there that would get me going on this long
> lost project?
> I have never used a external tuner but this seems like a realistic
> project to play with.
> Of course if there is a unit out there that I can salvage a controller
> that is all the better. There are very good photos of this particular
> tuner on E bay but like mine it has no controller! I suppose I could
> feed a 10 watt signal to it and control the motors by hand to tune but
> I do like the idea of automation.
> Regards
> Art

It isn't the tuner hardware that is going to be a problem, as much as
designing the tuning algorithm that drives the hardware. Mark Johnson
did a very good job, reverse engineering the stuff that Bill Shield
brought west from Motorola Military back in the 70's for the SEA
Autotuners. SGC copied the SEA Firmware & Design enbank, for their
stuff. The best stuff, was the stuff Collins did for their Military
Autotuners. Starting from scratch is going to be a BIG design project.

4597. "Cristal" radio with a battery.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 17:43:36 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <4ccefc54$0$21002$65785112@news.neostrada.pl>
Source record: 6947

Here: http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html

is wrote: "If you don't have a strong station nearby, you can add a battery in series with the LED (a small 1.5 volt battery works fine). The LED will light up, and the radio will play much louder than without the battery (if the LED doesn't light up, try connecting the battery the other way around). This arrangement is the best detector I have used so far, and is louder than the 1N34A germanium diode"

Can anybody check the direction of electrons flow?
Of course between the antenna and the ground.
S*

4598. Re: Military Antenna information

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 18:01:41 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <b54c78ea-b684-485e-b7d8-c4eade5a7c52@c20g2000yqj.googlegroups.com>
Source record: 6948

>
> The bottom antenna on the first page of <http://csantennas.com/HF-
> antenna-systems.htm> is often configured as you describe.

http://csantennas.com/HF- antenna-systems.htm

4599. Re: Military Antenna information

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 18:03:31 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <ee40595b-9316-489d-a031-0c0f4b53c8b5@c20g2000yqj.googlegroups.com>
Source record: 6949

On Nov 1, 2:01 pm, Bill <k4...@arrl.net> wrote:
> > The bottom antenna on the first page of <http://csantennas.com/HF-
> > antenna-systems.htm> is often configured as you describe.
>

Trying to get this as a clickable link

http://csantennas.com/HF-antenna-systems.htm

4600. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 19:13:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ian3g9$1gs$1@news.jpl.nasa.gov>
Source record: 6752

you wrote:

>
> It isn't the tuner hardware that is going to be a problem, as much as
> designing the tuning algorithm that drives the hardware. Mark Johnson
> did a very good job, reverse engineering the stuff that Bill Shield
> brought west from Motorola Military back in the 70's for the SEA
> Autotuners. SGC copied the SEA Firmware & Design enbank, for their
> stuff. The best stuff, was the stuff Collins did for their Military
> Autotuners. Starting from scratch is going to be a BIG design project.

There's a fair amount of moderately recent literature on efficient
algorithms for adjusting a tuner. I have a recent paper from Sun and
Fidler at Univ of York that looks interesting, but I haven't read it yet.
"High Speed Automatic Antenna Tuning Units" IEE Conf on Ant and Prop,
4-7 April 1995, page 218ff

4601. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 19:22:49 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <64515b10-ac0a-4758-80f0-eb1eed7de4a5@26g2000yqv.googlegroups.com>
Source record: 6950

On Nov 1, 12:34 pm, you <y...@shadows.orgs> wrote:
> In article
> <657405c3-c17a-4f56-a2b9-60e32c508...@u10g2000yqk.googlegroups.com>,
> Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > Browsing thru E bay I came across a 1kw
> > antenna tuner for sale from Cyprus.Now in my younger days I got hold
> > of one of these and intended to salvage a Icom AH2 to somehow make it
> > remote since I use Icom radios. After all there are only three motors
> > that have to be driven! Now I am retired I pulled my old one from
> > storage after seeing the same on E bay. Question is are there any
> > kits, salvage ideas out there that would get me going on this long
> > lost project?
> > I have never used a external tuner but this seems like a realistic
> > project to play with.
> > Of course if there is a unit out there that I can salvage a controller
> > that is all the better. There are very good photos of this particular
> > tuner on E bay but like mine it has no controller! I suppose I could
> > feed a 10 watt signal to it and control the motors by hand to tune but
> > I do like the idea of automation.
> > Regards
> > Art
>
> It isn't the tuner hardware that is going to be a problem, as much as
> designing the tuning algorithm that drives the hardware. Mark Johnson
> did a very good job, reverse engineering the stuff that Bill Shield
> brought west from Motorola Military back in the 70's for the SEA
> Autotuners. SGC copied the SEA Firmware & Design enbank, for their
> stuff. The best stuff, was the stuff Collins did for their Military
> Autotuners. Starting from scratch is going to be a BIG design project.

My problem as far as I can see is that the control for the AH2 is that
the innards are transferable but it only controls two motors where as
my tuner has three.
I suppose I could just use two and not utelise the fine tune inductor.
Will sleep on it for a while and look at the AH4 version or in the
worst case fine tune by hand if necessary. I suspect the fine tune is
not really necessary in most cases other than satisfy the over
zealious swr users

4602. Re: "Cristal" radio with a battery.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 19:29:35 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9E237F1878594greederxprtnet@94.75.214.90>
Source record: 6751

Szczepan Bia&#65533;ek <sz.bialek@wp.pl> wrote in
news:4ccefc54$0$21002$65785112@news.neostrada.pl:

```
> Here: http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
>
> is wrote: "If you don't have a strong station nearby, you can add a
> battery
> in series with the LED (a small 1.5 volt battery works fine). The LED
> will light up, and the radio will play much louder than without the
> battery (if the LED doesn't light up, try connecting the battery the
> other way around). This arrangement is the best detector I have used
> so far, and is louder than the 1N34A germanium diode"
>
> Can anybody check the direction of electrons flow?
> Of course between the antenna and the ground.
> S*
>
>
>

Putting a battery into a crystal radio is a trick I have
known abot for a while. Usually a 1.5 volt battery in series
with a 1 meg resistor is attached across the detector.
This is usually done with crystal sets made from 1n34 diodes.
The concern is that weak stations can't be received because
they can't overcome the junction voltage of the diode.
The battery provides a DC bias for the diode and increases
the sensitivity of the receiver by biasing the diode junction.
The electrons flow in the direction that a forward biased
diode allows them to flow.
```

4603. Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 20:02:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b1956a63-0e76-46b5-b648-395c0cf49fb2@d8g2000yqf.googlegroups.com>
Source record: 6753

The above has gone thru. I used a three element as my sample
illustration which in essence points to a maximum of two elements for
max efficiency. It will take an optimizer type program to explore the
intricasies of this design especially with focusing from outside the
boundary. Tho' any element can be chosen for feed but feeding all at
the same time is not really advantageous. Note that two elements
superimpose their patterns which resolve in to one. One for the Earths
circulation and you can guess what the other reflects. Note pattern
changes when mounting a vertical less than 90 degrees to the ground
surface
for all round observation. Rotation and spin can be seen as the
amalgamation of ALL the Standard Forces of the Universe as shown by
the DNA helix. The same is shown in radiation where particles resting
on a diamagnetic surface are made into a accelerated charge with spin
by applied varying current in association with displacement current
where the vector is seen as circulating thru the capacitive and the
added magnetic field contained inside the circulating displacement
current similar to that seen with a 'scope. Again we see the
observations by Gauss where the accelerating charge is the imposed
action
on a static particle inside a Gaussian boundary which is the root of
radiation and where a wave is the resulting pattern developed by the
flux movement or quanta.
Art KB9MZ...xg

4604. Hy-Gain BN-86 for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 20:18:37 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <ian7aseiu1@news.eternal-september.org>
Source record: 6754

I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
asking $40 for it. The instruction manual can be viewed at:

http://www.thiecom.de/pdf/BN-86.pdf

The balun can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4605. Heath VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 20:19:48 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <ian7d3eiu2@news.eternal-september.org>
Source record: 6755

I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Very good condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4606. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 21:29:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c81ac6a9-ea9c-441f-96e5-8692a2f214a3@p1g2000yqm.googlegroups.com>
Source record: 6756

On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
> The above has gone thru. I used a three element as my sample
> illustration which in essence points to a maximum of two elements for
> max efficiency. It will take an optimizer type program to explore the
> intricasies of this design especially with focusing from outside the
> boundary. Tho' any element can be chosen for feed but feeding all at
> the same time is not really advantageous. Note that two elements
> superimpose their patterns which resolve in to one. One for the Earths
> circulation and you can guess what the other reflects. Note pattern
> changes when mounting a vertical less than 90 degrees to the ground
> surface
> for all round observation. Rotation and spin can be seen as the
> amalgamation of ALL the Standard Forces of the Universe as shown by
> the DNA helix. The same is shown in radiation where particles resting
> on a diamagnetic surface are made into a accelerated charge with spin
> by applied varying current in association with displacement current
> where the vector is seen as circulating thru the capacitive and the
> added magnetic field contained inside the circulating displacement
> current similar to that seen with a 'scope. Again we see the
> observations by Gauss where the accelerating charge is the imposed
> action
> on a static particle inside a Gaussian boundary which is the root of
> radiation and where a wave is the resulting pattern developed by the
> flux movement or quanta.
> Art KB9MZ...xg

another worthless patent... nothing new.

4607. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 21:35:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <74465136-e81a-4f49-a40d-f1aee05e9503@v16g2000yqn.googlegroups.com>
Source record: 6757

On Nov 1, 8:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:92498002-3ced-4b88-97a6-f06c0ec17e13@u17g2000yqi.googlegroups.com...
> On Oct 31, 6:29 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Everybody know that Tesla coil is pumping the earth's charge (pulsatory
> > flow). The same do yours 6 transmitters.
>
> >> Stop writing and try to detect it in your ground cable. In the Warshaw LW
> > mast it would be easy. But it collapsed.
> > S*
> >i have tried, i can't detect it... how much does your theory say
>
> should be there so i know if i am not reading sensitive enough meter.
> theories that can't make measureable predictions are not very useful.
>
> You have 1500W, LW transmitters 1500kW. But the biggest is the Sun.
> Planets have the excess of electrons. Receiver antennas close to transmitter
> should also have.
> But everywhere are an exeptions (materials dependent). Like with the Hall
> effect.
>
> In a ground cable is the pulsatory flow of electrons.
> A current meter has the resistor and voltmeter. Try an osciloscop instead of
> voltmeter. The voltage should not be symmetric.

my voltage is symmetric on the oscilloscope as closely as i can
compare it... give me your calculation, 6x1500w with a single ground
should cause how much asymetry?

> But I am not an expert.
> S*

that is the only true thing you have said so far.

4608. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 21:35:46 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <5da71dbc-5a8e-4f62-8b1d-f3f21c6abbfc@y23g2000yqd.googlegroups.com>
Source record: 6758

On Nov 1, 12:04 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Everything has excess of electrons.

Sorry, you are wrong. A normal helium atom does not have an excess of
electrons (hint: it is inert).
--
73, Cecil, w5dxp.com

4609. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 21:36:19 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <76edbd28-d473-484c-b06b-e4294f9f1f04@v16g2000yqn.googlegroups.com>
Source record: 6759

On Nov 1, 5:04 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "Cecil Moore" <w5...@hotmail.com> napisal w
wiadomoscinews:f69929f8-9ba9-470f-9c9c-d32d069505d6@f33g2000yqh.googlegroups.com...
> On Nov 1, 3:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> Planets have the excess of electrons. Receiver antennas close to
> >> transmitter
> > > should also have.
> > >Electrons are blasted away from the sun by the atomic fusion reactor
>
> at the core. How many RF transmitters run on atomic fusion?
>
> Again a school physics.
> The Sun attracts all solids body. They are reworked into plasma.
> Oscillations is a by product.
>
> Not only planets. Everything has excess of
electrons.http://www.aerospaceweb.org/question/design/q0234.shtml
>
> And what with your receiving antenna?
> S*

i just want one of those fusion driven plasma antennas, that should
make some real noise during contests!

4610. Re: Heath VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 21:44:01 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1fde0bee-d5f5-468d-99cb-9ed4c173a7dc@j25g2000yqa.googlegroups.com>
Source record: 6760

On Nov 1, 3:19 pm, Henry <wa0...@arrl.net> wrote:
> I have a Heath HM-2102 VHF SWR meter 50-160 MHz
> 0-25 and 0-250 watts. Very good condition. Henry   WA0GOZ

Henry, the reason that you don't see many "for sale" postings on this
newsgroup is that it is against the newsgroup guidelines. For Sale
stuff should go on rec.radio.swap.
--
73, Cecil, w5dxp.com

4611. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 22:03:04 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <87823589-89a6-448c-95ff-1b161d7264a5@x42g2000yqx.googlegroups.com>
Source record: 6761

On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
> On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > The above has gone thru. I used a three element as my sample
> > illustration which in essence points to a maximum of two elements for
> > max efficiency. It will take an optimizer type program to explore the
> > intricasies of this design especially with focusing from outside the
> > boundary. Tho' any element can be chosen for feed but feeding all at
> > the same time is not really advantageous. Note that two elements
> > superimpose their patterns which resolve in to one. One for the Earths
> > circulation and you can guess what the other reflects. Note pattern
> > changes when mounting a vertical less than 90 degrees to the ground
> > surface
> > for all round observation. Rotation and spin can be seen as the
> > amalgamation of ALL the Standard Forces of the Universe as shown by
> > the DNA helix. The same is shown in radiation where particles resting
> > on a diamagnetic surface are made into a accelerated charge with spin
> > by applied varying current in association with displacement current
> > where the vector is seen as circulating thru the capacitive and the
> > added magnetic field contained inside the circulating displacement
> > current similar to that seen with a 'scope. Again we see the
> > observations by Gauss where the accelerating charge is the imposed
> > action
> > on a static particle inside a Gaussian boundary which is the root of
> > radiation and where a wave is the resulting pattern developed by the
> > flux movement or quanta.
> > Art KB9MZ...xg
>
> another worthless patent... nothing new.

You overstate your capabilities while trying to suggest you are a
professor. Your response is a normal one after the fact. Remember you
were one of those who decided Gauss's connection to Maxwells law on
radiation was solely via his magnetic input totally ignoring his
connection via statics which is also the basis of
the Maxwell equation. When did you ever point out the truth with
respect to particles versus waves for the root of radiation? Heck, it
was only a few weeks ago that you went on about the Gaussian
contribution via magnetics and so denounce his contribution via
statics.
You can jump on the train if you want but you were never qualified to
drive it. Next somebody will point out an error and again you will

state you knew it all along! Why don't you contest some of the Nobel prize awards with your prior knowledge or win one on your own? Yes, you certainly overstate your own abilities and knowledge of the Universe.

4612. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 22:35:59 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <504d5e28-d62c-4196-8259-7b7248d3eef1@s4g2000yql.googlegroups.com>
Source record: 6762

On Nov 1, 10:03 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > The above has gone thru. I used a three element as my sample
> > > illustration which in essence points to a maximum of two elements for
> > > max efficiency. It will take an optimizer type program to explore the
> > > intricasies of this design especially with focusing from outside the
> > > boundary. Tho' any element can be chosen for feed but feeding all at
> > > the same time is not really advantageous. Note that two elements
> > > superimpose their patterns which resolve in to one. One for the Earths
> > > circulation and you can guess what the other reflects. Note pattern
> > > changes when mounting a vertical less than 90 degrees to the ground
> > > surface
> > > for all round observation. Rotation and spin can be seen as the
> > > amalgamation of ALL the Standard Forces of the Universe as shown by
> > > the DNA helix. The same is shown in radiation where particles resting
> > > on a diamagnetic surface are made into a accelerated charge with spin
> > > by applied varying current in association with displacement current
> > > where the vector is seen as circulating thru the capacitive and the
> > > added magnetic field contained inside the circulating displacement
> > > current similar to that seen with a 'scope. Again we see the
> > > observations by Gauss where the accelerating charge is the imposed
> > > action
> > > on a static particle inside a Gaussian boundary which is the root of
> > > radiation and where a wave is the resulting pattern developed by the
> > > flux movement or quanta.
> > > Art KB9MZ...xg
>
> > another worthless patent... nothing new.
>
> You overstate your capabilities while trying to suggest you are a
> professor. Your response is a normal one after the fact. Remember you
> were one of those who decided Gauss's connection to Maxwells law on
> radiation was solely via his magnetic input totally ignoring his
> connection via statics which is also the basis of
> the Maxwell equation. When did you ever point out the truth with
> respect to particles versus waves for the root of radiation? Heck, it
> was only a few weeks ago that you went on about the Gaussian
> contribution via magnetics and so denounce his contribution via
> statics.

> You can jump on the train if you want but you were never qualified to
> drive it. Next somebody will point out an error and again you will
> state you knew it all along! Why don't you contest some of the Nobel
> prize awards with your prior knowledge or win one on your own? Yes,
> you certainly overstate your own abilities and knowledge of the
> Universe.

yeah, well i file your patents right next to the faster than light
antenna in my humor file.

4613. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-01 23:20:07 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2d3fa0f0-00f3-45db-bd2c-80c65abfdf40@t13g2000yqm.googlegroups.com>
Source record: 6763

On Nov 1, 5:35 pm, K1TTT <k1...@arrl.net> wrote:
> On Nov 1, 10:03 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > The above has gone thru. I used a three element as my sample
> > > > illustration which in essence points to a maximum of two elements for
> > > > max efficiency. It will take an optimizer type program to explore the
> > > > intricasies of this design especially with focusing from outside the
> > > > boundary. Tho' any element can be chosen for feed but feeding all at
> > > > the same time is not really advantageous. Note that two elements
> > > > superimpose their patterns which resolve in to one. One for the Earths
> > > > circulation and you can guess what the other reflects. Note pattern
> > > > changes when mounting a vertical less than 90 degrees to the ground
> > > > surface
> > > > for all round observation. Rotation and spin can be seen as the
> > > > amalgamation of ALL the Standard Forces of the Universe as shown by
> > > > the DNA helix. The same is shown in radiation where particles resting
> > > > on a diamagnetic surface are made into a accelerated charge with spin
> > > > by applied varying current in association with displacement current
> > > > where the vector is seen as circulating thru the capacitive and the
> > > > added magnetic field contained inside the circulating displacement
> > > > current similar to that seen with a 'scope. Again we see the
> > > > observations by Gauss where the accelerating charge is the imposed
> > > > action
> > > > on a static particle inside a Gaussian boundary which is the root of
> > > > radiation and where a wave is the resulting pattern developed by the
> > > > flux movement or quanta.
> > > > Art KB9MZ...xg
>
> > > another worthless patent... nothing new.
>
> > You overstate your capabilities while trying to suggest you are a
> > professor. Your response is a normal one after the fact. Remember you
> > were one of those who decided Gauss's connection to Maxwells law on
> > radiation was solely via his magnetic input totally ignoring his
> > connection via statics which is also the basis of
> > the Maxwell equation. When did you ever point out the truth with
> > respect to particles versus waves for the root of radiation? Heck, it
> > was only a few weeks ago that you went on about the Gaussian

> > contribution via magnetics and so denounce his contribution via
> > statics.
> > You can jump on the train if you want but you were never qualified to
> > drive it. Next somebody will point out an error and again you will
> > state you knew it all along! Why don't you contest some of the Nobel
> > prize awards with your prior knowledge or win one on your own? Yes,
> > you certainly overstate your own abilities and knowledge of the
> > Universe.
>
> yeah, well i file your patents right next to the faster than light
> antenna in my humor file.

Just like your past employer you have convinced me that you are truly
a scientist and that title was justifiably yours.

4614. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 00:59:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iannp4$7t2$1@news.jpl.nasa.gov>
Source record: 6764

Art Unwin wrote:
> On Nov 1, 12:34 pm, you <y...@shadows.orgs> wrote:
>> In article
>> <657405c3-c17a-4f56-a2b9-60e32c508...@u10g2000yqk.googlegroups.com>,
>> Art Unwin <arthurun...@gmail.com> wrote:
>>
>>
>>
>>> Browsing thru E bay I came across a 1kw
>>> antenna tuner for sale from Cyprus.Now in my younger days I got hold
>>> of one of these and intended to salvage a Icom AH2 to somehow make it
>>> remote since I use Icom radios. After all there are only three motors
>>> that have to be driven! Now I am retired I pulled my old one from
>>> storage after seeing the same on E bay. Question is are there any
>>> kits, salvage ideas out there that would get me going on this long
>>> lost project?
>>> I have never used a external tuner but this seems like a realistic
>>> project to play with.
>>> Of course if there is a unit out there that I can salvage a controller
>>> that is all the better. There are very good photos of this particular
>>> tuner on E bay but like mine it has no controller! I suppose I could
>>> feed a 10 watt signal to it and control the motors by hand to tune but
>>> I do like the idea of automation.
>>> Regards
>>> Art
>> It isn't the tuner hardware that is going to be a problem, as much as
>> designing the tuning algorithm that drives the hardware. Mark Johnson
>> did a very good job, reverse engineering the stuff that Bill Shield
>> brought west from Motorola Military back in the 70's for the SEA
>> Autotuners. SGC copied the SEA Firmware & Design enbank, for their
>> stuff. The best stuff, was the stuff Collins did for their Military
>> Autotuners. Starting from scratch is going to be a BIG design project.
>
> My problem as far as I can see is that the control for the AH2 is that
> the innards are transferable but it only controls two motors where as
> my tuner has three.
> I suppose I could just use two and not utelise the fine tune inductor.
> Will sleep on it for a while and look at the AH4 version or in the
> worst case fine tune by hand if necessary. I suspect the fine tune is
> not really necessary in most cases other than satisfy the over
> zealious swr users

If you can guarantee that the real part of the feed point impedance is
always higher or lower than your transmission line Z, then you can use

an L network, which only requires 2 adjustable components.

You see a lot of these sorts of schemes with physically short radiators, where the Rfeed is always less than 50 ohms.

L networks have the nice property that there's only one setting that "works" which is nice in an automated system. I think the usual scheme is to spin the C pretty fast and slowly ramp the L, and then stop both motors when the match is "good enough".

For relay based systems there are better algorithms for finding the best match that take less time.

4615. Converting terminal strip to watertight connector.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 01:26:56 UTC
From: Tom Horne <hornetd@gmail.com>
Message-ID: <e3b98903-d7e4-4e8f-8a9f-809c38936c25@r29g2000yqj.googlegroups.com>
Source record: 6765

I have a Ham-M rotor that was built with a terminal strip in it's base to which the rotor control cable can be terminated. I would like to convert the connection to a watertight connector that could be made up in advance to facilitate rapid deployment and tear down for EMCOMM work as well as eliminate the corrosion that happens on the terminal strip. Has anyone done this and how did you go about it? I would also like to terminate the controller end in a connector for the same speed of deployment and tear down issues.

I thought it might make sense to use the same connector at both ends and have the same type at each end of the cable so that either end could go to either device. Any advice and cautions are welcome both on list and off.

--
Tom Horne, W3TDH

4616. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 02:09:56 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <8fcc9ad2-76e8-45b3-bc99-9a9dc772ac2c@t35g2000yqj.googlegroups.com>
Source record: 6766

On Nov 1, 7:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Nov 1, 5:35 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
>
>
> > On Nov 1, 10:03 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > The above has gone thru. I used a three element as my sample
> > > > > illustration which in essence points to a maximum of two elements for
> > > > > max efficiency. It will take an optimizer type program to explore the
> > > > > intricasies of this design especially with focusing from outside the
> > > > > boundary. Tho' any element can be chosen for feed but feeding all at
> > > > > the same time is not really advantageous. Note that two elements
> > > > > superimpose their patterns which resolve in to one. One for the Earths
> > > > > circulation and you can guess what the other reflects. Note pattern
> > > > > changes when mounting a vertical less than 90 degrees to the ground
> > > > > surface
> > > > > for all round observation. Rotation and spin can be seen as the
> > > > > amalgamation of ALL the Standard Forces of the Universe as shown by
> > > > > the DNA helix. The same is shown in radiation where particles resting
> > > > > on a diamagnetic surface are made into a accelerated charge with spin
> > > > > by applied varying current in association with displacement current
> > > > > where the vector is seen as circulating thru the capacitive and the
> > > > > added magnetic field contained inside the circulating displacement
> > > > > current similar to that seen with a 'scope. Again we see the
> > > > > observations by Gauss where the accelerating charge is the imposed
> > > > > action
> > > > > on a static particle inside a Gaussian boundary which is the root of
> > > > > radiation and where a wave is the resulting pattern developed by the
> > > > > flux movement or quanta.
> > > > > Art KB9MZ...xg
>
> > > > another worthless patent... nothing new.
>
> > > You overstate your capabilities while trying to suggest you are a
> > > professor. Your response is a normal one after the fact. Remember you
> > > were one of those who decided Gauss's connection to Maxwells law on
> > > radiation was solely via his magnetic input totally ignoring his

> > > connection via statics which is also the basis of
> > > the Maxwell equation. When did you ever point out the truth with
> > > respect to particles versus waves for the root of radiation? Heck, it
> > > was only a few weeks ago that you went on about the Gaussian
> > > contribution via magnetics and so denounce his contribution via
> > > statics.
> > > You can jump on the train if you want but you were never qualified to
> > > drive it. Next somebody will point out an error and again you will
> > > state you knew it all along! Why don't you contest some of the Nobel
> > > prize awards with your prior knowledge or win one on your own? Yes,
> > > you certainly overstate your own abilities and knowledge of the
> > > Universe.
>
> > yeah, well i file your patents right next to the faster than light
> > antenna in my humor file.
>
> Just like your past employer you have convinced me that you are truly
> a scientist and that title was justifiably yours.- Hide quoted text -
>
> - Show quoted text -

Unwin can sure stir up the petty bickering with his technical posts.

4617. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 02:16:53 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <jeqdnflVsZAb6VLRnZ2dnUVZ_qOdnZ2d@bright.net>
Source record: 6767

Not yet issued as of October 26, 2010.
Application is: 20080231540

73, Mac

--
"K1TTT" <k1ttt@arrl.net> wrote in message
news:504d5e28-d62c-4196-8259-7b7248d3eef1@s4g2000yql.googlegroups.com...
On Nov 1, 10:03 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > The above has gone thru.

4618. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 02:34:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4ccf78bd$0$6712$8046368a@newsreader.iphouse.net>
Source record: 6768

On 11/1/2010 3:02 PM, Art Unwin wrote:
> The above has gone thru. I used a three element as my sample
> illustration which in essence points to a maximum of two elements for
> max efficiency. It will take an optimizer type program to explore the
> intricasies of this design especially with focusing from outside the
> boundary. Tho' any element can be chosen for feed but feeding all at
> the same time is not really advantageous. Note that two elements
> superimpose their patterns which resolve in to one. One for the Earths
> circulation and you can guess what the other reflects. Note pattern
> changes when mounting a vertical less than 90 degrees to the ground
> surface
> for all round observation. Rotation and spin can be seen as the
> amalgamation of ALL the Standard Forces of the Universe as shown by
> the DNA helix. The same is shown in radiation where particles resting
> on a diamagnetic surface are made into a accelerated charge with spin
> by applied varying current in association with displacement current
> where the vector is seen as circulating thru the capacitive and the
> added magnetic field contained inside the circulating displacement
> current similar to that seen with a 'scope. Again we see the
> observations by Gauss where the accelerating charge is the imposed
> action
> on a static particle inside a Gaussian boundary which is the root of
> radiation and where a wave is the resulting pattern developed by the
> flux movement or quanta.
> Art KB9MZ...xg

Time again for medicine.

4619. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 02:57:13 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6d223fd8-6698-4522-93b7-7451adf9f01a@x42g2000yqx.googlegroups.com>
Source record: 6769

On Nov 1, 9:16 pm, "J. Mc Laughlin" <j...@power-net.net> wrote:
> Not yet issued as of October 26, 2010.
> Application is: 20080231540
>
> 73,   Mac
>
> --"K1TTT" <k1...@arrl.net> wrote in message
>
> news:504d5e28-d62c-4196-8259-7b7248d3eef1@s4g2000yql.googlegroups.com...
> On Nov 1, 10:03 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > The above has gone thru.

Good to hear you again Mac. You are essentially correct
The PTO states that the patent application above
(which is 11/655,899) has been examined and is allowed for issuance as
a patent.
Prosecution on the merits is closed(underlined)
Of course, they can withdraw this notification anytime for various
reasons. Naturally this is accompanied by a request for maintenance
fees as they are a cash cow.!
Best regards
Art

4620. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 03:04:44 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2a1453df-936f-47e1-b700-64a59d3ef53c@s5g2000yqm.googlegroups.com>
Source record: 6770

On Nov 1, 7:59 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Art Unwin wrote:
> > On Nov 1, 12:34 pm, you <y...@shadows.orgs> wrote:
> >> In article
> >> <657405c3-c17a-4f56-a2b9-60e32c508...@u10g2000yqk.googlegroups.com>,
> >> Art Unwin <arthurun...@gmail.com> wrote:
>
> >>> Browsing thru E bay I came across a 1kw
> >>> antenna tuner for sale from Cyprus.Now in my younger days I got hold
> >>> of one of these and intended to salvage a Icom AH2 to somehow make it
> >>> remote since I use Icom radios. After all there are only three motors
> >>> that have to be driven! Now I am retired I pulled my old one from
> >>> storage after seeing the same on E bay. Question is are there any
> >>> kits, salvage ideas out there that would get me going on this long
> >>> lost project?
> >>> I have never used a external tuner but this seems like a realistic
> >>> project to play with.
> >>> Of course if there is a unit out there that I can salvage a controller
> >>> that is all the better. There are very good photos of this particular
> >>> tuner on E bay but like mine it has no controller! I suppose I could
> >>> feed a 10 watt signal to it and control the motors by hand to tune but
> >>> I do like the idea of automation.
> >>> Regards
> >>> Art
> >> It isn't the tuner hardware that is going to be a problem, as much as
> >> designing the tuning algorithm that drives the hardware. Mark Johnson
> >> did a very good job, reverse engineering the stuff that Bill Shield
> >> brought west from Motorola Military back in the 70's for the SEA
> >> Autotuners. SGC copied the SEA Firmware & Design enbank, for their
> >> stuff. The best stuff, was the stuff Collins did for their Military
> >> Autotuners. Starting from scratch is going to be a BIG design project.
>
> > My problem as far as I can see is that the control for the AH2 is that
> > the innards are transferable but it only controls two motors where as
> > my tuner has three.
> > I suppose I could just use two and not utelise the fine tune inductor.
> > Will sleep on it for a while and look at the AH4 version or in the
> > worst case fine tune by hand if necessary. I suspect the fine tune is
> > not really necessary in most cases other than satisfy the over
> > zealious swr users
>
> If you can guarantee that the real part of the feed point impedance is
> always higher or lower than your transmission line Z, then you can use
> an L network, which only requires 2 adjustable components.

>
> You see a lot of these sorts of schemes with physically short radiators,
> where the Rfeed is always less than 50 ohms.
>
> L networks have the nice property that there's only one setting that
> "works" which is nice in an automated system. I think the usual scheme
> is to spin the C pretty fast and slowly ramp the L, and then stop both
> motors when the match is "good enough".
>
> For relay based systems there are better algorithms for finding the best
> match that take less time.

I think that is what the Icom radios use as a internal tuner which I
believe is the same as the external AH 2. So with not wanting to
invent the wheel, all I need to do is uprate the motor supply of the
external tuner and transfer the wiring from the icom internal tuner.
As I said previously, I will sleep on it for a while to be sure
Regards
Art

4621. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 03:21:27 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3d59170c-d794-4941-a6f3-68f9f7adb191@t13g2000yqm.googlegroups.com>
Source record: 6771

On Nov 1, 9:16 pm, "J. Mc Laughlin" <j...@power-net.net> wrote:
> Not yet issued as of October 26, 2010.
> Application is: 20080231540
>
> 73,   Mac
>
> --"K1TTT" <k1...@arrl.net> wrote in message
>
> news:504d5e28-d62c-4196-8259-7b7248d3eef1@s4g2000yql.googlegroups.com...
> On Nov 1, 10:03 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > The above has gone thru.

Mac, as a matter of fact my other patent request is on hold by the PTO
for a violation of response time.
This could hang around for a year as appeals are surging
It is said that while on hold my allotted patent time is also on
hold . Same goes with my appeal costs paid.
Seems like they are steadying the number of patents going thru for
some reason tho attorneys get relief in some way during the appeal
procedures which is quite expensive.However, the allowance is routine.
As I have said before they are a cash cow
with a vengence since the Congress took away their finances the same
way they have done with other deep pockets for their spending habits

4622. SEX MASALA VIDEOS MASALA PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 06:48:24 UTC
From: LPWS <3ghfhfffgg@gmail.com>
Message-ID: <84d0aaf3-1e96-41cd-b4f0-df3a3a772e17@l17g2000yqe.googlegroups.com>
Source record: 6772

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

HOT VIDEOS

massage hot videos
http://hotvideosonlyx.blogspot.com/2010/09/massage-hot-videos.html
romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
hollywood hot
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot.html
bollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/bollywood-hot-kiss.html
bollywood hot videos
http://hotvideosonlyx.blogspot.com/2010/09/bollywood-hot-videos.html
tollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/tollywood-hot-kiss.html

ALL INTERVIEW QUESTIONS

java interview questions
http://allinterviewsquestions.blogspot.com/2009/02/java-interview-questions.html
oracle interview questions
http://allinterviewsquestions.blogspot.com/2009/02/oracle-interview-questions.html
hardware interview questions 4
http://allinterviewsquestions.blogspot.com/2009/02/hardware-interview-questions.html
SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html
dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

hot photos
http://photostou.blogspot.com/2010/09/bollywood-actress-photos-4.html

4623. Re: "Cristal" radio with a battery.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 08:22:16 UTC
From: Szczepan Białek <sz.bialek@wp.pl>
Message-ID: <4ccfca47$0$22794$65785112@news.neostrada.pl>
Source record: 6773

Uďż˝ytkownik "Gordon" <gonzo@alltomyself.com> napisaďż˝ w wiadomoďż˝ci
news:Xns9E237F1878594greederxprtnet@94.75.214.90...
> Szczepan Biaďż˝ek <sz.bialek@wp.pl> wrote in
> news:4ccefc54$0$21002$65785112@news.neostrada.pl:
>
>> Here: http://scitoys.com/scitoys/scitoys/radio/homemade_radio.html
>>
>> is wrote: "If you don't have a strong station nearby, you can add a
>> battery
>> in series with the LED (a small 1.5 volt battery works fine). The LED
>> will light up, and the radio will play much louder than without the
>> battery (if the LED doesn't light up, try connecting the battery the
>> other way around). This arrangement is the best detector I have used
>> so far, and is louder than the 1N34A germanium diode"
>>
>> Can anybody check the direction of electrons flow?
>> Of course between the antenna and the ground.
>> S*
>
> Putting a battery into a crystal radio is a trick I have
> known abot for a while. Usually a 1.5 volt battery in series
> with a 1 meg resistor is attached across the detector.
> This is usually done with crystal sets made from 1n34 diodes.
> The concern is that weak stations can't be received because
> they can't overcome the junction voltage of the diode.
> The battery provides a DC bias for the diode and increases
> the sensitivity of the receiver by biasing the diode junction.
> The electrons flow in the direction that a forward biased
> diode allows them to flow.

Does it means that there is a net flow of electrons "between the antenna and
the ground".
In which direction?
S*

4624. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 08:34:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4ccfcd37$0$22809$65785112@news.neostrada.pl>
Source record: 6774

"K1TTT" <k1ttt@arrl.net> wrote
news:74465136-e81a-4f49-a40d-f1aee05e9503@v16g2000yqn.googlegroups.com...
On Nov 1, 8:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> In a ground cable is the pulsatory flow of electrons.
> A current meter has the resistor and voltmeter. Try an osciloscop instead
> of
> voltmeter. The voltage should not be symmetric.

>my voltage is symmetric on the oscilloscope as closely as i can
compare it... give me your calculation, 6x1500w with a single ground
should cause how much asymetry?

So your electrons only oscillate (no Stokes drift)?

>> But I am not an expert.

>that is the only true thing you have said so far.

So it takes a time for me to find the method of measure the Stokes drift in
your stations.
Try also to do your best.
S*

4625. Re: Converting terminal strip to watertight connector.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 12:28:28 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <iap05d$ng1u$1@tr22n12.aset.psu.edu>
Source record: 6775

On 11/1/2010 9:26 PM, Tom Horne wrote:
> I have a Ham-M rotor that was built with a terminal strip in it's base
> to which the rotor control cable can be terminated. I would like to
> convert the connection to a watertight connector that could be made up
> in advance to facilitate rapid deployment and tear down for EMCOMM
> work as well as eliminate the corrosion that happens on the terminal
> strip. Has anyone done this and how did you go about it? I would
> also like to terminate the controller end in a connector for the same
> speed of deployment and tear down issues.
>
> I thought it might make sense to use the same connector at both ends
> and have the same type at each end of the cable so that either end
> could go to either device. Any advice and cautions are welcome both
> on list and off.
>
> --
> Tom Horne, W3TDH

Hi Tom:

The best way is to remove the terminal strip and replace it with a metal plate and use that anchor a pig tale of wire with a water proof connector. One of the rotor re-builders does that as one of their services. They use a plastic AN style connector. I had it done to my rotor as part of the rebuild a few years ago. If you do it your self make sure the connector can handle the current required to run the rotor. A pig tale is required as its not possable to mount the connector directly on the bottom of the rotor.

John W3JXP

4626. Re: Heath VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 14:19:36 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <bq60d6p7p7dl41fop96ne1c2vt7bqhbedi@4ax.com>
Source record: 6776

On Mon, 01 Nov 2010 15:19:48 -0500, Henry <wa0goz@arrl.net> wrote:

>I have a Heath HM-2102 VHF SWR meter 50-160 MHz
>0-25 and 0-250 watts. Very good condition.
>
>I'm *asking* $40 plus shipping.
>
>
>It can be viewed at:
>
>http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bb
f
>
>or
>
>http://tinyurl.com/yktwxpz click on photo to enlarge it.
>
>Henry WA0GOZ

I have two of them one of which I will need to repair. They were not
on the market long. The scuttlebutt at the time was that the Bird Watt
meter folks made a visit to Heathkit to discuss the device and Heath
stopped producing them immediately. The consents (no evidence) was
that it violated patents. They work very well!

I used mine continuously in an ATV set up with 439mhz home brew
transmitters. The reflected power position is a lot lower than 25
watts so it is simple to measure considerably lower power by just
using it backwards. Someone needs to give it a good home!

Are you sure it is limited to 160 MHz? My use was primarily 439mhz.

Or may be I have it all wrong?

John Ferrell W8CCW

4627. Re: Converting terminal strip to watertight connector.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 16:30:25 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <0d4fd0df-7560-4fd0-a128-0dd253e2b35f@j2g2000yqf.googlegroups.com>
Source record: 6777

On Nov 1, 6:26 pm, Tom Horne <horn...@gmail.com> wrote:
> I have a Ham-M rotor that was built with a terminal strip in it's base
> to which the rotor control cable can be terminated. I would like to
> convert the connection to a watertight connector that could be made up
> in advance to facilitate rapid deployment and tear down for EMCOMM
> work as well as eliminate the corrosion that happens on the terminal
> strip. Has anyone done this and how did you go about it? I would
> also like to terminate the controller end in a connector for the same
> speed of deployment and tear down issues.
>
> I thought it might make sense to use the same connector at both ends
> and have the same type at each end of the cable so that either end
> could go to either device. Any advice and cautions are welcome both
> on list and off.
>
> --
> Tom Horne, W3TDH

We used to build the electronic control unit for a now defunct
motorcycle company. They used Delphi automotive connectors that are
water proof and will handle 14 amps at 12 volt. There are many
different connectors styles and pin counts. Perhaps something in that
line would work for your application. Don't know who is distributor,
as we had to buy direct from the factory.

Another source might be an auto wrecking yard.

Paul, KD7HB

4628. Convert to moderation?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 16:42:12 UTC
From: ai8o <ai8o@lexcominc.net>
Message-ID: <43225efb-86e7-4ae8-99b7-253e4c04397e@v20g2000yqb.googlegroups.com>
Source record: 6778

Lots of Porno Spam, and off topic messages>
Is there anyway to change it to a moderated group?
Should it be changed?

4629. Re: Convert to moderation?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 16:52:21 UTC
From: Jeff <jeff@systems.com>
Message-ID: <iapfk4$s02$1@speranza.aioe.org>
Source record: 6779

On 02/11/2010 16:42, ai8o wrote:
> Lots of Porno Spam, and off topic messages>
> Is there anyway to change it to a moderated group?
> Should it be changed?

What Spam? I have not seen any?

Jeff

4630. Re: Convert to moderation?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 17:28:57 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnid0iip.2kap.knock_yourself_out@shell.config.com>
Source record: 6780

On Tue, 02 Nov 2010 16:52:21 +0000, Jeff wrote:
> On 02/11/2010 16:42, ai8o wrote:
>> Lots of Porno Spam, and off topic messages>
>> Is there anyway to change it to a moderated group?
>> Should it be changed?
>
> What Spam? I have not seen any?

Well, :: Organization: http://groups.google.com ::,
he is seeing spam spam because he is posting from the in the midst of
most of the spams' origins.

Using a _real_ newsreader (`slrn`) and individual.net's newsserver,
and killfiling any google grooper's posts, I see no spam, either.

4631. Re: Convert to moderation?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 17:41:31 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E24811BF4804VeebleFetzer@216.250.188.140>
Source record: 6781

In
news:43225efb-86e7-4ae8-99b7-253e4c04397e@v20g2000yqb.googlegroups.com
ai8o <ai8o@lexcominc.net> wrote:

> Lots of Porno Spam, and off topic messages>
> Is there anyway to change it to a moderated group?
> Should it be changed?

It would be easier for you to switch to a real news provider that does spam filtering at the server. You could also use a real news client with a killfile or filter mechanism. Since many users are filtering posts from google, your own posts will receive a wider audience.

Visit http://www.eternal-september.org for access to a decent free server.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

4632. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 20:06:06 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c91cfbdf-2e31-4b5e-87a6-b1b8cf7a27f9@s4g2000yql.googlegroups.com>
Source record: 6782

On Nov 1, 10:21 pm, Art Unwin <arthurun...@gmail.com> wrote:
Before this thread gets out of line again let me make clear a couple
of points that some have got hold of which has led them astray.
First it is well known that Gauss was a part of the equations of
maxwell with his contribution on magnetics
I focussed on Gauss's contribution via statics using the boundary
rules. It can be seen that applying a time varying current to a
gaussian field is exactly the same as Maxwells first equation! Yes you
have to convert from cgs units to show this but it clearly places
particles as the root of radiation.
The second point that some planted themselves on was that all
elements were resonant and therefore all should be fed. The real point
here is that all being resonant
showed the presence of equilibrium which is a must in all equations.
It also showed that with a minimum of two elements all radiation is
accounted for where-as with the yagi which is not in equilibrium has
losses because the last element added fails to recover remaining
available radiation. This is not about getting a better antenna than a
yagi since the latter utelizes available radiation with less waste
than others. The patent is really about obtaining knowledge that fits
the bill of Maxwell's first equation and points to the static particle
accelerated
into a charge by a time varying current. It also brings into question
that put forward by the London brothers regarding cooper pairs as well
as the relationship of a proton. It also makes clear that the double
slot experiment
is correct in stating that particles and waves have similar
properties but makes very clear that the subject at hand
is very much a particle. Thus the bottom line is that Gauss provided
direction with respect to the static aproach AS WELL as the more well
known magnetic connection. It is also important to state again the
importance of maintaining equilibrium when persuing the laws of
Maxwell. I would also like to add my assertion
of just two vectors as the sole constituents of the standard model
that Einstein earlier suspected.
At the same time Maxwells law has not been fully satisfied as it has
not removed the intrinsic resistance of the radiators because of the
presence of skin effect and thus the magnetic field which has no
contribution to the accountability of all forces. However it is
important to note
that in superconductors removal of the magnetic field
achieves the desired action as would a Meander style radiator where in
the absence of skin depth the current
would rise to the surface thus eliminating resistance losses incurred

by the radiator, which now can add to the desired maximum radiation
efficiency by tackling the
radiation resistance, that is the only resistance left.
Thanks for your time
Regards
Art.

4633. Yaesu FRT7700

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 23:15:14 UTC
From: RT1 <RT1.716a4d9@radiobanter.com>
Message-ID: <RT1.716a4d9@radiobanter.com>
Source record: 6788

Has anyone got a Yaesu FRT7700 passive antenna tuner for sale? One that has not been HAM modified and is exactly as it was when it was sold new, with the original two red and one black sockets on the back? One in good working order and good condition. If so please reply because looking for one. thanks. RT1

--
RT1

4634. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-02 23:56:48 UTC
From: tom <news4792@taring.org>
Message-ID: <4cd0a53e$0$87584$8046368a@newsreader.iphouse.net>
Source record: 6783

On 11/2/2010 3:06 PM, Art Unwin wrote:
> On Nov 1, 10:21 pm, Art Unwin<arthurun...@gmail.com> wrote:
> Before this thread gets out of line again let me make clear a couple
> of points that some have got hold of which has led them astray.
> First it is well known that Gauss was a part of the equations of
> maxwell with his contribution on magnetics
> I focussed on Gauss's contribution via statics using the boundary
> rules. It can be seen that applying a time varying current to a
> gaussian field is exactly the same as Maxwells first equation! Yes you
> have to convert from cgs units to show this but it clearly places
> particles as the root of radiation.
> The second point that some planted themselves on was that all
> elements were resonant and therefore all should be fed. The real point
> here is that all being resonant
> showed the presence of equilibrium which is a must in all equations.
> It also showed that with a minimum of two elements all radiation is
> accounted for where-as with the yagi which is not in equilibrium has
> losses because the last element added fails to recover remaining
> available radiation. This is not about getting a better antenna than a
> yagi since the latter utelizes available radiation with less waste
> than others. The patent is really about obtaining knowledge that fits
> the bill of Maxwell's first equation and points to the static particle
> accelerated
> into a charge by a time varying current. It also brings into question
> that put forward by the London brothers regarding cooper pairs as well
> as the relationship of a proton. It also makes clear that the double
> slot experiment
> is correct in stating that particles and waves have similar
> properties but makes very clear that the subject at hand
> is very much a particle. Thus the bottom line is that Gauss provided
> direction with respect to the static aproach AS WELL as the more well
> known magnetic connection. It is also important to state again the
> importance of maintaining equilibrium when persuing the laws of
> Maxwell. I would also like to add my assertion
> of just two vectors as the sole constituents of the standard model
> that Einstein earlier suspected.
> At the same time Maxwells law has not been fully satisfied as it has
> not removed the intrinsic resistance of the radiators because of the
> presence of skin effect and thus the magnetic field which has no
> contribution to the accountability of all forces. However it is
> important to note
> that in superconductors removal of the magnetic field
> achieves the desired action as would a Meander style radiator where in
> the absence of skin depth the current

> would rise to the surface thus eliminating resistance losses incurred
> by the radiator, which now can add to the desired maximum radiation
> efficiency by tackling the
> radiation resistance, that is the only resistance left.
> Thanks for your time
> Regards
> Art.

Oh my. I have to catch my breath. It hurts to laugh that hard.

"Darn" (censored), we are really going to miss you when you are finally put away for your own protection. No one, NO ONE! can blather nonsense like you. It is absolutely amazing.

tom
K0TAR

4635. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 00:40:51 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3647dceb-3e88-4b70-b38e-075aa7471acc@u10g2000yqk.googlegroups.com>
Source record: 6784

On Nov 1, 7:59 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Art Unwin wrote:
> > On Nov 1, 12:34 pm, you <y...@shadows.orgs> wrote:
> >> In article
> >> <657405c3-c17a-4f56-a2b9-60e32c508...@u10g2000yqk.googlegroups.com>,
> >> Art Unwin <arthurun...@gmail.com> wrote:
>
> >>> Browsing thru E bay I came across a 1kw
> >>> antenna tuner for sale from Cyprus.Now in my younger days I got hold
> >>> of one of these and intended to salvage a Icom AH2 to somehow make it
> >>> remote since I use Icom radios. After all there are only three motors
> >>> that have to be driven! Now I am retired I pulled my old one from
> >>> storage after seeing the same on E bay. Question is are there any
> >>> kits, salvage ideas out there that would get me going on this long
> >>> lost project?
> >>> I have never used a external tuner but this seems like a realistic
> >>> project to play with.
> >>> Of course if there is a unit out there that I can salvage a controller
> >>> that is all the better. There are very good photos of this particular
> >>> tuner on E bay but like mine it has no controller! I suppose I could
> >>> feed a 10 watt signal to it and control the motors by hand to tune but
> >>> I do like the idea of automation.
> >>> Regards
> >>> Art
> >> It isn't the tuner hardware that is going to be a problem, as much as
> >> designing the tuning algorithm that drives the hardware. Mark Johnson
> >> did a very good job, reverse engineering the stuff that Bill Shield
> >> brought west from Motorola Military back in the 70's for the SEA
> >> Autotuners. SGC copied the SEA Firmware & Design enbank, for their
> >> stuff. The best stuff, was the stuff Collins did for their Military
> >> Autotuners. Starting from scratch is going to be a BIG design project.
>
> > My problem as far as I can see is that the control for the AH2 is that
> > the innards are transferable but it only controls two motors where as
> > my tuner has three.
> > I suppose I could just use two and not utelise the fine tune inductor.
> > Will sleep on it for a while and look at the AH4 version or in the
> > worst case fine tune by hand if necessary. I suspect the fine tune is
> > not really necessary in most cases other than satisfy the over
> > zealious swr users
>
> If you can guarantee that the real part of the feed point impedance is
> always higher or lower than your transmission line Z, then you can use
> an L network, which only requires 2 adjustable components.

>
> You see a lot of these sorts of schemes with physically short radiators,
> where the Rfeed is always less than 50 ohms.
>
> L networks have the nice property that there's only one setting that
> "works" which is nice in an automated system. I think the usual scheme
> is to spin the C pretty fast and slowly ramp the L, and then stop both
> motors when the match is "good enough".
>
> For relay based systems there are better algorithms for finding the best
> match that take less time.

Jim, thinking a bit more about the pre conditions you gave regarding
the feed line impedance. The only way I can think that you can be sure
that the antenna never goes below that impedance is to have a ladder
line of infinite length used as feeder and the load or the load in
Meander radiator form
The ladder line being Meander in form regardles of physical
arrangement. Of course it would have to shielded to prevent static or
proximitry effects. But the question remains as to why you imposed
your conditions! Can you share what you had in mind?
Regards
Art

4636. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 01:17:10 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iaqd6m$4p9$1@news.jpl.nasa.gov>
Source record: 6785

Art Unwin wrote:
> On Nov 1, 7:59 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
>> Art Unwin wrote:
>>> On Nov 1, 12:34 pm, you <y...@shadows.orgs> wrote:
>>>> In article
>>>> <657405c3-c17a-4f56-a2b9-60e32c508...@u10g2000yqk.googlegroups.com>,
>>>> Art Unwin <arthurun...@gmail.com> wrote:
>>>>> Browsing thru E bay I came across a 1kw
>>>>> antenna tuner for sale from Cyprus.Now in my younger days I got hold
>>>>> of one of these and intended to salvage a Icom AH2 to somehow make it
>>>>> remote since I use Icom radios. After all there are only three motors
>>>>> that have to be driven! Now I am retired I pulled my old one from
>>>>> storage after seeing the same on E bay. Question is are there any
>>>>> kits, salvage ideas out there that would get me going on this long
>>>>> lost project?
>>>>> I have never used a external tuner but this seems like a realistic
>>>>> project to play with.
>>>>> Of course if there is a unit out there that I can salvage a controller
>>>>> that is all the better. There are very good photos of this particular
>>>>> tuner on E bay but like mine it has no controller! I suppose I could
>>>>> feed a 10 watt signal to it and control the motors by hand to tune but
>>>>> I do like the idea of automation.
>>>>> Regards
>>>>> Art
>>>> It isn't the tuner hardware that is going to be a problem, as much as
>>>> designing the tuning algorithm that drives the hardware. Mark Johnson
>>>> did a very good job, reverse engineering the stuff that Bill Shield
>>>> brought west from Motorola Military back in the 70's for the SEA
>>>> Autotuners. SGC copied the SEA Firmware & Design enbank, for their
>>>> stuff. The best stuff, was the stuff Collins did for their Military
>>>> Autotuners. Starting from scratch is going to be a BIG design project.
>>> My problem as far as I can see is that the control for the AH2 is that
>>> the innards are transferable but it only controls two motors where as
>>> my tuner has three.
>>> I suppose I could just use two and not utelise the fine tune inductor.
>>> Will sleep on it for a while and look at the AH4 version or in the
>>> worst case fine tune by hand if necessary. I suspect the fine tune is
>>> not really necessary in most cases other than satisfy the over
>>> zealious swr users
>> If you can guarantee that the real part of the feed point impedance is
>> always higher or lower than your transmission line Z, then you can use
>> an L network, which only requires 2 adjustable components.
>>
>> You see a lot of these sorts of schemes with physically short radiators,

>> where the Rfeed is always less than 50 ohms.
>>
>> L networks have the nice property that there's only one setting that
>> "works" which is nice in an automated system. I think the usual scheme
>> is to spin the C pretty fast and slowly ramp the L, and then stop both
>> motors when the match is "good enough".
>>
>> For relay based systems there are better algorithms for finding the best
>> match that take less time.
>
> Jim, thinking a bit more about the pre conditions you gave regarding
> the feed line impedance. The only way I can think that you can be sure
> that the antenna never goes below that impedance is to have a ladder
> line of infinite length used as feeder and the load or the load in
> Meander radiator form
> The ladder line being Meander in form regardles of physical
> arrangement. Of course it would have to shielded to prevent static or
> proximitry effects. But the question remains as to why you imposed
> your conditions! Can you share what you had in mind?
> Regards
> Art

An L network match either Rload>Rgen or Rload<Rgen, depending on which side the shunt element is on.

In autotuners using an L network (e.g. the LDG boxes), they have a relay that switches the shunt C to either end of the series L.

In autotuners using a Pi network (e.g. the SGC boxes), there's shunt elements on both ends, so you can match anything (subject to the component ranges).

So if you have a motorized C and a motorized L, you'd need to add a relay to switch the configuration to be able to "match anything"

By the way, a L or Pi network cannot match Rgen=Rload, but you can do it trivially setting both C's to zero and the L to zero. It's not really an L or Pi (or T) network then, which is why some automated network calculators choke on it. A real autotuner doesn't care, because it almost always starts in the "bypass" position anyway.

4637. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 02:48:01 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ac3d9311-a587-40c2-9b0f-00ed1b7e6d1d@g13g2000yqj.googlegroups.com>
Source record: 6786

On Nov 2, 8:17 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> Art Unwin wrote:
> > On Nov 1, 7:59 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> >> Art Unwin wrote:
> >>> On Nov 1, 12:34 pm, you <y...@shadows.orgs> wrote:
> >>>> In article
> >>>> <657405c3-c17a-4f56-a2b9-60e32c508...@u10g2000yqk.googlegroups.com>,
> >>>> Art Unwin <arthurun...@gmail.com> wrote:
> >>>>> Browsing thru E bay I came across a 1kw
> >>>>> antenna tuner for sale from Cyprus.Now in my younger days I got hold
> >>>>> of one of these and intended to salvage a Icom AH2 to somehow make it
> >>>>> remote since I use Icom radios. After all there are only three motors
> >>>>> that have to be driven! Now I am retired I pulled my old one from
> >>>>> storage after seeing the same on E bay. Question is are there any
> >>>>> kits, salvage ideas out there that would get me going on this long
> >>>>> lost project?
> >>>>> I have never used a external tuner but this seems like a realistic
> >>>>> project to play with.
> >>>>> Of course if there is a unit out there that I can salvage a controller
> >>>>> that is all the better. There are very good photos of this particular
> >>>>> tuner on E bay but like mine it has no controller! I suppose I could
> >>>>> feed a 10 watt signal to it and control the motors by hand to tune but
> >>>>> I do like the idea of automation.
> >>>>> Regards
> >>>>> Art
> >>>> It isn't the tuner hardware that is going to be a problem, as much as
> >>>> designing the tuning algorithm that drives the hardware. Mark Johnson
> >>>> did a very good job, reverse engineering the stuff that Bill Shield
> >>>> brought west from Motorola Military back in the 70's for the SEA
> >>>> Autotuners. SGC copied the SEA Firmware & Design enbank, for their
> >>>> stuff. The best stuff, was the stuff Collins did for their Military
> >>>> Autotuners. Starting from scratch is going to be a BIG design project.
> >>> My problem as far as I can see is that the control for the AH2 is that
> >>> the innards are transferable but it only controls two motors where as
> >>> my tuner has three.
> >>> I suppose I could just use two and not utelise the fine tune inductor.
> >>> Will sleep on it for a while and look at the AH4 version or in the
> >>> worst case fine tune by hand if necessary. I suspect the fine tune is
> >>> not really necessary in most cases other than satisfy the over
> >>> zealious swr users
> >> If you can guarantee that the real part of the feed point impedance is
> >> always higher or lower than your transmission line Z, then you can use
> >> an L network, which only requires 2 adjustable components.
>

> >> You see a lot of these sorts of schemes with physically short radiators,
> >> where the Rfeed is always less than 50 ohms.
>
> >> L networks have the nice property that there's only one setting that
> >> "works" which is nice in an automated system. I think the usual scheme
> >> is to spin the C pretty fast and slowly ramp the L, and then stop both
> >> motors when the match is "good enough".
>
> >> For relay based systems there are better algorithms for finding the best
> >> match that take less time.
>
> > Jim, thinking a bit more about the pre conditions you gave regarding
> > the feed line impedance. The only way I can think that you can be sure
> > that the antenna never goes below that impedance is to have a ladder
> > line of infinite length used as feeder and the load or the load in
> > Meander radiator form
> > The ladder line being Meander in form regardles of physical
> > arrangement. Of course it would have to shielded to prevent static or
> > proximitry effects. But the question remains as to why you imposed
> > your conditions! Can you share what you had in mind?
> > Regards
> > Art
>
> An L network match either Rload>Rgen or Rload<Rgen, depending on which
> side the shunt element is on.
>
> In autotuners using an L network (e.g. the LDG boxes), they have a relay
> that switches the shunt C to either end of the series L.
>
> In autotuners using a Pi network (e.g. the SGC boxes), there's shunt
> elements on both ends, so you can match anything (subject to the
> component ranges).
>
> So if you have a motorized C and a motorized L, you'd need to add a
> relay to switch the configuration to be able to "match anything"
>
> By the way, a L or Pi network cannot match Rgen=Rload, but you can do it
> trivially setting both C's to zero and the L to zero. It's not really an
> L or Pi (or T) network then, which is why some automated network
> calculators choke on it. A real autotuner doesn't care, because it
> almost always starts in the "bypass" position anyway.

Gottcha.
Thanks
Art

4638. LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 03:56:44 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <i0n1d69u7it6006ho9506n06cf097i7j6s@4ax.com>
Source record: 6787

Hi, Folks.

I need ideas for CHEAP and uv stable, strong, light weight, waterproof ladder line spreaders of about 4 or 5 inches wide. Wood in any configuration will not do. PVC pipe will not do. Welding rod would do but it is expensive.

I was thinking of Fiberglas tape, twisted and put in place and then resin applied but that is very cumbersome.

Any ideas out there?

Thank you.

4639. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 05:48:25 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <2da546bd-662b-4b44-8733-13aa50f69342@f33g2000yqh.googlegroups.com>
Source record: 6789

On Nov 2, 11:56 pm, justme <jble...@gmail.com> wrote:
> Hi, Folks.
>
> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> configuration will not do. PVC pipe will not do. Welding rod would
> do but it is expensive.
>
> I was thinking of Fiberglas tape, twisted and put in place and then
> resin applied but that is very cumbersome.
>
> Any ideas out there?
>
> Thank you.

Go to Walmart and ask the bike assembler for the plastic front fork
separaters shipped with the bikes. He would throw them away otherwise.

4640. Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 06:22:23 UTC
From: ashwanthh <ashwanthh.716f938@radiobanter.com>
Message-ID: <ashwanthh.716f938@radiobanter.com>
Source record: 6791

Hi all,

For my project, I want to perform Distance to fault measurement in the cable connecting the antenna. The principle is that a signal should be sent to the cable and using the forward and reflected voltage VSWR should be calculated and should be viewed in a spectrum analyzer. My question is

1. What transducer is used to detect the transmitted/reflected signals from the cable?

2. Should the transducer be connected in series or parallel?

Anyone, Please help

--
ashwanthh

4641. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 11:00:18 UTC
From: Edward Feustel <efeustel@hughes.net>
Message-ID: <41g2d6hlook5olb47d8j71il7a3g1rvrcv@4ax.com>
Source record: 6790

On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:

>Hi, Folks.
>
>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>configuration will not do. PVC pipe will not do. Welding rod would
>do but it is expensive.
>
Why not PVC pipe?
The old W7FY 600 ohm separators seemed to
work well for me. They would seem to be light, stable
strong, and waterproof over the 9 years I have had
my dipole up.
ed, N5EI

4642. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 11:38:18 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a7cff00e-4153-454d-ab64-fd2f172ac422@f33g2000yqh.googlegroups.com>
Source record: 6792

On Nov 2, 10:56 pm, justme <jble...@gmail.com> wrote:
> Any ideas out there?

One half inch black plastic irrigation tubing is inexpensive and
designed to withstand the elements. Cut it to length, drill opposing
holes at each end (a little smaller than the wire insulation) and cut
a key-hole slot from each hole. Clip the holes around the wire and
enjoy.
--
73, Cecil, w5dxp.com

4643. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 12:42:14 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <iarlb7$lg62$1@tr22n12.aset.psu.edu>
Source record: 6794

On 11/2/2010 11:56 PM, justme wrote:
> Hi, Folks.
>
> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> configuration will not do. PVC pipe will not do. Welding rod would
> do but it is expensive.
>
> I was thinking of Fiberglas tape, twisted and put in place and then
> resin applied but that is very cumbersome.
>
> Any ideas out there?
>
> Thank you.
>

PVC pipe works well, I wouldn't reject it. Better yet look at plastic gray conduit. It's made to stand up to the sun and is cheap and light. I used it to make some 600 Ohm line for my antenna.

John W3JXP

4644. Re: SILENT KEY: A Dx'ers eulogy for Kevin Charles Caprio (AD8Q)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 13:35:31 UTC
From: dave <dave@dave.dave>
Message-ID: <4cd156df$0$5489$bd467cd0@news.dslextreme.com>
Source record: 6793
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna

Nomen Nescio wrote:
> Memorial will be -- 20 November 2010, Montclair, California.
> more information on 3840kHz
>
> A Dx'ers eulogy for Kevin Charles Caprio (AD8Q)
>
> Kevin Caprio (Born July 4th, 1958. Died at one in the afternoon on the
> twenty-first day of tenth month of, 2010 at the age of fifty-one.)
>

Eat himself to death?

4645. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 13:43:59 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <6lp2d69h2lo7lchskqorai1giotc7nuq2k@4ax.com>
Source record: 6795

On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:

>Hi, Folks.
>
>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>configuration will not do. PVC pipe will not do. Welding rod would
>do but it is expensive.
>
>I was thinking of Fiberglas tape, twisted and put in place and then
>resin applied but that is very cumbersome.
>
>Any ideas out there?
>
>Thank you.
In the last couple of days I saw somewhere on the internet where some
one used a lot of disposable BIC razors for the task...
John Ferrell W8CCW

4646. Re: Convert to moderation?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 13:48:32 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <srp2d6hkrcoik2eih912nj5dfguqkqainq@4ax.com>
Source record: 6796

On Tue, 2 Nov 2010 09:42:12 -0700 (PDT), ai8o <ai8o@lexcominc.net>
wrote:

>Lots of Porno Spam, and off topic messages>
>Is there anyway to change it to a moderated group?
>Should it be changed?
All forms of communication seem to have some sort of noise level.
Any attempts to filter out the noise also loses part of the signal.

So far, I find the noise level tolerable.

John Ferrell W8CCW

4647. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 14:11:54 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <g9q2d6lcmulp6m4d8bqbn9g5lt5eq14rbt@4ax.com>
Source record: 6797

On Tue, 02 Nov 2010 18:17:10 -0700, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Art Unwin wrote:
[snip]
>
>An L network match either Rload>Rgen or Rload<Rgen, depending on which
>side the shunt element is on.
>
>In autotuners using an L network (e.g. the LDG boxes), they have a relay
>that switches the shunt C to either end of the series L.
>
>In autotuners using a Pi network (e.g. the SGC boxes), there's shunt
>elements on both ends, so you can match anything (subject to the
>component ranges).
>
>So if you have a motorized C and a motorized L, you'd need to add a
>relay to switch the configuration to be able to "match anything"
>
>By the way, a L or Pi network cannot match Rgen=Rload, but you can do it
>trivially setting both C's to zero and the L to zero. It's not really an
>L or Pi (or T) network then, which is why some automated network
>calculators choke on it. A real autotuner doesn't care, because it
>almost always starts in the "bypass" position anyway.

That is a great post!

I am slowly working towards a motor driven remote T-Match roller
tuner. I intend to use the same algorithm that I use to operate a
manual tuner.
That is to start with the capacitors at center, the inductor at
minimum. Run the inductor down until the minimum SWR and center it
there. Then do the same with the transmitter side capacitor. Finally,
do the same with the antenna side capacitor. The controlling SWR
signal is from the transmitter point.

I am concerned about making the transmitter happy as quick as
possible. I expect that this is not be the optimum match but it will
serve the purpose of making the transmitter happy.

I start with the inductor because the losses are greater there so less
inductance is likely to have lower losses. I had overlooked that I do
try shunting the tuner first.

After having explained that I realize there is probably a better way.
I will try starting with Max transmitter side C, Min Inductor and

Minimum antenna side C.

I think the ideal procedure would be to calculate the needed match,
build it to minimum loss (in the tuner) and switch it in. I will have
to think about that...
John Ferrell W8CCW

4648. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 15:46:17 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <4875626b-dd09-406a-a904-3fb707c6f454@32g2000yqz.googlegroups.com>
Source record: 6798

On Nov 2, 11:22 pm, ashwanthh <ashwanthh.716f...@radiobanter.com>
wrote:
> Hi all,
>
> For my project, I want to perform Distance to fault measurement in the
> cable connecting the antenna. The principle is that a signal should be
> sent to the cable and using the forward and reflected voltage VSWR
> should be calculated and should be viewed in a spectrum analyzer. My
> question is
>
> 1. What transducer is used to detect the transmitted/reflected signals
> from the cable?
>
> 2. Should the transducer be connected in series or parallel?
>
> Anyone, Please help
>
> --
> ashwanthh

No transducer. Use an oscilloscope to measure the time between the
emitted pulse and the reflection of the same.

KD7HB

4649. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 15:52:43 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <b02a4653-046b-4e6b-af60-8225a7bdc760@t13g2000yqm.googlegroups.com>
Source record: 6799

On Nov 2, 11:22 pm, ashwanthh <ashwanthh.716f...@radiobanter.com>
wrote:
> Hi all,
>
> For my project, I want to perform Distance to fault measurement in the
> cable connecting the antenna. The principle is that a signal should be
> sent to the cable and using the forward and reflected voltage VSWR
> should be calculated and should be viewed in a spectrum analyzer. My
> question is
>
> 1. What transducer is used to detect the transmitted/reflected signals
> from the cable?
>
> 2. Should the transducer be connected in series or parallel?
>
> Anyone, Please help
>
> --
> ashwanthh

Forward and reverse power are normally resolved using a "directional coupler." Such a coupler can also be thought of as a bridge circuit. Directional couplers can be built in various ways. For example, the free-ware RFSim99 program, under tools-->component-->coupler shows five different ways to build a directional coupler. That program doesn't show the Wheatstone bridge form of directional coupler, but those are also common, especially where a wide range of frequencies is to be covered. Wheatstone bridges are generally used with equal (e.g. 50 ohm) arms in test and measurement equipment that runs low RF power (because such a bridge must dissipate most of the RF power fed to it), and with very unequal arms when high power is to be handled (resulting in a low coupling factor; -40dB is common). Please note that directional couplers must be designed for the impedance line they are used with (and ideally, the calibration should be verified).

In your project to locate faults, you may wish to consider not only the ratio of forward and reverse power (e.g., SWR), but also the phase relationship between the two. The rate of change of phase as frequency is changed should tell you how far away a single fault is; multiple faults are more complicated.

Cheers,
Tom

4650. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 15:54:52 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2ac6369b-52cd-4af9-a254-4fb7be92e76f@c20g2000yqj.googlegroups.com>
Source record: 6800

On Nov 3, 12:51 am, Bill <k4...@arrl.net> wrote:
> > On Nov 1, 10:21 pm, Art Unwin <arthurun...@gmail.com> wrote:
> > Before this thread gets out of line again
>
> All threads which begin with a post of yours "gets out of line".

Maybe. But I proffer it to point out that Maxwells equation for radiation is nothing but a formula if one concentrates on the electro magnetics approach. It is the electro static approach of Gauss of adding a time varying field to a Gaussian field to obtain maxwells first equation, where the equation is given informative meaning and direction which has deluded all for the past century. With respect to the pursuit of equilibrium for all equations the idea that all elements within a Gaussian boundary should be fed because they are all resonant is a fallacy, as is having more than two elements. Newtons laws demand only two opposing vectors to oppose the vectors of gravity and spin which are the pillars of the "standard model" which with respect to radiation show them selves as the direct variant current vector and that of spin. I make a point of that because it points the way for maximum efficiency by removal of resistance created by skin depth restrictions to current flow to member surface. All the above can be ascribed
to taking the statics approach in the exact formulation of Maxwell equations, instead of the route taken by Maxwell by his addition such that all units of his equation canceled out as required for equilibrium. So yes, there will always be bickering when change is suggested but the usual case is that a presented theory is technically challenged by one peers rather than by taunts and jeers.
Regards
Art..... KB9MZ

4651. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 16:16:21 UTC
From: Jeff <jeff@systems.com>
Message-ID: <ias1sknvh1@speranza.aioe.org>
Source record: 6801

On 03/11/2010 15:46, KD7HB wrote:
> On Nov 2, 11:22 pm, ashwanthh<ashwanthh.716f...@radiobanter.com>
> wrote:
>> Hi all,
>>
>> For my project, I want to perform Distance to fault measurement in the
>> cable connecting the antenna. The principle is that a signal should be
>> sent to the cable and using the forward and reflected voltage VSWR
>> should be calculated and should be viewed in a spectrum analyzer. My
>> question is
>>
>> 1. What transducer is used to detect the transmitted/reflected signals
>> from the cable?
>>
>> 2. Should the transducer be connected in series or parallel?
>>
>> Anyone, Please help
>>
>> --
>> ashwanthh
>
> No transducer. Use an oscilloscope to measure the time between the
> emitted pulse and the reflection of the same.
>
> KD7HB

just to add to that Google Time domain Reflectometer.

Jeff

4652. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 17:44:41 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <er73d6dni9529mk06ldr5jmspa0ektkeem@4ax.com>
Source record: 6802

Thanks, Bill. I will try that.

On Tue, 2 Nov 2010 22:48:25 -0700 (PDT), Bill <k4wge@arrl.net> wrote:

>On Nov 2, 11:56ï¿½pm, justme <jble...@gmail.com> wrote:
>> Hi, Folks.
>>
>> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>> ladder line spreaders of about 4 or 5 inches wide. ï¿½ Wood in any
>> configuration will not do. ï¿½PVC pipe will not do. ï¿½Welding rod would
>> do but it is expensive.
>>
>> I was thinking of Fiberglas tape, twisted and put in place and then
>> resin applied but that is very cumbersome.
>>
>> Any ideas out there?
>>
>> Thank you.
>
>Go to Walmart and ask the bike assembler for the plastic front fork
>separaters shipped with the bikes. He would throw them away otherwise.

4653. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 17:46:25 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <pt73d6hka3tbk36f2igr35oemj89k04346@4ax.com>
Source record: 6803

Ed,

How long is your feed line or, how many of what size do you have?

Joe

On Wed, 03 Nov 2010 07:00:18 -0400, Edward Feustel
<efeustel@hughes.net> wrote:

>On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:
>
>>Hi, Folks.
>>
>>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>>configuration will not do. PVC pipe will not do. Welding rod would
>>do but it is expensive.
>>
>Why not PVC pipe?
>The old W7FY 600 ohm separators seemed to
>work well for me. They would seem to be light, stable
>strong, and waterproof over the 9 years I have had
>my dipole up.
>ed, N5EI

4654. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 17:48:15 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <d183d6dd96mrgc98h00kd93gjnl84euqad@4ax.com>
Source record: 6804

Didn't think of that. I wish they made 1/4 inch. However, I will
surely look at it.

Thanks

On Wed, 3 Nov 2010 04:38:18 -0700 (PDT), Cecil Moore
<w5dxp@hotmail.com> wrote:

>On Nov 2, 10:56ï¿½pm, justme <jble...@gmail.com> wrote:
>> Any ideas out there?
>
>One half inch black plastic irrigation tubing is inexpensive and
>designed to withstand the elements. Cut it to length, drill opposing
>holes at each end (a little smaller than the wire insulation) and cut
>a key-hole slot from each hole. Clip the holes around the wire and
>enjoy.

4655. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 17:50:17 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <9483d61hgj58utf1j6hpen9i2g7rfvq4fq@4ax.com>
Source record: 6805

I was concerned about weight, John. How many do you have on your feed line?

On Wed, 03 Nov 2010 08:42:14 -0400, John Passaneau <w3jxp@arrl.net> wrote:

>On 11/2/2010 11:56 PM, justme wrote:
>> Hi, Folks.
>>
>> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>> ladder line spreaders of about 4 or 5 inches wide. Wood in any
>> configuration will not do. PVC pipe will not do. Welding rod would
>> do but it is expensive.
>>
>> I was thinking of Fiberglas tape, twisted and put in place and then
>> resin applied but that is very cumbersome.
>>
>> Any ideas out there?
>>
>> Thank you.
>>
>
>PVC pipe works well, I wouldn't reject it. Better yet look at plastic
>gray conduit. It's made to stand up to the sun and is cheap and light. I
>used it to make some 600 Ohm line for my antenna.
>
>John W3JXP

4656. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 17:52:32 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <r783d6tknrd37lr7dd1tgp4qr88rkdj96n@4ax.com>
Source record: 6806

I can only imagine how many minutes that they would hold up in the
Texas heat and sun. You never know, though.

Thanks everyone.
I have food for thought.

Joe

On Wed, 03 Nov 2010 09:43:59 -0400, John Ferrell
<jferrell13@triad.rr.com> wrote:

>On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:
>
>>Hi, Folks.
>>
>>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>>configuration will not do. PVC pipe will not do. Welding rod would
>>do but it is expensive.
>>
>>I was thinking of Fiberglas tape, twisted and put in place and then
>>resin applied but that is very cumbersome.
>>
>>Any ideas out there?
>>
>>Thank you.
>In the last couple of days I saw somewhere on the internet where some
>one used a lot of disposable BIC razors for the task...
>John Ferrell W8CCW

4657. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 20:25:25 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E264B82D9966nonenowhere@61.9.134.55>
Source record: 6807

justme <jbleaux@gmail.com> wrote in
news:i0n1d69u7it6006ho9506n06cf097i7j6s@4ax.com:

> Hi, Folks.
>
> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> configuration will not do. PVC pipe will not do. Welding rod would
> do but it is expensive.
>
> I was thinking of Fiberglas tape, twisted and put in place and then
> resin applied but that is very cumbersome.
>
> Any ideas out there?

Have you considered 4mm rigid black PE irrigation risers?

Owen

4658. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 21:04:04 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E265211D89Dnonenowhere@61.9.134.55>
Source record: 6808

John Ferrell <jferrell13@triad.rr.com> wrote in
news:g9q2d6lcmulp6m4d8bqbn9g5lt5eq14rbt@4ax.com:

...
> I am slowly working towards a motor driven remote T-Match roller
> tuner. I intend to use the same algorithm that I use to operate a
> manual tuner.

Then you have a considerable challenge.

> That is to start with the capacitors at center, the inductor at
> minimum. Run the inductor down until the minimum SWR and center it
> there. Then do the same with the transmitter side capacitor. Finally,
> do the same with the antenna side capacitor. The controlling SWR
> signal is from the transmitter point.

If you want to automate this, you really need to know more than just the SWR (or magnitude of Gamma, the complex reflection coefficient), or a related signal (such as 'relected power').

Have a look at some practical implementations, and see how they work.

You have a three variable problem to solve, and one input value (using your proposed method).

>
> I am concerned about making the transmitter happy as quick as

Ah, 'happy' transmitters, as in the ATU's purpose in life is to make the transmitter happy.

> possible. I expect that this is not be the optimum match but it will
> serve the purpose of making the transmitter happy.

One of the design decisions you should make is how close to perfection is the target 'match', and what do you do if it changes during operation.

Can you determine an optimum match (meaning VSWR=1, efficiency=max) using SWR?

>
> I start with the inductor because the losses are greater there so less
> inductance is likely to have lower losses. I had overlooked that I do
> try shunting the tuner first.

In the real world, it gets a little more complicated that the classic Rules of Thumb (RoT). Inductor Q is not constant with varying L, capacitor Q (or D) is significant if ceramic caps are used (as in many

autotuners).

>
> After having explained that I realize there is probably a better way.
> I will try starting with Max transmitter side C, Min Inductor and
> Minimum antenna side C.
>
> I think the ideal procedure would be to calculate the needed match,
> build it to minimum loss (in the tuner) and switch it in. I will have
> to think about that...

If it were me, I would create a software simulation of the algorithm, and include real physical times in the simulation. See if your algorithm converges on a stable and correct solution, and then, how quickly it does it.

Owen

4659. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 21:51:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fe347fc1-6e0c-4059-9cff-1467146a4e38@t7g2000vbj.googlegroups.com>
Source record: 6809

On Nov 3, 6:22 am, ashwanthh <ashwanthh.716f...@radiobanter.com>
wrote:
> Hi all,
>
> For my project, I want to perform Distance to fault measurement in the
> cable connecting the antenna. The principle is that a signal should be
> sent to the cable and using the forward and reflected voltage VSWR
> should be calculated and should be viewed in a spectrum analyzer. My
> question is
>
> 1. What transducer is used to detect the transmitted/reflected signals
> from the cable?
>
> 2. Should the transducer be connected in series or parallel?
>
> Anyone, Please help
>
> --
> ashwanthh

look up time domain reflectometers... they are much simpler than what
you are thinking of. using a simple step input wave you measure the
time to the reflection. if you get fancy you can measure the polarity
and size of the reflection to determine if it is a short or open or
impedance change... if you really get fancy you can hook a scope up
and look at more details. the only transducer needed is a voltage
probe OR a current shunt, either one will work depending on the
installation needs.

4660. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 21:54:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <17749355-cd9c-4ae7-bcca-5ff3811b1cee@f20g2000vbc.googlegroups.com>
Source record: 6810

On Nov 1, 11:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Nov 1, 5:35 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Nov 1, 10:03 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Nov 1, 4:29 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Nov 1, 8:02 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > The above has gone thru. I used a three element as my sample
> > > > > illustration which in essence points to a maximum of two elements for
> > > > > max efficiency. It will take an optimizer type program to explore the
> > > > > intricasies of this design especially with focusing from outside the
> > > > > boundary. Tho' any element can be chosen for feed but feeding all at
> > > > > the same time is not really advantageous. Note that two elements
> > > > > superimpose their patterns which resolve in to one. One for the Earths
> > > > > circulation and you can guess what the other reflects. Note pattern
> > > > > changes when mounting a vertical less than 90 degrees to the ground
> > > > > surface
> > > > > for all round observation. Rotation and spin can be seen as the
> > > > > amalgamation of ALL the Standard Forces of the Universe as shown by
> > > > > the DNA helix. The same is shown in radiation where particles resting
> > > > > on a diamagnetic surface are made into a accelerated charge with spin
> > > > > by applied varying current in association with displacement current
> > > > > where the vector is seen as circulating thru the capacitive and the
> > > > > added magnetic field contained inside the circulating displacement
> > > > > current similar to that seen with a 'scope. Again we see the
> > > > > observations by Gauss where the accelerating charge is the imposed
> > > > > action
> > > > > on a static particle inside a Gaussian boundary which is the root of
> > > > > radiation and where a wave is the resulting pattern developed by the
> > > > > flux movement or quanta.
> > > > > Art KB9MZ...xg
>
> > > > another worthless patent... nothing new.
>
> > > You overstate your capabilities while trying to suggest you are a
> > > professor. Your response is a normal one after the fact. Remember you
> > > were one of those who decided Gauss's connection to Maxwells law on
> > > radiation was solely via his magnetic input totally ignoring his
> > > connection via statics which is also the basis of
> > > the Maxwell equation. When did you ever point out the truth with

> > > respect to particles versus waves for the root of radiation? Heck, it
> > > was only a few weeks ago that you went on about the Gaussian
> > > contribution via magnetics and so denounce his contribution via
> > > statics.
> > > You can jump on the train if you want but you were never qualified to
> > > drive it. Next somebody will point out an error and again you will
> > > state you knew it all along! Why don't you contest some of the Nobel
> > > prize awards with your prior knowledge or win one on your own? Yes,
> > > you certainly overstate your own abilities and knowledge of the
> > > Universe.
>
> > yeah, well i file your patents right next to the faster than light
> > antenna in my humor file.
>
> Just like your past employer you have convinced me that you are truly
> a scientist and that title was justifiably yours.

well, i'm glad you finally understand my background... except they are
still my current employer, and i fought them to keep the scientist
part out of the title, i wanted to just be an engineer since engineers
really know how to make things work and scientists just think they do.

4661. Re: Gaussian patent

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 21:57:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7f6094b1-85e0-45d8-81f3-b2bc2e727351@k5g2000vbn.googlegroups.com>
Source record: 6811

On Nov 2, 2:34 am, tom <news4...@taring.org> wrote:
> On 11/1/2010 3:02 PM, Art Unwin wrote:
>
>
>
> > The above has gone thru. I used a three element as my sample
> > illustration which in essence points to a maximum of two elements for
> > max efficiency. It will take an optimizer type program to explore the
> > intricasies of this design especially with focusing from outside the
> > boundary. Tho' any element can be chosen for feed but feeding all at
> > the same time is not really advantageous. Note that two elements
> > superimpose their patterns which resolve in to one. One for the Earths
> > circulation and you can guess what the other reflects. Note pattern
> > changes when mounting a vertical less than 90 degrees to the ground
> > surface
> > for all round observation. Rotation and spin can be seen as the
> > amalgamation of ALL the Standard Forces of the Universe as shown by
> > the DNA helix. The same is shown in radiation where particles resting
> > on a diamagnetic surface are made into a accelerated charge with spin
> > by applied varying current in association with displacement current
> > where the vector is seen as circulating thru the capacitive and the
> > added magnetic field contained inside the circulating displacement
> > current similar to that seen with a 'scope. Again we see the
> > observations by Gauss where the accelerating charge is the imposed
> > action
> > on a static particle inside a Gaussian boundary which is the root of
> > radiation and where a wave is the resulting pattern developed by the
> > flux movement or quanta.
> > Art KB9MZ...xg
>
> Time again for medicine.

this is good stuff, i needed a good laugh today.

4662. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 21:59:55 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a26a1d40-50e1-460d-8250-e172eb70fa81@w21g2000vby.googlegroups.com>
Source record: 6812

On Nov 2, 8:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:74465136-e81a-4f49-a40d-f1aee05e9503@v16g2000yqn.googlegroups.com...
> On Nov 1, 8:44 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> In a ground cable is the pulsatory flow of electrons.
> > A current meter has the resistor and voltmeter. Try an osciloscop instead
> > of
> > voltmeter. The voltage should not be symmetric.
> >my voltage is symmetric on the oscilloscope as closely as i can
>
> compare it... give me your calculation, 6x1500w with a single ground
> should cause how much asymetry?
>
> So your electrons only oscillate (no Stokes drift)?
>
> >> But I am not an expert.
> >that is the only true thing you have said so far.
>
> So it takes a time for me to find the method of measure the Stokes drift in
> your stations.
> Try also to do your best.
> S*

no drift that i can measure... but you haven't told me how much i
should be looking for so i may not be measuring properly.

4663. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 22:10:13 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iasmk5$s33$1@news.jpl.nasa.gov>
Source record: 6816

justme wrote:
> Didn't think of that. I wish they made 1/4 inch. However, I will
> surely look at it.
>
They DO make 1/4"... drip irrigation tubing

> Thanks
>
> On Wed, 3 Nov 2010 04:38:18 -0700 (PDT), Cecil Moore
> <w5dxp@hotmail.com> wrote:
>
>> On Nov 2, 10:56 pm, justme <jble...@gmail.com> wrote:
>>> Any ideas out there?
>> One half inch black plastic irrigation tubing is inexpensive and
>> designed to withstand the elements. Cut it to length, drill opposing
>> holes at each end (a little smaller than the wire insulation) and cut
>> a key-hole slot from each hole. Clip the holes around the wire and
>> enjoy.

4664. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 22:11:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iasmm4$s33$2@news.jpl.nasa.gov>
Source record: 6815

One concern about black plastic tubing...

some kinds use carbon black as a filler, which makes them resistive.
Probably not an issue for relatively low voltages in an RF feedline, but
not good for the Van deGraaff generator, etc.

justme wrote:
> Didn't think of that. I wish they made 1/4 inch. However, I will
> surely look at it.
>
> Thanks
>
> On Wed, 3 Nov 2010 04:38:18 -0700 (PDT), Cecil Moore
> <w5dxp@hotmail.com> wrote:
>
>> On Nov 2, 10:56 pm, justme <jble...@gmail.com> wrote:
>>> Any ideas out there?
>> One half inch black plastic irrigation tubing is inexpensive and
>> designed to withstand the elements. Cut it to length, drill opposing
>> holes at each end (a little smaller than the wire insulation) and cut
>> a key-hole slot from each hole. Clip the holes around the wire and
>> enjoy.

4665. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 22:15:49 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iasmul$s33$3@news.jpl.nasa.gov>
Source record: 6817

K1TTT wrote:
> On Nov 3, 6:22 am, ashwanthh <ashwanthh.716f...@radiobanter.com>
> wrote:
>> Hi all,
>>
>> For my project, I want to perform Distance to fault measurement in the
>> cable connecting the antenna. The principle is that a signal should be
>> sent to the cable and using the forward and reflected voltage VSWR
>> should be calculated and should be viewed in a spectrum analyzer. My
>> question is
>>
>> 1. What transducer is used to detect the transmitted/reflected signals
>> from the cable?
>>
>> 2. Should the transducer be connected in series or parallel?
>>
>> Anyone, Please help
>>
>> --
>> ashwanthh
>
> look up time domain reflectometers... they are much simpler than what
> you are thinking of. using a simple step input wave you measure the
> time to the reflection. if you get fancy you can measure the polarity
> and size of the reflection to determine if it is a short or open or
> impedance change... if you really get fancy you can hook a scope up
> and look at more details. the only transducer needed is a voltage
> probe OR a current shunt, either one will work depending on the
> installation needs.

Or, use the technique used in vector network analyzers..

Sweep the frequency, do the fourier transform to find time domain.

If you're using just power detection, it's more like getting the
autocorrelation or power spectrum of the reflected signal vs frequency.

4666. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 22:23:00 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <77599c82-c561-471a-8920-d8a807e4d8e5@p1g2000yqm.googlegroups.com>
Source record: 6814

On Nov 3, 4:04 pm, Owen Duffy <n...@no.where> wrote:
> John Ferrell <jferrel...@triad.rr.com> wrote
innews:g9q2d6lcmulp6m4d8bqbn9g5lt5eq14rbt@4ax.com:
>
> ...
>
> > I am slowly working towards a motor driven remote T-Match roller
> > tuner. I intend to use the same algorithm that I use to operate a
> > manual tuner.
>
> Then you have a considerable challenge.
>
> > That is to start with the capacitors at center, the inductor at
> > minimum. Run the inductor down until the minimum SWR and center it
> > there. Then do the same with the transmitter side capacitor. Finally,
> > do the same with the antenna side capacitor. The controlling SWR
> > signal is from the transmitter point.
>
> If you want to automate this, you really need to know more than just the
> SWR (or magnitude of Gamma, the complex reflection coefficient), or a
> related signal (such as 'relected power').
>
> Have a look at some practical implementations, and see how they work.
>
> You have a three variable problem to solve, and one input value (using
> your proposed method).
>
>
>
> > I am concerned about making the transmitter happy as quick as
>
> Ah, 'happy' transmitters, as in the ATU's purpose in life is to make the
> transmitter happy.
>
> > possible. I expect that this is not be the optimum match but it will
> > serve the purpose of making the transmitter happy.
>
> One of the design decisions you should make is how close to perfection is
> the target 'match', and what do you do if it changes during operation.
>
> Can you determine an optimum match (meaning VSWR=1, efficiency=max) using
> SWR?
>
>

>
> > I start with the inductor because the losses are greater there so less
> > inductance is likely to have lower losses. I had overlooked that I do
> > try shunting the tuner first.
>
> In the real world, it gets a little more complicated that the classic
> Rules of Thumb (RoT). Inductor Q is not constant with varying L,
> capacitor Q (or D) is significant if ceramic caps are used (as in many
> autotuners).
>
>
>
> > After having explained that I realize there is probably a better way.
> > I will try starting with Max transmitter side C, Min Inductor and
> > Minimum antenna side C.
>
> > I think the ideal procedure would be to calculate the needed match,
> > build it to minimum loss (in the tuner) and switch it in. I will have
> > to think about that...
>
> If it were me, I would create a software simulation of the algorithm, and
> include real physical times in the simulation. See if your algorithm
> converges on a stable and correct solution, and then, how quickly it does
> it.
>
> Owen

Owen
Most radios have a tuner inbuilt or as an add on.
These types are ripe to uprate the components for high power for
placing at the antenna whilst keeping all the controls at the
operating position. This way you keep the lower power timing and other
tuner controls in position as well as the memories and of course band
changes so you don't have to reinvent the wheel or use skills that you
don.t have

4667. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 22:31:21 UTC
From: joe <none@invalid.domain>
Message-ID: <iasnbibbm1@speranza.aioe.org>
Source record: 6813

K1TTT wrote:

> On Nov 3, 6:22 am, ashwanthh <ashwanthh.716f...@radiobanter.com>
> wrote:
>> Hi all,
>>
>> For my project, I want to perform Distance to fault measurement in the
>> cable connecting the antenna. The principle is that a signal should be
>> sent to the cable and using the forward and reflected voltage VSWR
>> should be calculated and should be viewed in a spectrum analyzer. My
>> question is
>>
>> 1. What transducer is used to detect the transmitted/reflected signals
>> from the cable?
>>
>> 2. Should the transducer be connected in series or parallel?
>>
>> Anyone, Please help
>>
>> --
>> ashwanthh
>
> look up time domain reflectometers... they are much simpler than what
> you are thinking of. using a simple step input wave you measure the
> time to the reflection. if you get fancy you can measure the polarity
> and size of the reflection to determine if it is a short or open or
> impedance change... if you really get fancy you can hook a scope up
> and look at more details. the only transducer needed is a voltage
> probe OR a current shunt, either one will work depending on the
> installation needs.

If the school project requires him to use a Spectrum Analyzer, then the time domain may not be an option.

4668. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 23:03:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <19e553d9-1e2b-4b8b-8fea-1df873bf6fea@j2g2000yqf.googlegroups.com>
Source record: 6818

On Nov 3, 10:31 pm, joe <n...@invalid.domain> wrote:
> K1TTT wrote:
> > On Nov 3, 6:22 am, ashwanthh <ashwanthh.716f...@radiobanter.com>
> > wrote:
> >> Hi all,
>
> >> For my project, I want to perform Distance to fault measurement in the
> >> cable connecting the antenna. The principle is that a signal should be
> >> sent to the cable and using the forward and reflected voltage VSWR
> >> should be calculated and should be viewed in a spectrum analyzer. My
> >> question is
>
> >> 1. What transducer is used to detect the transmitted/reflected signals
> >> from the cable?
>
> >> 2. Should the transducer be connected in series or parallel?
>
> >> Anyone, Please help
>
> >> --
> >> ashwanthh
>
> > look up time domain reflectometers... they are much simpler than what
> > you are thinking of. using a simple step input wave you measure the
> > time to the reflection. if you get fancy you can measure the polarity
> > and size of the reflection to determine if it is a short or open or
> > impedance change... if you really get fancy you can hook a scope up
> > and look at more details. the only transducer needed is a voltage
> > probe OR a current shunt, either one will work depending on the
> > installation needs.
>
> If the school project requires him to use a Spectrum Analyzer, then the time
> domain may not be an option.

if the school project is requiring a spectrum analyzer to measure
distance to a fault location then its a pretty dumb project. there
are much better and more straight forward ways to do that.

4669. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-03 23:14:54 UTC
From: Gary <jgboyles@aol.com>
Message-ID: <bcee58b2-ebc9-46e5-8340-406e842be9be@j25g2000yqa.googlegroups.com>
Source record: 6819

On Nov 2, 10:56 pm, justme <jble...@gmail.com> wrote:
> Hi, Folks.
>
> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> configuration will not do. PVC pipe will not do. Welding rod would
> do but it is expensive.
>
> I was thinking of Fiberglas tape, twisted and put in place and then
> resin applied but that is very cumbersome.
>
> Any ideas out there?
>
> Thank you.

One other thing that I have seen mentioned on this newsgroup, is
plastic clothes hangers chopped up. They are about 3/8" in diameter
and are cheap. Not sure about UV resistant.

Gary N4AST

4670. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 02:42:09 UTC
From: nm5k@wt.net
Message-ID: <2da39080-4a38-4846-9793-596a145feb57@y23g2000yqd.googlegroups.com>
Source record: 6820

On Nov 3, 5:14 pm, Gary <jgboy...@aol.com> wrote:

>
> One other thing that I have seen mentioned on this newsgroup, is
> plastic clothes hangers chopped up. They are about 3/8" in diameter
> and are cheap. Not sure about UV resistant.
>
> Gary N4AST

I've used those for small insulators. They do break down and
get brittle after a while. But it takes a while. Being as they
wouldn't be holding as much strain compared to using them
for end insulators, they might last a fairly long time before
one broke at one of the holes.
But the UV will do a number on them in the long term.
Little strips of clear Lexan window material might last for a
fairly decent amount of time. It's pretty strong, so will take
a while to get weak enough to break with the fairly low
tensions involved.

4671. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 02:56:22 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <cb105a3a-324f-4d1a-beb1-a2c1b4d6909a@j25g2000yqa.googlegroups.com>
Source record: 6821

On Oct 25, 1:44 pm, Mike Coslo <m...@psu.edu> wrote:
> On 10/25/10 12:50 PM, KD7HB wrote:
>
> > Just some thoughts for you. Good luck, and don't be afraid to try
> > different schemes.
>
> 300 ohm line is probably not the best choice if you want to use
> non-coaxial feedline. Much better is real ladder line or window line.
>
> And there are some serious misconceptions about window line too, so you
> hav eto be careful of what you read.
>
> Wes Stewart, N7WS wrote what is commonly cited as ladder line's fatal flaw:
>
> http://users.triconet.org/wesandlinda/ladder_line.pdf
>
> I suggest that you read it.
>
> But the study in itself suffers from a fatal flaw. And it is actually
> demonstrated in the article.
>
> Stewart had difficulties in getting his ladder line completely wet. In
> fact, the water created antibubbles on the surface of the line, and ran off.
>
> Well now, how do we fix this? We apply wetting agent to the line, this
> will cause the water to wet the entire surface, then measure the loss.
>
> Anyone see the problem here? Last time I checked, there is no wetting
> agent in rain. This is testing of artificially wetted window line,
> nothing more, nothing less.
>
> I have ladder line that has been up for 10 years now, and water still
> beads up on it like it did when it was new. I'll not even add that it is
> vertical, so there won't be as much water hitting it as when it comes
> form a spray bottle - oh wait, I did mention it.....
>
> The characteristics of polyethelene which is used to cover window line
> in fact make it very difficult to be wetted. One might be able to
> enforce wetting by sandblasting the line to roughen the surface, or oh
> yeah, apply wetting agent.
>
> That however makes the results of the experiment of equal value to
> modifying coax in a detrimental way, then measuring some aspect, and
> saying "all coax is like this". And why would ya do it anyway?

>
> There are reasons to use ladder or window line, and there are reasons to
> use coax. For example, at our club mountaintop station, we use
> copperweld for the dipoles, properly hung on towers. There is a shrt run
> of normal premium coax, just enough to lower the antennas for maintence
> if needed, but the coax is switched to hardline coax for most of the run
> into the shack. This is a good setup if you have lots of space, a goodly
> number of towers, and monoband (or at least fan) antennas.
>
> Now for the home QTH, I have some limited space, around a 100 feet. yet
> I still want multi-band operation. So I'm looking at more limited choices.
>
> Monoband dipoles are pretty much out of the question. Loaded multiband
> dipoles? For all the ham bands? Maybe not so good. Fan dipoles? a pain,
> and I'd have to start supporting the antenna on a messenger line.
>
> So that ladder line or window line fed doublet is looking pretty darn
> good about now. Rain or shine.
>
>   - 73 de Mike N3LI -

An observation about wetting agents. As I have stated before
diamagnetic materials are tightly bound in a skin of resting
particles. Water is diamagnetic and all are aware that insects can
walk on this skin and at the same time these particles are tightly
bound to each other that they can form droplets of water into a tight
sphere for equilibrium. One can also have a shallow vessel of water
where, when a magnet is placed on the underside, the particles will be
attracted to the skin creating deflection. Anyway
the point is that a wetting agent removes the diamagnetic features of
water and other radiative materials where the cohesivness of the
particles is destroyed. Bearing in mind that these static particles at
rest are the root of radiation it certainly does not make sense in
destroying their adhesion to a radiating surface. I imagine that any
"windows" added between the lines would affect the displacement
current as well as the enclosed capacitive field within when the
environment changes when compared to pvc spacers. I do believe that
wetting agents are applied to space vessels to ensure the surfaces are
cleared of these same static particles prior to take off.

4672. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 06:46:35 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <2ad548d4-483e-40eb-9000-3dacd4ed3f7d@r4g2000prj.googlegroups.com>
Source record: 6822

On Nov 3, 9:16 am, Jeff <j...@systems.com> wrote:
> On 03/11/2010 15:46, KD7HB wrote:
>
>
>
>
>
> > On Nov 2, 11:22 pm, ashwanthh<ashwanthh.716f...@radiobanter.com>
> > wrote:
> >> Hi all,
>
> >> For my project, I want to perform Distance to fault measurement in the
> >> cable connecting the antenna. The principle is that a signal should be
> >> sent to the cable and using the forward and reflected voltage VSWR
> >> should be calculated and should be viewed in a spectrum analyzer. My
> >> question is
>
> >> 1. What transducer is used to detect the transmitted/reflected signals
> >> from the cable?
>
> >> 2. Should the transducer be connected in series or parallel?
>
> >> Anyone, Please help
>
> >> --
> >> ashwanthh
>
> > No transducer. Use an oscilloscope to measure the time between the
> > emitted pulse and the reflection of the same.
>
> > KD7HB
>
> just to add to that Google Time domain Reflectometer.
>
> Jeff

Yup, that's the default instrument, but a fast-rise-time pulse
generator and a wideband scope will do it, too. I created a TDR
accidentally when I thought I was just measuring rise times on the
input and output of an amplifier. (I had inserted a T-connector,
creating an impedance mismatch, which showed up as a reflection. When
I saw the glitch on the trace, I puzzled over it for about half a
minute before it dawned on me what I was seeing.)

However, if this guy feeds his spectrum analyzer with a tracking generator and tee's off to the unknown cable, the reflected energy from the cable fault will generate a comb of nulls. The frequency of the first (lowest frequency) null will indicate either the quarter-wave point or the half-wave point (depending on whether the fault is a short or an open. You'd need to know the velocity factor, too. I don't see how VSWR would come into play.

Yeah, I'd really rather have a TDR, hi-hi.

By the way, this arrangement also works to approximate the resonant frequency of an antenna. The comb of nulls will flatten out -- be less pronounced -- at the resonant frequency, due to the incident energy being radiated, rather than reflected.

"Sal"
(KD6VKW)

4673. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 08:55:36 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cd27519$0$22808$65785112@news.neostrada.pl>
Source record: 6823

"K1TTT" <k1ttt@arrl.net> wrote
news:a26a1d40-50e1-460d-8250-e172eb70fa81@w21g2000vby.googlegroups.com...
On Nov 2, 8:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> So your electrons only oscillate (no Stokes drift)?
>
> >> But I am not an expert.
> >that is the only true thing you have said so far.
>
>> So it takes a time for me to find the method of measure the Stokes drift
>> in
> your stations.
>> Try also to do your best.
> S*

>no drift that i can measure... but you haven't told me how much i
should be looking for so i may not be measuring properly.

At first you must have a radio which do not work without ground. No chassis
no AC supply.
If you are able to prepare such the rest will be easy.
S*

4674. Re: 300 Ohm Ladder Line Issues

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 17:05:49 UTC
From: Irv Finkleman <finkirv@shaw.ca>
Message-ID: <FJBAo.8724$IL3.1344@newsfe08.iad>
Source record: 6824

For years I used the cheapest 300 ohm twin-lead I could find, at times splicing pieces
together. I have fed T2FDs, Inverted Vee's, Verticals, once I actually loaded
a piece of wet noodle, and almost anything you could
imagine. In wind, rain, and snow I had years of good DX and other fun but never noticed
any differences which might have occured in theory -- they never revealed themselves in
practical use.

Irv VE6BP
Hamming since '58

"Tom Horne" <hornetd@gmail.com> wrote in message
news:bc6994d1-be9a-45e6-8b56-331118c9208f@26g2000yqv.googlegroups.com...
>I have read that the presently available 300 ohm ladder line is
> unsuitable to use at some amateur radio frequencies because of it's
> construction and the losses caused by skin effect in the copper coated
> steel construction. I have been using a Terminated Folded Dipole in a
> flat top configuration as my HF antenna at home. Having recently
> acquired an Icom AH-4 Antenna Coupler I am considering converting it
> to a simple folded dipole, feeding it with 300 ohm ladder line to
> match it's nominal impedance from the coupler. I know your sure that
> there is a question in here someplace so is there better quality 300
> ohm window line available that is entirely stranded copper in it's
> construction?
> --
> Tom Horne, W3TDH
>

4675. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 17:08:04 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <gcp5d6d7f5jbr5sdmr7gso0kbn9gcdp16h@4ax.com>
Source record: 6825

On Wed, 03 Nov 2010 21:04:04 GMT, Owen Duffy <none@no.where> wrote:

>John Ferrell <jferrell13@triad.rr.com> wrote in
>news:g9q2d6lcmulp6m4d8bqbn9g5lt5eq14rbt@4ax.com:
>
>...
>> I am slowly working towards a motor driven remote T-Match roller
>> tuner. I intend to use the same algorithm that I use to operate a
>> manual tuner.
>
>Then you have a considerable challenge.
>
>> That is to start with the capacitors at center, the inductor at
>> minimum. Run the inductor down until the minimum SWR and center it
>> there. Then do the same with the transmitter side capacitor. Finally,
>> do the same with the antenna side capacitor. The controlling SWR
>> signal is from the transmitter point.
>
>If you want to automate this, you really need to know more than just the
>SWR (or magnitude of Gamma, the complex reflection coefficient), or a
>related signal (such as 'relected power').
>
>Have a look at some practical implementations, and see how they work.
>
>You have a three variable problem to solve, and one input value (using
>your proposed method).
>
>>
>> I am concerned about making the transmitter happy as quick as
>
>Ah, 'happy' transmitters, as in the ATU's purpose in life is to make the
>transmitter happy.
>
>> possible. I expect that this is not be the optimum match but it will
>> serve the purpose of making the transmitter happy.
>
>One of the design decisions you should make is how close to perfection is
>the target 'match', and what do you do if it changes during operation.
>
>Can you determine an optimum match (meaning VSWR=1, efficiency=max) using
>SWR?
>
>>
>> I start with the inductor because the losses are greater there so less

>> inductance is likely to have lower losses. I had overlooked that I do
>> try shunting the tuner first.
>
>In the real world, it gets a little more complicated that the classic
>Rules of Thumb (RoT). Inductor Q is not constant with varying L,
>capacitor Q (or D) is significant if ceramic caps are used (as in many
>autotuners).
>
>>
>> After having explained that I realize there is probably a better way.
>> I will try starting with Max transmitter side C, Min Inductor and
>> Minimum antenna side C.
>>
>> I think the ideal procedure would be to calculate the needed match,
>> build it to minimum loss (in the tuner) and switch it in. I will have
>> to think about that...
>
>If it were me, I would create a software simulation of the algorithm, and
>include real physical times in the simulation. See if your algorithm
>converges on a stable and correct solution, and then, how quickly it does
>it.
>
>Owen
It looks like a "not-to-complicated" problem to me. I hit a wall somewhere along the way, I will have to give it a try to find out.

I am not seeking a perfect solution, just a homebrew project to solve a problem. I never thought I would own an HF amplifier but now I do. I am accustomed to the convenience of an SGC-237 tuner in the shed next to the vertical antenna. Too much power for the tuner so I have slowly acquired the parts to construct the High power tuner project.

Not a Bread board but more like a cabinet door prototype. After all, it will be on a shelf in the shed. I am thinking a PIC micro controller (I have tools & Experience) and electric screwdriver actuators.

Ugly Construction is beautiful IF IT WORKS!

BTW, it is one of many low priority projects I have...

John Ferrell W8CCW

4676. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 19:27:58 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iav1fujts1@news.jpl.nasa.gov>
Source record: 6826

K1TTT wrote:

>
> if the school project is requiring a spectrum analyzer to measure
> distance to a fault location then its a pretty dumb project. there
> are much better and more straight forward ways to do that.

Not if the purpose of the school project is education, and understanding
the relationship between frequency domain and time domain.

4677. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 22:09:06 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <3d9cde2a-5dd0-4f83-a60d-aab0617aef52@35g2000prt.googlegroups.com>
Source record: 6827

>
> An L network match either Rload>Rgen or Rload<Rgen, depending on which
> side the shunt element is on.
>

It's not quite that simple. For example, a load of 5+j30 requires the
same L-match configuration to match to 50 Ohms as does 500+j30: shunt
C at the Load end in both cases.

Steve G3TXQ

4678. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-04 22:48:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <15f6e153-6165-4612-af40-d4481cc94fb6@g13g2000yqj.googlegroups.com>
Source record: 6828

On Nov 4, 8:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:a26a1d40-50e1-460d-8250-e172eb70fa81@w21g2000vby.googlegroups.com...
> On Nov 2, 8:34 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> So your electrons only oscillate (no Stokes drift)?
>
> > >> But I am not an expert.
> > >that is the only true thing you have said so far.
>
> >> So it takes a time for me to find the method of measure the Stokes drift
> >> in
> > your stations.
> >> Try also to do your best.
> > S*
> >no drift that i can measure... but you haven't told me how much i
>
> should be looking for so i may not be measuring properly.
>
> At first you must have a radio which do not work without ground. No chassis
> no AC supply.
> If you are able to prepare such the rest will be easy.
> S*

got it... plastic case, battery powered, only does 5w that that is
easy to measure. now how much dc current should i measure in the
ground lead when i transmit with 5w?

4679. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 00:48:25 UTC
From: Dave Smirkenberg <smirk50@rocketmail.com>
Message-ID: <870be46f-458f-43b3-a137-f415a2df944b@f20g2000vbc.googlegroups.com>
Source record: 6829

On Nov 2, 11:56 pm, justme <jble...@gmail.com> wrote:
> Hi, Folks.
>
> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> configuration will not do. PVC pipe will not do. Welding rod would
> do but it is expensive.
>
> I was thinking of Fiberglas tape, twisted and put in place and then
> resin applied but that is very cumbersome.
>
> Any ideas out there?
>
> Thank you.

Fiberglas electric cattle fence poles...various sizes, Sears and
Tractor Supply, among others, have them. Cut into appropriate size and
drill holes on eaach end. Fairly cheap.

4680. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 00:57:03 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <bhl6d6dl1ff1bfd0jead2ic751jru5cfbf@4ax.com>
Source record: 6830

On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:

>Hi, Folks.
>
>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>configuration will not do. PVC pipe will not do. Welding rod would
>do but it is expensive.
>
>I was thinking of Fiberglas tape, twisted and put in place and then
>resin applied but that is very cumbersome.
>
>Any ideas out there?
>
>Thank you.

If you live in a rural area, check the hardware or farm supply stores
for electric fence insulators. The ones in my hardware store are 5 or
6 inches long and cost a few dollars per hundred.

4681. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 01:16:59 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <ekm6d6digcgjo6knhbhhe8evlmjq75oorc@4ax.com>
Source record: 6831

On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:

>Hi, Folks.
>
>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>configuration will not do. PVC pipe will not do. Welding rod would
>do but it is expensive.
>
>I was thinking of Fiberglas tape, twisted and put in place and then
>resin applied but that is very cumbersome.
>
>Any ideas out there?
>
>Thank you.

Check the pictures here. This guy's ladderline is pretty good. I've
got 50 feet of it I plan to use one of these days.

http://www.trueladderline.com/

Bob
k5qwg

4682. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 01:20:11 UTC
From: tom <news4792@taring.org>
Message-ID: <4cd35bc7$0$87580$8046368a@newsreader.iphouse.net>
Source record: 6832

On 11/4/2010 5:48 PM, K1TTT wrote:
> On Nov 4, 8:55 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>> "K1TTT"<k1...@arrl.net>
wrotenews:a26a1d40-50e1-460d-8250-e172eb70fa81@w21g2000vby.googlegroups.com...
>> On Nov 2, 8:34 am, "Szczepan Bialek"<sz.bia...@wp.pl> wrote:
>>
>>
>>
>>>> So your electrons only oscillate (no Stokes drift)?
>>
>>>>> But I am not an expert.
>>>> that is the only true thing you have said so far.
>>
>>>> So it takes a time for me to find the method of measure the Stokes drift
>>>> in
>>> your stations.
>>>> Try also to do your best.
>>> S*
>>> no drift that i can measure... but you haven't told me how much i
>>
>> should be looking for so i may not be measuring properly.
>>
>> At first you must have a radio which do not work without ground. No chassis
>> no AC supply.
>> If you are able to prepare such the rest will be easy.
>> S*
>
> got it... plastic case, battery powered, only does 5w that that is
> easy to measure. now how much dc current should i measure in the
> ground lead when i transmit with 5w?

" "

Excuse me? I didn't hear the answer.

tom
K0TAR

4683. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 01:43:16 UTC
From: Alejandro Lieber <alejandro@Use-Author-Supplied-Address.invalid>
Message-ID: <iavnfkrer1@tioat.net>
Source record: 6833

On 11/03/2010 03:22 AM, ashwanthh wrote:
> Hi all,
>
>
> For my project, I want to perform Distance to fault measurement in the
> cable connecting the antenna. The principle is that a signal should be
> sent to the cable and using the forward and reflected voltage VSWR
> should be calculated and should be viewed in a spectrum analyzer. My
> question is
>
> 1. What transducer is used to detect the transmitted/reflected signals
> from the cable?
>
> 2. Should the transducer be connected in series or parallel?
>
> Anyone, Please help
>

Or just use a grid dip meter.

1) Determine if the fault is a short or an open circuit with any tester.

2) Connect a small loop at the input of the cable.

3) Couple the dip meter and read the minimum frequency with a dip.

4) If a short circuit ===>>
Distance(meters) = 75 * cable velocity factor / frequency (MHz)

5) If an open circuit ===>>
Distance(meters)= 150 * cable velocity factor / frequency (MHz)
--
Alejandro Lieber LU1FCR
Rosario Argentina

Real-Time F2-Layer Critical Frequency Map foF2:
http://1fcr.com.ar

4684. HOT VIDEOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 02:06:25 UTC
From: 053bg <6jhfdjfjdfg@gmail.com>
Message-ID: <c2e7f0d7-2b22-43ac-8a3d-1e7f99f49238@b19g2000prj.googlegroups.com>
Source record: 6834

hot lip kiss

HOT LIP KISS 109
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-109.html
HOT LIP KISS 115
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-115.html
HOTLIP KISS 87
http://alltoux.blogspot.com/2010/09/hotlip-kiss-87.html
HOT LIP KISS 124
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-124.html
HOT LIP KISS 56
http://alltoux.blogspot.com/2010/09/hot-lip-kiss-56.html

HOT VIDEOS

massage hot videos
http://hotvideosonlyx.blogspot.com/2010/09/massage-hot-videos.html
romantic videos
http://hotvideosonlyx.blogspot.com/2010/09/romantic-videos.html
hollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot-kiss.html
hollywood hot
http://hotvideosonlyx.blogspot.com/2010/09/hollywood-hot.html
bollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/bollywood-hot-kiss.html
bollywood hot videos
http://hotvideosonlyx.blogspot.com/2010/09/bollywood-hot-videos.html
tollywood hot kiss
http://hotvideosonlyx.blogspot.com/2010/09/tollywood-hot-kiss.html

ALL INTERVIEW QUESTIONS

java interview questions
http://allinterviewsquestions.blogspot.com/2009/02/java-interview-questions.html
oracle interview questions
http://allinterviewsquestions.blogspot.com/2009/02/oracle-interview-questions.html
hardware interview questions 4
http://allinterviewsquestions.blogspot.com/2009/02/hardware-interview-questions.html
SQL Server Interview Questions
http://allinterviewsquestions.blogspot.com/2009/02/sql-server-interview-questions.html
dotnet questions 3
http://allinterviewsquestions.blogspot.com/2009/02/dotnet-questions-3.html

hot photos
http://photostou.blogspot.com/2010/09/bollywood-actress-photos-4.html

4685. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 08:32:23 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cd3c126$0$20989$65785112@news.neostrada.pl>
Source record: 6835

"K1TTT" <k1ttt@arrl.net> wrote
news:15f6e153-6165-4612-af40-d4481cc94fb6@g13g2000yqj.googlegroups.com...
On Nov 4, 8:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> >
>> >> So your electrons only oscillate (no Stokes drift)?
>
>>> should be looking for so i may not be measuring properly.
>
>> At first you must have a radio which do not work without ground. No
>> chassis
> no AC supply.
>> If you are able to prepare such the rest will be easy.

>got it... plastic case, battery powered, only does 5w that that is
easy to measure. now how much dc current should i measure in the
ground lead when i transmit with 5w?

You know: "more than electron per cycle and less than infinity".

For one you should use an electroscope (in place of ground).
Charge it and check what your radio needs to work (+ or -).

For more, the steem generator should be beest. "At Cramlington Colliery,
Sedgehill, Newcastle on Tyne (Northumberland, England) high pressure steam
broke through the cement around the safety valve of a locomotive boiler. The
Engine-Man held a shovel in the steam and with a penknife in his other hand,
held about 3/8 inch from the boiler, produced electric sparks.".

In such arrangment the shovel has an exces of electrons and the boiler a
deficit.

Close to infinity the DC meter will be enough.

But the experts know that Stokes drift is everywhere.
Stokes drift and longitudinal electric waves in the wires (Oliver Lodge)
were discowered before electrons.It is obvious that the both apply to the
electron gas.

Electrons also travel through a capacitor. AC pulses are never simmetric.
S*

4686. how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 09:50:54 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <2778834e-4e89-4496-95b2-8e65e3b0cde1@f20g2000vbc.googlegroups.com>
Source record: 6836

PROBLEM

I have to hang a straight ~120 foot = 40 meter drop of RG-6 type foamed dielectric coax. No way to secure it mid-way as it's an abandoned and unaccessible chimney flue line.

Right now all the weight is on a rounded rest on top, diameter ~ 4"/10 cm, made by sticking 3 rubber pipes of different size one inside the other and taping the coax to itself, leaning on a section of plastic pipe

The weight is quite ~ 5 kg if I remember correctly. I think there is no way that leaning over a 10 cm. dia. rest won't crush the foam dielectric over the years. I may be wrong, but finding out is not simple at all.

This thing now only carries HF and a bit of crushing is not important (+ I can't easily test it!), but I want to make sure I can do 2 GHz in the future, and I don't know the proper or standard way of hanging a LONG vertical coax drop.

Now I have a chance to re-hang the coax, and I want to run it along a load-bearing PVC-covered steel cable, perhaps 4 mm dia.. The coax itself is the usual 6 mm -something. I am considering a couple of options:

1) Three more loops, to have a support loop every 10m or so.
The cable drops from the top loop, then after 10m gently bends back upward, then forward again over an arched support, taped to itself, and continues the drop.

2) Many many nylon straps all along the drop.
I lay coax and steel cables horizontally. Keep the steel cable taught, leave the coax loose, and gently tie a tiny nylon strap every meter or so, barely to the point it holds 1 meter's weight, taking care not to strangle the coax.

Suggestions? Comments?

4687. Re: Convert to moderation?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 10:01:21 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <22c95396-94af-49e5-a40e-ca21fc5550e3@w30g2000prj.googlegroups.com>
Source record: 6837

> googlegroups.com

I am lazy and do my newsreading from groups.google.com, I do a spam-
reporting run of 10 messages or so every time I read, and I notice
that going back in time spam abates. It looks like other googlers do
the same. I haven't used news through a proper server in a while, I
mostly dread the volume. Any suggestions for filtered servers
available to all?

4688. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 11:29:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a79bfd0d-d304-4e57-a3d2-9d7a89a2db2a@x4g2000pre.googlegroups.com>
Source record: 6838

On Nov 5, 3:32 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Electrons also travel through a capacitor. AC pulses are never simmetric.

There's no such thing as a perfect capacitor. Electron flow through a
capacitor is what causes it to fail eventually.
--
73, Cecil, w5dxp.com

4689. Re: Remote tuner

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 11:48:36 UTC
From: steveeh131047 <google@karinya.net>
Message-ID: <fe17ceb7-5ad2-4b1a-907b-271dfc936478@o29g2000vbi.googlegroups.com>
Source record: 6839

On Nov 4, 10:09 pm, steveeh131047 <goo...@karinya.net> wrote:
> > An L network match either Rload>Rgen or Rload<Rgen, depending on which
> > side the shunt element is on.
>
> It's not quite that simple. For example, a load of 5+j30 requires the
> same L-match configuration to match to 50 Ohms as does 500+j30: shunt
> C at the Load end in both cases.
>
> Steve G3TXQ

Conversely, a load of 10+j22 needs the shunt C across the load,
whereas 10+j18 needs shunt C across the generator.

Steve G3TXQ

4690. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 15:13:57 UTC
From: joe <none@invalid.domain>
Message-ID: <ib16g1$13q$1@speranza.aioe.org>
Source record: 6840

Szczepan Bialek wrote:

>
> Electrons also travel through a capacitor. AC pulses are never simmetric.
> S*

This is wrong and shows how little you understand.

If you continue to rely upon web pages that are written from grade school
kids you will never understand.

Leave your outdated and overly simplified references behind and try learning
from a modern textbook.

4691. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 15:26:02 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cd42218$0$20988$65785112@news.neostrada.pl>
Source record: 6841

Uzytkownik "joe" <none@invalid.domain> napisal w wiadomosci
news:ib16g1$13q$1@speranza.aioe.org...
> Szczepan Bialek wrote:
>
>>
>> Electrons also travel through a capacitor. AC pulses are never simmetric.
>> S*
>
>
> This is wrong and shows how little you understand.
>
> If you continue to rely upon web pages that are written from grade school
> kids you will never understand.
>
> Leave your outdated and overly simplified references behind and try
> learning
> from a modern textbook.

Everywhere is wrote that a real insulators are a very,very week conductors.
At HF it increases. Net flow of electrons is in each real arrangment.
S*
>

4692. Re: how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 16:47:42 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <0c4ddc60-6e69-4716-a210-ddd51035e2bf@z22g2000pri.googlegroups.com>
Source record: 6842

On Nov 5, 2:50 am, spamhog <n1...@hotmail.com> wrote:
> PROBLEM
>
> I have to hang a straight ~120 foot = 40 meter drop of RG-6 type
> foamed dielectric coax. No way to secure it mid-way as it's an
> abandoned and unaccessible chimney flue line.
>
> Right now all the weight is on a rounded rest on top, diameter ~ 4"/10
> cm, made by sticking 3 rubber pipes of different size one inside the
> other and taping the coax to itself, leaning on a section of plastic
> pipe
>
> The weight is quite ~ 5 kg if I remember correctly. I think there is
> no way that leaning over a 10 cm. dia. rest won't crush the foam
> dielectric over the years. I may be wrong, but finding out is not
> simple at all.
>
> This thing now only carries HF and a bit of crushing is not important
> (+ I can't easily test it!), but I want to make sure I can do 2 GHz in
> the future, and I don't know the proper or standard way of hanging a
> LONG vertical coax drop.
>
> Now I have a chance to re-hang the coax, and I want to run it along a
> load-bearing PVC-covered steel cable, perhaps 4 mm dia.. The coax
> itself is the usual 6 mm -something. I am considering a couple of
> options:
>
> 1) Three more loops, to have a support loop every 10m or so.
> The cable drops from the top loop, then after 10m gently bends back
> upward, then forward again over an arched support, taped to itself,
> and continues the drop.
>
> 2) Many many nylon straps all along the drop.
> I lay coax and steel cables horizontally. Keep the steel cable taught,
> leave the coax loose, and gently tie a tiny nylon strap every meter or
> so, barely to the point it holds 1 meter's weight, taking care not to
> strangle the coax.
>
> Suggestions? Comments?

A suggestion.
When the cable TV guys ran the distribution line past our house a few
years ago they spiral wrapped stainless steel wire around the coax and
a messenger cable. The coax was the regular pvc type, not the solid

aluminum outer cover. It seems to have held up at least 10years.

They used a traveling spool carrier to spin the wire around the pair, but could be done by hand by a couple of people.

As an alternative, you could buy a bunch of plastic tape and wrap the coax+messenger tightly with at least two layers of tape. That would give continuous support to the coax. A double wrap would probably survive the elements better than a single wrap. Or you could get several bottles of "liquid tape" and coat a single wrap of tape with that.

Paul, KD7HB

4693. Re: how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 16:50:29 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <2376ade9-7de4-4a72-adc7-10bd9deafb9f@u19g2000prk.googlegroups.com>
Source record: 6843

I think what you are doing has potential 'problems', but you know
that. More support for that cable is certainly a good idea. The
'how' of it is one of those practical thingys, just depends on what's -
practical- for you.
I think you'll also find that RG-6 probably works okay on HF and VHF.
Get any higher in frequency and depending on the length of the run,
you can forget about using any of the 'common', non-hard line feed
lines. Get ready for that.
Either of the methods of supporting that feed line sounds like they'd
work. Pick whatever is easiest for you. And there ain't no 'perfect'
way of doing anything...
Paul

4694. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 22:22:21 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c0be21df-8026-4204-9f8f-69885e491fda@w21g2000vby.googlegroups.com>
Source record: 6844

On Nov 5, 8:32 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:15f6e153-6165-4612-af40-d4481cc94fb6@g13g2000yqj.googlegroups.com...
> On Nov 4, 8:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> >> So your electrons only oscillate (no Stokes drift)?
>
> >>> should be looking for so i may not be measuring properly.
>
> >> At first you must have a radio which do not work without ground. No
> >> chassis
> > no AC supply.
> >> If you are able to prepare such the rest will be easy.
> >got it... plastic case, battery powered, only does 5w that that is
>
> easy to measure. now how much dc current should i measure in the
> ground lead when i transmit with 5w?
>
> You know: "more than electron per cycle and less than infinity".
>
> For one you should use an electroscope (in place of ground).
> Charge it and check what your radio needs to work (+ or -).
>
> For more, the steem generator should be beest. "At Cramlington Colliery,
> Sedgehill, Newcastle on Tyne (Northumberland, England) high pressure steam
> broke through the cement around the safety valve of a locomotive boiler. The
> Engine-Man held a shovel in the steam and with a penknife in his other hand,
> held about 3/8 inch from the boiler, produced electric sparks.".
>
> In such arrangment the shovel has an exces of electrons and the boiler a
> deficit.
>
> Close to infinity the DC meter will be enough.
>
> But the experts know that Stokes drift is everywhere.
> Stokes drift and longitudinal electric waves in the wires (Oliver Lodge)
> were discowered before electrons.It is obvious that the both apply to the
> electron gas.
>
> Electrons also travel through a capacitor. AC pulses are never simmetric.
> S*

ok, i put my electroscope in place of ground, no movement in the gold leaf when i transmit. i also borrowed a very sensitive electrostatic voltmeter and do not see any voltage buildup on the radio when i transmit.

and my rf waves are as perfectly symmetric as i can measure on a scope, even taking one and delaying it 180 degrees and subtracting from the source gives me a flat line that i can not measure any distortion on.

so, what is your predicted shape of these distorted waves?? i see a nice sine wave function, you must have some other solution for harmonic motion and the wave equations, please provide your solution that includes the asymmetry terms we should be looking for.

4695. Re: how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 22:25:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0edfecb0-fe02-4496-bf7b-3372025e04f6@a19g2000vbi.googlegroups.com>
Source record: 6845

On Nov 5, 9:50 am, spamhog <n1...@hotmail.com> wrote:
> PROBLEM
>
> I have to hang a straight ~120 foot = 40 meter drop of RG-6 type
> foamed dielectric coax. No way to secure it mid-way as it's an
> abandoned and unaccessible chimney flue line.
>
> Right now all the weight is on a rounded rest on top, diameter ~ 4"/10
> cm, made by sticking 3 rubber pipes of different size one inside the
> other and taping the coax to itself, leaning on a section of plastic
> pipe
>
> The weight is quite ~ 5 kg if I remember correctly. I think there is
> no way that leaning over a 10 cm. dia. rest won't crush the foam
> dielectric over the years. I may be wrong, but finding out is not
> simple at all.
>
> This thing now only carries HF and a bit of crushing is not important
> (+ I can't easily test it!), but I want to make sure I can do 2 GHz in
> the future, and I don't know the proper or standard way of hanging a
> LONG vertical coax drop.
>
> Now I have a chance to re-hang the coax, and I want to run it along a
> load-bearing PVC-covered steel cable, perhaps 4 mm dia.. The coax
> itself is the usual 6 mm -something. I am considering a couple of
> options:
>
> 1) Three more loops, to have a support loop every 10m or so.
> The cable drops from the top loop, then after 10m gently bends back
> upward, then forward again over an arched support, taped to itself,
> and continues the drop.
>
> 2) Many many nylon straps all along the drop.
> I lay coax and steel cables horizontally. Keep the steel cable taught,
> leave the coax loose, and gently tie a tiny nylon strap every meter or
> so, barely to the point it holds 1 meter's weight, taking care not to
> strangle the coax.
>
> Suggestions? Comments?

there are cables made that include a steel messenger cable. if you
need to use what you have then get some aircraft cable and tape your
coax to the steel cable.

4696. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-05 22:51:16 UTC
From: Barry <none@nospam.org>
Message-ID: <FT%Ao.8588$E64.3697@newsfe11.iad>
Source record: 6846

"Gary" <jgboyles@aol.com> wrote in message
news:bcee58b2-ebc9-46e5-8340-406e842be9be@j25g2000yqa.googlegroups.com...
One other thing that I have seen mentioned on this newsgroup, is
plastic clothes hangers chopped up. They are about 3/8" in diameter
and are cheap. Not sure about UV resistant.

Gary N4AST

These are generally polystyrene and their UV resistance is not too bad.
They are cheap!

WA4VZQ

4697. Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 03:31:58 UTC
From: Barry <none@nospam.org>
Message-ID: <L_3Bo.6711$xb.4221@newsfe10.iad>
Source record: 6847
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment

The addition of a new metal roof to my home has prompted my interest in a small rooftop tower. I am considering the Glen Martin Engineering 4.5- and 8-foot aluminum towers. However, in doing some research on the company, I have read many reviews (particularly on eHam.net) where people brought up shoddy workmanship such as misdrilled holes, double-punched slots, burrs, incorrect documentation, missing parts, etc. Many complaints were about shipping too. However there also were several people well-satisfied with their products.

Because of this, I decided to check with the Better Business Bureau of Boonville, MO, where the company is located. They have a B+ rating, and the judging criteria of the BBB tends to give the company an overly positive rating in my opinion. Interestingly, SalaryList.com gives the fall 2006 salaries of design engineers at Glen Martin to be $41K and that of a project manager to be $32K. The average salary for the county at that time was $26.4K. I consider these to be rather low. I have not seen any ads by the company in QST recently either, and the League has stringent standards for any company advertising in a League publication.

None of this gives me a "warm fuzzy feeling" about the company and its products, but I am willing to keep an open mind. I would therefore appreciate any readers of these newsgroups posting their experiences with the company and its products.

My application, by the way, is to support a 43-foot vertical and small Yagi's for 6- and 2-meter SSB.

--
73, Dr. Barry L. Ornitz WA4VZQ
wa4vzq@live.com

4698. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 09:10:28 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cd51b93$0$20994$65785112@news.neostrada.pl>
Source record: 6848

"K1TTT" <k1ttt@arrl.net> wrote
news:c0be21df-8026-4204-9f8f-69885e491fda@w21g2000vby.googlegroups.com...
On Nov 5, 8:32 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
> >> >> So your electrons only oscillate (no Stokes drift)?
>
> >>> should be looking for so i may not be measuring properly.
>
> >> At first you must have a radio which do not work without ground. No
> >> chassis no AC supply.
> >> If you are able to prepare such the rest will be easy.

> >got it... plastic case, battery powered, only does 5w that that is
>
>>> easy to measure. now how much dc current should i measure in the
> ground lead when i transmit with 5w?
>
>> You know: "more than electron per cycle and less than infinity".
>
>> For one you should use an electroscope (in place of ground).
> Charge it and check what your radio needs to work (+ or -).
>
>> For more, the steem generator should be beest. "At Cramlington Colliery,
> Sedgehill, Newcastle on Tyne (Northumberland, England) high pressure steam
> broke through the cement around the safety valve of a locomotive boiler.
> The
> Engine-Man held a shovel in the steam and with a penknife in his other
> hand,
> held about 3/8 inch from the boiler, produced electric sparks.".
>
>> In such arrangment the shovel has an exces of electrons and the boiler a
> deficit.
>
>> Close to infinity the DC meter will be enough.
>
>> But the experts know that Stokes drift is everywhere.
> Stokes drift and longitudinal electric waves in the wires (Oliver Lodge)
> were discowered before electrons.It is obvious that the both apply to the
> electron gas.
>
>> Electrons also travel through a capacitor. AC pulses are never simmetric.
> S*

>ok, i put my electroscope in place of ground, no movement in the gold
leaf when i transmit. i also borrowed a very sensitive electrostatic

voltmeter and do not see any voltage buildup on the radio when i transmit.

Your radio do not transmit without ground. The leaf are not the inexhaustible reservoir of electrons.
Charged electroscobe is a tiny rasevoir.

>and my rf waves are as perfectly symmetric as i can measure on a scope, even taking one and delaying it 180 degrees and subtracting from the source gives me a flat line that i can not measure any distortion on.

Working transmitter is like the Ruhmkorff coil or Tesla coil:
"In April 1887, Tesla began investigating what would later be called X-rays using his own single terminal vacuum tubes (similar to his patent #514,170). This device differed from other early X-ray tubes in that it had no target electrode. The modern term for the phenomenon produced by this device is bremsstrahlung (or braking radiation). We now know that this device operated by emitting electrons from the single electrode through a combination of field electron emission and thermionic emission. Once liberated, electrons are strongly repelled by the high electric field near the electrode during negative voltage peaks from the oscillating HV output of the Tesla Coil, generating X rays as they collide with the glass envelope."

The both are like the electron gun. They do not work without the electrons reservoir (ground).

>so, what is your predicted shape of these distorted waves?? i see a nice sine wave function, you must have some other solution for harmonic motion and the wave equations, please provide your solution that includes the asymmetry terms we should be looking for.

For equations see "Stokes drift"

Each pulse from a wave source, whan reach the end of the antenna, create the high voltage pike. Next the voltage drops and create the opposite pike. In reality they are not symmetric. In Ruhmkorf's the first is huge and the second almost zero.

But you know that the antenna must be tunned. Probably the field emission starts after tunning.
It would be interesting to measure the voltage pikes on the tip of CB whip before and after tunning.

If the voltage pikes are asymmetric than the field emissin/absorption also and we have Stokes drift.
Look at: http://remeeus.eu/english/hamradio/artificial_ground.htm

It is simply chassis with large metalic surfaces.

How to mesure Stokes drift - it is a question. I am sure that the experts did it from the radio beginning.
I am not an expert.
S*

4699. Re: how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 10:08:03 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <2e2c6277-74d4-47af-b857-95180e66e848@y31g2000vbt.googlegroups.com>
Source record: 6849

Thank you all!

@K1TTT
Yes, that's the technically idea solution, but I am trying to use common materials that cost perhaps 5x less around here.

@'Doc
You have a point. I wrote RG-6-"type". There's a ton of various cables types that are sold commercially as "similar" to RG-6. I referred to the sat-tv cable that everybody uses around here, and you find it in every electrical supplies shop. This cable is designed for use at about 2GHz, which is the IF at which signals are sent down from the LNB to the receiver.
- solid copper center conductor
- foamed PE dielectric
- 100% AL first shield, perhaps .1mm foil
- probably 60% AL second shield, stranded
- insulation 3kV DC test, in practice not a problem (if you don't crush/melt the foam :-)
- emphatically NOT rated for power, tested and perfect up to 50W QRP and RX, theoretically could take 1kW if well matched and not overheat (see specs, do the math) but I never tried and ever will, I'd guess will take 100W OK. I should do a high-current DC test perhaps.
- pain in the rearend to mate the AL to anything, must be pressure-only, must be silicon grease coated on penalty or corrosion, but after all this is how perhaps 300 million sat-TV systems work at 2GHz.
- loss 2dB/100m (m not ft) @ 10MHz, not bad
- ...75 ohm, but I either make my own impedances, or not care, or use tuners, and 75 is OK for many applications.

@KD7HB
Plastic tape is probably the simplest and best, perhaps without even wrapping the whole length - at a 30deg. angle spiral wrap I would need 240ft of tape! :-P. Also, tape is much gentler than sttap in terms of pressure per unit of surface. Dish installers never use nylon straps outdoors, just several turns of black, weather resistant PVC tape, and it lasts at least 5-10 years. In my case, the drop is all inside a flue line, well protected. Maybe I should use a large rope just for wider surface. I'll do an overload test and see.

But another post around her tells me that perhaps there's a was to test the line at 2GHz...

Thanks again to all.

4700. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 10:22:26 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <ea3b80d3-a880-47b0-bb9b-33f7a62eb261@k13g2000vbq.googlegroups.com>
Source record: 6850

I have a similar practical real problem.

A vertical 120 ft working 75 ohm coax line hung from the top.

The soft foamed dielectric MAY be crushed under the cable's own weight
10 ft from the top end.

If it is I must change the hanging system.

ASSUMPTIONS
- the dielectric is crushed to 1/2 the original thickness over 2
inches length 10 ft from the far end
- I can put a good quality non-reflecting 75 ohm load at the far end.

QUESTION
Can I expect such a defect to generate a detectable reflection at
2GHz?

4701. feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 10:39:36 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <8319f44c-88c1-4ed1-aebd-a0fda42a3f44@j5g2000vbg.googlegroups.com>
Source record: 6701

I want to make a random-length inverted-V for general listening and perhaps, maybe, occasional HF work, no pretense to have perfect match or minimum losses. I see much discussion about feeding a random dipole with 450 or 600 ohm ladder line.

I can lay a low loss 75 ohm line but absolutely not a ladder line, so I'd have to put a balun at the apex

I'd cut a dipole of about 15 + 15 m (50+50 ft), 120 deg. inverted V, apex at 15 m.

I could do 1:4 -> 300 ohm or 1:9 -> 625 ohm.

What would be the least-bad?

Thanks in advance!

4702. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 11:23:47 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <83c6f100-96e4-4c1d-bb93-ca8ee4bf5747@v23g2000vbi.googlegroups.com>
Source record: 6702

On Nov 6, 10:39 am, spamhog <n1...@hotmail.com> wrote:
> I want to make a random-length inverted-V for general listening and
> perhaps, maybe, occasional HF work, no pretense to have perfect match
> or minimum losses. I see much discussion about feeding a random dipole
> with 450 or 600 ohm ladder line.
>
> I can lay a low loss 75 ohm line but absolutely not a ladder line, so
> I'd have to put a balun at the apex
>
> I'd cut a dipole of about 15 + 15 m (50+50 ft), 120 deg. inverted V,
> apex at 15 m.
>
> I could do 1:4 -> 300 ohm or 1:9 -> 625 ohm.
>
> What would be the least-bad?
>
> Thanks in advance!

just wind a coil choke, that will be cheaper and no worse than either
of those options.

4703. Re: how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 11:30:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8809f3e4-c5f4-4852-80f9-5a68010dc4d6@f14g2000vby.googlegroups.com>
Source record: 6703

On Nov 6, 10:08 am, spamhog <n1...@hotmail.com> wrote:
> Thank you all!
>
> @K1TTT
> Yes, that's the technically idea solution, but I am trying to use
> common materials that cost perhaps 5x less around here.
>
> @'Doc
> You have a point. I wrote RG-6-"type". There's a ton of various cables
> types that are sold commercially as "similar" to RG-6. I referred to
> the sat-tv cable that everybody uses around here, and you find it in
> every electrical supplies shop. This cable is designed for use at
> about 2GHz, which is the IF at which signals are sent down from the
> LNB to the receiver.
> - solid copper center conductor
> - foamed PE dielectric
> - 100% AL first shield, perhaps .1mm foil
> - probably 60% AL second shield, stranded
> - insulation 3kV DC test, in practice not a problem (if you don't
> crush/melt the foam :-)
> - emphatically NOT rated for power, tested and perfect up to 50W QRP
> and RX, theoretically could take 1kW if well matched and not overheat
> (see specs, do the math) but I never tried and ever will, I'd guess
> will take 100W OK. I should do a high-current DC test perhaps.
> - pain in the rearend to mate the AL to anything, must be pressure-
> only, must be silicon grease coated on penalty or corrosion, but after
> all this is how perhaps 300 million sat-TV systems work at 2GHz.
> - loss 2dB/100m (m not ft) @ 10MHz, not bad
> - ...75 ohm, but I either make my own impedances, or not care, or use
> tuners, and 75 is OK for many applications.
>
> @KD7HB
> Plastic tape is probably the simplest and best, perhaps without even
> wrapping the whole length - at a 30deg. angle spiral wrap I would need
> 240ft of tape! :-P. Also, tape is much gentler than sttap in terms of
> pressure per unit of surface. Dish installers never use nylon straps
> outdoors, just several turns of black, weather resistant PVC tape, and
> it lasts at least 5-10 years. In my case, the drop is all inside a
> flue line, well protected. Maybe I should use a large rope just for
> wider surface. I'll do an overload test and see.
>
> But another post around her tells me that perhaps there's a was to
> test the line at 2GHz...
>

> Thanks again to all.

rg6 or 11 with steel messenger may be common depending on the local cable tv practices. it is often used for running drops from the pole to the house by catv installers.

rope would work in place of the cable, but pick a non-stretchy one. polypropylene would be my first choice since it will be out of the weather. and yes, only a couple turns of tape every 3 or 4 feet should be plenty. and since it is enclosed you may not even need to go all the way down, just enough to get to where you aren't afraid of the weight of what is left stretching it any more.

4704. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 11:36:11 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <6d22d1ab-5eea-487a-9118-740dad903871@f14g2000vby.googlegroups.com>
Source record: 6704

On Nov 6, 9:10 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:c0be21df-8026-4204-9f8f-69885e491fda@w21g2000vby.googlegroups.com...
> On Nov 5, 8:32 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > >> >> So your electrons only oscillate (no Stokes drift)?
>
> > >>> should be looking for so i may not be measuring properly.
>
> > >> At first you must have a radio which do not work without ground. No
> > >> chassis no AC supply.
> > >> If you are able to prepare such the rest will be easy.
> > >got it... plastic case, battery powered, only does 5w that that is
>
> >>> easy to measure. now how much dc current should i measure in the
> > ground lead when i transmit with 5w?
>
> >> You know: "more than electron per cycle and less than infinity".
>
> >> For one you should use an electroscope (in place of ground).
> > Charge it and check what your radio needs to work (+ or -).
>
> >> For more, the steem generator should be beest. "At Cramlington Colliery,
> > Sedgehill, Newcastle on Tyne (Northumberland, England) high pressure steam
> > broke through the cement around the safety valve of a locomotive boiler.
> > The
> > Engine-Man held a shovel in the steam and with a penknife in his other
> > hand,
> > held about 3/8 inch from the boiler, produced electric sparks.".
>
> >> In such arrangment the shovel has an exces of electrons and the boiler a
> > deficit.
>
> >> Close to infinity the DC meter will be enough.
>
> >> But the experts know that Stokes drift is everywhere.
> > Stokes drift and longitudinal electric waves in the wires (Oliver Lodge)
> > were discowered before electrons.It is obvious that the both apply to the
> > electron gas.
>

> >> Electrons also travel through a capacitor. AC pulses are never simmetric.
> > S*
> >ok, i put my electroscope in place of ground, no movement in the gold
>
> leaf when i transmit. i also borrowed a very sensitive electrostatic
> voltmeter and do not see any voltage buildup on the radio when i
> transmit.
>
> Your radio do not transmit without ground. The leaf are not the
> inexhaustible reservoir of electrons.
> Charged electroscobe is a tiny rasevoir.
>
> >and my rf waves are as perfectly symmetric as i can measure on a
>
> scope, even taking one and delaying it 180 degrees and subtracting
> from the source gives me a flat line that i can not measure any
> distortion on.
>
> Working transmitter is like the Ruhmkorff coil or Tesla coil:
> "In April 1887, Tesla began investigating what would later be called X-rays
> using his own single terminal vacuum tubes (similar to his patent #514,170).
> This device differed from other early X-ray tubes in that it had no target
> electrode. The modern term for the phenomenon produced by this device is
> bremsstrahlung (or braking radiation). We now know that this device operated
> by emitting electrons from the single electrode through a combination of
> field electron emission and thermionic emission. Once liberated, electrons
> are strongly repelled by the high electric field near the electrode during
> negative voltage peaks from the oscillating HV output of the Tesla Coil,
> generating X rays as they collide with the glass envelope."
>
> The both are like the electron gun. They do not work without the electrons
> reservoir (ground).
>
> >so, what is your predicted shape of these distorted waves?? i see a
>
> nice sine wave function, you must have some other solution for
> harmonic motion and the wave equations, please provide your solution
> that includes the asymmetry terms we should be looking for.
>
> For equations see "Stokes drift"
>
> Each pulse from a wave source, whan reach the end of the antenna, create the
> high voltage pike. Next the voltage drops and create the opposite pike. In
> reality they are not symmetric. In Ruhmkorf's the first is huge and the
> second almost zero.
>
> But you know that the antenna must be tunned. Probably the field emission
> starts after tunning.
> It would be interesting to measure the voltage pikes on the tip of CB whip
> before and after tunning.

>
> If the voltage pikes are asymmetric than the field emissin/absorption also
> and we have Stokes drift.
> Look at:http://remeeus.eu/english/hamradio/artificial_ground.htm
>
> It is simply chassis with large metalic surfaces.
>
> How to mesure Stokes drift - it is a question. I am sure that the experts
> did it from the radio beginning.
> I am not an expert.
> S*

i have measured the voltage at the tip of an antenna, it is a nice
sine wave, no spikes. we don't use spark gap any more if you haven't
noticed, modern radios use nice symmetric sine wave circuits. if we
didn't have nice sine waves there would be harmonics that would
interfere with other bands. your distorted waves would be horrible in
today's world. look up specifications for distortion in radio
transmitters and then go study fourier transforms to see the effects
of distortion on the spectrum of the signal. i am bored, you have no
new theories like art does, you just keep picking random unrelated
facts, so this just isn't fun any more.

4705. Re: Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 14:20:41 UTC
From: dave <dave@dave.dave>
Message-ID: <4cd555f2$0$5486$bd467cd0@news.dslextreme.com>
Source record: 6705

Barry wrote:
> The addition of a new metal roof to my home has prompted my interest in a
> small rooftop tower. I am considering the Glen Martin Engineering 4.5-
> and 8-foot aluminum towers. However, in doing some research on the
> company, I have read many reviews (particularly on eHam.net) where people
> brought up shoddy workmanship such as misdrilled holes, double-punched
> slots, burrs, incorrect documentation, missing parts, etc. Many
> complaints were about shipping too. However there also were several
> people well-satisfied with their products.
>
> Because of this, I decided to check with the Better Business Bureau of
> Boonville, MO, where the company is located. They have a B+ rating, and
> the judging criteria of the BBB tends to give the company an overly
> positive rating in my opinion. Interestingly, SalaryList.com gives the
> fall 2006 salaries of design engineers at Glen Martin to be $41K and that
> of a project manager to be $32K. The average salary for the county at
> that time was $26.4K. I consider these to be rather low. I have not
> seen any ads by the company in QST recently either, and the League has
> stringent standards for any company advertising in a League publication.
>
> None of this gives me a "warm fuzzy feeling" about the company and its
> products, but I am willing to keep an open mind. I would therefore
> appreciate any readers of these newsgroups posting their experiences with
> the company and its products.
>
> My application, by the way, is to support a 43-foot vertical and small
> Yagi's for 6- and 2-meter SSB.
>

http://www.starkelectronic.com/cmhard.htm

4706. Heath VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 14:47:47 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <ib3pqesph1@news.eternal-september.org>
Source record: 6706

I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Very good condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4707. Hy-Gain BN-86 for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 14:48:23 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <ib3prisph2@news.eternal-september.org>
Source record: 6707

I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
asking $40 for it. The instruction manual can be viewed at:

http://www.thiecom.de/pdf/BN-86.pdf

The balun can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4708. Re: Antenna materials

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 16:22:57 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4cd580f3$0$27045$65785112@news.neostrada.pl>
Source record: 6708

"K1TTT" <k1ttt@arrl.net> wrote
news:6d22d1ab-5eea-487a-9118-740dad903871@f14g2000vby.googlegroups.com...
On Nov 6, 9:10 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> But you know that the antenna must be tunned. Probably the field emission
> starts after tunning.
> It would be interesting to measure the voltage pikes on the tip of CB whip
> before and after tunning.
>
>> If the voltage pikes are asymmetric than the field emissin/absorption
>> also
> and we have Stokes drift.
>>
>> How to mesure Stokes drift - it is a question.

>i have measured the voltage at the tip of an antenna, it is a nice
sine wave, no spikes.

How many volts is before tunnig and after.

> we don't use spark gap any more if you haven't
noticed, modern radios use nice symmetric sine wave circuits. if we
didn't have nice sine waves there would be harmonics that would
interfere with other bands. your distorted waves would be horrible in
today's world. look up specifications for distortion in radio
transmitters and then go study fourier transforms to see the effects
of distortion on the spectrum of the signal.

It seems that distortion is very small.

> i am bored, you have no
new theories like art does, you just keep picking random unrelated
facts, so this just isn't fun any more.

I am tired also. I come back whan I find "How to measure Stokes drift"
Best Regards,
Szczepan

4709. Re: Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 16:29:10 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <7gvad6deids7vq4b0k8usncfebl7b57bea@4ax.com>
Source record: 6709

On Fri, 5 Nov 2010 23:31:58 -0400, "Barry" <none@nospam.org> wrote:

>The addition of a new metal roof to my home has prompted my interest in a
>small rooftop tower. I am considering the Glen Martin Engineering 4.5-
>and 8-foot aluminum towers. However, in doing some research on the
>company, I have read many reviews (particularly on eHam.net) where people
>brought up shoddy workmanship such as misdrilled holes, double-punched
>slots, burrs, incorrect documentation, missing parts, etc. Many
>complaints were about shipping too. However there also were several
>people well-satisfied with their products.
>
>Because of this, I decided to check with the Better Business Bureau of
>Boonville, MO, where the company is located. They have a B+ rating, and
>the judging criteria of the BBB tends to give the company an overly
>positive rating in my opinion. Interestingly, SalaryList.com gives the
>fall 2006 salaries of design engineers at Glen Martin to be $41K and that
>of a project manager to be $32K. The average salary for the county at
>that time was $26.4K. I consider these to be rather low. I have not
>seen any ads by the company in QST recently either, and the League has
>stringent standards for any company advertising in a League publication.
>
>None of this gives me a "warm fuzzy feeling" about the company and its
>products, but I am willing to keep an open mind. I would therefore
>appreciate any readers of these newsgroups posting their experiences with
>the company and its products.
>
>My application, by the way, is to support a 43-foot vertical and small
>Yagi's for 6- and 2-meter SSB.

I have not even seen any of their products but they have been around
for a while.

When you undertake a project like this it is important that you
consider your expectations. If you are unwilling to solve a few
problems as you go it would be best if you contracted with some one
else to get the job done.

Installing an off site fabrication seldom happens without a few
problems. If the manufacturer is willing to work with you it helps. If
not, you must be prepared to solve the problems on your own.

They have some products that are not available anywhere else. You may
be unable to realize your objectives without their products!

BTW, public figures are seldom reliable. There are a lot of business's
that are not run with simply a profit motive.

John Ferrell W8CCW

4710. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 18:55:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <l39bd6p3ib5eh7cvli9ttr0mvnq7pl9k4l@4ax.com>
Source record: 6710

On Sat, 6 Nov 2010 03:39:36 -0700 (PDT), spamhog <n1jpr@hotmail.com>
wrote:

> no pretense to have perfect match
>or minimum losses.

And then you recite a number of matching options.

What do you REALLY want?

73's
Richard Clark, KB7QHC

4711. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 23:23:28 UTC
From: Barry <none@nospam.org>
Message-ID: <PrlBo.11667$Ou2.11592@newsfe20.iad>
Source record: 6711

"spamhog" <n1jpr@hotmail.com> wrote in message
news:ea3b80d3-a880-47b0-bb9b-33f7a62eb261@k13g2000vbq.googlegroups.com...
>I have a similar practical real problem.
>
> A vertical 120 ft working 75 ohm coax line hung from the top.
>
> The soft foamed dielectric MAY be crushed under the cable's own weight
> 10 ft from the top end.
>
> If it is I must change the hanging system.
>
> ASSUMPTIONS
> - the dielectric is crushed to 1/2 the original thickness over 2
> inches length 10 ft from the far end
> - I can put a good quality non-reflecting 75 ohm load at the far end.
>
> QUESTION
> Can I expect such a defect to generate a detectable reflection at
> 2GHz?

Yes. The cable impedance will be lowered in the vicinity of the crush.

A good time-domain reflectometer can see the impedance mismatch of
connectors - even you are using types C, N, TNC or BNC. UHF type
connectors, such as the PL-259, are readily seen. Your section of
crushed dielectric should "stick out like a sore thumb" on a TDR trace.
Termination at the far end is not necessary but it will make the
understanding of the TDR waveform easier.

Impedance mismatches, even though they are short in length, become more
important the higher in frequency as you go.

73, Dr. Barry L. Ornitz WA4VZQ WA4VZQ@live.com

4712. Re: Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 23:30:52 UTC
From: Barry <none@nospam.org>
Message-ID: <NylBo.10352$lL3.5047@newsfe08.iad>
Source record: 6712

"dave" <dave@dave.dave> wrote in message
news:4cd555f2$0$5486$bd467cd0@news.dslextreme.com...
>
> http://www.starkelectronic.com/cmhard.htm
>

This site is primarily chimney mounts and a few galvanized steel tripods.
The house does not have a chimney (after all, I live in SC), and a tower
with four legs is preferable to a tripod when roof-mounting an antenna at
the apex.

Barry WA4VZQ

4713. Re: Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-06 23:58:50 UTC
From: Barry <none@nospam.org>
Message-ID: <%YlBo.4772$8m.4517@newsfe09.iad>
Source record: 6713

"John Ferrell" <jferrell13@triad.rr.com> wrote in message
news:7gvad6deids7vq4b0k8usncfebl7b57bea@4ax.com...

> I have not even seen any of their products but they have been around
> for a while.

Yes, and their manufacturing problems have had ample time to be fixed by
now. The reported complaints seem to be evenly distributed over time
from the early days of the company to September of this year.

> When you undertake a project like this it is important that you
> consider your expectations. If you are unwilling to solve a few
> problems as you go it would be best if you contracted with some one
> else to get the job done.

These rooftop towers are trivial in design and construction. Rohn and
other tower companies seem to have no major complaints. Why should I
have to solve their manufacturing defects?

> Installing an off site fabrication seldom happens without a few
> problems. If the manufacturer is willing to work with you it helps. If
> not, you must be prepared to solve the problems on your own.

In Glen Martin's favor, most reports say the company has been good in
supplying replacement parts. Better quality control would save their
company money over having to ship replacements.

> They have some products that are not available anywhere else. You may
> be unable to realize your objectives without their products!

Their rooftop towers are so simple to build, a local fabricator could
easily build one. Getting the 308 stainless hardware locally in small
quantities is a problem, but welded construction would eliminate the need
for most of this.

> BTW, public figures are seldom reliable. There are a lot of business's
> that are not run with simply a profit motive.
>
> John Ferrell W8CCW

Glen Martin Engineering is a woman-owned company, and while I have known
many fine woman engineers and managers, this is typically done in small
businesses for the tax advantage (minority ownership). I seriously doubt
that they are not run for a profit!

73, Barry WA4VZQ

4714. Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 01:46:03 UTC
From: Bajamatic <Bajamatic.71bead9@radiobanter.com>
Message-ID: <Bajamatic.71bead9@radiobanter.com>
Source record: 6714

Today I started experimenting with listening antennas. My goal is to find something I can pack in my truck and set up deep in the heart of baja for weather nets. My first purchase was an ANLP1 active antenna and that works great because right now I'm using a G5 portable radio which like the ANLP1 has a mini Jack connector. However I'm making a big upgrade in the radio departmnet (probably a aor7030) so I wanted to start testing against the ANLP1 to get some antenna intel and a random wire was the obvious first step. At first glance the random wire seems to work a little better than the ANLP1. At times the wire seems to pull in more signal and at times it's almost exactly the same. The wire is 100 feet long and hanging about 30 feet up. The ANLP1 is about 20 feet up. So I have some questions for all you folks who know lots about this stuff. Thanks for any info you can share.

Is this a suprising result? I kinda thought the active antenna would outperform the wire.

Will a tuned mutliband really be that much better?

If you were going to make an antenna that's relatively easy to store and set up with the goal of getting some
fun radio stations and a handfull of sideband stations what would you opt for? I would define easy as raising a 30ft guyed mast as relatively easy. A 140 foot multiband wire antenna off that would be pushing the limits if not too much space.

And finally, will the reception of the ANLP1 increase very much if it's 30 feet up?

Thanks for your time helping out a rookie. I'm slowly being sucked in!

--
Bajamatic

4715. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 07:05:01 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1289113501@panix.com>
Source record: 6715
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

4716. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 07:15:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f6kcd65jtmk7n1i5vneirnfu1ridk8br21@4ax.com>
Source record: 6716

On Sun, 7 Nov 2010 01:46:03 +0000, Bajamatic
<Bajamatic.71bead9@radiobanter.com> wrote:

>Is this a suprising result? I kinda thought the active antenna would
>outperform the wire.

You don't tell enough specifics to judge your experience. Frequency,
time of day, antenna orientation all play significant factors.

However, as you are going into a desert location (or at least a very
much less populated area), you are going to have less noise to contend
with, and less interfering signals (out of band signals like AM
stations can seriously de-sensitize your receiver). All this bodes
well for a simple wire antenna (and not necessarily goliath 100
footers). Any additional equipment would be an antenna tuner (a very
cheap version of what Ham radio operators use for transmitters - so
you won't need those power/SWR meters) and some form of ground - if
only another wire trailing along the ground.

73's
Richard Clark, KB7QHC

4717. Re: Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 14:41:11 UTC
From: kb9rqz <mmpunce69@hotmail.com>
Message-ID: <CUyBo.16671$NM2.9571@newsfe22.iad>
Source record: 6717
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.policy

```
"rec.radio.info Admin" <rram@panix.com> wrote in message
news:radio/ham-radio/recruitment-1-1289113501@panix.com...
> Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
> Archive-name: radio/ham-radio/recruitment
> Revision: 1.2 2009/11/25 14:41:01
> Posting-Frequency: posted monthly
> URL: http://www.faqs.org/faqs/radio/personal-intro/
>
> Changes followed by "|".
>
> The rec.radio.info newsgroup, first established in 1993, has been
> recently revived by an active moderation team. We are currently seeking
> suitable information, FAQ, and bulletin articles from the entire
> rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
> newsgroup.
>
> We are seeking a replacement maintainer for the following information
> bulletin formerly posted to rec.radio.amateur.* (and currently archived
> at http://www.faqs.org/faqs/radio/personal-intro/ ):
>
> radio/personal-intro
> Subject: Guide to the rec.radio Newsgroups
> Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
> Last Posted: 9 Nov 2001 06:18:17 GMT
> Posting-Frequency: 15th of each month
>
> One significant omission, requiring immediate updates, for this article
> |
> is that it does not mention newer amateur radio newsgroups created since
> |
> it was written, including:
> |
>
> rec.radio.amateur.antenna
> |
> rec.radio.amateur.boatanchors
> |
> rec.radio.amateur.dx
> |
> rec.radio.amateur.equipment
> |
> rec.radio.amateur.homebrew
> |
```

> rec.radio.amateur.moderated
> |
> rec.radio.amateur.space
> |
>
> We are willing to provide any technical support necessary to get this
> article updated and automatically posted again at a regular interval.
> This would include establishing contact with the original maintainer for
> any necessary permissions. We would prefer to seek a new, dedicated
> maintainer at this time, rather than start auto-posting the original
> article ourselves.
>
> For more information about our newsgroup, see:
>
> http://www.panix.com/~rram/usenet/rri/index.html
>
> Please direct any comments, questions, or criticisms to
> rec-radio-info-request@panix.com.
>
>
>
He wonder why i simple.

4718. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 15:29:17 UTC
From: nm5k@wt.net
Message-ID: <51b6d47c-010e-4fcc-b9e5-0b87319d06ad@35g2000prb.googlegroups.com>
Source record: 6718

On Nov 6, 7:46 pm, Bajamatic <Bajamatic.71be...@radiobanter.com>
wrote:

>
> Is this a suprising result? I kinda thought the active antenna would
> outperform the wire.

Sounds normal to me. The loop on the active antenna is
very small. Not a heck of a lot for the preamp to work with.

>
> Will a tuned mutliband really be that much better?

Not if you are just receiving.
>
> If you were going to make an antenna that's relatively easy to store and
> set up with the goal of getting some
> fun radio stations and a handfull of sideband stations what would you
> opt for?

I use dipoles fed parallel from coax. But I transmit..

> I would define easy as raising a 30ft guyed mast as relatively
> easy. A 140 foot multiband wire antenna off that would be pushing the
> limits if not too much space.
>

Would be overkill for receiving.

> And finally, will the reception of the ANLP1 increase very much if it's
> 30 feet up?

Not for most signals. Only if they were line of sight.

>
> Thanks for your time helping out a rookie. I'm slowly being sucked in!
>
> --
> Bajamatic

If you are receiving, you really don't even need a feedline for
random wire antennas. So I'd just take a roll of wire and throw it
up to match the site. Heck, take both of them if you have the
room. But if I had to choose one, I'd take the wire.
Even 50 feet should be plenty. And it doesn't have to be high
off the ground either.

I camp quite a bit, and have often transmitted with dipoles as low as five or so feet off the ground when I had no trees or tall supports.

I've got a place out in the sticks, and I always have a radio there, but I have dipoles in the trees that I leave there. I run 80 and 40 dipoles on a single coax and the apex is up in an oak tree about 25 feet or so. I've got about 100 feet of RG-58, so it will pretty reach
anywhere around the camp or driveway area. I usually stick the radio on a stone bench I have there and power it off the car.
When I leave, I roll up the coax and hang it on a tree branch stump.
This was about three weekends ago.. Weather net on 75m I stumbled across.. Scuse the camera focus hunting.. :/
http://home.comcast.net/~disk100/radio.wmv

BTW.. the antenna is resonant 80/40, but I have no trouble receiving any other HF frequency. When I was there three weeks ago, all bands were open up to 10 meters and I had no trouble hearing any of them. Receiving is just not very critical.
It even does OK on VHF.. I listen to the local sheriff dept, etc at night sometimes. I have no trouble hearing them on that HF antenna.
I've got to where I use the radio more out there in the sticks than I do here at home.. :/

4719. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 19:03:52 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrniddu0o.2hjh.knock_yourself_out@shell.config.com>
Source record: 6719

```
On Sun, 7 Nov 2010 07:29, nm5k@wt.net wrote:
> On Nov 6, 7:46ï¿½pm, Bajamatic wrote:
>
>> And finally, will the reception of the ANLP1 increase very much if
>> it's 30 feet up?
>
> Not for most signals. Only if they were line of sight.

Well, it _might_ get the device up and away from local _noise_ sources.
```

4720. Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 19:08:36 UTC
From: David <nospam@nospam>
Message-ID: <VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com>
Source record: 6720

Which antenna is better: 5/8 wavelength vertical or a J pole?

Frequency of operation is 145 MHz = 2 metres.

The 5/8 wavelength vertical has a loading coil. There are losses in the coil.

The J pole has a quarterwave matching stub. The matching stub provides an out of phase current which means that there is a cancelling field close to the radiating element. Also the J pole is end fed, which means the transmitter is not connected directly to a maximum current point.

Does the J pole have a disadvantage because of the cancelling field from the matching stub and the fact that it is end fed?

Also consider gain and angle of radiation.

4721. Re: Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 19:47:54 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <f60ed6t84i65cuq99l2u4q05kmebe2vjhg@4ax.com>
Source record: 6721

On Fri, 5 Nov 2010 23:31:58 -0400, "Barry" <none@nospam.org> wrote:

>The addition of a new metal roof to my home has prompted my interest in a
>small rooftop tower.

....
>
>My application, by the way, is to support a 43-foot vertical and small
>Yagi's for 6- and 2-meter SSB.

I have one Glen Martin product, a ground rod driver that is
beautifully made and very effective.

Otherwise on your roof mounts, it would seem the trickiest part would
be drilling blindly through your roof to attach the rather substantial
Glen Martin towers to attic beams. Plus whatever leaks the process
might create.

Bob
k5qwg

4722. get kelp

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 19:57:52 UTC
From: kb9rqz <mark@kb9rqz.com>
Message-ID: <7ec01ad6-0598-464f-8e1d-40c123f4f8bc@n32g2000pre.googlegroups.com>
Source record: 6722
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.policy

```
> "rec.radio.info Admin" <r...@panix.com> wrote in message
>
> news:radio/ham-radio/recruitment-1-1289113501@panix.com...
>
>
>
> > Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
> > Archive-name: radio/ham-radio/recruitment
```

stop trolling rrap

4723. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-07 20:18:47 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E2A4A64E6A7Dnonenowhere@61.9.134.55>
Source record: 6723

"David" <nospam@nospam> wrote in
news:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com:

>
> Which antenna is better: 5/8 wavelength vertical or a J pole?

Better for what? For example, a 5/8 whip would usually be better than a J Pole for mobile applications on a car roof, but that doesn't make it better for all applications.

>
> Frequency of operation is 145 MHz = 2 metres.
>
> The 5/8 wavelength vertical has a loading coil. There are losses in
> the coil.

It is certainly popular to talk down an antenna with loading coils or traps because they are "lossy".

Everthing in a real world antenna has loss, the issue is the magnitude of the loss, and the impact of that on system performance for the intended application.

You might find it hard to believe that some antenna systems incorporate loss elements in order to reduce feed line loss by more than that in the introduced elements.

Whilst you have chosen to raise the loss in the coil, you haven't raised the issue that a J Pole has currents flowing in lossy conductors, components of which that do not directly contribute to radiation.

>
> The J pole has a quarterwave matching stub. The matching stub provides
> an out of phase current which means that there is a cancelling field
> close to the radiating element. Also the J pole is end fed, which

This is not a very good way of analysing the J Pole. The U section can be thought of as carrying currents that have differential and common mode components. The common mode components contribute directly to radiation field. You should also consider common mode current on the supporting structure and feedline.

The 5/8 wave vertical also has potential for significant common mode current on the supporting structure and feedline, you need to look at the effectiveness of the decoupling method employed (usually a radial set).

> means the transmitter is not connected directly to a maximum current
> point.

What does that matter? BTW, neither is the base fed 5/8.

There is a maxim in ham radio that antennas should always be fed at a current maximum. You could subscribe to that, but you would limit yourself by excluding a range of good solutions, and with no guarantee that a current fed antenna is optimum.

>
> Does the J pole have a disadvantage because of the cancelling field

There is not perfect cancellation at all points on the U section.

> from the matching stub and the fact that it is end fed?

"End fed", as opposed to a centre fed dipole perhaps. But isn't the 5/8 "end fed"?

>
> Also consider gain and angle of radiation.

The three dimensional gain distribution is important, but dependent on the common mode issue mentioned above (amongst other things).

It is fair to say that J Poles are very popular, and that they are overly represented in problems discussed in online fora.

On the other hand, the 5/8 which was once very popular for mobile work in this area, is long lost, replaced by two, three and four band antennas where VSWR is more important than any other performance parameters. I use a 5/8 vertical on my car, and regularly work repeaters mobile at distances well over 100km. The antenna is more than thirty years old, and has never required repair despite hitting low trees, carpark roofs etc lots of times. The modern multiband antennas are not that robust. I wouldn't even think of a J Pole in this application.

So, "best" can be a quite complex requirement.

Owen

4724. Re: Hy-Gain BN-86 for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 00:03:08 UTC
From: tom <news4792@taring.org>
Message-ID: <4cd73e3c$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6724

On 11/6/2010 9:48 AM, Henry wrote:
> I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
> asking $40 for it. The instruction manual can be viewed at:
>
> http://www.thiecom.de/pdf/BN-86.pdf
>
> The balun can be viewed at:
>
>
http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf
>
>
> or
>
> http://tinyurl.com/yktwxpz click on photo to enlarge it.
>
> Henry WA0GOZ

You do understand this is NOT a list that is posting items for sale?

Stupid question, of course you don't. Understand that is.

tom
K0TAR

4725. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 11:23:19 UTC
From: nm5k@wt.net
Message-ID: <b9378a2f-1074-4467-9fc4-ca7440dd4475@x7g2000prj.googlegroups.com>
Source record: 6725

On Nov 7, 1:03 pm, Allodoxaphobia <knock_yourself_...@example.net>
wrote:
> On Sun, 7 Nov 2010 07:29, n...@wt.net wrote:
> > On Nov 6, 7:46 pm, Bajamatic wrote:
>
> >> And finally, will the reception of the ANLP1 increase very much if
> >> it's 30 feet up?
>
> > Not for most signals. Only if they were line of sight.
>
> Well, it _might_ get the device up and away from local _noise_ sources.

If he's out in the sticks, there should be no local noise sources.
That's one reason why he really doesn't need to even use a
feed line per say. Local noise should not be an issue.
And if there were any power line noise from the general area,
elevating the antenna will just increase it if it's line of sight.
For sky wave signals, elevating that small loop is not
worth the trouble out in the Baja which I assume is a semi-
desert type terrain. It should do almost as well low as it
does elevated.
As long as the signals are not local line of sight, even the wire
antenna doesn't need to be too high. Five feet off the ground
will work just fine for most HF reception that is sky wave.
With a decent length wire, you will still have more signal
than is required for any decent radio. And almost anything
made these days is fairly sensitive. Even the cheap portables.

4726. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 12:09:01 UTC
From: nm5k@wt.net
Message-ID: <e801a1ad-4a36-45fc-925d-4385b7905cf3@i32g2000pri.googlegroups.com>
Source record: 6726

On Nov 7, 1:08 pm, "David" <nospam@nospam> wrote:
> Which antenna is better: 5/8 wavelength vertical or a J pole?
>
> Frequency of operation is 145 MHz = 2 metres.
>
> The 5/8 wavelength vertical has a loading coil. There are losses in the
> coil.
>
> The J pole has a quarterwave matching stub. The matching stub provides an
> out of phase current which means that there is a cancelling field close to
> the radiating element. Also the J pole is end fed, which means the
> transmitter is not connected directly to a maximum current point.
>
> Does the J pole have a disadvantage because of the cancelling field from
> the matching stub and the fact that it is end fed?
>
> Also consider gain and angle of radiation.

They are both "problem" antennas.. The usual 5/8 GP
is a problem antenna because years ago some designer
decided to use 1/4 wave radials instead of 5/8 or even
3/4 wave.
And most ignore common mode issues.

The J Pole often suffers because most tend to ignore
common mode issues, which leads back to lame
incomplete antenna design. :/

Both can be greatly helped by adding decoupling
sections at and below the feed point.
The 5/8 antenna should be run as a collinear
with dual 5/8 elements.
And with a lower decoupling section.
The dual 5/8 collinear is more effective than any
half wave vertical, even if the half wave is decoupled
from the feed line.

BTW, I have no real issues feeding from a high voltage
point. And the loss in a 5/8 loading coil is probably
not enough to even measure for most people.
Both are non issues.
The real issue is lack of decoupling, and using a
perverted 5/8 over 1/4 wave element scheme in
the case of the usual 5/8 ground plane.

The perverted antenna design actually ruins the pattern of what would be a decent antenna if it were designed correctly with dual 5/8 elements. Even running 3/4 wave sloping radials is much better than using the usual 1/4 wave radials.

Of course, mobile 5/8 whips are only the upper half of the antenna. They don't supply the lower half in that case. For those, the vehicle is the lower part of the antenna and performance can vary from good to horrible depending on where it's mounted.

4727. Re: Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 16:49:59 UTC
From: "R. Scott" <w7psk@yahoo.com>
Message-ID: <845d9998-a3f7-47cd-8de1-2ca23c477640@p20g2000prf.googlegroups.com>
Source record: 6727

I guess I should chime in

I have the Glenn Martin 9ft Roof tower and Im extremely pleased with it. Its very solid and I can stand on it and shake it and it doesn't move (and I'm
a very heavy guy).

The assembly went well with only a few minor tweaks for holes. Not a BIG ISSUE. I swear half the people that complain would rather have tower
fairies show up and assemble them. If you dont want to do a little work dont buy this tower.

The shipping was very fast to my northwest home and Yes they did make an error. I bought the 9ft and they sent an 18ft. They told me I could
keep the 18 ft as it was their mistake. But that would not have worked at my QTH. So they sent UPS to pick up the very next day and I received
the 9ft very rapidly as they Expedited it.

I have an A4S up there and its all solid.

as far as install

I set the tower on 2X4s on top of the roof under the tower feet, predrilled for long lag bolts. I roof tared under the 2X6's and down in the holes before
I Installed the tower. Under the Rafter I have 2 2X10s that are 10 feet long. The bolts come down through the 2X4s, the roof then down through the
2X10s. Its all pulled snuggly up and that distributes the load over the rafters.

Ive not seen any leaks yet in a year + its been up.

Count me as satisfied.

Scotty W7PSK.

4728. Re: how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 17:17:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ib9basduk2@news.jpl.nasa.gov>
Source record: 6728

spamhog wrote:
> PROBLEM
>
> I have to hang a straight ~120 foot = 40 meter drop of RG-6 type
> foamed dielectric coax. No way to secure it mid-way as it's an
> abandoned and unaccessible chimney flue line.
>
> Right now all the weight is on a rounded rest on top, diameter ~ 4"/10
> cm, made by sticking 3 rubber pipes of different size one inside the
> other and taping the coax to itself, leaning on a section of plastic
> pipe
>
> The weight is quite ~ 5 kg if I remember correctly. I think there is
> no way that leaning over a 10 cm. dia. rest won't crush the foam
> dielectric over the years. I may be wrong, but finding out is not
> simple at all.
>
> This thing now only carries HF and a bit of crushing is not important
> (+ I can't easily test it!), but I want to make sure I can do 2 GHz in
> the future, and I don't know the proper or standard way of hanging a
> LONG vertical coax drop.
>
> Now I have a chance to re-hang the coax, and I want to run it along a
> load-bearing PVC-covered steel cable, perhaps 4 mm dia.. The coax
> itself is the usual 6 mm -something. I am considering a couple of
> options:
>

Maybe you have the coax and steel cable for free, but ...

why not use the coax used for cable tv service drops which has the coax
and steel cable integrated into one assembly? It's got the jacket
integrated with the supporting cable, so the loads are very evenly
distributed, etc.

4729. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 18:44:04 UTC
From: Bajamatic <Bajamatic.71e3978@radiobanter.com>
Message-ID: <Bajamatic.71e3978@radiobanter.com>
Source record: 6731

Thanks for all this info. As i'm still just listening, I think I'm starting to understand that all the tuning and matching is somewhat irrelevant to my needs. There is literally nothing for miles where I'll be deploying this and all I really care about is catching the morning weather round up around 7250 kHz and then whatever else I can pick up while sitting fireside. So far the random wire seems like the cheapest and easiest way to go, and maybe even the best all around performer. I figure I'll get a spool of wire and run it at least 4 feet off the ground - is that really all I need to do?! Since thats so easy, I'll probably play with a SUPER long one (500 feet+), and then find the best balance between performance length and convenience. Two more questions before I put it to test:

will if effect the performance if the antenna comes into contact with the ground?

Will I get the same results if I make a 20 foot x 20 foot square and run a huge length of wire along the perimeter at different heights so as not to short but essentially 500 feet of wire run around a shape instead of in a relatively straight line?

Thanks for all your insight.

bmtc

--
Bajamatic

4730. Newbie Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 21:56:33 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ib9rmi$3dt$1@news.eternal-september.org>
Source record: 6729

Hello,

Two questions, please:

a. Is there some way to tell if a USB cable is USB 2, or if it is an
older version ? Some symbol on it, perhaps ? What about for USB 3 ?

Is USB downward compatible for USB usages ?

b. Any recommendations for an indoor antenna for HF (<30 MHz) that
would be omni-directional, and really small in size ?

Would like to have something reasonably sensitive that might fit on a
desktop, or on top of the radio itself.

Would it have to be an active-antenna to meet this criterian ?

Thanks,
Bob

4731. Re: Newbie Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-08 22:16:26 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2de0381b-a3a9-4375-8f72-7841fbb99818@y2g2000prf.googlegroups.com>
Source record: 6730

On Nov 8, 9:56 pm, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> Two questions, please:
>
> a. Is there some way to tell if a USB cable is USB 2, or if it is an
> older version ? Some symbol on it, perhaps ? What about for USB 3 ?
>
> Is USB downward compatible for USB usages ?
>
> b. Any recommendations for an indoor antenna for HF (<30 MHz) that
> would be omni-directional, and really small in size ?
>
> Would like to have something reasonably sensitive that might fit on a
> desktop, or on top of the radio itself.
>
> Would it have to be an active-antenna to meet this criterian ?
>
> Thanks,
> Bob

small hf receivers come with a simple extend able whip and an internal
ferrite stick for the real low bands... this is adequate if you are
just swling and stuff like that. a separate active antenna would give
you more flexibility in case the spot where the radio is has too much
noise from being near a computer or tv or something like that.
dropping a wire out a window or even running it around the frame of a
window is also a way to hide a bigger antenna. for the most part when
you are inside like that you are going to be more limited by local
noise than signal strength on just about any antenna.

4732. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 00:17:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ak4hd69pmib9b79g6v9qjtlts9tspogjjg@4ax.com>
Source record: 6732

On Mon, 8 Nov 2010 18:44:04 +0000, Bajamatic
<Bajamatic.71e3978@radiobanter.com> wrote:

> I'll
>probably play with a SUPER long one (500 feet+), and then find the best
>balance between performance length and convenience.

Take care to anticipate that this long an antenna may well have to
pointed at (lengthwise) the station you want to receive instead of
pointed broadside to it.

>Two more questions
>before I put it to test:
>
>will if effect the performance if the antenna comes into contact with
>the ground?

Yes - more loss. However, the troops in Desert Storm did it in the
sand dunes; but they were only talking to local operations - not DXing
Andorra.

>Will I get the same results if I make a 20 foot x 20 foot square and run
>a huge length of wire along the perimeter at different heights so as not
>to short but essentially 500 feet of wire run around a shape instead of
>in a relatively straight line?

500 feet of wire is not a virture.

73's
Richard Clark, KB7QHC

4733. Re: Newbie Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 03:52:50 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <e436d79d-a5ae-48ba-af46-f4413a5dc5ee@f16g2000prj.googlegroups.com>
Source record: 6733

On Nov 8, 1:56 pm, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> Two questions, please:
>
> a. Is there some way to tell if a USB cable is USB 2, or if it is an
> older version ? Some symbol on it, perhaps ? What about for USB 3 ?
>
> Is USB downward compatible for USB usages ?
>
> b. Any recommendations for an indoor antenna for HF (<30 MHz) that
> would be omni-directional, and really small in size ?
>
> Would like to have something reasonably sensitive that might fit on a
> desktop, or on top of the radio itself.
>
> Would it have to be an active-antenna to meet this criterian ?
>
> Thanks,
> Bob

Re USB: So far, I've had few issues intermixing USB 1.1 and USB 2.0 devices. The one exception: my old Win-98 laptop doesn't like large thumbdrives. Maybe it doesn't understand them; they're supposed to be driverless but the laptop asks for the driver, anyway. New laptop, no problems.

I have several brands of USB 1.1 and 2.0 memory modules which work fine on either my old or new computers, with a transfer speed difference, of course. I have a couple of USB hubs and they seem to work fine, too. One computer does warn if I'm using a high speed device on a low speed port, but it goes ahead and works as soon as I close the warning.

"Sal"

4734. Re: Heath VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 04:03:51 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <b812e2b6-e261-4dc2-ac7a-ac6ca8776c8c@w38g2000pri.googlegroups.com>
Source record: 6734

On Nov 6, 6:47 am, Henry <wa0...@arrl.net> wrote:
> I have a Heath HM-2102 VHF SWR meter 50-160 MHz
> 0-25 and 0-250 watts. Very good condition.
>
> I'm *asking* $40 plus shipping.
>
> It can be viewed at:
>
> http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf...
>
> or
>
> http://tinyurl.com/yktwxpz click on photo to enlarge it.
>
> Henry   WA0GOZ

Henry may be inconsiderate for posting a sale item here (twice) but
he's not stupid. rec.radio.swap is so poisoned with spam as to be
useless. Sorry Henry.

4735. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 04:11:29 UTC
From: 'Doc <ltdoc@yahoo.com>
Message-ID: <1794e15f-4a23-4e9c-b008-43117bb810eb@32g2000yqz.googlegroups.com>
Source record: 6735

Which is better?
As already said, just depends on what you are looking for. One thing
about these two antennas is that one is a 1/2 wave, the other a 5/8
wave. They have different radiation patterns/characteristic. So,
which of those characteristics would 'fit' your requirements the
best? That's the one that's best for -your- situation.
- 'Doc

4736. Re: Newbie Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 05:13:47 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9E2AD7F824EF3greederxprtnet@94.75.214.90>
Source record: 6736

"Sal M. Onella" <sobars@cox.net> wrote in news:e436d79d-a5ae-48ba-af46-f4413a5dc5ee@f16g2000prj.googlegroups.com:

> Re USB: So far, I've had few issues intermixing USB 1.1 and USB 2.0
> devices. The one exception: my old Win-98 laptop doesn't like large
> thumbdrives. Maybe it doesn't understand them; they're supposed to be
> driverless but the laptop asks for the driver, anyway. New laptop, no
> problems.

Win98 needs drivers installed for any USB device. That was the one thing that pushed my into Win XP. Win XP has generic drivers for most common USB devices.

There is no difference between USB 1.0 and USB 2.0 cables.

4737. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 06:19:10 UTC
From: Bajamatic <Bajamatic.71ee238@radiobanter.com>
Message-ID: <Bajamatic.71ee238@radiobanter.com>
Source record: 6741

Thanks for the advice.

--
Bajamatic

4738. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 07:32:48 UTC
From: Peter <pm@hotmail.com>
Message-ID: <_ZydnY8EYKSxZEXRnZ2dnUVZ7radnZ2d@westnet.com.au>
Source record: 6737

"David" <nospam@nospam> wrote in message
news:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com...
>
> Which antenna is better: 5/8 wavelength vertical or a J pole?
>
> Frequency of operation is 145 MHz = 2 metres.
>
> The 5/8 wavelength vertical has a loading coil. There are losses in the
> coil.
>
> The J pole has a quarterwave matching stub. The matching stub provides an
> out of phase current which means that there is a cancelling field close to
> the radiating element. Also the J pole is end fed, which means the
> transmitter is not connected directly to a maximum current point.
>
> Does the J pole have a disadvantage because of the cancelling field from
> the matching stub and the fact that it is end fed?
>
> Also consider gain and angle of radiation.
>
>
>
>
>
I'm currently building a 5/8 wave ground plan for 2mx as a tower based
antenna, I have used J pole and slim jim type antennas in the past for the
same purpose with success. I would think that the 5/8 radiator may have
slight gain advantage, but believe that the J pole may have a slightly lower
angle of radiation. The J pole is certainly easier to construct as there is
a bit of mucking about with 1/8wave loading coil on the 5/8 antenna.
There has been much discussion about common mode currents produced on the
feed line for the J pole that can create an unpredictable radiation pattern
which is partly why I'm constructing the 5/8 and partly I'm building a 5/8
ground plan as I have never built one before.

Build both and compare.

If the antenna is for mobile I would certainly use the 5/8 antenna.

--
Peter VK6YSF

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

4739. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 09:12:16 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <d273355d-048b-4906-ae6d-a2a14eec9d38@z17g2000prz.googlegroups.com>
Source record: 6738

> A good time-domain reflectometer

Thank you Barry! Would TV/FM transmitter and cell BTS installers normally have such a device? I don't know any ham who has one but these days I am talking to professional antenna people. And, by the way, if one thing I am working on pans out, they'll come to install a BTS right atop my condo. (The challenge will be to convince them to let me hang HF wires from the same tower :-)

4740. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 09:48:16 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <6d77088a-5c42-4e71-97dc-a43aa2938ec8@z17g2000prz.googlegroups.com>
Source record: 6739

K1TTT
> just wind a coil choke

Richard
> What do you REALLY want?

There is a difference between a 12:1 and a 3:1 mismatch, especially in a long coax run. What I want is a rough mid-of-the-range estimate of where impedance in a 50'+50' squat inverted-V dipole across say 3-20MHz.

There is a gazillion description of such antennas fed via 450 ohm ladder lines, and a few with 600 ohm lines:
- ready made 450 ohm plastic clad line is commercially available
- 600 ohm line can be made with commercially available spacers for standard wire gauges.

Neither suggests that the corresponding impedance is a good midpoint. The advantage of ladder lines is extremely low loss, allowing for massive mismatches without much loss due to the exponentially-decreasing but still substantial backwave.

Being forced to use a coax, I am looking for a ballpark match not inspired by the current commercial availability of things I am not going to include in the design.

The random dipole and the T2FD and related antennas (like the ubiquitous 3-wire damped dipole sold by many companies for professional use) are operationally somewhat similar. All are compromise antennas usable in a large spectrum, all are rather funny in terms of losses, radiation efficiency, and radiation pattern.

The damping resistor is there exclusively to smooth the response over the spectrum, at a cost. One could even argue that a balun+coax fed tuned random dipole and an untuned T2FD of roughly similar size exhibit similar losses, ^cept one heats the coax more (once the ATU is peaked), and the other heats the resistor more, which should be handy in determining deicing strategies. ;-)

There is plenty of literature, including some baseline simulations, for the T2FD etc.. I haven't found the same for inverted-V random dipoles. Any pointers? Have I been googling for the wrong things?

4741. Re: how to hang a 120' / 40m drop in foamed RG6 ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 09:58:29 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <08ad6372-2017-42c0-a59c-63568294be58@o15g2000prh.googlegroups.com>
Source record: 6740

Thank you K1TTT and Jim.

I am not going to swap the whole line for a self-supporting type with steel wire in it. I have plenty of spare coax at the low end to cut out the potentially crushed bit and just shift it up.

K1TTT: yes, you correctly point out that the goal is to avoid undue stress, and the last several yards can be left hanging.
Iterating back, the simplest trick of all will be to
- pull it up much of the way
- tape it to the steel rope in at least 3-4 points by taping them together for at least a couple of feet
- let the span between two tiepoints hang somewhat loose.

Thanks again!

4742. Re: Heath VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 12:52:25 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <4c54af0a-e2b7-4fc7-95d0-581c7094cc06@j25g2000yqa.googlegroups.com>
Source record: 6742

On Nov 8, 10:03 pm, "Sal M. Onella" <sob...@cox.net> wrote:
> Henry may be inconsiderate for posting a sale item here (twice) but
> he's not stupid. rec.radio.swap is so poisoned with spam as to be
> useless. Sorry Henry.

Unfortunately, if everyone posted sale items here, this newsgroup
would also become completely useless even for the people posting the
sale items.
--
73, Cecil, w5dxp.com

4743. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 15:00:26 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <a7SdnbkCZ4iI_0TRnZ2dnUVZ_qydnZ2d@earthlink.com>
Source record: 6743

"spamhog" <n1jpr@hotmail.com> wrote in message
news:6d77088a-5c42-4e71-97dc-a43aa2938ec8@z17g2000prz.googlegroups.com...
> K1TTT
>> just wind a coil choke
>
> Richard
>> What do you REALLY want?
>
> There is a difference between a 12:1 and a 3:1 mismatch, especially in
> a long coax run. What I want is a rough mid-of-the-range estimate of
> where impedance in a 50'+50' squat inverted-V dipole across say
> 3-20MHz.
>
> There is a gazillion description of such antennas fed via 450 ohm
> ladder lines, and a few with 600 ohm lines:
> - ready made 450 ohm plastic clad line is commercially available
> - 600 ohm line can be made with commercially available spacers for
> standard wire gauges.
>
> Neither suggests that the corresponding impedance is a good midpoint.
> The advantage of ladder lines is extremely low loss, allowing for
> massive mismatches without much loss due to the exponentially-
> decreasing but still substantial backwave.
>
> Being forced to use a coax, I am looking for a ballpark match not
> inspired by the current commercial availability of things I am not
> going to include in the design.
>
> The random dipole and the T2FD and related antennas (like the
> ubiquitous 3-wire damped dipole sold by many companies for
> professional use) are operationally somewhat similar. All are
> compromise antennas usable in a large spectrum, all are rather funny
> in terms of losses, radiation efficiency, and radiation pattern.
>
> The damping resistor is there exclusively to smooth the response over
> the spectrum, at a cost. One could even argue that a balun+coax fed
> tuned random dipole and an untuned T2FD of roughly similar size
> exhibit similar losses, ^cept one heats the coax more (once the ATU is
> peaked), and the other heats the resistor more, which should be handy
> in determining deicing strategies. ;-)
>
> There is plenty of literature, including some baseline simulations,
> for the T2FD etc.. I haven't found the same for inverted-V random
> dipoles. Any pointers? Have I been googling for the wrong things?

>
>
>

If you are going to feed the dipole with coax, there is no balun ratio that would work over the whole range. I would say the best you can do is make it into the G5RV type antenna if 100 feet is about all you have to work with. I do not like the G5RV antennas, but for those that must make a big compromise system, it is one way to go.
If you must use coax, you may also want to look at getting some of the highest impedance coax you can find. Around 100 ohms if you can find any. Then feed the antenna with two runs of it. I am thinking that you just use the center conductors hooked to the dipole ends. Then treat it like open wire and feed it with a tuner.

4744. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 15:33:35 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <kKKdnVxeEq1G9ETRnZ2dnUVZ_smdnZ2d@earthlink.com>
Source record: 6744

"David" <nospam@nospam> wrote in message
news:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com...
>
> Which antenna is better: 5/8 wavelength vertical or a J pole?
>
> Frequency of operation is 145 MHz = 2 metres.
>
> The 5/8 wavelength vertical has a loading coil. There are losses in the
> coil.
>
> The J pole has a quarterwave matching stub. The matching stub provides an
> out of phase current which means that there is a cancelling field close to
> the radiating element. Also the J pole is end fed, which means the
> transmitter is not connected directly to a maximum current point.
>
> Does the J pole have a disadvantage because of the cancelling field from
> the matching stub and the fact that it is end fed?
>
> Also consider gain and angle of radiation.
>

I would not say any of the simple veticals are better. While I have not tried them from fixed locations, expirimenting with several differant mobile antennas over the years it seems that one type is not really that much beter than another.

Depending on the direction and height of the repeaters almost any antenna can be better going into one repeater and worse going to another. Several of us got together and put several antennas (one at a time) on the same mount of a car. Depending on the particular repeater, there was not one overall winner. The car also had a 40 meter loaded whip that we tried and it was actually better into some of the repeaters.

About the only antenna overall not suited was a colinear about 6 feet long. It worked well enough while parked, but at highway speeds it whipped around so much the mobile flutter made it almost unusable.

4745. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 16:19:57 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <6d3aa0f3-fb5e-42ca-825a-0d59bbbd4644@j2g2000yqf.googlegroups.com>
Source record: 6745

> If you are going to feed the dipole with coax, there is no balun ratio that
> would work over the whole range.

> If you must use coax, you may also want to look at getting some of the
> highest impedance coax you can find.

I humbly and apologetically decline to comment and, hereby, of course,
deviously venture obliquously to imply that the customary norm of duly
perusing an interrogative ponderation, previously consigned to a
written medium of unrestricted admittance, ahead of proffering a reply
thereto, which in turn will be inscribed for posterity to gape at,
cannot wantonly be construed to be peculiarly fraught with some
unnamed yet capital order of detriment. :-)

4746. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 16:44:21 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <3d183b5a-068d-4037-857f-94fffc1150ed@y23g2000yqd.googlegroups.com>
Source record: 6746

While out and about beware of your DC-AC inverter if you have one. If hear whistles and hum, it might come from your own DC-AC inverter. All my AC stuff (PC, cell chargers) is strictly inside the car, so not much noise escapes and even longwave is clear and quiet (I am in Europe). If you have that problem, move antenna and other electric stuff away from each other.

The AOR7030 has a high impedance wire antenna input. If you're really fireside, not easy to beat a random wire, and not even a terribly long one. I wouldn't bother with more than 30-50'.

Just don't trip in the power cord under the moonlight. That radio needs external power, 12Vdc from a vehicle is fine.

You'll have great fun, I envy you a bit.

4747. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 17:48:20 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <44eoq7-bel.ln1@mail.specsol.com>
Source record: 6749

spamhog <n1jpr@hotmail.com> wrote:
>
>> A good time-domain reflectometer
>
> Thank you Barry! Would TV/FM transmitter and cell BTS installers
> normally have such a device? I don't know any ham who has one but
> these days I am talking to professional antenna people. And, by the
> way, if one thing I am working on pans out, they'll come to install a
> BTS right atop my condo. (The challenge will be to convince them to
> let me hang HF wires from the same tower :-)

If you have an oscilloscope, a pulse generator and a calculator you have
a TDR.

If you don't have a pulse generator it takes about 2 IC's to build one.

--
Jim Pennino

Remove .spam.sux to reply.

4748. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 17:54:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <062jd65q6k2tqj4rlk9em9699leopmg984@4ax.com>
Source record: 6747

On Tue, 9 Nov 2010 08:44:21 -0800 (PST), spamhog <n1jpr@hotmail.com>
wrote:

>The AOR7030 has a high impedance wire antenna input. If you're
>really fireside, not easy to beat a random wire, and not even a
>terribly long one. I wouldn't bother with more than 30-50'.

To give some context with my own experience "in the wild" of South
Africa Zulu/Natal (actually at a 5 star safari camp), I took the
cheapest digital SW radio I could find at Radio Shack, 20 feet of
wire-wrap wire, and connected an alligator clip to the wire so that I
could then connect the wire to the whip antenna.

Without the wire, reception was limited to the hum-drum of BBC, VOA,
DW - with the wire thrown up over a rafter the number of signals were
considerable. I've always considered it underwhelming to get a
distant station playing an American music program like Lady Gaga when
what I wanted to hear was Fela Kuti.

73's
Richard Clark, KB7QHC

4749. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 17:59:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1r2jd65nkhrl6j4jcupgs56s48i10ff6i9@4ax.com>
Source record: 6748

On Tue, 9 Nov 2010 01:48:16 -0800 (PST), spamhog <n1jpr@hotmail.com>
wrote:

>Have I been googling for the wrong things?

None of these issues seriously impacts the simplicity of your initial
request, but your elaborations of anticipating grief are numerous.

What do you REALLY want?

73's
Richard Clark, KB7QHC

4750. Re: AIM4170 antenna analyzer -- updated presentation

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 19:26:16 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <c8qdnVD3m4PEPUTRnZ2dnUVZ_rudnZ2d@bright.net>
Source record: 6750
Cross-posted to: rec.radio.amateur.antenna,uk.radio.amateur

Dear Group: Ian's announcement that he was making a presentation in England, where license exam was also to take place, almost had me flying over the pond. I had a G5 license long ago. We have all benefited by Ian providing a copy of his "slides."

I was convinced to evaluate the AIM4170C and have found it to be delightful and useful. We have a very fine HP instrument in the lab, but it is not easy to use. We dare not turn it loose to be used by our smart, capable students because of its complexity. The AIM4170C not only displays Z, but has a mode of operation that one could teach in ten minutes to just about anyone. The tricky bits are passed off to a general-purpose computer.

Of special interest to me - and distant from antennas - is the built-in capability fully to characterize quartz crystals. I had been using a SG, frequency-counter, and phase meter to gather the needed data and a good HP calculator to calculate parameters. With the AIM4170C one just tells the expected series resonant frequency.

I too have no commercial ties to this instrument.

73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"Ian Wade G3NRW" <g3nrw@yahoo.co.uk> wrote in message
news:GKu+ArDOYUuMFw7I@ntlworld.com...
> If you're interested in the AIM4170 antenna analyzer, you might find my
> updated presentation useful:
>
> http://homepage.ntlworld.com/wadei/aim4170.htm
>
> I have no commercial interest in the analyzer -- I am just a very
> satisfied user.
>
> --
> 73
> Ian, G3NRW

4751. From OP: Re: Newbie Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 19:29:41 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ibc7f7$996$1@news.eternal-september.org>
Source record: 6651

Thank you.
Bob

On 11/8/2010 4:56 PM, Bob wrote:
> Hello,
>
> Two questions, please:
>
> a. Is there some way to tell if a USB cable is USB 2, or if it is an
> older version ? Some symbol on it, perhaps ? What about for USB 3 ?
>
> Is USB downward compatible for USB usages ?
>
> b. Any recommendations for an indoor antenna for HF (<30 MHz) that would
> be omni-directional, and really small in size ?
>
> Would like to have something reasonably sensitive that might fit on a
> desktop, or on top of the radio itself.
>
> Would it have to be an active-antenna to meet this criterian ?
>
> Thanks,
> Bob

4752. Lightning Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 19:41:49 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ibc860epv1@news.eternal-september.org>
Source record: 6652

Hello,

Took the plunge, and purchased a WinRadio Excalibur SDR receiver.
I would like to protect it as best I can.

I do receiving only (<30 MHz), and have an end-fed antenna from PAR outside.
We get a fair amount of lightning in the area, but have never had any
direct hits.

I have the typical ICE lighning arrester at the junction (outside) where
the antenna joins the coax leading to my radio in a room upstairs.
The arrester is connected to a ground rod that I laborously banged into
the soil.

What concerns me most I think is the voltage being induced, possibly, by
nearby strikes.
If anything actually hits the arrester, I doubt that it, or anything,
would survive. Probably more of a "feel-good" kinda thing than anything.

So, let me ask please.

a. Can "nearby" strikes, say 1/8 or 1/4 mile away actually induce
meaningful voltages in the antenna (about 10 feet above the ground,
running horizontally) ? How large ?

b. I try, but I am not always home, or remember always to do so
frankly, to disconnect the antenna when done using the radio. Having my
son do it if I am not around is an exercise in futility.

What kind of "protector" can I put right at the radio to try to protect
against any voltage surges (not direct hits) ?

c. What about voltage surges coming in via the AC line ?

d. What about static (buildup) charge ?

e. I've rfead about the Polyphaser line of gadgets. Is one of these
what I possibly want ? They are quite pricey.

I've also read about using neons back to back, and 10 meg ohn resistors,
etc.
Seems to be a lost of cons to this approach, as well as possible
benefits. Thoughts on ?

Any thoughts on all of this would be most appreciated.

Thanks,
Bob

4753. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 21:02:54 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E2C51DEFF667nonenowhere@61.9.134.55>
Source record: 6653

"Peter" <pm@hotmail.com> wrote in
news:_ZydnY8EYKSxZEXRnZ2dnUVZ7radnZ2d@westnet.com.au:

...
> construct as there is a bit of mucking about with 1/8wave loading coil
> on the 5/8 antenna.

Why do you call it a 1/8 wave loading coil? It wouldn't be along the lines of the flawed "loading coil replaces the missing degrees" concept would it?

A 5/8 monopole's performance is quite senstive to the ground plane implementation. The behavior of a 5/8 monopole over a perfect ground is not replicated over real radial systems or car roofs, yet people compare antennas based on the perfect ground plane environment.

As the length of the radiator is increased beyone a half wave, low angle gain increaeses until about 0.6 wavelengths when power is shifted into a developing upper lobe. The optimum length over a perfect ground is probably just a little less than 5/8, and less still over practical ground planes.

The other dimension is feedpoint impedance. For a simple series L matching arrangement, R is a little high and the optimum length is typically longer than 5/8.

So, for optimum pattern, and low VSWR, a better solution is a tapped base coil with 0.6 wavelength vertical... but that doesn't play well with the simplest of mobile antenna bases that provide only one connection to the screw on antenna.

Owen

4754. Re: Lightning Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-09 21:55:52 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ibcg18edh1@news.jpl.nasa.gov>
Source record: 6654

Bob wrote:
> Hello,
>
> Took the plunge, and purchased a WinRadio Excalibur SDR receiver.
> I would like to protect it as best I can.
>
> I do receiving only (<30 MHz), and have an end-fed antenna from PAR
> outside.
> We get a fair amount of lightning in the area, but have never had any
> direct hits.
>
> I have the typical ICE lighning arrester at the junction (outside) where
> the antenna joins the coax leading to my radio in a room upstairs.
> The arrester is connected to a ground rod that I laborously banged into
> the soil.
>
> What concerns me most I think is the voltage being induced, possibly, by
> nearby strikes.
> If anything actually hits the arrester, I doubt that it, or anything,
> would survive. Probably more of a "feel-good" kinda thing than anything.
>
> So, let me ask please.
>
> a. Can "nearby" strikes, say 1/8 or 1/4 mile away actually induce
> meaningful voltages in the antenna (about 10 feet above the ground,
> running horizontally) ? How large ?

Yes.. Some of the voltage is induced because of currents flowing in the
ground, by the way.

The vast majority of power and phone line transients are produced by
induced currents, not direct hits.

>
> b. I try, but I am not always home, or remember always to do so
> frankly, to disconnect the antenna when done using the radio. Having my
> son do it if I am not around is an exercise in futility.
>
> What kind of "protector" can I put right at the radio to try to protect
> against any voltage surges (not direct hits) ?

Put your protection where the wire enters the house. Lots of UL listed
"antenna protection devices" around, use one of them.

>
> c. What about voltage surges coming in via the AC line ?

Not likely to kill your radio, but a whole house transient protector, at the service entrance, is the best way to deal with it. These days, your power company may offer it for a very nominal fee (dollar a month sort of thing)

>
> d. What about static (buildup) charge ?

This is an issue if the antenna is totally insulated from ground. A high value resistor or inductor to ground will discharge the static from blowing rain, dust, snow, etc.

>
> e. I've rfead about the Polyphaser line of gadgets. Is one of these
> what I possibly want ? They are quite pricey.

That's what you want.

>
> I've also read about using neons back to back, and 10 meg ohn resistors,
> etc.
> Seems to be a lost of cons to this approach, as well as possible
> benefits. Thoughts on ?

That will work too.
>
> Any thoughts on all of this would be most appreciated.
>
> Thanks,
> Bob

4755. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 00:39:42 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <dd9ddc92-3738-42f8-b66e-c31d9d7575b3@26g2000yqv.googlegroups.com>
Source record: 6655

On Nov 9, 3:02 pm, Owen Duffy <n...@no.where> wrote:
> Why do you call it a 1/8 wave loading coil? It wouldn't be along the
> lines of the flawed "loading coil replaces the missing degrees" concept
> would it?

Of course, the loading coil doesn't replace all of the missing
degrees, but it does replace some of the missing degrees. The
following inductance calculator will give the Z0 and axial propagation
factor of a coil from which the VF of the coil can be calculated. When
one knows the Z0 and VF of the coil, it can simply be treated as a
transmission line.

http://hamwaves.com/antennas/inductance.html

It is obvious that the loading coil at the bottom of a 5/8WL antenna
somehow causes the antenna to be electrically 3/4WL (270 degrees) long
because that's the only way the reflected wave can arrive back at the
feedpoint in phase with the forward wave in order to give a resistive
feedpoint impedance. So we need to answer the question of exactly
where those delays and phase shifts occur. Here's a conceptual model
of the 5/8WL base-loaded antenna. (The 50 ohm tapped point on the coil
has been ignored to simplify the problem.)

FP-//////////-----------5/8WL-------------------

(1) The coil occupies a certain number of degrees of the antenna. (2)
Since the Z0 of the coil and the Z0 of the whip are different, there
is a phase shift at the junction of the coil and the whip that can be
easily calculated. (3) The 5/8WL whip obviously occupies 225 degrees
of the antenna. All we have to do is figure out what the phase shift
is at the coil/whip junction and how many degrees the coil occupies.

degrees of coil = 270 - 225 - coil/whip phase shift

There's no magical faster-than-light propagation through the coil as
predicted by the lumped-circuit model. Coils are known to cause a
delay and the Hamwaves inductance calculator provides us an easy way
of calculating that delay through the loading coil. I can provide an
example if necessary.
--
73, Cecil, w5dxp.com

4756. Re: Lightning Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 03:01:11 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ce1kd6hah2585s281kvahpu706av9plhbk@4ax.com>
Source record: 6656

On Tue, 09 Nov 2010 14:41:49 -0500, Bob <rgsros@notme.invalid> wrote:

>I have the typical ICE lighning arrester at the junction (outside) where
>the antenna joins the coax leading to my radio in a room upstairs.
>The arrester is connected to a ground rod that I laborously banged into
>the soil.

This has the potential (pun intended) to be the source (pun intended)
of considerable grief. An isolated ground (not connected to the
service ground as mandated by code) will lift during a strike and the
current at that point will seek the better ground by going through
your equipment - NOT pretty.

>a. Can "nearby" strikes, say 1/8 or 1/4 mile away actually induce
>meaningful voltages in the antenna (about 10 feet above the ground,
>running horizontally) ? How large ?

You can get killer potentials on a summer's day with full sunlight and
blue skies. It comes from the accumulated charge carried by particles
in the air. As you describe your antenna as "end fed" and it is
feeding a "high resistance front end"; you are guaranteed high voltage
- n'est pas?

>What kind of "protector" can I put right at the radio to try to protect
>against any voltage surges (not direct hits) ?

Put a 50 Ohm to 5KOhm resistor across the antenna terminals at least
and let the rest of the (properly implemented) protection you
described from polyphaser do its own work.

Better yet, ground the antenna and couple to it through a gamma feed
(or delta match) or direct connect to a folded monopole.

>I've also read about using neons back to back, and 10 meg ohn resistors,
>etc.

You've done some lousy reading if the neons are back-to-back (they
have no "back" to be back-to-back). Neon bulbs in such a described
configuration are ADDING the potential where you are trying to REDUCE
it. What you describe is DOUBLING and GUARANTEEING the frontend
lethal potential. You may as well plug your antenna connector into
the AC socket.

Now, having said that, neon bulbs have a classical application in the
Collins R-390 (I know, because I used to teach the R-390 in the Navy);
and I know full-well that the frontend there was a tube, not a Bipolar
transistor nor a FET. This sort of creates the imprimatur of a magic

amulet that should be hung everywhere....

Another practice was Zener diodes reversed in parallel (the correct topology of your poor reading source for neon bulbs) - which also guarantee lethal potentials, or massive intermodulation problems in the normal day-to-day use of your receiver. Looks good on paper - but IFF you have a tuned front end (as was the R-390 in three stages) and you don't (almost no radios are).

73's
Richard Clark, KB7QHC

4757. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 03:01:27 UTC
From: Barry <none@nospam.org>
Message-ID: <dWnCo.21857$iG3.21501@newsfe18.iad>
Source record: 6657

<jimp@specsol.spam.sux.com> wrote in message
news:44eoq7-bel.ln1@mail.specsol.com...
> spamhog <n1jpr@hotmail.com> wrote:
>>
>>> A good time-domain reflectometer
>>
>> Thank you Barry! Would TV/FM transmitter and cell BTS installers
>> normally have such a device? I don't know any ham who has one but
>> these days I am talking to professional antenna people. And, by the
>> way, if one thing I am working on pans out, they'll come to install a
>> BTS right atop my condo. (The challenge will be to convince them to
>> let me hang HF wires from the same tower :-)
>
> If you have an oscilloscope, a pulse generator and a calculator you
> have
> a TDR.
>
> If you don't have a pulse generator it takes about 2 IC's to build one.
>
>
> --
> Jim Pennino

You would need an extremely fast rise-time pulse generator and an
exceptionally fast oscilloscope to match a typical commercial TDR. The
Tek 1502 unit I used when at Eastman's Research Labs had a pulse
rise-time of 140 picoseconds, and the internal display was a sampling
scope with a bandwidth of over
3 GHz. I now have a Tek 1S2 plug-in for my Tek 585A oscilloscope at
home. It's fine for amateur use, but don't expect to see the tiny
impedance "burbles" of BNC connectors with it. {And carrying around a
1502 is _FAR_ easier than the 585!}

Quoting from a Tektronix application note on TDR resolution:
"the resolution limit " wherein two discontinuities or changes on the
transmission line " begin to merge together " Per this definition, the
resolution limit is: half the " 10% to 90% risetime or 90% to 10% fall
time (depending on whether the TDR response is calibrated with a short or
open circuit)."
To convert this to distance, you need to know the velocity factor for the
cable you are testing and the speed of light.

Your installers may not always carry a TDR with them, but I would bet
they have access to one.

73, Barry WA4VZQ

4758. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 03:48:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <i8hpq7-eup.ln1@mail.specsol.com>
Source record: 6658

Barry <none@nospam.org> wrote:
> <jimp@specsol.spam.sux.com> wrote in message
> news:44eoq7-bel.ln1@mail.specsol.com...
>> spamhog <n1jpr@hotmail.com> wrote:
>>>
>>>> A good time-domain reflectometer
>>>
>>> Thank you Barry! Would TV/FM transmitter and cell BTS installers
>>> normally have such a device? I don't know any ham who has one but
>>> these days I am talking to professional antenna people. And, by the
>>> way, if one thing I am working on pans out, they'll come to install a
>>> BTS right atop my condo. (The challenge will be to convince them to
>>> let me hang HF wires from the same tower :-)
>>
>> If you have an oscilloscope, a pulse generator and a calculator you
>> have
>> a TDR.
>>
>> If you don't have a pulse generator it takes about 2 IC's to build one.
>>
>>
>> --
>> Jim Pennino
>
>
> You would need an extremely fast rise-time pulse generator and an
> exceptionally fast oscilloscope to match a typical commercial TDR.

Yeah but in the real world you don't usually need to match a commercial
TDR to find a fault.

Back in the days of ethernet over RG-58 I was able to find lots of poorly
attached connectors and cables crushed by the electricians that installed
them (there were no network engineers and installers in those days) with
a 100 MHz 'scope and a pulse generator made from a 555 timer and a 50 Ohm
line driver.

The accuracy of the measurement for fault finding doesn't need to be much
better than a few feet to be able to find the fault visually once you know
about where it is and faults at the end are immediately obvious.

If the task is to find faults, a 'scope and simple pulse generator works
just fine.

If the task is to certify 6 inches of hard line to GHz to some mil-spec, you
probably want something more sophisticated.

--
Jim Pennino

Remove .spam.sux to reply.

4759. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 07:35:02 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <idikd69npe5n7ejlgd70bplqttghfhns8h@4ax.com>
Source record: 6659

On Tue, 9 Nov 2010 22:01:27 -0500, "Barry" <none@nospam.org> wrote:

>You would need an extremely fast rise-time pulse generator and an

This can be easily be obtained (provided you can find one) from a
mercury wetted switch. Typical rise times in the sub-nano to
nanoseconds.

>exceptionally fast oscilloscope

Which, is something you would have to spend money on - most assuredly.

OR

Use a wide field microscope against the CRT being driven at the
deflection plates (the early design for these applications of
extremely fast pulse measurements) which can be far more affordable.

73's
Richard Clark, KB7QHC

4760. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 12:09:09 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <3848cd40-a99a-43fb-97d5-94988985fb26@k22g2000yqh.googlegroups.com>
Source record: 6660

> I've always considered it underwhelming to get a
> distant station playing an American music program like Lady Gaga when
> what I wanted to hear was Fela Kuti.
>
> 73's
> Richard Clark, KB7QHC

Respect! :-)

4761. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 12:33:31 UTC
From: spamhog <n1jpr@hotmail.com>
Message-ID: <c3fff2cb-dd74-4cc3-9a6f-369a7e7dc772@o14g2000yqe.googlegroups.com>
Source record: 6661

> What do you REALLY want?
>
> 73's
> Richard Clark, KB7QHC

Dear Richard,

My question is very simple:

> I'd cut a dipole of about 15 + 15 m (50+50 ft), 120 deg. inverted V,
> apex at 15 m.
> I could do 1:4 -> 300 ohm or 1:9 -> 625 ohm.
> What would be the least-bad?

If you can't or won't tell if such an antenna very roughly better
matches a 300 or 600+ ohm source over the HF spectrum,, what else
can I do but
- turn on EZNEC and start playing
- build two or more transformers and send someone up at the 50ft apex
and swap them in sequence while I do in vivo comparisons and pollute
the spectrum
- wait for someone else to answer or to point me to a good URI?

I can live with it.

I might also put together the rather long list of authors of articles
on the subject and ask them on your behalf what they really really
want if they have to feed the thing with a coax instead of ladder
lines of the commercially available impedances and want the least
lossy solution among the available alternatives. :-)

73 es tnx de n1jpr/i2

4762. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 13:11:27 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <928a1763-3815-4cd6-a3d1-3012f71b4956@r14g2000yqa.googlegroups.com>
Source record: 6662

On Nov 9, 6:39 pm, Cecil Moore <w5...@hotmail.com> wrote:
> ... the Hamwaves inductance calculator provides us an easy way
> of calculating that delay through the loading coil.

http://hamwaves.com/antennas/inductance.html

Assume a 10" long, 100 turn coil with a diameter of 2" wound with #18 wire. In metric, that's 254 mm long, 50.8 mm diameter, and 1.024 mm wire. At 4 MHz, the above calculator indicates that the axial propagation factor is 2.122 rad/m which we can convert to degrees/inch by multiplying by 1.4554 which yields 3.088 degrees per inch. The coil is 10 inches long so the number of degrees occupied by the coil at 4 MHz is 30.9 degrees.

If this coil is used as a base loading coil in a 4 MHz mobile antenna, it occupies ~30.9 degrees of the antenna. A 7 foot whip occupies ~10.2 degrees at 4 MHz. The antenna, at resonance, is known to be 90 degrees long. So the phase shift at the coil to whip junction has to be ~48.9 degrees assuming resonance at 4 MHz.

For an electrical 1/4WL base-loaded antenna, e.g. an HF mobile antenna, there exist three phase shifts that add up to 90 degrees. The phase shift through the coil plus the coil to whip junction phase shift plus the phase shift through the whip have to add up to 90 degrees. For a center-loaded antenna, there are four phase shifts that must add up to 90 degrees. The phase shift at the base to bottom of loading coil junction is negative. That's why we need more inductance, i.e. more phase shift, in the center-loading coil than we do in the base loading coil.

If we are dealing with a 5/8WL (225 deg) antenna, the phase shift through the base coil plus the phase shift at the coil to whip junction must add up to 45 degrees such that 225 deg + 45 deg = 270 deg = 6/8WL.
--
73, Cecil, w5dxp.com

4763. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 17:56:08 UTC
From: Barry <none@nospam.org>
Message-ID: <Z0BCo.25123$d67.8382@newsfe16.iad>
Source record: 6663

<jimp@specsol.spam.sux.com> wrote in message
news:i8hpq7-eup.ln1@mail.specsol.com...
> Yeah but in the real world you don't usually need to match a commercial
> TDR to find a fault.
>
> Back in the days of ethernet over RG-58 I was able to find lots of
> poorly
> attached connectors and cables crushed by the electricians that
> installed
> them (there were no network engineers and installers in those days)
> with
> a 100 MHz 'scope and a pulse generator made from a 555 timer and a 50
> Ohm
> line driver.

Can you detect where RG-58 was kinked and then straightened out with the damaged area being less than 1/2 inch? Likewise can you detect an abraded shield leaving a 1/4 inch hole in the shielding?

An LM555 has a rise and fall time of 100 nanoseconds. I have no idea of how much your line driver sharpens the edges of the pulse, but a good line driver should provide rise and fall times of 5 nanoseconds. The original TEK 1502 at 140 picoseconds can resolve to about 2 centimeters. With a risetime of 5 nS, your resolution will be about 70 times worse (140 cm). Add to this the 100 MHz limitation of the scope (an additional 10 nS), and it becomes far worse.

Yes, you can easily detect shorts and open circuits with your setup, but you will not be able to detect the 1 to 2 inches or so where the center conductor has migrated in the foamed dielectric from hanging the cable over a building edge.

> The accuracy of the measurement for fault finding doesn't need to be
> much
> better than a few feet to be able to find the fault visually once you
> know
> about where it is and faults at the end are immediately obvious.
>
> If the task is to find {gross} faults, a 'scope and simple pulse
> generator works
> just fine.
>
> If the task is to certify 6 inches of hard line to GHz to some
> mil-spec, you
> probably want something more sophisticated.

The kind of fault Spamhog originally described, a 75 ohm cable dropping to less than 50 ohms over two inches and going back to 75 ohms, will not be detected by your setup.

73, Barry WA4VZQ

4764. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 18:21:20 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <0e4rq7-593.ln1@mail.specsol.com>
Source record: 6664

Barry <none@nospam.org> wrote:
> <jimp@specsol.spam.sux.com> wrote in message
> news:i8hpq7-eup.ln1@mail.specsol.com...
>> Yeah but in the real world you don't usually need to match a commercial
>> TDR to find a fault.
>>
>> Back in the days of ethernet over RG-58 I was able to find lots of
>> poorly
>> attached connectors and cables crushed by the electricians that
>> installed
>> them (there were no network engineers and installers in those days)
>> with
>> a 100 MHz 'scope and a pulse generator made from a 555 timer and a 50
>> Ohm
>> line driver.
>
> Can you detect where RG-58 was kinked and then straightened out with the
> damaged area being less than 1/2 inch? Likewise can you detect an
> abraded shield leaving a 1/4 inch hole in the shielding?

I was able to detect where cables were squashed by overly tight bundle lacing
and bending over a short radius.

It got me close enough that a visual inspection of a few feet found the
"bad" place.

> An LM555 has a rise and fall time of 100 nanoseconds. I have no idea of
> how much your line driver sharpens the edges of the pulse, but a good
> line driver should provide rise and fall times of 5 nanoseconds. The
> original TEK 1502 at 140 picoseconds can resolve to about 2 centimeters.
> With a risetime of 5 nS, your resolution will be about 70 times worse
> (140 cm). Add to this the 100 MHz limitation of the scope (an additional
> 10 nS), and it becomes far worse.

Like I said, if you have a pair of eyes, all you have to do is get close.

And in any case, the solution for a cable run that is hosed somewhere in
the middle is to replace the entire section. Cutting a section out and
putting in connectors to splice the cable is just asking for more problems.

> Yes, you can easily detect shorts and open circuits with your setup, but
> you will not be able to detect the 1 to 2 inches or so where the center
> conductor has migrated in the foamed dielectric from hanging the cable
> over a building edge.

Yet I could, so either I'm a lier or you are overestimating how hard it
is in the real world.

>> The accuracy of the measurement for fault finding doesn't need to be
>> much
>> better than a few feet to be able to find the fault visually once you
>> know
>> about where it is and faults at the end are immediately obvious.
>>
>> If the task is to find {gross} faults, a 'scope and simple pulse
>> generator works
>> just fine.
>>
>> If the task is to certify 6 inches of hard line to GHz to some
>> mil-spec, you
>> probably want something more sophisticated.
>
> The kind of fault Spamhog originally described, a 75 ohm cable dropping
> to less than 50 ohms over two inches and going back to 75 ohms, will not
> be detected by your setup.

It would detect that there was an impedance lump.

It would not tell you it was a 50 Ohm lump.

--
Jim Pennino

Remove .spam.sux to reply.

4765. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 19:36:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fqqld6dqtr6v2kkivf4v3f5luo8o888bbb@4ax.com>
Source record: 6665

On Wed, 10 Nov 2010 04:33:31 -0800 (PST), spamhog <n1jpr@hotmail.com>
wrote:

>> What do you REALLY want?
>>
>> 73's
>> Richard Clark, KB7QHC
>
>Dear Richard,
>
>My question is very simple:
>
>> I'd cut a dipole of about 15 + 15 m (50+50 ft), 120 deg. inverted V,
>> apex at 15 m.
>> I could do 1:4 -> 300 ohm or 1:9 -> 625 ohm.
>> What would be the least-bad?
>
>If you can't or won't tell if such an antenna very roughly better
>matches a 300 or 600+ ohm source over the HF spectrum,, what else
>can I do but
>- turn on EZNEC and start playing

You keep repeating what you have. Can't or won't telling is still a
matter of

What do you really want?

You are forcing this into my trying to read between the lines and
guessing, so here goes:

- in spite of demurring about
>> no pretense to have perfect match
>>or minimum losses.
You "want" something with a near-perfect match and near-minimum losses
"over the HF spectrum."

This is dreaming in technicolor and 5.1 Dolby sound.

This is a technical forum and the expectation is that you provide a
range of acceptable match and a range of acceptable loss enumerated by
the frequencies of interest. You show no concern for directionality
which will be wildly variable. In other words, something quantifiable
is needed or you are doomed to inaccurate response or tedious
instruction (such as mine). Qualified statements are suited only for
cheap sales brochures.

To your credit, you enumerate the particulars of your antenna and to some extent the working band: 3MHz to 30MHz. However, even on first glance, such an antenna is NOT suited for covering the entire HF region. This should have been a minimum observation in your readings, and the absence of its discussion by you means you either have poor sources, or you are prepared to abandon this antenna's use on some bands (do your sources tell you were it is going to fail miserably?). The use of BalUns is not a solution to this and the solution, such as it is with a Hi-Z resonator, forces problems into the other bands. This too should be a minimum observation available from your reading material.

>I might also put together the rather long list of authors of articles
>on the subject and ask them on your behalf what they really really
>want if they have to feed the thing with a coax instead of ladder
>lines of the commercially available impedances and want the least
>lossy solution among the available alternatives. :-)

Try googling the terms "wide band" "hf antenna" and writing to the 2,960 authors.

This board is innundated with claims and testimonials to those designs all the time - such freely available "articles" do not constitute evidence nor bring legitimacy.

There is one very simple, logical test for the answer to your unstated question - if you can't buy or find one, why do you think it exists or can be so easily assembled?

73's
Richard Clark, KB7QHC

4766. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-10 21:46:12 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <764bc97a-e91f-45be-9f0d-dc89db5727d4@z9g2000yqz.googlegroups.com>
Source record: 6666

On Nov 7, 4:18 pm, Owen Duffy <n...@no.where> wrote:
> "David" <nospam@nospam> wrote innews:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com:
>
>
>
> > Which antenna is better: 5/8 wavelength vertical or a J pole?
>
> Better for what? For example, a 5/8 whip would usually be better than a J
> Pole for mobile applications on a car roof, but that doesn't make it
> better for all applications.
>
>
>
> > Frequency of operation is 145 MHz = 2 metres.
>
> > The 5/8 wavelength vertical has a loading coil. There are losses in
> > the coil.
>
> It is certainly popular to talk down an antenna with loading coils or
> traps because they are "lossy".
>
> Everthing in a real world antenna has loss, the issue is the magnitude of
> the loss, and the impact of that on system performance for the intended
> application.
>
> You might find it hard to believe that some antenna systems incorporate
> loss elements in order to reduce feed line loss by more than that in the
> introduced elements.
>
> Whilst you have chosen to raise the loss in the coil, you haven't raised
> the issue that a J Pole has currents flowing in lossy conductors,
> components of which that do not directly contribute to radiation.
>
>
>
> > The J pole has a quarterwave matching stub. The matching stub provides
> > an out of phase current which means that there is a cancelling field
> > close to the radiating element. Also the J pole is end fed, which
>
> This is not a very good way of analysing the J Pole. The U section can be
> thought of as carrying currents that have differential and common mode
> components. The common mode components contribute directly to radiation
> field. You should also consider common mode current on the supporting
> structure and feedline.

>
> The 5/8 wave vertical also has potential for significant common mode
> current on the supporting structure and feedline, you need to look at the
> effectiveness of the decoupling method employed (usually a radial set).
>
> > means the transmitter is not connected directly to a maximum current
> > point.
>
> What does that matter? BTW, neither is the base fed 5/8.
>
> There is a maxim in ham radio that antennas should always be fed at a
> current maximum. You could subscribe to that, but you would limit
> yourself by excluding a range of good solutions, and with no guarantee
> that a current fed antenna is optimum.
>
>
>
> > Does the J pole have a disadvantage because of the cancelling field
>
> There is not perfect cancellation at all points on the U section.
>
> > from the matching stub and the fact that it is end fed?
>
> "End fed", as opposed to a centre fed dipole perhaps. But isn't the 5/8
> "end fed"?
>
>
>
> > Also consider gain and angle of radiation.
>
> The three dimensional gain distribution is important, but dependent on
> the common mode issue mentioned above (amongst other things).
>
> It is fair to say that J Poles are very popular, and that they are overly
> represented in problems discussed in online fora.
>
> On the other hand, the 5/8 which was once very popular for mobile work in
> this area, is long lost, replaced by two, three and four band antennas
> where VSWR is more important than any other performance parameters. I use
> a 5/8 vertical on my car, and regularly work repeaters mobile at
> distances well over 100km. The antenna is more than thirty years old, and
> has never required repair despite hitting low trees, carpark roofs etc
> lots of times. The modern multiband antennas are not that robust. I
> wouldn't even think of a J Pole in this application.
>
> So, "best" can be a quite complex requirement.
>
> Owen

Owen, I think the popularity of VHF mobile 5/8 antenna lies in it has more gain than a 1/4 wl antenna and is easier to match to 50 ohms than a .5 wl antenna. I had certainly rather DIY a 2M 5/8 mobile antenna than a .5 wl version. From information I have seen the 5/8 often touted for its low angle of radiation may actually have a significantly higher angle of radiation than the .5 wl antenna used in a similar situation. This is not to say either antenna would not be equally useful.

Jimmie

4767. J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 01:40:56 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <ibfhjk$1m0$1@news.eternal-september.org>
Source record: 6667

Hello,
I have just built a J pole antenna for the local our local Emergency Service centred on 410 Mhz for their field/portable use.

I note that the Arrow antenna feeds the 1/4 w/l element directly, but the standard J pole feed is on each element.

What works best? The standard J pole feed or the way Arrow feeds theirs?

Cheers John
VK2KC

4768. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 02:47:54 UTC
From: tom <news4792@taring.org>
Message-ID: <4cdb5957$0$87591$8046368a@newsreader.iphouse.net>
Source record: 6668

On 11/10/2010 11:56 AM, Barry wrote:
> <jimp@specsol.spam.sux.com> wrote in message
> news:i8hpq7-eup.ln1@mail.specsol.com...
>> Yeah but in the real world you don't usually need to match a commercial
>> TDR to find a fault.
>>
>> Back in the days of ethernet over RG-58 I was able to find lots of
>> poorly
>> attached connectors and cables crushed by the electricians that
>> installed
>> them (there were no network engineers and installers in those days)
>> with
>> a 100 MHz 'scope and a pulse generator made from a 555 timer and a 50
>> Ohm
>> line driver.
>
> Can you detect where RG-58 was kinked and then straightened out with the
> damaged area being less than 1/2 inch? Likewise can you detect an
> abraded shield leaving a 1/4 inch hole in the shielding?
>
> An LM555 has a rise and fall time of 100 nanoseconds. I have no idea of
> how much your line driver sharpens the edges of the pulse, but a good
> line driver should provide rise and fall times of 5 nanoseconds. The
> original TEK 1502 at 140 picoseconds can resolve to about 2 centimeters.
> With a risetime of 5 nS, your resolution will be about 70 times worse
> (140 cm). Add to this the 100 MHz limitation of the scope (an additional
> 10 nS), and it becomes far worse.
>
> Yes, you can easily detect shorts and open circuits with your setup, but
> you will not be able to detect the 1 to 2 inches or so where the center
> conductor has migrated in the foamed dielectric from hanging the cable
> over a building edge.
>
>> The accuracy of the measurement for fault finding doesn't need to be
>> much
>> better than a few feet to be able to find the fault visually once you
>> know
>> about where it is and faults at the end are immediately obvious.
>>
>> If the task is to find {gross} faults, a 'scope and simple pulse
>> generator works
>> just fine.
>>
>> If the task is to certify 6 inches of hard line to GHz to some

>> mil-spec, you
>> probably want something more sophisticated.
>
> The kind of fault Spamhog originally described, a 75 ohm cable dropping
> to less than 50 ohms over two inches and going back to 75 ohms, will not
> be detected by your setup.
>
> 73, Barry WA4VZQ
>
>

Are you telling all the rest of us that may have inferior equipment that
we shouldn't even try to measure things?

Just asking.

And we aren't all dumb enough not to understand what gives us resolution.

tom
K0TAR

4769. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 02:52:25 UTC
From: tom <news4792@taring.org>
Message-ID: <4cdb5a66$0$87582$8046368a@newsreader.iphouse.net>
Source record: 6669

On 11/9/2010 10:19 AM, spamhog wrote:
>
>> If you are going to feed the dipole with coax, there is no balun ratio that
>> would work over the whole range.
>
>> If you must use coax, you may also want to look at getting some of the
>> highest impedance coax you can find.
>
> I humbly and apologetically decline to comment and, hereby, of course,
> deviously venture obliquously to imply that the customary norm of duly
> perusing an interrogative ponderation, previously consigned to a
> written medium of unrestricted admittance, ahead of proffering a reply
> thereto, which in turn will be inscribed for posterity to gape at,
> cannot wantonly be construed to be peculiarly fraught with some
> unnamed yet capital order of detriment. :-)

Careful, some people here are offended by your type of response.

I can think of several.

tom
K0TAR

4770. Re: J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 03:04:51 UTC
From: tom <news4792@taring.org>
Message-ID: <4cdb5d50$0$6701$8046368a@newsreader.iphouse.net>
Source record: 6670

On 11/10/2010 7:40 PM, VK2KC Gmail wrote:
> Hello,
> I have just built a J pole antenna for the local our local Emergency Service
> centred on 410 Mhz for their field/portable use.
>
> I note that the Arrow antenna feeds the 1/4 w/l element directly, but the
> standard J pole feed is on each element.
>
> What works best? The standard J pole feed or the way Arrow feeds theirs?
>
> Cheers John
> VK2KC
>
>

I could reply as one here does and say -

YES

And then he would leave it there and scold you for not knowing how.

Neither feed is superior. The issue you need to address is that this is
a balanced antenna fed by an unbalanced feedline.

So your mission is to lessen the current on the outside of the coax.
This involves a choke, which could be ferrite based or coiling the thing
up based. I won't get into it beyond this since it's all out there with
google search and google news search.

tom
K0TAR

4771. Re: J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 03:10:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4cdb5ead$0$87582$8046368a@newsreader.iphouse.net>
Source record: 6671

On 11/10/2010 9:04 PM, tom wrote:
> On 11/10/2010 7:40 PM, VK2KC Gmail wrote:
>> Hello,
>> I have just built a J pole antenna for the local our local Emergency
>> Service
>> centred on 410 Mhz for their field/portable use.
>>
>> I note that the Arrow antenna feeds the 1/4 w/l element directly, but the
>> standard J pole feed is on each element.
>>
>> What works best? The standard J pole feed or the way Arrow feeds theirs?
>>
>> Cheers John
>> VK2KC
>>
>>
>
> I could reply as one here does and say -
>
> YES
>
> And then he would leave it there and scold you for not knowing how.
>
> Neither feed is superior. The issue you need to address is that this is
> a balanced antenna fed by an unbalanced feedline.
>
> So your mission is to lessen the current on the outside of the coax.
> This involves a choke, which could be ferrite based or coiling the thing
> up based. I won't get into it beyond this since it's all out there with
> google search and google news search.
>
> tom
> K0TAR

And if you have more questions, don't hesitate to ask.

tom
K0TAR

4772. Re: J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 03:19:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <350eac0d-d436-4369-ae8c-fb84fc9559dd@a30g2000vbt.googlegroups.com>
Source record: 6672

On Nov 10, 7:40 pm, "VK2KC Gmail" <vk2kcj...@gmail.com> wrote:
> What works best? The standard J pole feed or the way Arrow feeds theirs?

Arrow feeds their "J-Pole" like a Zepp antenna through a 1/4WL series
section. The spacing of the antenna elements are such that a 50 ohm
feedpoint impedance results. The standard J-Pole uses a shorted 1/4WL
stub for matching. The stub is tapped at the 50 ohm feedpoint
impedance. There is hardly any difference in the two designs.
--
73, Cecil, w5dxp.com

4773. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 03:44:43 UTC
From: Barry <none@nospam.org>
Message-ID: <NEJCo.22196$iG3.3464@newsfe18.iad>
Source record: 6673

Jim,

I think you need to go back and read Spamhog's original question. He was trying to determine whether the center conductor of a piece of coax had migrated away from center. He knew where this might have happened - 10 feet from the end, and the migration would have occurred over less than two inches. So the question of locating where the problem might be is moot. What is needed is a measurement of the cable impedance in this region.

First, let us get an estimate of what the impedance of the damaged section might be. Spamhog was using RG-6 cable with a foamed polyethylene dielectric. Its velocity factor is 0.85 making its relative permittivity 1.384. The center conductor is 1 mm, and the normal diameter of the center insulator is 4.7 mm. The thickness of the insulator is 1.85 mm. We need to know the impedance if the center conductor had migrated 0.925 mm toward the jacket.

For a quick estimate, use the formula for off-center coax (http://www.microwaves101.com/encyclopedia/coax_offcenter.cfm). This gives an impedance of 69.8 ohms in this section compared to 78.9 ohms in the non-distorted coax. A TDR displays the reflection coefficient from -1 (short) to +1 (open). Here the reflection coefficient is -0.06. So the TDR trace will drop from the center line by 6% for 200 picoseconds.

If your 100 MHz scope has a typical Gaussian response, its rise time is at least 3.5 nanoseconds. Do you really think that your oscilloscope trace will clearly show the 200 picosecond dip? Even with the wide-screen magnifier that KB7QHC suggested, I think you will have great difficulty seeing this.

73, Barry WA4VZQ

4774. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 04:06:10 UTC
From: Barry <none@nospam.org>
Message-ID: <TYJCo.21221$NM2.5390@newsfe22.iad>
Source record: 6674

"tom" <news4792@taring.org> wrote in message
news:4cdb5957$0$87591$8046368a@newsreader.iphouse.net...
> Are you telling all the rest of us that may have inferior equipment
> that we shouldn't even try to measure things?

No. In fact, playing with a scope and a pulse generator is quite
educational.

> And we aren't all dumb enough not to understand what gives us
> resolution.
>
> tom
> K0TAR

Trying to measure the thickness of a single sheet of paper with a ruler
graduated in eighth's of an inch is analogous. About all you can say
with certainty is that the paper is much thinner than 1/8 inch.

My last post gave a nominal value for the reflection coefficient of coax
with a migrated center conductor like N1PR postulated. At 2 GHz, the
2-inch section will be about 0.4 wavelength. Will you get detectible
reflections? Yes.

73, Barry WA4VZQ

4775. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 04:33:54 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ia8sq7-nv7.ln1@mail.specsol.com>
Source record: 6675

Barry <none@nospam.org> wrote:
> Jim,
>
> I think you need to go back and read Spamhog's original question. He was
> trying to determine whether the center conductor of a piece of coax had
> migrated away from center. He knew where this might have happened - 10
> feet from the end, and the migration would have occurred over less than
> two inches. So the question of locating where the problem might be is
> moot. What is needed is a measurement of the cable impedance in this
> region.
>
> First, let us get an estimate of what the impedance of the damaged
> section might be. Spamhog was using RG-6 cable with a foamed
> polyethylene dielectric. Its velocity factor is 0.85 making its relative
> permittivity 1.384. The center conductor is 1 mm, and the normal
> diameter of the center insulator is 4.7 mm. The thickness of the
> insulator is 1.85 mm. We need to know the impedance if the center
> conductor had migrated 0.925 mm toward the jacket.
>
> For a quick estimate, use the formula for off-center coax
> (http://www.microwaves101.com/encyclopedia/coax_offcenter.cfm). This
> gives an impedance of 69.8 ohms in this section compared to 78.9 ohms in
> the non-distorted coax. A TDR displays the reflection coefficient
> from -1 (short) to +1 (open). Here the reflection coefficient is -0.06.
> So the TDR trace will drop from the center line by 6% for 200
> picoseconds.
>
> If your 100 MHz scope has a typical Gaussian response, its rise time is
> at least 3.5 nanoseconds. Do you really think that your oscilloscope
> trace will clearly show the 200 picosecond dip? Even with the
> wide-screen magnifier that KB7QHC suggested, I think you will have great
> difficulty seeing this.
>
> 73, Barry WA4VZQ

The bandwidth of the 'scope will make the trace have a ripple intead of
the nice, sharp bump you would get from a faster 'scope.

Spamhog's original statement was that the cable was crushed to half diameter
for about 2 inches as I recall.

I was able to see ripples in the display for cables with less crush then
that which were on the order of 1/4 wide.

The bottom line is the faster the 'scope you use and the faster the rise time of the applied pulse, the better the meaurement.

And since this is a hobby and not building man rated space craft, I would say try whatever you can get your hands on for free and see what happens.

Or spend eternity arguing whether or not it is possible to do.

--
Jim Pennino

Remove .spam.sux to reply.

4776. Re: J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 05:31:35 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <ibfv45nbl1@news.eternal-september.org>
Source record: 6676

Thanks Tom,
Yes I am aware of the balanced/unbalanced feedline, and have coiled the
feedline directly below the antenna, and have done my share of Googling!

But what I want to know is how the Arrow manages to match the antenna to the
50 ohm feed.

I am thinking its in the spacing of the two elements?

Cheers
VK2KC

"tom" <news4792@taring.org> wrote in message
news:4cdb5d50$0$6701$8046368a@newsreader.iphouse.net...
> On 11/10/2010 7:40 PM, VK2KC Gmail wrote:
>> Hello,
>> I have just built a J pole antenna for the local our local Emergency
>> Service
>> centred on 410 Mhz for their field/portable use.
>>
>> I note that the Arrow antenna feeds the 1/4 w/l element directly, but the
>> standard J pole feed is on each element.
>>
>> What works best? The standard J pole feed or the way Arrow feeds theirs?
>>
>> Cheers John
>> VK2KC
>>
>>
>
> I could reply as one here does and say -
>
> YES
>
> And then he would leave it there and scold you for not knowing how.
>
> Neither feed is superior. The issue you need to address is that this is a
> balanced antenna fed by an unbalanced feedline.
>
> So your mission is to lessen the current on the outside of the coax. This
> involves a choke, which could be ferrite based or coiling the thing up
> based. I won't get into it beyond this since it's all out there with
> google search and google news search.
>
> tom

> K0TAR

4777. Re: J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 05:36:00 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <ibfvce$o6s$1@news.eternal-september.org>
Source record: 6677

Thanks Cecil,
I do appreciate your input, I was on the right track!

Kind regards
John
VK2KC

"Cecil Moore" <w5dxp@hotmail.com> wrote in message
news:350eac0d-d436-4369-ae8c-fb84fc9559dd@a30g2000vbt.googlegroups.com...
On Nov 10, 7:40 pm, "VK2KC Gmail" <vk2kcj...@gmail.com> wrote:
> What works best? The standard J pole feed or the way Arrow feeds theirs?

Arrow feeds their "J-Pole" like a Zepp antenna through a 1/4WL series
section. The spacing of the antenna elements are such that a 50 ohm
feedpoint impedance results. The standard J-Pole uses a shorted 1/4WL
stub for matching. The stub is tapped at the 50 ohm feedpoint
impedance. There is hardly any difference in the two designs.
--
73, Cecil, w5dxp.com

4778. Re: J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 06:51:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4b3nd6lp35rmock7v6j14e4e4td9mter1f@4ax.com>
Source record: 6678

On Thu, 11 Nov 2010 16:31:35 +1100, "VK2KC Gmail"
<vk2kcjohn@gmail.com> wrote:

>But what I want to know is how the Arrow manages to match the antenna to the
>50 ohm feed.
>
>I am thinking its in the spacing of the two elements?

Hi OM,

Both styles are the same basic method. You are using a length of
transmission line (the paired section) to match one Z to another Z.
The line Z is part of the equation (the spacing, as you asked).

One method (most observed) uses a tapped feed which for the shorted
section is located at the line's translation to 50 Ohms, the open end
is a higher Z matching to the half-wave radiator (I won't go into the
difficulties and considerations of the matching section also
radiating).

The mystery feed point (do I connect my "hot" lead to the long wire,
or the short one?), its magic position, all contribute to a religious
lockstep of praise. In itself, it has virtually nothing to offer but
complexity.

The other method (infrequently observed) simply approaches the
situation in the classic application of a line transformer. Think of
the smith chart. It's amazing how often this method is used at HF,
but draws blank stares when we shift to UHF.

I have built, measured, and tested antennas employing the second
method because, frankly, it is far simpler to construct on a SO-239
connector: one wire in the center conductor, one wire from any of the
four holes - end of story (neglecting the precautionary tales of
decoupling everything).

The practical side of this home-brew is you build one "close enough,"
and then with the aid of a SWR meter, you clip off 1/8th inch portions
of wire (either side until you get the drift of it) until you have
flattened it out the pesky SWR - and then walk away.

Anyone versed in using the Smith Chart will immediately recognize that
there are many possible satisfactory solutions. As is common with
cautioning children not to run with scissors, not all Z-match
solutions are preferred radiators.

The free version of EZNEC is eminently suited to exploring this.

73's
Richard Clark, KB7QHC

4779. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 10:56:36 UTC
From: nm5k@wt.net
Message-ID: <8bd578f4-9fe3-4ae7-b99e-1f3b7166bd30@r29g2000yqj.googlegroups.com>
Source record: 6679

On Nov 10, 3:46 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Nov 7, 4:18 pm, Owen Duffy <n...@no.where> wrote:
>
>
>
> > "David" <nospam@nospam> wrote innews:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com:
>
> > > Which antenna is better: 5/8 wavelength vertical or a J pole?
>
> > Better for what? For example, a 5/8 whip would usually be better than a J
> > Pole for mobile applications on a car roof, but that doesn't make it
> > better for all applications.
>
> > > Frequency of operation is 145 MHz = 2 metres.
>
> > > The 5/8 wavelength vertical has a loading coil. There are losses in
> > > the coil.
>
> > It is certainly popular to talk down an antenna with loading coils or
> > traps because they are "lossy".
>
> > Everthing in a real world antenna has loss, the issue is the magnitude of
> > the loss, and the impact of that on system performance for the intended
> > application.
>
> > You might find it hard to believe that some antenna systems incorporate
> > loss elements in order to reduce feed line loss by more than that in the
> > introduced elements.
>
> > Whilst you have chosen to raise the loss in the coil, you haven't raised
> > the issue that a J Pole has currents flowing in lossy conductors,
> > components of which that do not directly contribute to radiation.
>
> > > The J pole has a quarterwave matching stub. The matching stub provides
> > > an out of phase current which means that there is a cancelling field
> > > close to the radiating element. Also the J pole is end fed, which
>
> > This is not a very good way of analysing the J Pole. The U section can be
> > thought of as carrying currents that have differential and common mode
> > components. The common mode components contribute directly to radiation
> > field. You should also consider common mode current on the supporting
> > structure and feedline.
>
> > The 5/8 wave vertical also has potential for significant common mode

> > current on the supporting structure and feedline, you need to look at the
> > effectiveness of the decoupling method employed (usually a radial set).
>
> > > means the transmitter is not connected directly to a maximum current
> > > point.
>
> > What does that matter? BTW, neither is the base fed 5/8.
>
> > There is a maxim in ham radio that antennas should always be fed at a
> > current maximum. You could subscribe to that, but you would limit
> > yourself by excluding a range of good solutions, and with no guarantee
> > that a current fed antenna is optimum.
>
> > > Does the J pole have a disadvantage because of the cancelling field
>
> > There is not perfect cancellation at all points on the U section.
>
> > > from the matching stub and the fact that it is end fed?
>
> > "End fed", as opposed to a centre fed dipole perhaps. But isn't the 5/8
> > "end fed"?
>
> > > Also consider gain and angle of radiation.
>
> > The three dimensional gain distribution is important, but dependent on
> > the common mode issue mentioned above (amongst other things).
>
> > It is fair to say that J Poles are very popular, and that they are overly
> > represented in problems discussed in online fora.
>
> > On the other hand, the 5/8 which was once very popular for mobile work in
> > this area, is long lost, replaced by two, three and four band antennas
> > where VSWR is more important than any other performance parameters. I use
> > a 5/8 vertical on my car, and regularly work repeaters mobile at
> > distances well over 100km. The antenna is more than thirty years old, and
> > has never required repair despite hitting low trees, carpark roofs etc
> > lots of times. The modern multiband antennas are not that robust. I
> > wouldn't even think of a J Pole in this application.
>
> > So, "best" can be a quite complex requirement.
>
> > Owen
>
> Owen, I think the popularity of VHF mobile 5/8 antenna lies in it has
> more gain than a 1/4 wl antenna and is easier to match to 50 ohms than
> a .5 wl antenna. I had certainly rather DIY a 2M 5/8 mobile antenna
> than a .5 wl version. From information I have seen the 5/8 often
> touted for its low angle of radiation may actually have a
> significantly higher angle of radiation than the .5 wl antenna used in
> a similar situation. This is not to say either antenna would not be

> equally useful.
>
> Jimmie

It depends on the vehicle and mount location.
I think often a vehicle provides a better lower section
than the usual ground plane with 1/4 WL elements.
I've seen 5/8 whips do quite well on vehicles if they
are mounted in a good location, the best being the
center of the roof. They beat 1/4 WL whips in comparison
tests, and often showed less "picket fencing".
I imagine a 1/2 wave would work well, but I've never
actually tried a 1/2 wave whip on a vehicle due to
it generally being more complex to build and match.
And in the end, I think the 5/8 would probably beat it
anyway.

But in another comparison on 10m, the elevated
5/8 GP's beat the elevated 1/2 wave's I tried.
And all were decoupled from the feed line.
The comparisons were done locally, using the
space/ground wave which is low angle critical,
and the 5/8's always won to stations that were 30-40
miles away vs the 1/2 wave's.

Anyway, I'm not nearly as negative about 5/8 wave
antennas as many people are.
But like I say, I think the 5/8 over 1/4 wave GP scheme
is perverted and can be greatly improved using more
sane designs. :/

The maximum gain for a single element is .64 wave.
And that gain is usually considered appx 3 db better
than a 1/4 wave. But if I remember right, the dual 5/8
collinear is usually rated at about 3 db better than a
vertical 1/2 wave. "appx 5.1 dbi".
For VHF/UHF use, the old AEA Isopoles were one
of the best commercial verticals built as far as gain
and decoupling of the feed line. Those were dual 5/8
designs with lower decoupling cones.
It was the superior decoupling that really made them
shine at low angles.

4780. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 15:42:23 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <323od65ecievba04oq3aq8hr7cqkbvu9h8@4ax.com>
Source record: 6680

On Wed, 10 Nov 2010 13:46:12 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>On Nov 7, 4:18ï¿½pm, Owen Duffy <n...@no.where> wrote:
>> "David" <nospam@nospam> wrote innews:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com:
>>
>>
>>
>> > Which antenna is better: 5/8 wavelength vertical or a J pole?
>>
>> Better for what? For example, a 5/8 whip would usually be better than a J
<snip>

>
>Owen, I think the popularity of VHF mobile 5/8 antenna lies in it has
>more gain than a 1/4 wl antenna and is easier to match to 50 ohms than
>a .5 wl antenna. I had certainly rather DIY a 2M 5/8 mobile antenna
>than a .5 wl version. From information I have seen the 5/8 often
>touted for its low angle of radiation may actually have a
>significantly higher angle of radiation than the .5 wl antenna used in
>a similar situation. This is not to say either antenna would not be
>equally useful.
>
>Jimmie
In the late 1970's my work car was a tiny Ford Fiesta (AKA "Fiasco">
It was fitted with a 5/8 wave on a fender mount. The transciever was a
Heath 2036 at 5 watts. The antenna did perform very well as far as
distance was concerned.

However, it was tall enough to ping the light fixtures in the many
parking garages that were essential to my job.

The biggest advantage of a J-Pole is that it is not dependent on a
good ground.

John Ferrell W8CCW

4781. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 19:45:48 UTC
From: you <you@shadows.orgs>
Message-ID: <you-236962.10454011112010@news.starband.net>
Source record: 6681

In article <TYJCo.21221$NM2.5390@newsfe22.iad>,
"Barry" <none@nospam.org> wrote:

> "tom" <news4792@taring.org> wrote in message
> news:4cdb5957$0$87591$8046368a@newsreader.iphouse.net...
> > Are you telling all the rest of us that may have inferior equipment
> > that we shouldn't even try to measure things?
>
> No. In fact, playing with a scope and a pulse generator is quite
> educational.
>
> > And we aren't all dumb enough not to understand what gives us
> > resolution.
> >
> > tom
> > K0TAR
>
> Trying to measure the thickness of a single sheet of paper with a ruler
> graduated in eighth's of an inch is analogous. About all you can say
> with certainty is that the paper is much thinner than 1/8 inch.
>
> My last post gave a nominal value for the reflection coefficient of coax
> with a migrated center conductor like N1PR postulated. At 2 GHz, the
> 2-inch section will be about 0.4 wavelength. Will you get detectible
> reflections? Yes.
>
> 73, Barry WA4VZQ

Well not exactly, IF, one were to take a "Stack" of said paper, that was
exactly 1/8 of an Inch thick, then count the number of sheets, and
divide the 1/8 inch by the number of sheets, One could get a VERY close
approximation of the thickness of a single sheet..... Duh...

4782. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 22:08:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <23cf95ff-c224-4749-979d-1bb4d74b923e@i4g2000pro.googlegroups.com>
Source record: 6682

On Nov 11, 11:42 am, John Ferrell <jferrel...@triad.rr.com> wrote:
> On Wed, 10 Nov 2010 13:46:12 -0800 (PST), JIMMIE
>
> <JIMMIEDEE...@YAHOO.COM> wrote:
> >On Nov 7, 4:18 pm, Owen Duffy <n...@no.where> wrote:
> >> "David" <nospam@nospam> wrote innews:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com:
>
> >> > Which antenna is better: 5/8 wavelength vertical or a J pole?
>
> >> Better for what? For example, a 5/8 whip would usually be better than a J
>
> <snip>
>
>
>
> >Owen, I think the popularity of VHF mobile 5/8 antenna lies in it has
> >more gain than a 1/4 wl antenna and is easier to match to 50 ohms than
> >a .5 wl antenna. I had certainly rather DIY a 2M 5/8 mobile antenna
> >than a .5 wl version. From information I have seen the 5/8 often
> >touted for its low angle of radiation may actually have a
> >significantly higher angle of radiation than the .5 wl antenna used in
> >a similar situation. This is not to say either antenna would not be
> >equally useful.
>
> >Jimmie
>
> In the late 1970's my work car was a tiny Ford Fiesta (AKA "Fiasco">
> It was fitted with a 5/8 wave on a fender mount. The transciever was a
> Heath 2036 at 5 watts. The antenna did perform very well as far as
> distance was concerned.
>
> However, it was tall enough to ping the light fixtures in the many
> parking garages that were essential to my job.
>
> The biggest advantage of a J-Pole is that it is not dependent on a
> good ground.
>
> John Ferrell W8CCW

I ve had both .5 and .64 wl antennas on my big Chevy Van. I cant tell
any significant difference in performance except for a couple of .5
antennas that were really poor performers, I think this may have been
due to matching network design.. Except for this cause I dont see how
there could be any perceptable difference in the two antennas short of

careful measurements on an antenna range..

Jimmie

4783. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-11 23:17:16 UTC
From: Barry <none@nospam.org>
Message-ID: <1Q_Co.9400$8m.877@newsfe09.iad>
Source record: 6683

"you" <you@shadows.orgs> wrote in message
news:you-236962.10454011112010@news.starband.net...
> In article <TYJCo.21221$NM2.5390@newsfe22.iad>,
> "Barry" <none@nospam.org> wrote:
>> Trying to measure the thickness of a single sheet of paper with a
>> ruler
>> graduated in eighth's of an inch is analogous. About all you can say
>> with certainty is that the paper is much thinner than 1/8 inch.

> Well not exactly, IF, one were to take a "Stack" of said paper, that
> was
> exactly 1/8 of an Inch thick, then count the number of sheets, and
> divide the 1/8 inch by the number of sheets, One could get a VERY close
> approximation of the thickness of a single sheet..... Duh...

Note that I said the thickness of a _single_ sheet. Your method would give an approximation of the average thickness of the sheets used to make up the stack. But if you have ever worked with a Fourdriner machine that is not controlled well, i.e. the thickness varies with time due to any number of variables, you would need to know the thickness of a number of individual sheets to determine which variable is causing problems. Typical variables that would cause the thickness of a sheet to vary include, but are not limited to, head box level, "wire" speed, pulp "consistency", felt pressure, calendar pressure, the type of wood used, the lignin removal process (Kraft, caustic, or solvent), Crown Control pressure, drying roll steam pressure, and at least a dozen more. For example, sloshing or waves in the head box would cause thickness variations in both the machine and cross direction, while "wire" speed would only cause thickness variations in the machine direction. So there are real reasons for measuring the thickness of a single sheet.

4784. Re: J pole feed

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-12 00:19:19 UTC
From: tom <news4792@taring.org>
Message-ID: <4cdc8809$0$87581$8046368a@newsreader.iphouse.net>
Source record: 6684

On 11/11/2010 12:51 AM, Richard Clark wrote:
> On Thu, 11 Nov 2010 16:31:35 +1100, "VK2KC Gmail"
> <vk2kcjohn@gmail.com> wrote:
>
>> But what I want to know is how the Arrow manages to match the antenna to the
>> 50 ohm feed.
>>
>> I am thinking its in the spacing of the two elements?
>
> Hi OM,
>
> Both styles are the same basic method. You are using a length of
> transmission line (the paired section) to match one Z to another Z.
> The line Z is part of the equation (the spacing, as you asked).
>
> One method (most observed) uses a tapped feed which for the shorted
> section is located at the line's translation to 50 Ohms, the open end
> is a higher Z matching to the half-wave radiator (I won't go into the
> difficulties and considerations of the matching section also
> radiating).
>
> The mystery feed point (do I connect my "hot" lead to the long wire,
> or the short one?), its magic position, all contribute to a religious
> lockstep of praise. In itself, it has virtually nothing to offer but
> complexity.
>
> The other method (infrequently observed) simply approaches the
> situation in the classic application of a line transformer. Think of
> the smith chart. It's amazing how often this method is used at HF,
> but draws blank stares when we shift to UHF.
>
> I have built, measured, and tested antennas employing the second
> method because, frankly, it is far simpler to construct on a SO-239
> connector: one wire in the center conductor, one wire from any of the
> four holes - end of story (neglecting the precautionary tales of
> decoupling everything).
>
> The practical side of this home-brew is you build one "close enough,"
> and then with the aid of a SWR meter, you clip off 1/8th inch portions
> of wire (either side until you get the drift of it) until you have
> flattened it out the pesky SWR - and then walk away.
>
> Anyone versed in using the Smith Chart will immediately recognize that
> there are many possible satisfactory solutions. As is common with

> cautioning children not to run with scissors, not all Z-match
> solutions are preferred radiators.
>
> The free version of EZNEC is eminently suited to exploring this.
>
> 73's
> Richard Clark, KB7QHC

Just as Richard has constructed several, so have I. I made a somewhat frequency adjustable one for a friend that does audio for car shows here in the Minneapolis area. He has dozens of remote speakers that run on commercial RF distribution freqs, but also transmits low power FM broadcast for those cruising the show. I used a base length for the 2 rods for the high end of the band plus 1 tip for the quarter wave section and 2 for the 3/4 wave section. Gave him a chart that showed what combinations covered what frequencies with roughly 1.5 to 1 or better SWR. Works like a champ. used a simple 7 turn on 1.5 inch PVC choke to _reduce_ feedline radiation. Told him he might want more, but up to him.

Scaling the Arrow design to around 100 MHz involved increasing the spacing between the 2 rods, as you might have suspected. The design using changable/removable tips works, but the bandwidth got narrower towards either end of the US FM band.

tom
K0TAR

4785. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-12 00:33:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <le2pd65png2fvh2kl8leiu1iuf8er6s2gb@4ax.com>
Source record: 6685

On Thu, 11 Nov 2010 18:17:16 -0500, "Barry" <none@nospam.org> wrote:

>But if you have ever worked with a Fourdriner machine that
>is not controlled well, i.e. the thickness varies with time due to any
>number of variables,

I have. That and a year's worth of studying paper process chemistry
for precision (sic) measurement of K and Kappa.

When it gets down to what you describe as "not controlled well" that
is more the definition of a Paper Mill that is destined for bankruptcy
before the end of one week - if not a weekend. I've seen the
production floor flood with product when the process encounters a
bottle neck. The production pipeline is enormous with a lot of
intertia.

Measuring a number of sheets achieves sufficient accuracy.

73's
Richard Clark, KB7QHC

4786. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-12 02:01:17 UTC
From: Barry <none@nospam.org>
Message-ID: <Md1Do.14239$lL3.11404@newsfe08.iad>
Source record: 6686

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:le2pd65png2fvh2kl8leiu1iuf8er6s2gb@4ax.com...
> On Thu, 11 Nov 2010 18:17:16 -0500, "Barry" <none@nospam.org> wrote:
>
>>But if you have ever worked with a Fourdriner machine that
>>is not controlled well, i.e. the thickness varies with time due to any
>>number of variables,
>
> I have. That and a year's worth of studying paper process chemistry
> for precision (sic) measurement of K and Kappa.

It has been about 30 years ago, but I remember that while Kappa is related to the amount of lignin remaining in the pulp after cooking, every wet end process had its own peculiar measurement. I worked on the online measurement of Kappa for several solvent pulping processes that were to produce dissolving pulp for Eastman's cellulose ester process. Once the vendor that supplied our pulp got wind that we were researching solvent pulping, they quickly dropped their price and raised their quality enough that we halted work on our own pulping processes. One process we were considering involved the use of supercritical CO2. We never got beyond early pilot plant work on this.

I fully understand the {sic} in your statement.

> When it gets down to what you describe as "not controlled well" that
> is more the definition of a Paper Mill that is destined for bankruptcy
> before the end of one week - if not a weekend. I've seen the
> production floor flood with product when the process encounters a
> bottle neck. The production pipeline is enormous with a lot of
> intertia.

I have toured quite a few paper mills over the years with both Kraft and caustic pulping. I never really got to see one of the large continuous digesters though. We had a small caustic plant that used hardwoods in town with us. The odors were interesting - mercaptans by them and the occasional butyric acid spill by us.

I always wonder how long the cellulose acetate business will last. While cigarette smoking is declining in the US, increasing demand from China seems to more than make up for the loss.

Going back to the original TDR discussion, probably the most interesting use I ever put one through was in diagnosing thermocouple problems in our coal gasifier. I saw that the platinum-rhodium thermocouples had water in them. We finally got a metallurgist to do an "autopsy" on one of the thermocouples pulled out during a shutdown. When we broke open the

thermocouple, water ran out. We saw a buildup of salts from the Saureisen cement at exactly the place that I predicted. Water was diffusing in through a silicon carbide protection tube and an Inconel sheath.
Of course the gasifier operated at high temperature and pressure. A Nastran simulation of the thermowell showed that the temperature at that point was low enough for condensation to occur. Some extra insulation on the external flange solved that problem!

73, Barry WA4VZQ

How the heck did we get off topic this far? :-)

4787. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-12 02:07:31 UTC
From: tom <news4792@taring.org>
Message-ID: <4cdca15f$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6687

On 11/11/2010 8:01 PM, Barry wrote:
> "Richard Clark"<kb7qhc@comcast.net> wrote in message
<snip>
>
> 73, Barry WA4VZQ
>
> How the heck did we get off topic this far? :-)
>
>

Keep it up. It's interesting.

tom
K0TAR

4788. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-12 07:31:10 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <h7qpd69hpuia4rqgtl1ehc3pf0kg33hu9v@4ax.com>
Source record: 6689

On Thu, 11 Nov 2010 20:07:31 -0600, tom <news4792@taring.org> wrote:

>On 11/11/2010 8:01 PM, Barry wrote:
>> "Richard Clark"<kb7qhc@comcast.net> wrote in message
><snip>
>>
>> 73, Barry WA4VZQ
>>
>> How the heck did we get off topic this far? :-)
>>
>>
>
>Keep it up. It's interesting.

If that means the lore of paper processing, I was peripherally involved in trying to characterize Black Liquor (http://en.wikipedia.org/wiki/Black_liquor). Gladly I was at the extreme periphery (I am sure my sense of smell was debilitated in those years).

However, returning to things RF, I also was tasked with calibrating a wood moisture meter. It used an HF RF source as part of a Z meter were Z was correlated to moisture content. The probe was a fixed ring surrounding point probes much like a Kelvin Bridge. It has always seemed paradoxical that steam is used to dry wood.

Now, finding calibrated wood was no easy task. And if we found it, we would have to first validate it (sort of a circular form of Sysphus' task). My best guess at that work set to us was that we gun-decked it.

It was some years later that that task came around again when I was measuring K and Kappa as I averred. Here came the requirment for "Bone Dry" paper. Try as you might to dry paper bone dry (absolutely no water content), that as soon as it comes out of the oven it is almost back up to several percent water content (15% to 20% would be the end point).

Ironies compound in that I now live in a community where 100 years ago our cedar wood mills produced nearly a Billion shingles in a year.

73's
Richard Clark, KB7QHC

4789. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-12 13:54:33 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <u3gqd6lv6bcbjq3prpijrdn796gaqj6o0o@4ax.com>
Source record: 6688

On Thu, 11 Nov 2010 14:08:39 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>> In the late 1970's my work car was a tiny Ford Fiesta (AKA "Fiasco">
>> It was fitted with a 5/8 wave on a fender mount. The transciever was a
>> Heath 2036 at 5 watts. The antenna did perform very well as far as
>> distance was concerned.
>>
>> However, it was tall enough to ping the light fixtures in the many
>> parking garages that were essential to my job.
>>
>> The biggest advantage of a J-Pole is that it is not dependent on a
>> good ground.
>>
>> John Ferrell W8CCW
>
>I ve had both .5 and .64 wl antennas on my big Chevy Van. I cant tell
>any significant difference in performance except for a couple of .5
>antennas that were really poor performers, I think this may have been
>due to matching network design.. Except for this cause I dont see how
>there could be any perceptable difference in the two antennas short of
>careful measurements on an antenna range..
>
>
>Jimmie

After I could not stand the Fiesta any longer I ordered a new Cadillac
Cimarron. I did not want to drill any holes in the new Caddy so I
bought one of the thru the glass end fed whips. Its performance was OK
and it did not draw attention to the vehicle so I lived with it.
130,000 miles later it went to our son radio, antenna and all! It only
made sense when he was licensed. If I were doing it again I would have
drilled the appropriated hole in the roof above the dome light and
installed a Larsen 2m & 400 antenna. That was the last time I
hesitated about drilling a hole where I needed it.

Now that I am in a 2008 Chrysler Minivan I have taken the lazy way out
and placed a mag mount quarter wave on the luggage rack (no scratching
there) with the coax ty-wrapped to the rack so there is not enough
slack to allow real damage if it gets knocked off. An itty-bitty Yaesu
FT-90 sits on a sticky pad on the dash and plugs into one of the
vehicles many12v power outlets. The power outlets are not like the
cigarette lighters of the past. They are well installed and fused at
20 amps. As long as you purchase a plug to handle the power and trim
the cable to what is necessary all is well.

The FT-90 gets too hot to handle and shuts down on lengthy rag chews at full power, but does fine at lower power settings.

You can waste a lot of time and money over killing a mobile antenna for repeater operation. If you are out in the wide open spaces, maybe it is worth it!
John Ferrell W8CCW

4790. Re: Distance to Fault [now chemistry]

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-13 00:59:04 UTC
From: Barry <none@nospam.org>
Message-ID: <tplDo.16495$AT2.13545@newsfe01.iad>
Source record: 6690

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:h7qpd69hpuia4rqgtl1ehc3pf0kg33hu9v@4ax.com...
> If that means the lore of paper processing, I was peripherally
> involved in trying to characterize Black Liquor
> (http://en.wikipedia.org/wiki/Black_liquor). Gladly I was at the
> extreme periphery (I am sure my sense of smell was debilitated in
> those years).

I once had to check on an instrument I had designed that was used in our cellulose acetate butyrate esterification area. (Cellulose Acetate Butyrate is used to make Xelite and Craftsman tool handles.) Acetic anhydride and butyric acid were used for esterification. For those not familiar with the odor, think of a mixture of rancid butter, vomit, and the contents of a cat's week old litter box. Readers who watched the last season of Whale Wars on TV saw it being used against the Japanese whaling ship and its cargo.

Since I was unfamiliar with the building, one of my technicians who had installed the instrument went with me. We stepped off the elevator and walked into the processing area. What had been an extremely offensive odor in the elevator suddenly hit me like a ton of bricks. I couldn't see as my eyes were tearing badly, and it hurt to breathe. My tech told me to stand still for a moment or two and things would get better. Within thirty seconds to a minute, my eyes cleared up, my sinuses opened up, and my breathing became normal again. I could no longer smell the mixed acids at all. We checked the calibration of the instrument and talked to the operators about their experiences in using it.

We then left the building and walked the half mile back to the research labs. Eastman was still using dimethyl-terephthalate in their polyester production at that time, and as I waked past the DMT distillation area, I could easily smell the DMT and the Dowtherm heat transfer fluid. My technician explained that as soon as we returned to the research complex, we should drop by our group leader's office to let him know where we had been. We had just opened his door when he said that he could smell where we had been and to get the heck out of his office! Of course, we couldn't smell our strong odor at all.

Fortunately my technician had warned me to wear old clothes, old shoes, and an old belt for when I came home that evening, my wife made me strip in the foyer and go stright to the shower. She washed the clothes, but the shoes and belt had to hang outside for a week. It seems that leather is particularly bad about absorbing the odor.

> However, returning to things RF, I also was tasked with calibrating a
> wood moisture meter. It used an HF RF source as part of a Z meter

> were Z was correlated to moisture content. The probe was a fixed ring
> surrounding point probes much like a Kelvin Bridge. It has always
> seemed paradoxical that steam is used to dry wood.

We used microwave absorption to measure moisture in cellulose acetate filter tow (cigarette filters are made from this). Operators would cut off a length of tow and stuff a weighed amount in a short X-band waveguide. Attenuation was proportional to moisture.

> Now, finding calibrated wood was no easy task. And if we found it, we
> would have to first validate it (sort of a circular form of Sysphus'
> task). My best guess at that work set to us was that we gun-decked
> it.

Calibration of the microwave quipment was checked by weekly sending samples to be tested by nuclear magnetic resonance. We also used samples kept in jars over certain salt solutions that maintaned a constant relative humidity in the jar. See http://www.conservationphysics.org/satslt/satsalt.php for some typical solutions. To bring a little electronics into this, the same principle is used in electrolytic capacitors where glycols, sorbitol, and various salts are used in the electrolyte to insure that it remains moist. Electrolytic capacitors are about the only electronic components that are harmed by an exceptionally dry environment.

> It was some years later that that task came around again when I was
> measuring K and Kappa as I averred. Here came the requirment for
> "Bone Dry" paper. Try as you might to dry paper bone dry (absolutely
> no water content), that as soon as it comes out of the oven it is
> almost back up to several percent water content (15% to 20% would be
> the end point).

You can get close to "bone dry" in a sealed container containing zeolite molecular sieves baked at 600 C. But as soon as the container is opened, moisture rushes in from the surround air. We would use glove boxes pressurized slightly with nitrogen obtained from a liquid nitrogen source when we needed a really low humidity environment.

> Ironies compound in that I now live in a community where 100 years ago
> our cedar wood mills produced nearly a Billion shingles in a year.
>
> 73's
> Richard Clark, KB7QHC

I always enjoyed visiting the University of Washington where Eastman was on the industrial advisory board of the Center for Process Analytical Chemistry. I never order salmon from any restaurant in the southeast after eating the wonderful, fresh-caught salmon you have there!

73, Barry WA4VZQ

P.S. You mentioned black liquor from the Kraft process. I once visited the Glidden-Durkee plant in Jacksonville, FL. They originally produced

turpentine from pine stumps, but now they start with tall oil extracted from black liquor. It is hard to believe that essential oils, perfume stock, and flavorings are all derived from turpentine.

4791. For Sale Motorola TDD6034A VHF Vertical Collinear Antenna 23ft.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-13 16:56:21 UTC
From: TimBob <tmize57@juno.com>
Message-ID: <0cef70fb-b503-42b6-84c8-d65d4f9e2808@k3g2000vbp.googlegroups.com>
Source record: 6691

For sale in Collierville, TN and local pick up only is a Motorola TDD6034A VHF vertical collinear antenna that is about 23ft long. The fiberglass is in good shape as I have stored this my garage for years. Pulled it out recently, cleaned, repaired, painted and tested it. Was going to use it but due to our Home Owners Assc. I cannot put it up. Freq range listed on tag is 149-154Mhz. I put my MFJ antenna analyzer on it and at 146Mhz the SWR was about 1.7 to 1, so not to bad! Would make a good repeater antenna. Sold as-is and again local pick up in Collierville, TN only!
$125.00
Tim N7XAU

4792. group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-13 21:29:31 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <515bbbc8-2cb3-4b1c-a42d-bee54fd4fe1c@b25g2000vbz.googlegroups.com>
Source record: 6692

they may not be angelina jolie or any of those other hot, hot, hot
babes the spammer keeps posting, but these are some of the better
views you can find outside of the bedroom:
http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#fallinspection

4793. Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 00:07:37 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <bu9ud651r7po8njjnudto3tgsl6a9387oh@4ax.com>
Source record: 6693

On Sat, 13 Nov 2010 13:29:31 -0800 (PST), K1TTT <k1ttt@arrl.net>
wrote:

>they may not be angelina jolie or any of those other hot, hot, hot
>babes the spammer keeps posting, but these are some of the better
>views you can find outside of the bedroom:
>http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#fallinspection

Nice set of pictures and good blogging.

I was especially interested in your solar project - especially with
the production of MWHrs. Do you have a link to the technology of the
panels you used?

73's
Richard Clark, KB7QHC

4794. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 01:11:22 UTC
From: Peter <pm@hotmail.com>
Message-ID: <Bc-dndUTUvLfqkLRnZ2dnUVZ7qadnZ2d@westnet.com.au>
Source record: 6694

> Why do you call it a 1/8 wave loading coil? It wouldn't be along the
> lines of the flawed "loading coil replaces the missing degrees" concept
> would it?

I referred to the 1/8 wave loading coil without really thinking about it. I was unsure of the loading coil dimensions, so I simple tried a 1/8 wave length wire formed into a coil. This is for the simple series arrangement 5/8 radiator. This created a load coil that appeared to have a little too much L so I have removed one turn, seems to load up ok after a little trimming of the radiator. Keen to hear how too determine the value/dimensions for the loading coil.

Having said that I'm not sure what so wrong with missing degrees" concept.

>
> A 5/8 monopole's performance is quite senstive to the ground plane
> implementation. The behavior of a 5/8 monopole over a perfect ground is
> not replicated over real radial systems or car roofs, yet people compare
> antennas based on the perfect ground plane environment.
>
> As the length of the radiator is increased beyone a half wave, low angle
> gain increaeses until about 0.6 wavelengths when power is shifted into a
> developing upper lobe. The optimum length over a perfect ground is
> probably just a little less than 5/8, and less still over practical
> ground planes.
>
> The other dimension is feedpoint impedance. For a simple series L
> matching arrangement, R is a little high and the optimum length is
> typically longer than 5/8.
>
> So, for optimum pattern, and low VSWR, a better solution is a tapped base
> coil with 0.6 wavelength vertical... but that doesn't play well with the
> simplest of mobile antenna bases that provide only one connection to the
> screw on antenna.

My current 5/8 wave ground plan project is simply to get something on air, however I plans to construct an improved version with the tapped coil approach.

I may be looking in the wrong places, but I have been surprised at how little information there is on the net regarding 5/8 wave ground plan.

Thanks Owen for the above over view of the 5/8 wave ground plan.

Cheers

Peter VK6YSF

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

4795. Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 01:27:42 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <de299a48-6f65-483c-abbf-81b02ba8d235@n30g2000vbb.googlegroups.com>
Source record: 6695

On Nov 14, 12:07 am, Richard Clark <kb7...@comcast.net> wrote:
> On Sat, 13 Nov 2010 13:29:31 -0800 (PST), K1TTT <k1...@arrl.net>
> wrote:
>
> >they may not be angelina jolie or any of those other hot, hot, hot
> >babes the spammer keeps posting, but these are some of the better
> >views you can find outside of the bedroom:
> >http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#fallinsp...
>
> Nice set of pictures and good blogging.
>
> I was especially interested in your solar project - especially with
> the production of MWHrs. Do you have a link to the technology of the
> panels you used?
>
> 73's
> Richard Clark, KB7QHC

The installation pics are here:
http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#solar
The production info is here:
http://enlighten.enphaseenergy.com/public/systems/BpbD5251
if you click on one of the links on the top left it will bring up a
warning about needing to login for those functions, but the links on
that warning show you more about how the system works. one of them
is:
http://www.enphaseenergy.com/products/moreinfo/howitworks.cfm
basically each panel has an inverter that feeds power out to the
grid. there are no batteries, no charger, no big inverter, the panels
feed back to the grid directly. i get paid by the kwh by the utility
for what i feed back, and also sell Massachusetts renewable energy
credits to the utilities in the state under our cap and tax program.

4796. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 01:47:57 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <a5a30539-07b5-4ed9-8ebd-6929cadbc541@y31g2000vbt.googlegroups.com>
Source record: 6696
Body handling: HTML body converted to readable text

On Nov 13, 7:11 pm, "Peter" wrote:
> Having said that I'm not sure what so wrong with missing degrees" concept.

:-) Because there are two sides of the argument each at the two
extremes. The technical truth is that the coil does replace a certain
number of degrees of the missing part of the antenna but not all of
the missing degrees. I am preparing a technical article that explains
the details. Please stand by.
--
73, Cecil, w5dxp.com

4797. Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 01:54:30 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <h5gud6p63afn1eoj8gophj502k9l91q35q@4ax.com>
Source record: 6697

>The installation pics are here:
>http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#solar

I saw those - thus my inquiry.

>The production info is here:
>http://enlighten.enphaseenergy.com/public/systems/BpbD5251

Went there too, courtesy of your embedded link. The data of power
generation over time was interesting.

>is:
>http://www.enphaseenergy.com/products/moreinfo/howitworks.cfm

That was new, and interesting in regards to the distributed conversion
modules - makes good sense.

However, I would still like to know the raw performance data of the
panel (size, power rating, efficiency, ...).

73's
Richard Clark, KB7QHC

4798. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 01:57:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ecgud6p8vcr3rppndamgecamnkv7v9pr5s@4ax.com>
Source record: 6698

On Sun, 14 Nov 2010 09:11:22 +0800, "Peter" <pm@hotmail.com> wrote:

>Having said that I'm not sure what so wrong with missing degrees" concept.

Hi Peter,

Drives some up the wall. Your terming it as a concept is perfect, but
it will still be argued for being a corrupt teaching of a literal
equivalence.

73's
Richard Clark, KB7QHC

4799. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 02:19:48 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E3087993D91Cnonenowhere@61.9.134.55>
Source record: 6699

"Peter" <pm@hotmail.com> wrote in
news:Bc-dndUTUvLfqkLRnZ2dnUVZ7qadnZ2d@westnet.com.au:

...
> I referred to the 1/8 wave loading coil without really thinking about
> it. I was unsure of the loading coil dimensions, so I simple tried a
> 1/8 wave length wire formed into a coil. This is for the simple series
> arrangement 5/8 radiator. This created a load coil that appeared to
> have a little too much L so I have removed one turn, seems to load up
> ok after a little trimming of the radiator. Keen to hear how too
> determine the value/dimensions for the loading coil.
>

Hi Peter,

One theoretical method is to model the antenna, and find the feedpoint impedance. The R component decreases as length increases from a half wave to three quarter wave, and X increases towards zero.

Best pattern is closer to a half wave, but R is very high. At 0.7 wavelengths, R is low enough for an acceptable match by using a series inductor, and reactance will be a few hundred ohms give or take depending on length.

> Having said that I'm not sure what so wrong with missing degrees"
> concept.

For one thing, if a certain inductance is required, the quantity of wire needed depends on several underlying coil parameters.

...
>
> My current 5/8 wave ground plan project is simply to get something on
> air, however I plans to construct an improved version with the tapped
> coil approach.

That lets you shorten it for a bit more gain, and a good match.

If you cut the vertical for 0.6 wavelengths, you should think of starting with an inductor with reactance towards 1000 ohms.

>
> I may be looking in the wrong places, but I have been surprised at how
> little information there is on the net regarding 5/8 wave ground plan.

Probably displaced by OTS 4 band verticals.

Have fun.

Owen

4800. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 02:25:50 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E30889F89AADnonenowhere@61.9.134.55>
Source record: 6700

Owen Duffy <none@no.where> wrote in
news:Xns9E3087993D91Cnonenowhere@61.9.134.55:

> "Peter" <pm@hotmail.com> wrote in
> news:Bc-dndUTUvLfqkLRnZ2dnUVZ7qadnZ2d@westnet.com.au:
...
>>
>> My current 5/8 wave ground plan project is simply to get something on
>> air, however I plans to construct an improved version with the tapped
>> coil approach.
>
> That lets you shorten it for a bit more gain, and a good match.
>
> If you cut the vertical for 0.6 wavelengths, you should think of
> starting with an inductor with reactance towards 1000 ohms.
>

I meant to elaborate on this a bit more. (Did I hear someone groan?)

If for example, the feedpoint Z of a 0.6 wave vertical over four quarter wave radials was 150-j500, your tapped coil matching network can be designed using bulk standard circuit theory to transform 150-j500 to 50 +j0, and nowhere do you use the missing 54° in those calcs. That might suggest that the "missing degrees" are some kind of explanatory crutch (or ham speak) that is not directly related to solving the problem.

Owen

4801. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 03:35:50 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <88jud6lo1n6tlsnvmi88je8k7n2gdijj9a@4ax.com>
Source record: 6601

On Sun, 14 Nov 2010 02:25:50 GMT, Owen Duffy <none@no.where> wrote:

>I meant to elaborate on this a bit more. (Did I hear someone groan?)
>
>If for example, the feedpoint Z of a 0.6 wave vertical over four quarter
>wave radials...

I'll bite (or groan as the expectation demands) - why "quarter wave"
radials? A rule of thumb?

* * * Rhetorical questions follow * * * *

Quarter wave in physical length?

Quarter wave in electrical length?

Elevated Quarter wave radials?

If elevated, Quarter wave drooped radials?

* * * Philosophical ponderings follow * * * *

The discussion of radials usually attends ground mounted studies in
the 100M band in the 1930s. Those studies sought to reduce loss while
mimicking a conductive ground of infinite extent. Radiators taller
than Quarter wave were treated to feedpoint loading (such as found in
the current topic, albeit with the possibility of it being elevated
and thus muddying the philosophy here). All such historical (and
current AM band engineering) feedpoint loading presumed, basically, a
non-resonant ground system. As Quarter wave long radials imply
resonance (at least in the first read), this would suggest that,
perhaps, this "tuning" should be further examined in light of
feedpoint loading. The conclusion, to my mind, would be that
significant reduction in feedpoint loading could be accomplished by
tailoring radial length (much less drooping that is already part of
the lore).

At first blush, it would seem that the radials would be shorter than
Quarter wave (forgive me for not first confirming this astonishing
leap of faith).

Of course, there is every chance some reactance will remain to be
"tuned" away (returning us once again to loading) - if the mismatch is
deemed significant.

If such is the case, and returning to the original design, what
problem is the Quarter wave length radial rule of thumb responding to?

* * * * Alternative analysis * * * *

Or to put it into the light of other antenna topological discussions, and in this regard the off-center fed dipole. Here we have an off-center feed (we rarely go on to describe all such installations as "vertical dipoles"). We can fully expect that, as such, we are transforming the expected 70ï¿½j0 Ohms into some other value. Quite frequently in an OCF design, it is much higher - and variable by the degree of offset. However, for a fixed frequency, this is better understood and can be anticipated. The proximity to ground and the geometry (the radials certainly disturb the shape of an OCF dipole, even if vertical) further change things, but conceptually the monopole with resonant radials still constitutes an OCF design that is "on center fed" for the vertical element when it, too, is a Quarter wave in length.

For many prospective feed points along the length of the OCF dipole, the only consideration needed is for a ratio transformation, not tuning. This is usually resolved in a BalUn. Hence "loading" is removed from the picture through careful consideration of the whole antenna, the degree of offset, and not through arbitrary assignment of Quarter wave length radials to all vertical designs.

* * * * Conclusion * * * * *

The concept of a loading coil where its length of wire "replaces" the missing length of radiator wire is a commonplace for technologists. It serves the discussion quite well at that level.

The value of this length of wire's inductance is going to vary by significant value for the many coil form variables available to the technician. Hence the exactness of this "replacement" is questionable on the face of it at the engineering level of discussion. This equivalence "replacement" is forced further into unresolved exactness if we move the same coil up into the radiator (without changing the radiator's length).

The same could be said with the treatment of Quarter wave length radials, which, after all, are a special and not general solution.

73's
Richard Clark, KB7QHC

4802. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 03:49:24 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E3096CABF400nonenowhere@61.9.134.55>
Source record: 6602

Richard Clark <kb7qhc@comcast.net> wrote in
news:88jud6lo1n6tlsnvmi88je8k7n2gdijj9a@4ax.com:

> On Sun, 14 Nov 2010 02:25:50 GMT, Owen Duffy <none@no.where> wrote:
>
>>I meant to elaborate on this a bit more. (Did I hear someone groan?)
>>
>>If for example, the feedpoint Z of a 0.6 wave vertical over four
>>quarter wave radials...
>
> I'll bite (or groan as the expectation demands) - why "quarter wave"
> radials? A rule of thumb?

It is just what I modelled, so I was declaring the context. The thread started on 2m, my discussion was in that context, and the usual application would be elevated radials, I modelled free space.

I used a quarter of the free space wave length. It is not that important because as you note, matching the feedpoint impedance deals with the length issue. The reason I didn't specifiy any slope is that they were horizontal.

Other configurations are possible, but the numbers will vary.

I suggest that as the vertical length approaches a half wave, a set of shorter radials, and perhaps three might well provide adequate decoupling... but Z will differ again.

I was not trying to publish a working design, rather to give some info on the way these things behave.

Owen

...

4803. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 04:21:39 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <891e0075-f0d0-4154-84bf-3ff41409bd41@fv1g2000vbb.googlegroups.com>
Source record: 6603
Body handling: HTML body converted to readable text

On Nov 13, 9:11 pm, "Peter" wrote:
> > Why do you call it a 1/8 wave loading coil? It wouldn't be along the
> > lines of the flawed "loading coil replaces the missing degrees" concept
> > would it?
>
> I referred to the 1/8 wave loading coil without really thinking about it. I
> was unsure of the loading coil dimensions, so I simple tried a 1/8 wave
> length wire formed into a coil. This is for the simple series arrangement
> 5/8 radiator. This created a load coil that appeared to have a little too
> much L so I have removed one turn, seems to load up ok after a little
> trimming of the radiator. Keen to hear how too determine the
> value/dimensions for the loading coil.
>
> Having said that I'm not sure what so wrong with missing degrees" concept.
>
>
>
>
>
>
>
> > A 5/8 monopole's performance is quite senstive to the ground plane
> > implementation. The behavior of a 5/8 monopole over a perfect ground is
> > not replicated over real radial systems or car roofs, yet people compare
> > antennas based on the perfect ground plane environment.
>
> > As the length of the radiator is increased beyone a half wave, low angle
> > gain increaeses until about 0.6 wavelengths when power is shifted into a
> > developing upper lobe. The optimum length over a perfect ground is
> > probably just a little less than 5/8, and less still over practical
> > ground planes.
>
> > The other dimension is feedpoint impedance. For a simple series L
> > matching arrangement, R is a little high and the optimum length is
> > typically longer than 5/8.
>
> > So, for optimum pattern, and low VSWR, a better solution is a tapped base
> > coil with 0.6 wavelength vertical... but that doesn't play well with the
> > simplest of mobile antenna bases that provide only one connection to the
> > screw on antenna.
>
> My current 5/8 wave ground plan project is simply to get something on air,
> however I plans to construct an improved version with the tapped coil

> approach.
>
> I may be looking in the wrong places, but I have been surprised at how
> little information there is on the net regarding 5/8 wave ground plan.
>
> Thanks Owen for the above over view of the 5/8 wave ground plan.
>
> Cheers
>
> Peter VK6YSF
>
> http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm- Hide quoted text -
>
> - Show quoted text -

The way you did it works pretty good. A lot of practical antenna work
is estimate and trim.There is or used to be a site that goes into a
lot of detail on the 5/8ths. I had it in my bookmarks for a long time
but lost it in my last computer crash. Compares 5/8ths with 1/4 wave
radial 5/8 radials horizontal and drooping radials and much more.
Sorry but I cant remember who had the site bet someone here does.

Jimmie

4804. Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 12:09:37 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c819a8e5-8350-49f8-be30-51f905e49622@k30g2000vbn.googlegroups.com>
Source record: 6604

On Nov 14, 1:54 am, Richard Clark <kb7...@comcast.net> wrote:
> >The installation pics are here:
> >http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#solar
>
> I saw those - thus my inquiry.
>
> >The production info is here:
> >http://enlighten.enphaseenergy.com/public/systems/BpbD5251
>
> Went there too, courtesy of your embedded link. The data of power
> generation over time was interesting.
>
> >is:
> >http://www.enphaseenergy.com/products/moreinfo/howitworks.cfm
>
> That was new, and interesting in regards to the distributed conversion
> modules - makes good sense.
>
> However, I would still like to know the raw performance data of the
> panel (size, power rating, efficiency, ...).
>
> 73's
> Richard Clark, KB7QHC

sorry, one more link: http://www.trinasolar.com/pdf/TSL-DA01.pdf
mine are the TSM-DA01 185w panels. so read the right hand column of
the table.

4805. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 13:36:40 UTC
From: nm5k@wt.net
Message-ID: <070c2f98-1886-4ae8-bb86-732a83f66354@o29g2000vbi.googlegroups.com>
Source record: 6605
Body handling: HTML body converted to readable text

On Nov 13, 10:21 pm, JIMMIE wrote:
> On Nov 13, 9:11 pm, "Peter" wrote:
>
>
>
> > > Why do you call it a 1/8 wave loading coil? It wouldn't be along the
> > > lines of the flawed "loading coil replaces the missing degrees" concept
> > > would it?
>
> > I referred to the 1/8 wave loading coil without really thinking about it. I
> > was unsure of the loading coil dimensions, so I simple tried a 1/8 wave
> > length wire formed into a coil. This is for the simple series arrangement
> > 5/8 radiator. This created a load coil that appeared to have a little too
> > much L so I have removed one turn, seems to load up ok after a little
> > trimming of the radiator. Keen to hear how too determine the
> > value/dimensions for the loading coil.
>
> > Having said that I'm not sure what so wrong with missing degrees" concept.
>
> > > A 5/8 monopole's performance is quite senstive to the ground plane
> > > implementation. The behavior of a 5/8 monopole over a perfect ground is
> > > not replicated over real radial systems or car roofs, yet people compare
> > > antennas based on the perfect ground plane environment.
>
> > > As the length of the radiator is increased beyone a half wave, low angle
> > > gain increaeses until about 0.6 wavelengths when power is shifted into a
> > > developing upper lobe. The optimum length over a perfect ground is
> > > probably just a little less than 5/8, and less still over practical
> > > ground planes.
>
> > > The other dimension is feedpoint impedance. For a simple series L
> > > matching arrangement, R is a little high and the optimum length is
> > > typically longer than 5/8.
>
> > > So, for optimum pattern, and low VSWR, a better solution is a tapped base
> > > coil with 0.6 wavelength vertical... but that doesn't play well with the
> > > simplest of mobile antenna bases that provide only one connection to the
> > > screw on antenna.
>
> > My current 5/8 wave ground plan project is simply to get something on air,
> > however I plans to construct an improved version with the tapped coil
> > approach.
>

> > I may be looking in the wrong places, but I have been surprised at how
> > little information there is on the net regarding 5/8 wave ground plan.
>
> > Thanks Owen for the above over view of the 5/8 wave ground plan.
>
> > Cheers
>
> > Peter VK6YSF
>
> >http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm-Hide quoted text -
>
> > - Show quoted text -
>
> The way you did it works pretty good. A lot of practical antenna work
> is estimate and trim.There is or used to be a site that goes into a
> lot of detail on the 5/8ths. I had it in my bookmarks for a long time
> but lost it in my last computer crash. Compares 5/8ths with 1/4 wave
> radial 5/8 radials horizontal and drooping radials and much more.
> Sorry but I cant remember who had the site bet someone here does.
>
> Jimmie

I modeled a few of the usual versions.
http://home.comcast.net/~nm5k/acompari.htm
I had thought I had also modeled a few using resonant
3/4 wave radials, but I guess I had found better modeled
results using the 5/8 radials. But I know the 3/4 wave
radials give a much better pattern than the 1/4 wave
radials, but maybe a tad less gain than 5/8 radials.
But these show why I don't like 1/4 wave radials for
a 5/8 radiator. And Richard may have a point about it
it being an "OCF" antenna. This is why I consider it
perverted. I don't like horizontal OCF antennas either.. :(
Through the years of modeling these, and playing with
them in the real world, I've noticed a few things about
the radials.
I prefer sloping 1/4 wave radials when used with a 1/4
wave radiator. The performance difference between
"straight out" radials is not large, but is about .3 db
or so better with the sloping variety. And you get a
bit better match.
But sloping 1/4 radials with a 5/8 radiator is bad news.
The pattern is even worse than when they are straight out.
So if one were to use 1/4 radials on a 5/8 GP, they should
be straight out for the best results.
But I much prefer using either 3/4 or 5/8 radials with
a 5/8 radiator, and the plots show why.
The pattern is cleaned up, and the high angle lobe
does a vanishing act. You then start to see the
comparative textbook gains at the horizon when comparing

to shorter antennas.
IE: most books will claim a 5/8 antenna to have appx
3 db gain vs the 1/4 wave.
But you won't see that with the short radial version.
The gain is there, but it's not on the horizon where you
want it.
If you look at the azimuth plot for each, note the 1/4 GP
shows about 1.8 dbi, and the 1/2 about 2.1 dbi.
As they should..
But look at the perverted 5/8 version.. A lowly 1.1 dbi
at the horizon, with most of the real gain shooting off
to venus at about 45 degrees.. The antenna is sad, and
needs therapy.. :(Where is the appx 3 dbi we are
supposed to be seeing?
But if you check the version with sloping 5/8 radials,
we see our expected gain on the horizon. About 3.1
dbi in this plot. That's pretty close to the theoretical
expectations.
But if you make the long radials even steeper to
more closely resemble the collinear, the gain increases
to 4.25 dbi.
You are starting to approach the gain territory of the
dual 5/8 collinear which will show about 5.1 dbi on
the horizon. Assuming good decoupling from the
feed line of course... Decoupling is half the battle,
and if it is ignored, one might as well hang a wet
noodle on the roof, and be done with it.
This explains why I have such a negative view of
1/4 wave radials under a 5/8 whip. It's like using
a band aid to deal with severe chainsaw lacerations.
The blood with still spew, and it will be spewing
up into the air at about 45 degrees from the horizon.
Chortle..
All the speculation about matching seems silly to
me. The matching coil is so simple to apply, it's a
non issue. I've built so many of them, I can tell
you about how many turns to use for any particular
band.. I can usually just guess, and get pretty close.
Maybe tweak a turn or two to get just right..
It's simple, and any matching schemes should
not interfere with the lengths of the elements
if you want the most gain at low angles.
It's like matching a yagi.. I don't alter the element
lengths of a yagi to get a batter match. I use the
appropriate matching scheme, and leave the elements
the length they were designed to be for the gain/fb
the antenna was designed to produce.

4806. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 15:08:24 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <2otvd6935k55ramq7ptfeh1rdkvig8k1ck@4ax.com>
Source record: 6606
Body handling: HTML body converted to readable text

On Sun, 14 Nov 2010 05:36:40 -0800 (PST), nm5k@wt.net wrote:

>On Nov 13, 10:21ï¿½pm, JIMMIE wrote:
>> On Nov 13, 9:11ï¿½pm, "Peter" wrote:
>>
>>
>>
>> > > Why do you call it a 1/8 wave loading coil?
{snip}

>It's like matching a yagi.. I don't alter the element
>lengths of a yagi to get a batter match. I use the
>appropriate matching scheme, and leave the elements
>the length they were designed to be for the gain/fb
>the antenna was designed to produce.
>
>
>
>
>
>
This is a great thread! Cooperative discussions like this are way too
rare!

As a humble student of the Art, I have come to consider each antenna
as belonging to either a Resonant or a Non-Resonant classification.

While there is no "best solution" to most antenna configurations,
understanding the decisions you make and utilizing the available
resources make a big difference in the outcome.

I hope you guys can keep the thread going for a while, you are
answering questions that I have been unable to ask!

John Ferrell W8CCW

4807. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 15:20:44 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <1a8fee5d-b981-424a-8876-7606f60915eb@k5g2000vbn.googlegroups.com>
Source record: 6607

On Nov 13, 8:25 pm, Owen Duffy <n...@no.where> wrote:
> If for example, the feedpoint Z of a 0.6 wave vertical over four quarter
> wave radials was 150-j500, your tapped coil matching network can be
> designed using bulk standard circuit theory to transform 150-j500 to 50
> +j0, and nowhere do you use the missing 54° in those calcs.

That's because the lumped-circuit model assumes that all signals
travel instantly at faster than light speeds through the coil. At
instant, faster than light speeds, the coil cannot possibly occupy any
degrees of the antenna. When the real-world speed of light limit is
taken into account by using the distributed network model, the degrees
occupied by the coil falls out as part of those real-world
calculations. The lumped-circuit model is simply flawed for the
purpose of trying to determine the degrees occupied by the coil. I am
finishing up an article on this subject. At 3.5 MHz, the velocity
factor of the 100 turn, 10 inch long coil is 0.04, which makes the
coil occupy 26.4 degrees when used for a 3.5 MHz mobile antenna.

The "Axial Propagation Factor" from the Hamwaves Inductance Calculator
at:

http://hamwaves.com/antennas/inductance.html

can be used to determine the number of degrees occupied by a loading
coil. For the above coil at 3.5 MHz, the axial propagation factor is
1.8118 radians/meter. Multiplying by 1.4554 converts it to degrees/
inch. The coil is 10 inches long so: 1.8118(1.4554)(10) = 26.4 degrees
occupied by that loading coil at 3.5 MHz.

We can model a transmission line as lossless, but none exists in
reality.

We can model a loading coil that occupies zero degrees of the antenna,
but none exists in reality.
--
73, Cecil, w5dxp.com

4808. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 15:32:54 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <e743388c-2c08-4bb5-8374-ee32153a6a96@o23g2000prh.googlegroups.com>
Source record: 6608

On Nov 13, 9:35 pm, Richard Clark <kb7...@comcast.net> wrote:
> This
> equivalence "replacement" is forced further into unresolved exactness
> if we move the same coil up into the radiator (without changing the
> radiator's length).

From a conceptual standpoint, there is no "unresolved exactness".
Considering a base-loaded antenna vs a center-loaded antenna:

FP-/////////-y-------------------------------------

FP----------------x-/////////////-y--------------------

The coil used in the center-loaded antenna must occupy more degrees of the antenna because in the center-loaded antenna, the phase shift at the base section to bottom of coil impedance discontinuity at point x is negative. This is obviously true because the characteristic impedance (Z0) of the coil is in the ballpark of a magnitude greater than the characteristic impedance (Z0) of the base section. There is no negative phase shift at the feedpoint of a base-loaded antenna. For the same reason, the phase shift at the top of coil to whip discontinuity at point y is positive.

I am writing an article that conceptually explains it all.
--
73, Cecil, w5dxp.com

4809. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 20:54:05 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <19f15418-c969-4b03-a09e-44816bc107e8@n30g2000vbb.googlegroups.com>
Source record: 6609
Body handling: HTML body converted to readable text

```
On Nov 14, 9:36 am, n...@wt.net wrote:
> On Nov 13, 10:21 pm, JIMMIE wrote:
>
>
>
>
>
> > On Nov 13, 9:11 pm, "Peter" wrote:
>
> > > > Why do you call it a 1/8 wave loading coil? It wouldn't be along the
> > > > lines of the flawed "loading coil replaces the missing degrees" concept
> > > > would it?
>
> > > I referred to the 1/8 wave loading coil without really thinking about it. I
> > > was unsure of the loading coil dimensions, so I simple tried a 1/8 wave
> > > length wire formed into a coil. This is for the simple series arrangement
> > > 5/8 radiator. This created a load coil that appeared to have a little too
> > > much L so I have removed one turn, seems to load up ok after a little
> > > trimming of the radiator. Keen to hear how too determine the
> > > value/dimensions for the loading coil.
>
> > > Having said that I'm not sure what so wrong with missing degrees" concept.
>
> > > > A 5/8 monopole's performance is quite senstive to the ground plane
> > > > implementation. The behavior of a 5/8 monopole over a perfect ground is
> > > > not replicated over real radial systems or car roofs, yet people compare
> > > > antennas based on the perfect ground plane environment.
>
> > > > As the length of the radiator is increased beyone a half wave, low angle
> > > > gain increaeses until about 0.6 wavelengths when power is shifted into a
> > > > developing upper lobe. The optimum length over a perfect ground is
> > > > probably just a little less than 5/8, and less still over practical
> > > > ground planes.
>
> > > > The other dimension is feedpoint impedance. For a simple series L
> > > > matching arrangement, R is a little high and the optimum length is
> > > > typically longer than 5/8.
>
> > > > So, for optimum pattern, and low VSWR, a better solution is a tapped base
> > > > coil with 0.6 wavelength vertical... but that doesn't play well with the
> > > > simplest of mobile antenna bases that provide only one connection to the
> > > > screw on antenna.
>
```

> > > My current 5/8 wave ground plan project is simply to get something on air,
> > > however I plans to construct an improved version with the tapped coil
> > > approach.
>
> > > I may be looking in the wrong places, but I have been surprised at how
> > > little information there is on the net regarding 5/8 wave ground plan.
>
> > > Thanks Owen for the above over view of the 5/8 wave ground plan.
>
> > > Cheers
>
> > > Peter VK6YSF
>
> > >http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm-Hidequoted text -
>
> > > - Show quoted text -
>
> > The way you did it works pretty good. A lot of practical antenna work
> > is estimate and trim.There is or used to be a site that goes into a
> > lot of detail on the 5/8ths. I had it in my bookmarks for a long time
> > but lost it in my last computer crash. Compares 5/8ths with 1/4 wave
> > radial 5/8 radials horizontal and drooping radials and much more.
> > Sorry but I cant remember who had the site bet someone here does.
>
> > Jimmie
>
> I modeled a few of the usual versions.http://home.comcast.net/~nm5k/acompari.htm
> I had thought I had also modeled a few using resonant
> 3/4 wave radials, but I guess I had found better modeled
> results using the 5/8 radials. But I know the 3/4 wave
> radials give a much better pattern than the 1/4 wave
> radials, but maybe a tad less gain than 5/8 radials.
> But these show why I don't like 1/4 wave radials for
> a 5/8 radiator. And Richard may have a point about it
> it being an "OCF" antenna. This is why I consider it
> perverted. I don't like horizontal OCF antennas either.. :(
> Through the years of modeling these, and playing with
> them in the real world, I've noticed a few things about
> the radials.
> I prefer sloping 1/4 wave radials when used with a 1/4
> wave radiator. The performance difference between
> "straight out" radials is not large, but is about .3 db
> or so better with the sloping variety. And you get a
> bit better match.
> But sloping 1/4 radials with a 5/8 radiator is bad news.
> The pattern is even worse than when they are straight out.
> So if one were to use 1/4 radials on a 5/8 GP, they should
> be straight out for the best results.
> But I much prefer using either 3/4 or 5/8 radials with
> a 5/8 radiator, and the plots show why.

> The pattern is cleaned up, and the high angle lobe
> does a vanishing act. You then start to see the
> comparative textbook gains at the horizon when comparing
> to shorter antennas.
> IE: most books will claim a 5/8 antenna to have appx
> 3 db gain vs the 1/4 wave.
> But you won't see that with the short radial version.
> The gain is there, but it's not on the horizon where you
> want it.
> If you look at the azimuth plot for each, note the 1/4 GP
> shows about 1.8 dbi, and the 1/2 about 2.1 dbi.
> As they should..
> But look at the perverted 5/8 version.. A lowly 1.1 dbi
> at the horizon, with most of the real gain shooting off
> to venus at about 45 degrees.. The antenna is sad, and
> needs therapy.. :(Where is the appx 3 dbi we are
> supposed to be seeing?
> But if you check the version with sloping 5/8 radials,
> we see our expected gain on the horizon. About 3.1
> dbi in this plot. That's pretty close to the theoretical
> expectations.
> But if you make the long radials even steeper to
> more closely resemble the collinear, the gain increases
> to 4.25 dbi.
> You are starting to approach the gain territory of the
> dual 5/8 collinear which will show about 5.1 dbi on
> the horizon. Assuming good decoupling from the
> feed line of course... Decoupling is half the battle,
> and if it is ignored, one might as well hang a wet
> noodle on the roof, and be done with it.
> This explains why I have such a negative view of
> 1/4 wave radials under a 5/8 whip. It's like using
> a band aid to deal with severe chainsaw lacerations.
> The blood with still spew, and it will be spewing
> up into the air at about 45 degrees from the horizon.
> Chortle..
> All the speculation about matching seems silly to
> me. The matching coil is so simple to apply, it's a
> non issue. I've built so many of them, I can tell
> you about how many turns to use for any particular
> band.. I can usually just guess, and get pretty close.
> Maybe tweak a turn or two to get just right..
> It's simple, and any matching schemes should
> not interfere with the lengths of the elements
> if you want the most gain at low angles.
> It's like matching a yagi.. I don't alter the element
> lengths of a yagi to get a batter match. I use the
> appropriate matching scheme, and leave the elements
> the length they were designed to be for the gain/fb
> the antenna was designed to produce.- Hide quoted text -

>
> - Show quoted text -

Thanks thats the data I was looking for but I dont believe it is the
same site. More than good enough.

4810. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 21:05:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <spi0e6l570kbketn09qbvkbldsbf605aj8@4ax.com>
Source record: 6610

On Sun, 14 Nov 2010 10:08:24 -0500, John Ferrell
<jferrell13@triad.rr.com> wrote:

>While there is no "best solution" to most antenna configurations,
>understanding the decisions you make and utilizing the available
>resources make a big difference in the outcome.

Hi John,

True, this has everything to do with utility.

>I hope you guys can keep the thread going for a while, you are
>answering questions that I have been unable to ask!

It's easier to keep the thread going (productively) if you could choke
up a question.

If I were to rummage for key points in the hopes of doing what you
ask, I could as easily bore you (everyone).

Fishing for just such an example, and returning to both drooping
radials on a 5/8ths and how that might cause this design to suffer
equally with the worst of J-Pole performances, let's look at the
silhouette of the 5/8ths with drooping radials:

Overall, it gives us a radiator that starts out 5/8ths tall (radials
out at 90 deg), or gets "taller" as those radials droop. In the
extreme (radials fallen to 0 deg), we now have a 7/8ths tall radiator
(my aforementioned OCF vertical dipole). Neglecting problems of
feedpoint Z, this radiator lobe pattern could be pushed beyond the two
towards developing four lobes. Without checking this in EZNEC (left
for the student to perform), this could result in transforming an
already higher gain antenna into becoming a cloud warmer.

This (the additional, higher lobes) is often the fate of the J-Pole
when the line that feeds it becomes part of the radiator. We get
glowing reports of how well J-Poles have been built and matched, and
sometimes grief over how deaf they are (How could this be?).

73's
Richard Clark, KB7QHC

4811. Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 21:33:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ukk0e6l43b2c0bm8e6fsfkslcudulf9t7r@4ax.com>
Source record: 6611

On Sun, 14 Nov 2010 04:09:37 -0800 (PST), K1TTT <k1ttt@arrl.net>
wrote:

>On Nov 14, 1:54ï¿½am, Richard Clark <kb7...@comcast.net> wrote:
>> >The installation pics are here:
>> >http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#solar
>>
>> I saw those - thus my inquiry.
>>
>> >The production info is here:
>> >http://enlighten.enphaseenergy.com/public/systems/BpbD5251
>>
>> Went there too, courtesy of your embedded link. ï¿½The data of power
>> generation over time was interesting.
>>
>> >is:
>> >http://www.enphaseenergy.com/products/moreinfo/howitworks.cfm
>>
>> That was new, and interesting in regards to the distributed conversion
>> modules - makes good sense.
>>
>> However, I would still like to know the raw performance data of the
>> panel (size, power rating, efficiency, ...).
>>
>> 73's
>> Richard Clark, KB7QHC
>
>sorry, one more link: http://www.trinasolar.com/pdf/TSL-DA01.pdf
>mine are the TSM-DA01 185w panels. so read the right hand column of
>the table.

Thanx, that pulls it all together. Not NASA quality, but still pretty
high performance. Have you thought of geothermal? Sitting here
between several dormant-to-active volcanos, and on top of several
faults, the options are numerous here in Rain City. (Cost at roughly
$20K)

73's
Richard Clark, KB7QHC

4812. Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-14 21:39:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d3099463-007e-4506-abaf-202e27fcbfd4@v12g2000vbh.googlegroups.com>
Source record: 6612

On Nov 14, 9:33 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Sun, 14 Nov 2010 04:09:37 -0800 (PST), K1TTT <k1...@arrl.net>
> wrote:
>
>
>
> >On Nov 14, 1:54 am, Richard Clark <kb7...@comcast.net> wrote:
> >> >The installation pics are here:
> >> >http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#solar
>
> >> I saw those - thus my inquiry.
>
> >> >The production info is here:
> >> >http://enlighten.enphaseenergy.com/public/systems/BpbD5251
>
> >> Went there too, courtesy of your embedded link. The data of power
> >> generation over time was interesting.
>
> >> >is:
> >> >http://www.enphaseenergy.com/products/moreinfo/howitworks.cfm
>
> >> That was new, and interesting in regards to the distributed conversion
> >> modules - makes good sense.
>
> >> However, I would still like to know the raw performance data of the
> >> panel (size, power rating, efficiency, ...).
>
> >> 73's
> >> Richard Clark, KB7QHC
>
> >sorry, one more link:http://www.trinasolar.com/pdf/TSL-DA01.pdf
> >mine are the TSM-DA01 185w panels. so read the right hand column of
> >the table.
>
> Thanx, that pulls it all together. Not NASA quality, but still pretty
> high performance. Have you thought of geothermal? Sitting here
> between several dormant-to-active volcanos, and on top of several
> faults, the options are numerous here in Rain City. (Cost at roughly
> $20K)
>
> 73's
> Richard Clark, KB7QHC

not very likely on this coast... i doubt that there has been any active hotspots around here for many millions of years. besides, the feds and state don't give any grants and tax incentives for drilling holes in the ground. if it weren't for the state grant for construction, state cap and tax law that will pay me for my power, and state and federal tax credits, this would not have been economically worth while.

4813. Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 01:59:44 UTC
From: amdx <amdx@knology.net>
Message-ID: <d15bc$4ce0937b$18ec6dd7$2784@KNOLOGY.NET>
Source record: 6613

Hi Guys,
Assuming I have a tank circuit on a crystal radio with a Z at resonance of
1.5 megaohms.
How would I make an antenna and extract maximum signal and keep the Z at
750,000 ohms.
If don't think that's what I want to do, tell me that too. :-)
MikeK

4814. Re: For Sale Motorola TDD6034A VHF Vertical Collinear Antenna 23ft.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 02:04:24 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <e964eb81-64e5-4917-84ae-2d4ccc1fd87b@k14g2000pre.googlegroups.com>
Source record: 6614

On Nov 13, 8:56 am, TimBob <tmiz...@juno.com> wrote:
> For sale < snip > antenna that is about 23ft long. The
> fiberglass is in good shape

< snip >

> $125.00
> T** N7***

I have a piece of rope that's also about 23 feet long,
also in good shape. The big difference between your
antenna and my rope is that I won't offer my rope for
sale in a newsgroup that isn't for buying and selling.

Does that mean anything to you, TimBob?

4815. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 02:22:54 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <7fc5a33e-1d5f-4583-a000-8a5345a0a9ef@o23g2000prh.googlegroups.com>
Source record: 6615

On Nov 10, 7:44 pm, "Barry" <n...@nospam.org> wrote:
> Jim,
>
> I think you need to go back and read Spamhog's original question. He was
> trying to determine whether the center conductor of a piece of coax had
> migrated away from center. He knew where this might have happened - 10
> feet from the end, and the migration would have occurred over less than
> two inches. So the question of locating where the problem might be is
> moot. What is needed is a measurement of the cable impedance in this
> region.
>
> First, let us get an estimate of what the impedance of the damaged
> section might be. Spamhog was using RG-6 cable with a foamed
> polyethylene dielectric. Its velocity factor is 0.85 making its relative
> permittivity 1.384. The center conductor is 1 mm, and the normal
> diameter of the center insulator is 4.7 mm. The thickness of the
> insulator is 1.85 mm. We need to know the impedance if the center
> conductor had migrated 0.925 mm toward the jacket.
>
> For a quick estimate, use the formula for off-center coax
> (http://www.microwaves101.com/encyclopedia/coax_offcenter.cfm). This
> gives an impedance of 69.8 ohms in this section compared to 78.9 ohms in
> the non-distorted coax. A TDR displays the reflection coefficient
> from -1 (short) to +1 (open). Here the reflection coefficient is -0.06.
> So the TDR trace will drop from the center line by 6% for 200
> picoseconds.
>
> If your 100 MHz scope has a typical Gaussian response, its rise time is
> at least 3.5 nanoseconds. Do you really think that your oscilloscope
> trace will clearly show the 200 picosecond dip? Even with the
> wide-screen magnifier that KB7QHC suggested, I think you will have great
> difficulty seeing this.
>
>   73, Barry WA4VZQ

It may be that a 100 MHz scope has better than a 3.5 nsec risetime,
given that it is sped'ed for response flatness to that limit and its
response actually extends beyond !00 MHz. In retirement, I no longer
have access to test equipment that would support my point.

4816. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 02:23:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6561e69ddl7t9me8bo9pak4si4bopt67rp@4ax.com>
Source record: 6616

On Sun, 14 Nov 2010 19:59:44 -0600, "amdx" <amdx@knology.net> wrote:

>Hi Guys,
> Assuming I have a tank circuit on a crystal radio with a Z at resonance of
>1.5 megaohms.
>How would I make an antenna and extract maximum signal and keep the Z at
>750,000 ohms.
> If don't think that's what I want to do, tell me that too. :-)
> MikeK
>

Hi Mike,

Try thinking backwards. How much current through your headphones/ear
pieces do you need to hear the signal you want? (This is assuming you
are not amplifying the signal, which if that's the case, what's the
point in building a xtal set?).

What is the impedance of your headphones/ear pieces? They will
dictate the "loaded Q" of your tank circuit.

73's
Richard Clark, KB7QHC

4817. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 04:22:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2tc1e6pn3mb303fnn6jloave2it0to4ls8@4ax.com>
Source record: 6617

On Sun, 14 Nov 2010 18:22:54 -0800 (PST), "Sal M. Onella"
<sobars@cox.net> wrote:

>It may be that a 100 MHz scope has better than a 3.5 nsec risetime,
>given that it is sped'ed for response flatness to that limit and its
>response actually extends beyond !00 MHz.

The simple correlation between risetime and bandwidth is roughly:
BW = 1/(3ï¿½t)

Unfortunately, peaking bandwidth can degrade risetime, and vice-versa.
O'scopes have a lot of conflicting adjustments within them. The
TEK545 had something like an 8 to 12 hour tune-up procedure for the
average bench tech (a calibration specialist could do it in 3 to 4
hours).

73's
Richard Clark, KB7QHC

4818. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 05:58:47 UTC
From: amdx <amdx@knology.net>
Message-ID: <1020$4ce0cb80$18ec6dd7$17820@KNOLOGY.NET>
Source record: 6618

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:6561e69ddl7t9me8bo9pak4si4bopt67rp@4ax.com...
> On Sun, 14 Nov 2010 19:59:44 -0600, "amdx" <amdx@knology.net> wrote:
>
>>Hi Guys,
>> Assuming I have a tank circuit on a crystal radio with a Z at resonance
>> of
>>1.5 megaohms.
>>How would I make an antenna and extract maximum signal and keep the Z at
>>750,000 ohms.
>> If don't think that's what I want to do, tell me that too. :-)
>> MikeK
>>
>
> Hi Mike,
>
> Try thinking backwards. How much current through your headphones/ear
> pieces do you need to hear the signal you want? (This is assuming you
> are not amplifying the signal, which if that's the case, what's the
> point in building a xtal set?).
>
> What is the impedance of your headphones/ear pieces? They will
> dictate the "loaded Q" of your tank circuit.
>
> 73's
> Richard Clark, KB7QHC
Hi Richard,
It all affects the loaded Q, the antenna, the diode, the audio matching
transformer and headphones.
I think the ideal is to impart maximum power to the tank circuit from the
antenna, now you have an
AC power supply with a known source impedance. Then pick your diode and
transformer match
your headphone for max power out...
I'm going through a mental exercise to build the most sensitive crystal
radio I can.
The best scenario would be to build a headphone with about a megaohm of
impedance
and eliminate the matching transformer losses. Here's one form that could
be modified.
http://www.hpfriedrichs.com/images-votc/gallows.jpg
If it's not self explanatory, you connect a stethoscope type headphone to
the tube that sticks out.
So to rephrase my question, how do I raise the impedance of an antenna to a

very high impedance
with minimum losses?
MikeK

4819. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 07:29:12 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b3m1e6ptr10liln0vm1ljftpj1lrlrp7rk@4ax.com>
Source record: 6619

On Sun, 14 Nov 2010 23:58:47 -0600, "amdx" <amdx@knology.net> wrote:

>http://www.hpfriedrichs.com/images-votc/gallows.jpg
> If it's not self explanatory, you connect a stethoscope type headphone to
>the tube that sticks out.

Not what I would call a megOhm Z candidate in any form as this is the
model for the commonplace 600 Ohm (telephone standard) to 1KOhm
headphone of antiquity. It uses a coil. You should be looking at
piezo.

> So to rephrase my question, how do I raise the impedance of an antenna to a
>very high impedance
>with minimum losses?
> MikeK

You could shorten the antenna to an inch or two for AM, but then it
would be shorter than your tank coil, and hence your tank coil should
be the antenna.

This was a toy commonly found in the late 50s when I got it for
Christmas. It was shaped like a Buck Rogers space ship with a ball
handled plunger as the nose cone that adjusted the ferrite in the core
of the coil (to be used as a tuner). Of course the longest wire was
the earphone lead (all of a foot or 18 inches which would still
constitute an extremenly high Z antenna that you seek).

I lived outside of San Francisco at the time, and AM stations were
unknown to it. However, I could get some Marine traffic like the
Coast Guard (I had a view of the Ocean from the hills around Pacific
Manor, now Pacifica).

Very uninspired performance to say the least.

73's
Richard Clark, KB7QHC

4820. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 09:26:58 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <0bcd47b3-0dc9-4eb2-9633-08bc82f90bb0@fj16g2000vbb.googlegroups.com>
Source record: 6620

On 15 nov, 02:59, "amdx" <a...@knology.net> wrote:
> Hi Guys,
> Assuming I have a tank circuit on a crystal radio with a Z at resonance of
> 1.5 megaohms.
> How would I make an antenna and extract maximum signal and keep the Z at
> 750,000 ohms.
> If don't think that's what I want to do, tell me that too. :-)
> MikeK

Hello Mike,

Assuming you have a long wire outside and a ground provision, you may use an inductive coupling. By changing the distance between the antenna coil and the receiver coil, you modify the impedance transformation.

Other method is capacitive coupling. Probably positioning the end of the antenna wire close to the high impedance side of the tank circuit will give the desired effect. Changing the distance changes the coupling.

For inductive coupling, your receiver circuit can be floating, for capacitive coupling, the receiver should be grounded.

By changing the coupling you can optimize for maximum selectivity (with reduced sensitivity) or maximum sensitivity (with reduces selectivity).

Regarding the antenna, assuming LW and AM reception, long combined with high gives strongest signal, hence you can reduce the coupling to get best selectivity.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely

4821. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 15:17:30 UTC
From: amdx <amdx@knology.net>
Message-ID: <b65f7$4ce14f0b$45013905$21498@KNOLOGY.NET>
Source record: 6621

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:b3m1e6ptr10liln0vm1ljftpj1lrlrp7rk@4ax.com...
> On Sun, 14 Nov 2010 23:58:47 -0600, "amdx" <amdx@knology.net> wrote:
>
>>http://www.hpfriedrichs.com/images-votc/gallows.jpg
>> If it's not self explanatory, you connect a stethoscope type headphone to
>>the tube that sticks out.
>
> Not what I would call a megOhm Z candidate in any form as this is the
> model for the commonplace 600 Ohm (telephone standard) to 1KOhm
> headphone of antiquity. It uses a coil. You should be looking at
> piezo.
>
Piezo is a candidate, but also on the table is a C shape laminated core
with a
small gap. The gap will be large enough that a small magnet will fit in it.
The magnet
is connected to a lever and on the other end is a diaphragm. The core will
be large
enough to hold thousands of turns. Possibly even a E I core with the a gap
milled in
the center leg for the magnet/lever assembly. A coil can be put on each of
the outer
legs. Not sure, but I think the center leg should be cone shaped to focus
the magnetic
field at the magnet. The magnet/lever assembly should have low mass.The
coils will
have taps for a va
Anyway that is the idea I'm working with at the moment.
Regarding piezos, I envision multiple piezo with a switching arrangement to
alter the impedance to match the impedance of the radio.

>> So to rephrase my question, how do I raise the impedance of an antenna to
>> a
>>very high impedance
>>with minimum losses?
>> MikeK
>
> You could shorten the antenna to an inch or two for AM, but then it
> would be shorter than your tank coil, and hence your tank coil should
> be the antenna.
>
Trying to maximum signal for contest situations want a longer antenna.
Thanks, MikeK

> 73's
> Richard Clark, KB7QHC

4822. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 15:23:06 UTC
From: amdx <amdx@knology.net>
Message-ID: <1a8e3$4ce1505c$45013905$21851@KNOLOGY.NET>
Source record: 6622

"Wimpie" <wimabctel@tetech.nl> wrote in message
news:0bcd47b3-0dc9-4eb2-9633-08bc82f90bb0@fj16g2000vbb.googlegroups.com...
On 15 nov, 02:59, "amdx" <a...@knology.net> wrote:
> Hi Guys,
> Assuming I have a tank circuit on a crystal radio with a Z at resonance of
> 1.5 megaohms.
> How would I make an antenna and extract maximum signal and keep the Z at
> 750,000 ohms.
> If don't think that's what I want to do, tell me that too. :-)
> MikeK

Hello Mike,

Assuming you have a long wire outside and a ground provision, you may
use an inductive coupling. By changing the distance between the
antenna coil and the receiver coil, you modify the impedance
transformation.

Other method is capacitive coupling. Probably positioning the end of
the antenna wire close to the high impedance side of the tank circuit
will give the desired effect. Changing the distance changes the
coupling.

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely
It seem a common method to couple the antenna is just a single series
variable capacitor. I don't know if this method couples maximum energy to
the radio. ??
Normally we transform our antenna to 50 ohms, in this case we would like
to see 1 million ohms, I'm not sure that can be done, and if it can the
losses
may be higher than having a mismatch.
Thanks, MikeK

4823. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 15:49:12 UTC
From: "J. Todd" <jetodd@bcsupernet.com>
Message-ID: <MPG.274af658a42a495c989681@news.eternal-september.org>
Source record: 6623

In article <d15bc$4ce0937b$18ec6dd7$2784@KNOLOGY.NET>, amdx@knology.net
says...
> Hi Guys,
> Assuming I have a tank circuit on a crystal radio with a Z at resonance of
> 1.5 megaohms.
> How would I make an antenna and extract maximum signal and keep the Z at
> 750,000 ohms.
> If don't think that's what I want to do, tell me that too. :-)
> MikeK
>
>
>
Put an alligator clip on the antenna lead and run it down the tank to
find max volume, then clip it on.

4824. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 15:59:06 UTC
From: amdx <amdx@knology.net>
Message-ID: <52a94$4ce15833$45013905$15872@KNOLOGY.NET>
Source record: 6624

"J. Todd" <jetodd@bcsupernet.com> wrote in message
news:MPG.274af658a42a495c989681@news.eternal-september.org...
> In article <d15bc$4ce0937b$18ec6dd7$2784@KNOLOGY.NET>, amdx@knology.net
> says...
>> Hi Guys,
>> Assuming I have a tank circuit on a crystal radio with a Z at resonance
>> of
>> 1.5 megaohms.
>> How would I make an antenna and extract maximum signal and keep the Z at
>> 750,000 ohms.
>> If don't think that's what I want to do, tell me that too. :-)
>> MikeK
>>
>>
>>
> Put an alligator clip on the antenna lead and run it down the tank to
> find max volume, then clip it on.
Use a fork to scoop water out of a glass to satisfy your thirst.
I will work, just not well.
MikeK

4825. solar power was Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 17:55:36 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <ibrs6o$r9k$1@news.jpl.nasa.gov>
Source record: 6625

K1TTT wrote:
> they may not be angelina jolie or any of those other hot, hot, hot
> babes the spammer keeps posting, but these are some of the better
> views you can find outside of the bedroom:
> http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#fallinspection

Those distributed inverters are becoming more popular, because they solve a lot of problems.
a) you can size them to be some small number of panels worth, where the sweet spot is for component costs internally. Many smaller inverters can be cheaper to make than one big inverter, once you get beyond, say, where a single semiconductor device is big enough. (like solid state power amps for RF)

b) you don't have to worry about high power DC wiring, which is a real pain for things like fusing and grounding.

c) you've already got to have the line synchronization figured out, and it's done in a single ASIC anyway, so there's no added complexity for paralleling and scaling. Just rack and stack

It might also help with the firefighter problem.. they aren't wild about big solar installations because there's no easy way to turn them off. cut the wires and they're still live, as long as light is shining on them. I haven't looked in detail, but I could see distributed inverters each having their own "disconnect" switch to short the panel out, and if you drop the master interconnect (so there's no grid-tie), then all the panels will isolate themselves by design, and all the AC wiring will be dead(-ish)

4826. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 19:23:15 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ck13e6h300qmhmdad22aeu5s2j0i7evl1v@4ax.com>
Source record: 6626

On Mon, 15 Nov 2010 09:17:30 -0600, "amdx" <amdx@knology.net> wrote:

>C shape laminated core
>with a
>small gap. The gap will be large enough that a small magnet will fit in it.
>The magnet
>is connected to a lever and on the other end is a diaphragm.

This doesn't sound like a Crystal radio project at all. You describe nothing that comes close to even 1KOhm, much less 1MOhm in load. Your descriptions all use appeals to sensitivity, not impedance.

> Trying to maximum signal for contest situations want a longer antenna.

This confounds your desire for higher Z. In the extreme (antenna of several wavelengths and necessarily close to ground) will be less than 1KOhm. In the mid-range, could be hi-Z IFF it is a halfwave long. In the conventional lengths, some may pose a moderately hi-Z (maybe KOhms). None will exhibit the Z you anticipate for your Tank.

As I said, start thinking backwards from the power delivered to your ear. Can you express that as a number? Not much point in the rest of this if you cannot.

73's
Richard Clark, KB7QHC

4827. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 19:26:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <t723e658jgdjts7eq6r9nhh796dpgclubi@4ax.com>
Source record: 6627

On Mon, 15 Nov 2010 09:59:06 -0600, "amdx" <amdx@knology.net> wrote:

>> Put an alligator clip on the antenna lead and run it down the tank to
>> find max volume, then clip it on.
> Use a fork to scoop water out of a glass to satisfy your thirst.
>I will work, just not well.

Hi Mike,

Being facetious in the face of an answer that responds exactly to
what you want is not very smart.

73's
Richard Clark, KB7QHC

4828. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 19:48:52 UTC
From: amdx <amdx@knology.net>
Message-ID: <c3685$4ce18ea2$45013905$7511@KNOLOGY.NET>
Source record: 6628

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:t723e658jgdjts7eq6r9nhh796dpgclubi@4ax.com...
> On Mon, 15 Nov 2010 09:59:06 -0600, "amdx" <amdx@knology.net> wrote:
>
>>> Put an alligator clip on the antenna lead and run it down the tank to
>>> find max volume, then clip it on.
>> Use a fork to scoop water out of a glass to satisfy your thirst.
>>I will work, just not well.
>
> Hi Mike,
>
> Being facetious in the face of an answer that responds exactly to
> what you want is not very smart.
>
> 73's
> Richard Clark, KB7QHC

Richard you are right, I read it wrong.
I thought he was just being smart because it's a crystal radio and he wanted
me
to just grab a alligator clip and connect the antenna (I missed the taps
part)
I apologize J.Todd.
Connecting the antenna to taps on the coil is common, I don't believe this
method transfers maximum energy into the tank circuit, But I am open to more
info about that.
Also I expect any high performance crystal radio to be made with
litz wire, I suppose taps could be made to litz but I have looked at a lot
of
radios and don't recall ever seeing taps on a litz wire coil.
J.Todd I apologize for my smart alec remark.
MikeK

4829. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 20:11:25 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b7150f48-027e-4d22-bd0c-3a246fd96b13@t13g2000yqm.googlegroups.com>
Source record: 6629

On 15 nov, 16:23, "amdx" <a...@knology.net> wrote:
> "Wimpie" <wimabc...@tetech.nl> wrote in message
>
> news:0bcd47b3-0dc9-4eb2-9633-08bc82f90bb0@fj16g2000vbb.googlegroups.com...
> On 15 nov, 02:59, "amdx" <a...@knology.net> wrote:
>
> > Hi Guys,
> > Assuming I have a tank circuit on a crystal radio with a Z at resonance of
> > 1.5 megaohms.
> > How would I make an antenna and extract maximum signal and keep the Z at
> > 750,000 ohms.
> > If don't think that's what I want to do, tell me that too. :-)
> > MikeK
>
> Hello Mike,
>
> Assuming you have a long wire outside and a ground provision, you may
> use an inductive coupling. By changing the distance between the
> antenna coil and the receiver coil, you modify the impedance
> transformation.
>
> Other method is capacitive coupling. Probably positioning the end of
> the antenna wire close to the high impedance side of the tank circuit
> will give the desired effect. Changing the distance changes the
> coupling.
>
> Wim
> PA3DJSwww.tetech.nl
> without abc, PM will reach me very likely
> It seem a common method to couple the antenna is just a single series
> variable capacitor. I don't know if this method couples maximum energy to
> the radio. ??

Yes, with the correct value, it will.

> Normally we transform our antenna to 50 ohms, in this case we would like
> to see 1 million ohms, I'm not sure that can be done, and if it can the
> losses
> may be higher than having a mismatch.
>   Thanks, MikeK

Hello Mike,

Regarding the 1M Ohm impedance.
If you can make a tank circuit with 1MOhm impedance at resonance, you

can transform your antenna impedance to that value. You use your resonant circuit as part of the impedance transformer. Even in case of a ohmic 50 Ohms antenna impedance, you can transform this to 1 Mohm (inductive or capacitive coupling). Maybe you have to combine the coupling capacitor with a tap on the coil.

Regarding your detector.
In the detector circuit you transform a high impedance (around 1 MOhm) to a lower impedance to find the sweet spot for your detector diode / LF load combination.

If you have a simulator (for example SPICE type SW), you can model your antenna as a voltage source in series with a capacitance (pF range) and some resistance (1..100 Ohm range, depending on ground provision).

By changing the coupling capacitance from the antenna to the top of your resonant circuit, you can see what happens (in an .AC sweep). You will see impedance transformation (that is more output voltage than input voltage) and of course some detuning of your circuit because of the additional capacitance.

If you want to do some hand calculation, search for: L impedance transformation network.

Best regards,

Wim
PA3DJS
www.tetech.nl
please remove abc first in case of PM

4830. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 21:54:47 UTC
From: amdx <amdx@knology.net>
Message-ID: <6a3ce$4ce1ab8d$45013905$6741@KNOLOGY.NET>
Source record: 6630

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:ck13e6h300qmhmdad22aeu5s2j0i7evl1v@4ax.com...
> On Mon, 15 Nov 2010 09:17:30 -0600, "amdx" <amdx@knology.net> wrote:
>
>>C shape laminated core
>>with a
>>small gap. The gap will be large enough that a small magnet will fit in
>>it.
>>The magnet
>>is connected to a lever and on the other end is a diaphragm.
>
> This doesn't sound like a Crystal radio project at all. You describe
> nothing that comes close to even 1KOhm, much less 1MOhm in load. Your
> descriptions all use appeals to sensitivity, not impedance.
>
>> Trying to maximum signal for contest situations want a longer antenna.
>
> This confounds your desire for higher Z. In the extreme (antenna of
> several wavelengths and necessarily close to ground) will be less than
> 1KOhm. In the mid-range, could be hi-Z IFF it is a halfwave long. In
> the conventional lengths, some may pose a moderately hi-Z (maybe
> KOhms). None will exhibit the Z you anticipate for your Tank.
>
> As I said, start thinking backwards from the power delivered to your
> ear. Can you express that as a number? Not much point in the rest of
> this if you cannot.
>
> 73's
> Richard Clark, KB7QHC

Hi Richard,
I have probably confused things, I have 4 or 5 threads running at this
time.

The C core EI core thing is a starting attempt to build a speaker with a
high impedance
to eliminate the losses of a matching transformer. The whole excercise is to
build a crystal
radio that will eack out the most sensitivity.

1 picowatt to the earphone is a good number.

For sensitivity the starting point has got to be the tank circuit, you
want to build
an inductor with very high Q and then mate that to a good quality capacitor.

A Q of 1000 is possible over much of the AM BCB.
Can we agree on that?

Now you need to couple in energy from an antenna. If this is adjusted for maximum power transfer, we have reduced the Q by 1/2 or Q=500.
Assuming a 240uh inductor and frequency of 1 Mhz the XL is 1507 ohms, multiply that by the antenna loaded tank Q of 500 and we have an Rp = 753,500 ohms.
Does that work for you?

I think I found a good site for the antenna matching;
http://www.crystal-radio.eu/enantunittest1.htm

Now we need to detect and tranfer the signal to a transducer

I'll stop here till I get some feedback, I don't know my question anymore? \ :-)
Mike.

4831. Re: solar power was Re: group appropriate photos

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 21:57:18 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <540473f5-514c-46e2-b5c9-08fc5ab6734a@k3g2000vbp.googlegroups.com>
Source record: 6631

On Nov 15, 5:55 pm, Jim Lux <james.p....@jpl.nasa.gov> wrote:
> K1TTT wrote:
> > they may not be angelina jolie or any of those other hot, hot, hot
> > babes the spammer keeps posting, but these are some of the better
> > views you can find outside of the bedroom:
> >http://wiki.k1ttt.net/2010-Maintenance-and-Upgrade-Blog.ashx#fallinsp...
>
> Those distributed inverters are becoming more popular, because they
> solve a lot of problems.
> a) you can size them to be some small number of panels worth, where the
> sweet spot is for component costs internally. Many smaller inverters
> can be cheaper to make than one big inverter, once you get beyond, say,
> where a single semiconductor device is big enough. (like solid state
> power amps for RF)
>
> b) you don't have to worry about high power DC wiring, which is a real
> pain for things like fusing and grounding.
>
> c) you've already got to have the line synchronization figured out, and
> it's done in a single ASIC anyway, so there's no added complexity for
> paralleling and scaling. Just rack and stack
>
> It might also help with the firefighter problem.. they aren't wild about
> big solar installations because there's no easy way to turn them off.
> cut the wires and they're still live, as long as light is shining on
> them. I haven't looked in detail, but I could see distributed inverters
> each having their own "disconnect" switch to short the panel out, and if
> you drop the master interconnect (so there's no grid-tie), then all the
> panels will isolate themselves by design, and all the AC wiring will be
> dead(-ish)

there is also no big battery to be serviced or replaced, or to react
with heat or water.. another plus for firefighters. in this
installation there is a breaker box for the 4 rows of panels on the
pole at the panels, a meter box on the end of the house near the
panels, and another breaker where they tie into the main panel... any
one of them is enough to kill power from the panels... and they also
shut off automatically when the grid goes down to prevent backfeeding.

4832. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 22:56:35 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E3265253AFDnonenowhere@61.9.134.55>
Source record: 6632

"amdx" <amdx@knology.net> wrote in
news:c3685$4ce18ea2$45013905$7511@KNOLOGY.NET:

...
> Connecting the antenna to taps on the coil is common, I don't believe
> this
> method transfers maximum energy into the tank circuit, But I am open
> to more info about that.

Well, you have to move beyond "believing" and do some analysis.

Broadly, adjusting the tap point, and retuning for maximum output is finding the point of maximum power transfer for the given components and source impedance.

I am quite skeptical (that is like "don't belive") that your scheme for headphones is going to deliver what you suggest.

When I was a kid, these things here ALL used a crystal (or piezo) earpiece, which has an impedance that looks like extreme R and a very small shunt C, in all a very high impedance at audio frequencies of interest.

Look at http://www.jaycar.com.au/productView.asp?ID=AS3305
&keywords=earpiece&form=KEYWORD for an example. (You probably will need to fix the split URL. They also have a simple crystal radio kit in the catalogue, no doubt suppliers in your country do also.

Traditionally, these were used with improvised smallish antennas, eg bed iron, and that brought in too many stations. To obtain benefit from enhanced sensitivity, you might need to be in a very quiet location, and have extreme selectivity... both are practical issues.

Owen

4833. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 23:33:01 UTC
From: joe <none@invalid.domain>
Message-ID: <ibsffv$3ge$1@speranza.aioe.org>
Source record: 6633

amdx wrote:

>
> The C core EI core thing is a starting attempt to build a speaker with a
> high impedance
> to eliminate the losses of a matching transformer. The whole excercise is
> to build a crystal
> radio that will eack out the most sensitivity.
>
> 1 picowatt to the earphone is a good number.

You may want to make sure this enough to be audible. An iPod may output 30 milliwatts which is probably more than you would ever need/get. 1 picowatt to a headphone may not be sufficient.

>
> For sensitivity the starting point has got to be the tank circuit, you
> want to build
> an inductor with very high Q and then mate that to a good quality
> capacitor. A Q of 1000 is possible over much of the AM BCB.
> Can we agree on that?

Have you considered what Q=1000 does to the bandwidth of the received signal?

>
> Now you need to couple in energy from an antenna. If this is adjusted for
> maximum power transfer, we have reduced the Q by 1/2 or Q=500.
> Assuming a 240uh inductor and frequency of 1 Mhz the XL is 1507 ohms,
> multiply that by the antenna loaded tank Q of 500 and we have an Rp =
> 753,500 ohms.
> Does that work for you?

Won't both the antenna and the load serve to reduce the Q? You need to be looking at how power is transferred from the antenna to the earphone. Trying to optimize one part at a time may not yield the best result.

>
> I think I found a good site for the antenna matching;
> http://www.crystal-radio.eu/enantunittest1.htm
>
>
> Now we need to detect and tranfer the signal to a transducer
>
> I'll stop here till I get some feedback, I don't know my question anymore?
> \

> :-)
> Mike.

4834. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 23:46:59 UTC
From: amdx <amdx@knology.net>
Message-ID: <8c2c$4ce1c66a$18ec6dd7$22183@KNOLOGY.NET>
Source record: 6634

"Owen Duffy" <none@no.where> wrote in message
news:Xns9E3265253AFDnonenowhere@61.9.134.55...
> "amdx" <amdx@knology.net> wrote in
> news:c3685$4ce18ea2$45013905$7511@KNOLOGY.NET:
>
> ...
>> Connecting the antenna to taps on the coil is common, I don't believe
>> this
>> method transfers maximum energy into the tank circuit, But I am open
>> to more info about that.
>
> Well, you have to move beyond "believing" and do some analysis.
>
> Broadly, adjusting the tap point, and retuning for maximum output is
> finding the point of maximum power transfer for the given components and
> source impedance.
>

> I am quite skeptical (that is like "don't belive") that your scheme for
> headphones is going to deliver what you suggest.
>
> When I was a kid, these things here ALL used a crystal (or piezo)
> earpiece, which has an impedance that looks like extreme R and a very
> small shunt C, in all a very high impedance at audio frequencies of
> interest.
>
> Look at http://www.jaycar.com.au/productView.asp?ID=AS3305
> &keywords=earpiece&form=KEYWORD for an example. (You probably will need
> to fix the split URL. They also have a simple crystal radio kit in the
> catalogue, no doubt suppliers in your country do also.
>
> Traditionally, these were used with improvised smallish antennas, eg bed
> iron, and that brought in too many stations. To obtain benefit from
> enhanced sensitivity, you might need to be in a very quiet location, and
> have extreme selectivity... both are practical issues.
>
> Owen
Hey Owen,
Ok, so we find a tap that is the match to the antenna and then maximum
energy is
transferred across the turns from the tap to ground. And because those turns
are tightly coupled to the rest of the inductor the maximum energy is
transferred from
the antenna to the inductor.

The speaker build was a different thread but I'll pass along what started
me thinking.
http://www.hpfriedrichs.com/images-opp/gordon-mccall/gallows1.jpg
and
http://www.hpfriedrichs.com/images-opp/tom-kipgen/toms-ear.jpg
These are speakers that drive a stethoscope style headphone.
So I was thinking with a larger core so I could wind a high impedance
electromagnet and with new high flux magnets have something more sensitive
than conventional headphones.
Here's a concept drawing;
http://i395.photobucket.com/albums/pp37/Qmavam/Sensitivespeakershapedpoles.jpg

MikeK

4835. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-15 23:56:16 UTC
From: amdx <amdx@knology.net>
Message-ID: <bebf0$4ce1c896$18ec6dd7$22712@KNOLOGY.NET>
Source record: 6635

"joe" <none@invalid.domain> wrote in message
news:ibsffv$3ge$1@speranza.aioe.org...
> amdx wrote:
>
>>
>> The C core EI core thing is a starting attempt to build a speaker with a
>> high impedance
>> to eliminate the losses of a matching transformer. The whole excercise is
>> to build a crystal
>> radio that will eack out the most sensitivity.
>>
>> 1 picowatt to the earphone is a good number.
>
> You may want to make sure this enough to be audible. An iPod may output 30
> milliwatts which is probably more than you would ever need/get. 1 picowatt
> to a headphone may not be sufficient.

I can only go by what I have read on the crystal radio groups and they
say 1pw
is audable with very sensitive headphones..

>> For sensitivity the starting point has got to be the tank circuit, you
>> want to build
>> an inductor with very high Q and then mate that to a good quality
>> capacitor. A Q of 1000 is possible over much of the AM BCB.
>> Can we agree on that?
>
> Have you considered what Q=1000 does to the bandwidth of the received
> signal?

Ya, it would limit bandwidth. But to much Q is easy to solve and hard to
get.
That is only unloaded Q of the tank, adding the antenna brings that down to
Q=500.
Then comes the load from the detector and then the audio transducer
assembly.

>
>>
>> Now you need to couple in energy from an antenna. If this is adjusted for
>> maximum power transfer, we have reduced the Q by 1/2 or Q=500.
>> Assuming a 240uh inductor and frequency of 1 Mhz the XL is 1507 ohms,
>> multiply that by the antenna loaded tank Q of 500 and we have an Rp =
>> 753,500 ohms.
>> Does that work for you?

>
> Won't both the antenna and the load serve to reduce the Q? You need to be
> looking at how power is transferred from the antenna to the earphone.
> Trying
> to optimize one part at a time may not yield the best result.

Yes, absolutely. I think the optimization is in the tank circuit after
that
it is impedance matching.

MikeK

>>
>> I think I found a good site for the antenna matching;
>> http://www.crystal-radio.eu/enantunittest1.htm
>>
>>
>> Now we need to detect and tranfer the signal to a transducer
>>
>> I'll stop here till I get some feedback, I don't know my question
>> anymore?
>> \
>> :-)
>> Mike.
>

4836. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 01:12:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <eil3e65atct0ak5fpq4fon0otee41m6a40@4ax.com>
Source record: 6636

On Mon, 15 Nov 2010 17:56:16 -0600, "amdx" <amdx@knology.net> wrote:

> I can only go by what I have read on the crystal radio groups and they
>say 1pw
>is audable with very sensitive headphones..

Hi Mike,

You should consider their being very good at this then. 1 pW is the lowest limit of hearing at 1KHz. No speaker/transducer is 100% efficient. So, automatically, this claim you have read is suspect in the highest degree.

Let's work these numbers further. The transducer elements you have been describing may be sensitive, but that is not the same thing as efficient. Given that they are ancient magnet and diaphram constructions, they would be pushing the limits at 10%.

Further, your chosen power level of 1pW would not be heard but in a very special anechoic chamber, and even then your heart and your breath would be in competition as QRN. Speach as perceived to be at normal quiet talking levels would be 40dB more powerful (and, again, in a quiet surrounding like a library). This would be a normal expectation of program content sound level.

Being generous (good efficiency and whispers at 1 meter in the library), I would suspect that your receive power level would be closer to 1nW and this would be straining things for a real listening experience.

>>> For sensitivity the starting point has got to be the tank circuit, you
>>> want to build
>>> an inductor with very high Q and then mate that to a good quality
>>> capacitor. A Q of 1000 is possible over much of the AM BCB.
>>> Can we agree on that?
>>
>> Have you considered what Q=1000 does to the bandwidth of the received
>> signal?
>
> Ya, it would limit bandwidth. But to much Q is easy to solve and hard to
>get.
> That is only unloaded Q of the tank, adding the antenna brings that down to
>Q=500.
>Then comes the load from the detector and then the audio transducer
>assembly.

In the middle of the band, it would give you poor telephone audio
quality. However, many hams find it suitable for DX work.

>>>
>>> Now you need to couple in energy from an antenna. If this is adjusted for
>>> maximum power transfer, we have reduced the Q by 1/2 or Q=500.
>>> Assuming a 240uh inductor and frequency of 1 Mhz the XL is 1507 ohms,
>>> multiply that by the antenna loaded tank Q of 500 and we have an Rp =
>>> 753,500 ohms.
>>> Does that work for you?

Good enough to pitch back and forth, much as your power level.

73's
Richard Clark, KB7QHC

4837. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 01:22:37 UTC
From: amdx <amdx@knology.net>
Message-ID: <d387e$4ce1dc39$18ec6dd7$20095@KNOLOGY.NET>
Source record: 6637

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:eil3e65atct0ak5fpq4fon0otee41m6a40@4ax.com...
> On Mon, 15 Nov 2010 17:56:16 -0600, "amdx" <amdx@knology.net> wrote:
>
>> I can only go by what I have read on the crystal radio groups and they
>>say 1pw
>>is audable with very sensitive headphones..
>
> Hi Mike,
>
> You should consider their being very good at this then. 1 pW is the
> lowest limit of hearing at 1KHz. No speaker/transducer is 100%
> efficient. So, automatically, this claim you have read is suspect in
> the highest degree.
>

Hi Richard,
What do you think of this guys numbers and methodology?
He says he can hear .0078 pw with a Adastra Model: 952-207
http://www.crystal-radio.eu/enluidsprekertest.htm
MikeK

> 73's
> Richard Clark, KB7QHC

4838. Re: Distance to Fault

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 02:16:20 UTC
From: Barry <none@nospam.org>
Message-ID: <UPIEo.50267$F77.21091@newsfe07.iad>
Source record: 6638

"Sal M. Onella" <sobars@cox.net> wrote in message
news:7fc5a33e-1d5f-4583-a000-8a5345a0a9ef@o23g2000prh.googlegroups.com...
> It may be that a 100 MHz scope has better than a 3.5 nsec risetime,
> given that it is sped'ed for response flatness to that limit and its
> response actually extends beyond !00 MHz. In retirement, I no longer
> have access to test equipment that would support my point.

See the following article:
http://www.eetimes.com/design/microwave-rf-design/4018867/Choosing-an-Oscilloscope-with-the-Right-Bandwidth

There are two paragraphs in the article of importance here:

"All oscilloscopes exhibit a low-pass frequency response that
rolls-off at higher frequencies, as shown in Figure 1. Most scopes with
bandwidth specifications of 1GHz and below typically have what is called
a Gaussian response, which exhibits a slow roll-off characteristic
beginning at approximately one-third the -3dB frequency. Oscilloscopes
with bandwidth specifications greater than 1GHz typically have a
maximally-flat frequency response, as shown in Figure 2. This type of
response usually exhibits a flatter in-band response with a sharper
roll-off characteristic near the -3dB frequency.

"Closely related to an oscilloscope's bandwidth specification is its
rise time specification. Scopes with a Gaussian-type response will have
an approximate rise time of 0.35/f(sub)BW based on a 10- to 90-percent
criterion. Scopes with a maximally-flat response typically have rise time
specifications in the range of 0.4/f(sub)BW depending on the sharpness of
the frequency roll-off characteristic. But it is important to remember
that a scope's rise time is not the fastest edge speed that the
oscilloscope can accurately measure. It is the fastest edge speed the
scope can possibly produce if the input signal has a theoretical
infinitely fast rise time (0 ps). Although this theoretical specification
is impossible to test (since pulse generators don't have infinitely fast
edges) from a practical perspective, you can test your oscilloscope's
rise time by inputting a pulse that has edge speeds that are 3 to 5 times
faster than the scope's rise time specification."

73, Dr. Barry L. Ornitz WA4VZQ

4839. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 06:59:22 UTC
From: Peter <pm@hotmail.com>
Message-ID: <ae6dncwxNI9ltn_RnZ2dnUVZ7q2dnZ2d@westnet.com.au>
Source record: 6639

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:19f15418-c969-4b03-a09e-44816bc107e8@n30g2000vbb.googlegroups.com...
On Nov 14, 9:36 am, n...@wt.net wrote:
> On Nov 13, 10:21 pm, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
>Thanks thats the data I was looking for but I dont believe it is the
>same site. More than good enough.

That is interesting. Just when I thought I was getting a handle on things
its back to the old drawing board!

Keen to hear comments on the plots presented per the link.

http://home.comcast.net/~nm5k/acompari.htm

--
Peter VK6YSF

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

4840. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 07:07:53 UTC
From: Peter <pm@hotmail.com>
Message-ID: <wdidnT2luY1JsH_RnZ2dnUVZ8tGdnZ2d@westnet.com.au>
Source record: 6640

"Ralph Mowery" <rmowery28146@earthlink.net> wrote in message
news:kKKdnVxeEq1G9ETRnZ2dnUVZ_smdnZ2d@earthlink.com...
>
> "David" <nospam@nospam> wrote in message
> news:VuidnegrLbCsZEvRnZ2dnUVZ8hednZ2d@bt.com...
>
> I would not say any of the simple veticals are better. While I have not
> tried them from fixed locations, expirimenting with several differant
> mobile antennas over the years it seems that one type is not really that
> much beter than another.
>
> Depending on the direction and height of the repeaters almost any antenna
> can be better going into one repeater and worse going to another.
> Several of us got together and put several antennas (one at a time) on the
> same mount of a car. Depending on the particular repeater, there was not
> one overall winner. The car also had a 40 meter loaded whip that we tried
> and it was actually better into some of the repeaters.
>
> About the only antenna overall not suited was a colinear about 6 feet
> long. It worked well enough while parked, but at highway speeds it whipped
> around so much the mobile flutter made it almost unusable.
>
My experience with mobile vertical whips has been similar, I guess at least
in my case the location of the antenna was always a compromise and car
body's are not designed to be ideal ground plans.
I did get quite good at knowing where some of the good lobes were and
positioning the car accordingly.

--
Peter VK6YSF

http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm

4841. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 08:56:40 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <iue4e6d51c1jkv7lm2d5ki72ul3rprsggr@4ax.com>
Source record: 6641

On Mon, 15 Nov 2010 19:22:37 -0600, "amdx" <amdx@knology.net> wrote:

> What do you think of this guys numbers and methodology?
>He says he can hear .0078 pw with a Adastra Model: 952-207
>http://www.crystal-radio.eu/enluidsprekertest.htm

Hi Mike,

Where did the search for hi-Z go when this 16Ohm speaker was hauled out for listening? OK, sure, it is all a matter of making a match - I can go with that.

Let's do the math and see where that leads us for the specification offered:
SPL @ 1W/1m: 112.5dB

When driven by .0078 pw we find ourselves 140dB below the 1 Watt that yields 112.5 dB SPL heard at 1 meter. That translates to -27.5dB re the absolute lowest level of hearing.

OK, supposing you are not 1 meter away from that speaker? I can well anticipate that you would expect the stethoscope lead comes in to rescue this claim. Does it get us to within 1mM of the cone to make up the difference? Your ear can not get that close (maybe a cM) and the volume of air in the tube makes it worse (unless we are using an Hemholz resonator, and at that, the program material goes out the window).

Being generous and saying the claim is off by 1 decimal place still has us sitting in an anechoic chamber. No one has that kind of bucks for a hobby pursuit except Bill Gates. Even then, this is about the threshold of hearing for a juvenile. Is your scribbler 17 years old? I can well imagine you, like myself, even that age out - 3 to 4 times over. Program content is going to depress these readings by roughly 5dB for age and another 5 to 10dB for frequency variation.

If you want to copy 1WPM CW at 1KHz, this may fly (if you are buried alone in a cave in South America). Who transmits A3 modulated CW (yes, a contradiction in acronyms where CW commonly means morse code) these days?

So, on the commonsense side of this, no that myth is busted.

The author explores efficiency and states:
>The efficiency is 7.03ï¿½W / 56.8ï¿½W = 0.123
Which was my generous offering in an earlier posting (however, the author stipulates this is a total conversion efficiency for both

speakers).

Going further we observe:
>The efficiency is quite varying with different frequencies, at 1 kHz there was a peak.
>At other frequencies the efficiency is lower.
>This can be caused by resonances in the speakers, because this situation with two speakers connected is quite different from the normal use.
Normal use indeed (what I call listening to program content). There is every chance that the coupled speakers were driven at a hemholz resonance. Using the scope probe as a crude ruler, the volume of air looks to be close to a half wave long.

Note the leading stipulation again:
>The efficiency is quite varying with different frequencies
... indeed.

I have had a hearing test in specially designed chambers, employing a test that eliminates guessing when the sound is, or is not there. I've even designed testing systems that use that methodology for measuring Army helicopter pilot alertness. The psychological pressure of expecting to hear a faint sound can drive results that are impossible to replicate without that testing protocol.

Think you could follow the chain of reasoning here to cross-check the other transducers' performance? If it is on par, then you can trust the testing methodology. If my back-of-the-napkin calculations are off, this will reveal it.

73's
Richard Clark, KB7QHC

4842. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 13:38:12 UTC
From: amdx <amdx@knology.net>
Message-ID: <217e7$4ce2889a$18ec6dd7$3995@KNOLOGY.NET>
Source record: 6642

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:iue4e6d51c1jkv7lm2d5ki72ul3rprsggr@4ax.com...
> On Mon, 15 Nov 2010 19:22:37 -0600, "amdx" <amdx@knology.net> wrote:
>
>> What do you think of this guys numbers and methodology?
>>He says he can hear .0078 pw with a Adastra Model: 952-207
>>http://www.crystal-radio.eu/enluidsprekertest.htm
>
> Hi Mike,
>
> Where did the search for hi-Z go when this 16Ohm speaker was hauled
> out for listening? OK, sure, it is all a matter of making a match - I
> can go with that.
>
Give me a break will ya?
You had said, "As I said, start thinking backwards from the
power delivered to your ear. Can you express that as a number? "
I inserted 1pw.
You then said "this claim you have read is suspect in the highest degree."
So then I find a reference that says .0078pw which is even 12db less than
the claim that is "suspect in the highest degree"
That's how I brought up a 16 ohm speaker.
Richard I'm not disagreeing with you, I'm learning here, I don't have the
knowledge or the math skills to do that. I end up looking up sources, such
as minimum hearing threshold and going to online converters to try and
follow your descriptions, which I appreciate. :-)

I'm exploring other ways that could eliminate
losses. The transformer he would use to transform the 16 ohm speaker
to 1.62 Mohm has about 1.5 db of loss. If I had a 1.62 Mohm speaker
with eqivalent sensitivity to his 16 ohm speaker, I would have a
1.5db gain. Not major but helpful in the search to cut lossses.

> Let's do the math and see where that leads us for the specification
> offered:
> SPL @ 1W/1m: 112.5dB
>
> When driven by .0078 pw we find ourselves 140dB below the 1 Watt that
> yields 112.5 dB SPL heard at 1 meter. That translates to -27.5dB re
> the absolute lowest level of hearing.

Hmm... seems to match what I found for minimum hearing threshold.

> OK, supposing you are not 1 meter away from that speaker? I can well
> anticipate that you would expect the stethoscope lead comes in to

> rescue this claim. Does it get us to within 1mM of the cone to make
> up the difference? Your ear can not get that close (maybe a cM) and
> the volume of air in the tube makes it worse (unless we are using an
> Hemholz resonator, and at that, the program material goes out the
> window).

I don't know but I suspect he just held the Adastra driver up to his ear
for his tests.

> Being generous and saying the claim is off by 1 decimal place still
> has us sitting in an anechoic chamber. No one has that kind of bucks
> for a hobby pursuit except Bill Gates. Even then, this is about the
> threshold of hearing for a juvenile. Is your scribbler 17 years old?
> I can well imagine you, like myself, even that age out - 3 to 4 times
> over. Program content is going to depress these readings by roughly
> 5dB for age and another 5 to 10dB for frequency variation.

Ya I'm on the upper end on SPL needed for perception.

> If you want to copy 1WPM CW at 1KHz, this may fly (if you are buried
> alone in a cave in South America). Who transmits A3 modulated CW
> (yes, a contradiction in acronyms where CW commonly means morse code)
> these days?
>
> So, on the commonsense side of this, no that myth is busted.
>
> The author explores efficiency and states:
>>The efficiency is 7.03ΩW / 56.8ΩW = 0.123
> Which was my generous offering in an earlier posting (however, the
> author stipulates this is a total conversion efficiency for both
> speakers).
>
> Going further we observe:
>>The efficiency is quite varying with different frequencies, at 1 kHz there
>>was a peak.
>>At other frequencies the efficiency is lower.
>>This can be caused by resonances in the speakers, because this situation
>>with two speakers connected is quite different from the normal use.
> Normal use indeed (what I call listening to program content). There
> is every chance that the coupled speakers were driven at a hemholz
> resonance. Using the scope probe as a crude ruler, the volume of air
> looks to be close to a half wave long.
>
> Note the leading stipulation again:
>>The efficiency is quite varying with different frequencies
> ... indeed.
>
> I have had a hearing test in specially designed chambers, employing a
> test that eliminates guessing when the sound is, or is not there. I've
> even designed testing systems that use that methodology for measuring
> Army helicopter pilot alertness. The psychological pressure of

> expecting to hear a faint sound can drive results that are impossible
> to replicate without that testing protocol.
>
> Think you could follow the chain of reasoning here to cross-check the
> other transducers' performance? If it is on par, then you can trust
> the testing methodology. If my back-of-the-napkin calculations are
> off, this will reveal it.
>
> 73's
> Richard Clark, KB7QHC

4843. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 14:42:04 UTC
From: amdx <amdx@knology.net>
Message-ID: <d882d$4ce29791$18ec6dd7$7732@KNOLOGY.NET>
Source record: 6643

>> Let's do the math and see where that leads us for the specification
>> offered:
>> SPL @ 1W/1m: 112.5dB
>>
>> When driven by .0078 pw we find ourselves 140dB below the 1 Watt that
>> yields 112.5 dB SPL heard at 1 meter. That translates to -27.5dB re
>> the absolute lowest level of hearing.

Hi Richard.
Near the bottom of this page http://www.crystal-radio.eu/entrafounit1.htm
The author relates this about the use of his 1.62 Mohm input impedance
transformer driving the Adastra 16 ohm driver.

"when I connect a driver unit to the output of the transformer unit, a
1 kHz test tone on the transformer unit input with a amplitude of
1 mV peak-peak can be easily heard."

So, 1 mv peak to peak is .0003535V rms. V^2/R so .3535^2/ 1.62Mohm =7.7 x
10^-14
Or 0.077pw.
Hmm... that is a factor of 1 decimal unit from his earlier claim.
Or did I make the mistake???
Could this measurement have been made with a x10 scope probe and not noted
in recording of the measurement?
That would increase the power to 0.77pw, getting very close to the minimum
threshold
of hearing.
Inquiring minds want to know.
MikeK

4844. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 18:51:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6ki5e6haoiatq7r75sfukm0vtleacaljvm@4ax.com>
Source record: 6644

On Tue, 16 Nov 2010 08:42:04 -0600, "amdx" <amdx@knology.net> wrote:

> Hi Richard.
>Near the bottom of this page http://www.crystal-radio.eu/entrafounit1.htm
>The author relates this about the use of his 1.62 Mohm input impedance
>transformer driving the Adastra 16 ohm driver.
>
>"when I connect a driver unit to the output of the transformer unit, a
>1 kHz test tone on the transformer unit input with a amplitude of
>1 mV peak-peak can be easily heard."
>
>So, 1 mv peak to peak is .0003535V rms. V^2/R so .3535^2/ 1.62Mohm =7.7 x
>10^-14
>Or 0.077pw.
>Hmm... that is a factor of 1 decimal unit from his earlier claim.
>Or did I make the mistake???
>Could this measurement have been made with a x10 scope probe and not noted
>in recording of the measurement?
> That would increase the power to 0.77pw, getting very close to the minimum
>threshold
>of hearing.
> Inquiring minds want to know.
> MikeK

Hi Mike,

As you have allowed, error can wriggle into any part of the
computational chain and slip us a 10dB hit, or a 10dB bonus.

I've calibrated laboratory grade Brï¿½el & Kjï¿½r microphones and the
process is not done in one sitting.

Here is a very good, online calculator that you should play with:
http://www.ajdesigner.com/phpsound/sound_wave_equation_spl_sound_pressure_level.php
I asked you for a base power, there is also the matter of distance
from that power source to the ear drum, also the volume of air
involved. By using a combination of these offered equations, you can
(with scrupulous note-taking) find out all the cogent details.

I won't go into the matter of the perception of sound, and the
variation in that with the difference in transverse or longitudinal
sound pressure waves. However, as the word perception is now
introduced; when human senses enter the world of measurement,
measurement becomes vastly more complex (simply because we can fool
ourselves into believing anything). Eliminating the observational
bias is an enormous task.

A simple observation flows from that. Take those two speakers, face-to-face. I mentioned they constructed a tuned hemholz resonator. Connect your ear tube to that column. The Q of that resonator is going to take any ambient noise, select out the resonant frequency and amplify it. Guess what? You get to hear a signal that was never applied to the leads! Belief can make for a tenacious trap.

Returning to J. Todd's post:
>Put an alligator clip on the antenna lead and run it down the tank to
>find max volume, then clip it on.
Gives you absolutely EVERYTHING you need. And, frankly, I am surprised about your source material bemoaning the transformation loss of using a transformer to connect their speaker to the Tank.

Consider that the Tank is, as it suggests, the repository of all the power available to you (a "gas tank" as it were). That same Tank is ALSO a universal matching unit. Along the length of the coil (let's pretend that you can connect alligator clips to any point along the length of that wire) you have a new Z transform of the entire circuit. Basically from extreme hi-Z to extreme lo-Z and all Zs in between. The detector/filter/speaker goes to the point that best matches (pun intended) its Z (or some dozen or two dozen Ohms) and the antenna goes to its own value Z (some thousands of Ohms) along the length of the coil. You already have a transformer, what is the need of a lossy, second unit?

Of course, these connections are going to perturb the Tank and move it from its rest point. So is any other form of connection. The trick is to accept this and design that into the final product.

73's
Richard Clark, KB7QHC

4845. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 20:38:12 UTC
From: amdx <amdx@knology.net>
Message-ID: <bf854$4ce2eb05$18ec6dd7$30901@KNOLOGY.NET>
Source record: 6645

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:6ki5e6haoiatq7r75sfukm0vtleacaljvm@4ax.com...
> On Tue, 16 Nov 2010 08:42:04 -0600, "amdx" <amdx@knology.net> wrote:
>
>> Hi Richard.
>>Near the bottom of this page http://www.crystal-radio.eu/entrafounit1.htm
>>The author relates this about the use of his 1.62 Mohm input impedance
>>transformer driving the Adastra 16 ohm driver.
>>
>>"when I connect a driver unit to the output of the transformer unit, a
>>1 kHz test tone on the transformer unit input with a amplitude of
>>1 mV peak-peak can be easily heard."
>>
>>So, 1 mv peak to peak is .0003535V rms. V^2/R so .3535^2/ 1.62Mohm =7.7 x
>>10^-14
>>Or 0.077pw.
>>Hmm... that is a factor of 1 decimal unit from his earlier claim.
>>Or did I make the mistake???
>>Could this measurement have been made with a x10 scope probe and not noted
>>in recording of the measurement?
>> That would increase the power to 0.77pw, getting very close to the
>> minimum
>>threshold
>>of hearing.
>> Inquiring minds want to know.
>> MikeK
>
> Hi Mike,
>
> As you have allowed, error can wriggle into any part of the
> computational chain and slip us a 10dB hit, or a 10dB bonus.

If you have time could you verify the 1 decimal point error that
his own numbers show. It is in the 4th to the last line on this page.
Near the bottom of this page http://www.crystal-radio.eu/entrafounit1.htm
I have contacted him once for clearification of steps on one of his pages.
He has remove his email from some pages and says he can't answer email, he
also
closed his online store.
I don't want to contact him again unless I'm sure that a correction should
be made.

Regarding 10db errors, I have physicist friend that worked for sonics
company,
he found their reference equipment in the water tank had a +10db error.

He reported that to his superior by showing that a transducer he designed had more
output than the input.
The superior was very happy the design, the superior didn't get the jist of what my
friend was trying to show him.

>
> I've calibrated laboratory grade Br&#65533;el & Kj&#65533;r microphones and the
> process is not done in one sitting.
>
> Here is a very good, online calculator that you should play with:
> http://www.ajdesigner.com/phpsound/sound_wave_equation_spl_sound_pressure_level.php
> I asked you for a base power, there is also the matter of distance
> from that power source to the ear drum, also the volume of air
> involved. By using a combination of these offered equations, you can
> (with scrupulous note-taking) find out all the cogent details.
>
> I won't go into the matter of the perception of sound, and the
> variation in that with the difference in transverse or longitudinal
> sound pressure waves. However, as the word perception is now
> introduced; when human senses enter the world of measurement,
> measurement becomes vastly more complex (simply because we can fool
> ourselves into believing anything). Eliminating the observational
> bias is an enormous task.

Perception may have been a bad word to introduce but even if you call it threshold of hearing you still have the same problems you point out.

Placebo,
Can you say Power Balance Bracelet, homeopathic medicine, magnetic shoe inserts or the best one Magic Female Relaxant Fragrance also called "The Relationship Extender" because it can help you to settle differences, and allow you to happily co-exist with a woman even at the most difficult of times. :-)

> A simple observation flows from that. Take those two speakers,
> face-to-face. I mentioned they constructed a tuned hemholz resonator.
> Connect your ear tube to that column. The Q of that resonator is
> going to take any ambient noise, select out the resonant frequency and
> amplify it. Guess what? You get to hear a signal that was never
> applied to the leads! Belief can make for a tenacious trap.
>
> Returning to J. Todd's post:
>>Put an alligator clip on the antenna lead and run it down the tank to
>>find max volume, then clip it on.
> Gives you absolutely EVERYTHING you need. And, frankly, I am
> surprised about your source material bemoaning the transformation loss
> of using a transformer to connect their speaker to the Tank.

First,
I'll rephrase what I think you meant to say, I am surprised about YOU bemoaning the source material transformation loss of using a transformer to connect their speaker to the Tank.
Even I worded that poorly, but are you suggesting I should not work for 1.5db?

Second,
Tapping down on the tank coil may not work as well as first thought.
You still have diode characteristics to overcome, and as you tap down the voltage
also decreases. I throw this out not fully aware of how lower voltage, lower impedance affects the diode characterists, but I know the characteristics will
change with current. I"ll add the contest guru's that I have noted use high impedance taps to the detector. Although depending on signal strength they switch in diodes that better match the current the radio signal is delivering.

> Consider that the Tank is, as it suggests, the repository of all the
> power available to you (a "gas tank" as it were). That same Tank is
> ALSO a universal matching unit. Along the length of the coil (let's
> pretend that you can connect alligator clips to any point along the
> length of that wire) you have a new Z transform of the entire circuit.
> Basically from extreme hi-Z to extreme lo-Z and all Zs in between. The
> detector/filter/speaker goes to the point that best matches (pun
> intended) its Z (or some dozen or two dozen Ohms) and the antenna goes
> to its own value Z (some thousands of Ohms) along the length of the
> coil. You already have a transformer, what is the need of a lossy,
> second unit?

Still hyave concern about diode characteristics.

Thanks, MikeK

> Of course, these connections are going to perturb the Tank and move it
> from its rest point. So is any other form of connection. The trick
> is to accept this and design that into the final product.
>
> 73's
> Richard Clark, KB7QHC

4846. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-16 20:47:02 UTC
From: Jim <jim@value.net>
Message-ID: <ibuqk3$2r3$1@speranza.aioe.org>
Source record: 6646

Here is some more info for you guys to chew on...

http://www.midnightscience.com/download%20files/anatomy.pdf

4847. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 00:33:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <r086e6trq5ebqmall0gmudt988sfujiper@4ax.com>
Source record: 6647

On Tue, 16 Nov 2010 14:38:12 -0600, "amdx" <amdx@knology.net> wrote:

> First,
>I'll rephrase what I think you meant to say, I am surprised about YOU
>bemoaning the source material transformation loss of using a transformer
>to connect their speaker to the Tank.

Why?

>Even I worded that poorly, but are you suggesting I should not work for
>1.5db?

Why start with a 1.5dB deficit when the Tank is already there to do
the work of matching at no loss?

> Second,
> Tapping down on the tank coil may not work as well as first thought.

You are going to have to explain that better, because what follows
doesn't.

>You still have diode characteristics to overcome, and as you tap down the
>voltage
>also decreases. I throw this out not fully aware of how lower voltage, lower
>impedance affects the diode characterists, but I know the characteristics
>will
>change with current.

Changed voltage / changed current = changed Z

That's why the Tank is also called a transformer. You could displace
that function into a secondary, lossy transformer, but the same thing
will happen insofar as your last complaint. In other words, you can
add more loss and get the same grief.

>I"ll add the contest guru's that I have noted use high
>impedance taps to the detector. Although depending on signal strength they
>switch in diodes that better match the current the radio signal is
>delivering.

Do they offer a case for fumbling through a selection of diodes? At
first blush, the best is going to be the best - hands down.

> Still hyave concern about diode characteristics.

Name one characteristic that presents a concern.

73's
Richard Clark, KB7QHC

4848. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 01:19:09 UTC
From: amdx <amdx@knology.net>
Message-ID: <d0a4a$4ce32d7f$18ec6dd7$12957@KNOLOGY.NET>
Source record: 6648

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:r086e6trq5ebqmall0gmudt988sfujiper@4ax.com...
> On Tue, 16 Nov 2010 14:38:12 -0600, "amdx" <amdx@knology.net> wrote:
>
>> First,
>>I'll rephrase what I think you meant to say, I am surprised about YOU
>>bemoaning the source material transformation loss of using a transformer
>>to connect their speaker to the Tank.
>
> Why?

I was trying to make sure I understood what you said, that's all.

>>Even I worded that poorly, but are you suggesting I should not work for
>>1.5db?
>
> Why start with a 1.5dB deficit when the Tank is already there to do
> the work of matching at no loss?

You have the diode to drive before the audio section and you want to match
the
diodes impedance. Tapping down will allow you to match diode impedance, but
I'm not sure tapped down is where you will find the best diode efficiency.
Your response to my "not sure " is anticipated. :-)

>> Second,
>> Tapping down on the tank coil may not work as well as first thought.
>
> You are going to have to explain that better, because what follows
> doesn't.

>>You still have diode characteristics to overcome, and as you tap down the
>>voltage also decreases.

"Here's a quote from Ben Tongue's webpage;
Many times the question is asked, "What is the best diode to use?" The
answer depends on the specific RF source resistance and audio load impedance
of the Crystal Set in question. At low signal levels the RF input
resistance and audio output resistance of a detector diode are equal to
25,700,000*n/Is Ohms (current in nA). For minimum detector power loss at
very low signal levels with a particular diode, all one has to do is
impedance match the RF source resistance to the diode and impedance match
the diodes' audio output resistance to the headphones by using an
appropriate audio transformer. The lower the Is of the diode, the higher
will be the weak signal sensitivity (volume) from the Crystal Set, provided
it is properly impedance matched to it's circuit (see article #1). This

does not affect strong signal volume. There is one caveat to this, however. It is assumed that the RF tuned circuits and audio transformer losses don't change. This can be hard to accomplish. It is assumed that the Rs, diode junction capacitance, n and reverse leakage are reasonable. If the diode you want to use has a higher Is than the optimum value, tap it down on the tuned circuit. If the diode you want to use has a lower Is than the optimum value, change the tank circuit to one with a higher L and lower C so that the antenna impedance can be transformed to a higher value and repeat step #1. "

And yes I note the "tap it down" which is used to match the impedance of the diode.

> Changed voltage / changed current = changed Z
>
> That's why the Tank is also called a transformer. You could displace
> that function into a secondary, lossy transformer, but the same thing
> will happen insofar as your last complaint. In other words, you can
> add more loss and get the same grief.
>
>>I"ll add the contest guru's that I have noted use high
>>impedance taps to the detector. Although depending on signal strength they
>>switch in diodes that better match the current the radio signal is
>>delivering.
>
> Do they offer a case for fumbling through a selection of diodes? At
> first blush, the best is going to be the best - hands down.

See above.
And yes they sometimes multiple diodes on there radio.

>> Still hyave concern about diode characteristics.
>
> Name one characteristic that presents a concern.

Saturation current and
axis-crossing resistance equal to Rr
Sorry that's two, but their related.

See Ben's Page http://www.bentongue.com/xtalset/4opd_xfr/4opd_xfr.html

Thanks, MikeK

> 73's
> Richard Clark, KB7QHC

4849. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 04:00:51 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <cgk6e6hqok39oaeqel6kghlm14ctueaeoo@4ax.com>
Source record: 6649

gosh! These would be perfect. I went to the site but can't read the
language.

I wonder if you could tell me how much 500 would cost shipped to Texas
and the cost of 500?

We have some plactic plant stakes. They are round about 1/2 or 3/8
inch in ciamter. Color is green and the have some ridges which, I
guess would prevent ties/wires from slipping down the stake.
However, they are expensive per stick.

I sure wish that I could find what you suggested over here.

THANK YOU.

joe

On Wed, 10 Nov 2010 02:11:28 +0100, Yanu Yet Another Nice Usenetuser
<yanu@yanu.org> wrote:

>On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:
>
>>Hi, Folks.
>>
>>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>>configuration will not do. PVC pipe will not do. Welding rod would
>>do but it is expensive.
>>
>>I was thinking of Fiberglas tape, twisted and put in place and then
>>resin applied but that is very cumbersome.
>>
>>Any ideas out there?
>>
>>Thank you.
>
>If it's Dutch it ain't much...
>"We" use spreaders which are used for growing roses, so called "rose
>clips."
>http://www.xs4all.nl/~pa0fri/Ant/Antmateriaal/spreiderf1.jpg
>The picture shows how perfect they are made for spreaders!
>The original seller:
>http://www.amevo.nl/plantstokken_boomclips/
>They are rather cheap a few cent each UV resistant.
>In relation to the transport cost to the US it can be expensive. They
>come in bundles of 500 pc!

>Unfortunately don't know where you can buy them in the US, but you can
>start looking in local agriculture shops.
>Somebody must grow roses over there having the same problem...
>Jan/pa3abk

4850. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 04:14:43 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <0hl6e611a8n87ast2ueorsk6clvgnpdrtj@4ax.com>
Source record: 6650

Well, all of that sounds good until I went to Tractor supply and
couldn't find what you were talking about.

I did find this:SKU Number: 3610032 but they are only 4 inches long.
They talk of its staples, too.

Can you tell me the store and product numter that you are talking
about?

Thanks

Joe

On Thu, 04 Nov 2010 20:57:03 -0400, Kickin' Ass and Takin' Names
<PopUlist349@hotmail.com> wrote:

>On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:
>
>>Hi, Folks.
>>
>>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>>configuration will not do. PVC pipe will not do. Welding rod would
>>do but it is expensive.
>>
>>I was thinking of Fiberglas tape, twisted and put in place and then
>>resin applied but that is very cumbersome.
>>
>>Any ideas out there?
>>
>>Thank you.
>
>
>If you live in a rural area, check the hardware or farm supply stores
>for electric fence insulators. The ones in my hardware store are 5 or
>6 inches long and cost a few dollars per hundred.

4851. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 06:01:25 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <2rr6e69km2bn4vi4mpbkjafl40pg99hl3o@4ax.com>
Source record: 6501

On Tue, 16 Nov 2010 12:47:02 -0800, Jim <jim@value.net> wrote:

>Here is some more info for you guys to chew on...
>
>http://www.midnightscience.com/download%20files/anatomy.pdf

Thanx Jim,

It seems to be a more complete analysis. I will give it more time
later.

73's
Richard Clark, KB7QHC

4852. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 06:19:15 UTC
From: Howard K0ACF <howardk0acf@knology.net>
Message-ID: <269d8$4ce373e0$d8feea72$1846@KNOLOGY.NET>
Source record: 6502

The ones I have used for whip ant. are about 3/8" thick & bought at Tractor Supply & also Baumgar's (not sure of spelling) also notice in Walmart they have snow marking poles in various colors & length that should also work...
"justme" <jbleaux@gmail.com> wrote in message news:0hl6e611a8n87ast2ueorsk6clvgnpdrtj@4ax.com...
> Well, all of that sounds good until I went to Tractor supply and
> couldn't find what you were talking about.
>
> I did find this:SKU Number: 3610032 but they are only 4 inches long.
> They talk of its staples, too.
>
> Can you tell me the store and product numter that you are talking
> about?
>
> Thanks
>
> Joe
>
>
>
>
>
> On Thu, 04 Nov 2010 20:57:03 -0400, Kickin' Ass and Takin' Names
> <PopUlist349@hotmail.com> wrote:
>
>>On Tue, 02 Nov 2010 22:56:44 -0500, justme <jbleaux@gmail.com> wrote:
>>
>>>Hi, Folks.
>>>
>>>I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>>>ladder line spreaders of about 4 or 5 inches wide. Wood in any
>>>configuration will not do. PVC pipe will not do. Welding rod would
>>>do but it is expensive.
>>>
>>>I was thinking of Fiberglas tape, twisted and put in place and then
>>>resin applied but that is very cumbersome.
>>>
>>>Any ideas out there?
>>>
>>>Thank you.
>>
>>
>>If you live in a rural area, check the hardware or farm supply stores
>>for electric fence insulators. The ones in my hardware store are 5 or

>>6 inches long and cost a few dollars per hundred.

4853. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 06:37:21 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <uur6e6plcj85ovmim03h24rc378rkm7g5u@4ax.com>
Source record: 6503

On Tue, 16 Nov 2010 19:19:09 -0600, "amdx" <amdx@knology.net> wrote:

>> Why start with a 1.5dB deficit when the Tank is already there to do
>> the work of matching at no loss?
>
> You have the diode to drive before the audio section and you want to match
>the
>diodes impedance. Tapping down will allow you to match diode impedance, but
>I'm not sure tapped down is where you will find the best diode efficiency.
>Your response to my "not sure " is anticipated. :-)

Hi Mike,

Unfortunately your response is not an answer. Your response suffers
equally for the proposed additional transformer - and you have added
loss for no net forward movement to the solution.

>>> Second,
>>> Tapping down on the tank coil may not work as well as first thought.
>>
>> You are going to have to explain that better, because what follows
>> doesn't.
>
>
>>>You still have diode characteristics to overcome, and as you tap down the
>>>voltage also decreases.
>
>"Here's a quote from Ben Tongue's webpage;
>Many times the question is asked, "What is the best diode to use?" The
>answer depends on the specific RF source resistance and audio load impedance
>of the Crystal Set in question.

At first blush I have to ask, "How many source resistances are there
to be found for a Xtal radio?" I am not under the impression you have
much flexibility in that regard.

>At low signal levels the RF input
>resistance and audio output resistance of a detector diode are equal to
>25,700,000*n/Is Ohms (current in nA).

25 million WHAT?

>For minimum detector power loss at
>very low signal levels with a particular diode,

If it were a "particular" diode, it would seem giving it a part number
would lend authenticity to this report.

Well, the rest reads about like an oath to motherhood and apple pie.

>> Do they offer a case for fumbling through a selection of diodes? At
>> first blush, the best is going to be the best - hands down.
>
> See above.
>And yes they sometimes multiple diodes on there radio.

I am less than whelmed.

>>> Still hyave concern about diode characteristics.
>>
>> Name one characteristic that presents a concern.
>
>Saturation current and
>axis-crossing resistance equal to Rr
>Sorry that's two, but their related.
>
>See Ben's Page http://www.bentongue.com/xtalset/4opd_xfr/4opd_xfr.html

Frankly, it looks like spaghetti math. If it suits you, then there is
a number that will supply the optimal solution - that is the nature of
math, after all. However, too much of this looks circular, especially
when I see complexity piled on top of loss just to return to the same
problem.

However, what it all boils down to is that you have to live with
whatever diode you select, and you shift the tap for the best
performance (not many variables left in the game of Xtal radios, is
there?).

73's
Richard Clark, KB7QHC

4854. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 07:42:07 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ai07e6d18aj8ub7fthpm8djf973f4e1sid@4ax.com>
Source record: 6504

On Tue, 16 Nov 2010 19:19:09 -0600, "amdx" <amdx@knology.net> wrote:

>You have the diode to drive before the audio section and you want to match
>the
>diodes impedance.

Hi Mike,

This seems to wander the field when there are conflicting agendas on the table. The wandering is due in large part to the absence of specific numbers, and in this particular case, even the sense of scale.

We have an audio Z match. We have a diode Z match. There is no sense that if this is a high-Z or a low-Z for either/both/neither.

To this point, you have hewed to the commonplace magnetic speaker, and from that I can only imagine that the problem with audio match is transforming from a high (diode) Z to a low (speaker) Z. But from the numbers, it would seem that both diode and speaker Zs are on par. I could be wrong because this drift takes me into guessing.

Solve your problem and get a piezo headphone (or make one, this is the tradition of Xtal radio, n'est pas?). They have to exhibit at least 10KOhm if not a bajillion ohms. If there isn't enough current to fire the diode, Guess What? Slap a sacrificial resistor across the piezo leads!

Radio Shack sells (or used to the last time I bought one) two or three inch barium titanate ceramic disks that are offered as buzzer elements (or rob a clock alarm for its buzzer - these things are a drug on the market).

* * * * * * * * * * *

Now, if you only return to complain that the Hi-Z phones cause a problem somewhere else; then I would recommend you abandon circuit design and take up the study of math employing figures of merit. Such assignments of merit are subjective, of course, but then you get to own your personal solution. Discussion that follows this satisfactory conclusion then enters the appropriate arena of philosophical or religious controversy. This will certainly garner far more participation in this group.

73's
Richard Clark, KB7QHC

4855. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 15:17:51 UTC
From: amdx <amdx@knology.net>
Message-ID: <c8f69$4ce3f16e$45013905$1687@KNOLOGY.NET>
Source record: 6505

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:uur6e6plcj85ovmim03h24rc378rkm7g5u@4ax.com...
> On Tue, 16 Nov 2010 19:19:09 -0600, "amdx" <amdx@knology.net> wrote:
>
>>> Why start with a 1.5dB deficit when the Tank is already there to do
>>> the work of matching at no loss?
>>
>> You have the diode to drive before the audio section and you want to
>> match
>>the
>>diodes impedance. Tapping down will allow you to match diode impedance,
>>but
>>I'm not sure tapped down is where you will find the best diode efficiency.
>>Your response to my "not sure " is anticipated. :-)
>
> Hi Mike,
>
> Unfortunately your response is not an answer. Your response suffers
> equally for the proposed additional transformer - and you have added
> loss for no net forward movement to the solution.
>
>>>> Second,
>>>> Tapping down on the tank coil may not work as well as first thought.
>>>
>>> You are going to have to explain that better, because what follows
>>> doesn't.
>>
>>
>>>>You still have diode characteristics to overcome, and as you tap down
>>>>the
>>>>voltage also decreases.
>>
>>"Here's a quote from Ben Tongue's webpage;
>>Many times the question is asked, "What is the best diode to use?" The
>>answer depends on the specific RF source resistance and audio load
>>impedance
>>of the Crystal Set in question.
>
> At first blush I have to ask, "How many source resistances are there
> to be found for a Xtal radio?" I am not under the impression you have
> much flexibility in that regard.

Every time you change frequency you change source resistance.
XL times Q equals source resistance, Q changes with frequency,

and XL changes with frequency.
Also when you change to a different station with a different signal strength
you change the current through the diode, this changes the resistance the
diode
presents to the tank.

>>At low signal levels the RF input
>>resistance and audio output resistance of a detector diode are equal to
>>25,700,000*n/Is Ohms (current in nA).
>
> 25 million WHAT?

I don't know what that is derived from.

>>For minimum detector power loss at
>>very low signal levels with a particular diode,
>
> If it were a "particular" diode, it would seem giving it a part number
> would lend authenticity to this report.

> Well, the rest reads about like an oath to motherhood and apple pie.
>
>>> Do they offer a case for fumbling through a selection of diodes? At
>>> first blush, the best is going to be the best - hands down.
>>
>> See above.
>>And yes they sometimes multiple diodes on there radio.
>
> I am less than whelmed.
>
>>>> Still hyave concern about diode characteristics.
>>>
>>> Name one characteristic that presents a concern.
>>
>>Saturation current and
>>axis-crossing resistance equal to Rr
>>Sorry that's two, but their related.
>>
>>See Ben's Page http://www.bentongue.com/xtalset/4opd_xfr/4opd_xfr.html
>
> Frankly, it looks like spaghetti math. If it suits you, then there is
> a number that will supply the optimal solution - that is the nature of
> math, after all. However, too much of this looks circular, especially
> when I see complexity piled on top of loss just to return to the same
> problem.
>
> However, what it all boils down to is that you have to live with
> whatever diode you select, and you shift the tap for the best
> performance (not many variables left in the game of Xtal radios, is
> there?).

There are dozens of diodes to pick from, depends on the tank Z
and signal strength. I don't know what you mean when you say there aren't
many variables, there are many, many!
Coil Type (solenoid, spider, 3D solenoid)
Coil Form Material, paper, PVC, polypropylene, etc.
Wire type, solid, Litz
Antenna Match technique, Tap, cap tune, inductance coupling
Diodes, Diodes, Diodes
Audio, Transformer matching , high impedance piezo, sound powered
headphones, crystal earphone, horn driver.

Here's some more info on the diode selection and why.
Richard I'm well aware of your great knowledge (not being facetious)
and my lack of math and knowledge on this, but I'm to the point where
it seems you are not willing to learn new information. It seems you already
know it all. This especially in regards to the idea that the diodes
characterists
are very important to losses in the radio.
I think one of these pages has a graph showing a diode not matched to the
current available has a 33db loss.
Here's more diode info.
http://www.crystal-radio.eu/endiodes.htm
http://www.bentongue.com/xtalset/17Is_n/17Is_n.html
http://www.klimaco.com/HAMRADIOPAGES/xtal_how_to.htm

I do appreciate your time and the discusion, I did learn from it.
I'm going to take a few days off.
Sincerely, MikeK

> 73's
> Richard Clark, KB7QHC

4856. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 19:57:22 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-F4C6F2.14572217112010@5ad64b5e.bb.sky.com>
Source record: 6506

In article <ai07e6d18aj8ub7fthpm8djf973f4e1sid@4ax.com>,
Richard Clark <kb7qhc@comcast.net> wrote:

> We have an audio Z match. We have a diode Z match. There is no sense
> that if this is a high-Z or a low-Z for either/both/neither.

Richard-

We have a diode detector, which is nonlinear. If you allow a filter capacitor on its output, there is current flow only on alternate RF voltage peaks, in order to charge up the capacitor for the amount lost to the audio load during the cycle. Its effect on circuit Q may be a fraction of the total, also consisting of coil Q and input circuit matching.

Therefore you want the diode connected to the high end of the coil, not transformed to a lower impedance point on the coil.

Load impedance will affect audio level, so should be kept high for that reason. However there may be some value of load that produces the greatest audio output voltage. If too high, the filter capacitor would charge to the peak of the modulation waveform and stay there.

Worst case is a low impedance audio load and no filter capacitor. Half of the RF waveform is essentially cut off, leaving a peak-to-peak value of one half the open circuit value. Since energy is extracted from the circuit during the conduction cycle, the effect on Q should be approximately the same as if a resistor having the same peak-to-peak effect was connected across the circuit, disregarding the RMS value of a half-sine waveform.

Fred
K4DII

4857. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 20:07:14 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <a168e69fvnoeuvt0b8u153fon598p777rh@4ax.com>
Source record: 6507

On Wed, 17 Nov 2010 09:17:51 -0600, "amdx" <amdx@knology.net> wrote:

>> At first blush I have to ask, "How many source resistances are there
>> to be found for a Xtal radio?" I am not under the impression you have
>> much flexibility in that regard.
>
> Every time you change frequency you change source resistance.
>XL times Q equals source resistance, Q changes with frequency,
>and XL changes with frequency.

Hi Mike,

There are a number of problems here. Q is strictly a function of
RESISTANCE and nothing else.

What you call source resistance, when using the math you provide, is
actually source impedance. Impedance embraces resistance and is
solely resistance when reactance is gone - such as at resonance.
However, it would seem that the Xtal Radio community treats reactance
as resistance interchangeably.

That is fine to a point, but it introduces serious problems in the
usage of the term "match" as there are actually several types of
"matching" and each has its peculiarity (only peculiar when you are
unfamiliar with the other types).

It is a given that you are going to have to change either Xc or Xl if
you are going to tune to another frequency. This alters the circuit
Z, certainly; and for the AM band you have a 3:1 variation from band
end-to-end.

>Also when you change to a different station with a different signal strength
>you change the current through the diode, this changes the resistance the
>diode
>presents to the tank.

Without numbers, this is like anticipating worry about your MPG
driving up a hill in comparison to driving down the same hill. Yes, a
wild variation, but do you give up cars and start walking instead?
Some of these "concerns" sound like they come from the AVC needy. I
thought Xtal Radio folks would man up and get with the program.

>> However, what it all boils down to is that you have to live with
>> whatever diode you select, and you shift the tap for the best
>> performance (not many variables left in the game of Xtal radios, is
>> there?).
>

>There are dozens of diodes to pick from, depends on the tank Z
>and signal strength.

No, actually you've either mis-read the intent (which is certainly a problem with that author's hodge-podge writing style) or you've read too many written sources that each only see part of the elephant.
"It's a snake! We need something bulky."
"It's a wall! We need something slim."
"It's thin and flappy! We need something sturdy."

The problem with the diode is in its forward current and reverse current. If they are about the same, you don't have a rectifier. This would be a weak signal problem. The forward current defines the series resistance of the diode and how much that is in comparison to the load defines the efficiency. You want more current to lower the diode resistance to increase the efficiency. Unfortunately this demands you have a higher source voltage that offers less current (Catch-22).

However, this problem is strictly for a low Z load like a magnetic speaker - and thus enters the consternation over competing agendas that gives everyone the fits that seems they enjoy agonizing over when the solution is obvious. I will touch on that next:

> I don't know what you mean when you say there aren't
>many variables, there are many, many!
>Coil Type (solenoid, spider, 3D solenoid)
>Coil Form Material, paper, PVC, polypropylene, etc.

Those are non-starters for those who love to struggle in hope against reality.

>Wire type, solid, Litz

Ah yes, the magic Litz wire that is the salvation. The solution for the problem that doesn't matter. You do this because you can, not because you need to. And then you return to life with the car still in the ditch (but you changed the air in the tires).

>Antenna Match technique, Tap, cap tune, inductance coupling

This has been long figured out. For nearly a century.

>Diodes, Diodes, Diodes

Whose solution is found in:

>Audio, Transformer matching , high impedance piezo, sound powered
>headphones, crystal earphone, horn driver.

Whose choice is obvious in hi impedance.

Like I said, there are not that many variables, until you find someone on a soap box with a stump speech about the invidious dereliction of design introduced with the Philips head screw. The advantages of the

Bristol head anyone?

Do not confuse the multitude of competing and contradicting factors as
the multitude of variables.

Introduce figure of merit to the discussion and argue about that. If
that gets resolved, the solution will pop right out.

> Here's some more info on the diode selection and why.
>Richard I'm well aware of your great knowledge (not being facetious)
>and my lack of math and knowledge on this, but I'm to the point where
>it seems you are not willing to learn new information.

There is no new information. It is a niche application you are
talking about, not new science. The niche has its concerns and they
are impacted by issues that are rarely a problem for the standard
usage of the components you mention, but there have been no new
devices introduced in this discussion. I see nothing innovative. In
fact, the discussion is so in-bred it lacks coverage outside of a
clubbish mainstream. I will offer something new below that is
actually quite old.

>It seems you already
>know it all. This especially in regards to the idea that the diodes
>characterists
>are very important to losses in the radio.

I have designed at the extreme edges of component characteristics,
true. More often in regard to temperature variation, mechanical
vibration, noise, accuracy, resolution, speed, bandwidth, linearity -
all that went towards continuous service in a largish orange box in
some jets.

I have studied diodes to no end, especially LEDs and photodetectors.
Talk about marginal signal detection and loss. I started with 1n34s
being used as varactors back in the late 60s. PIN and Tunnel diodes
followed. There is a world of non-linear devices out there. I
especially like the surgistor and posistor. Any reports of their use
in Xtal sets?

I have maintained a number of audio standards and measurement devices.
I have had to repair detectors that measured absolute value voltage
out to 7 places, the same issues arose there too. Small currents?
Like those that rise continuously through the air in femto-ampere
levels? You would need polonium treated probes to measure them (or
just use the anti-static record brushes of the 1970s).

> I think one of these pages has a graph showing a diode not matched to the
>current available has a 33db loss.
> Here's more diode info.
>http://www.crystal-radio.eu/endiodes.htm
>http://www.bentongue.com/xtalset/17Is_n/17Is_n.html
>http://www.klimaco.com/HAMRADIOPAGES/xtal_how_to.htm

This stuff merely shows the agony of counter trending data. In other words select the optimal Is and you get trash Rd - and vice versa. Reporting the numbers doesn't solve the problem however.

* * * * * * * *

In this offered discussion there is nothing of how the pioneers managed it with galena crystals and cat whiskers. That data for comparison is starkly absent in this and their discussion.

My Fourth Edition of "Standard Handbook for Electrical Engineers" (1915) offers Coherers and Magnetic detectors. The coverage is likewise absent of these alternatives.

"Section 21-289 Contact Rectifiers. The rectifiers most frequently consist of a contact between a fine wire and some variety of mineral. Among the minerals frequently use are iron pyrites, galena, silicon, and molybdenite. In other forms, two crystals are used in contact, such as zinkite with chaleopyryte or bornite, or silicon with metallic arsenic.
"For detecting the direct-current pulses, head telephones of from 1,000 to 3,000 Ohms resistance are ordinarily used."

Returning to the obscure references, for magnetic detectors, consider:
http://en.wikipedia.org/wiki/Magnetic_detector
for the coherer, consider
http://en.wikipedia.org/wiki/Coherer

* * * * * * *

You might want to reflect that this thread has not been about matching an antenna to a crystal radio at all. That topic was rather easily and quickly answered by J. Todd. Loss is defined by wire resistance and the proximity of objects to the tank.

The match from the Tank is similarly simple - once you define the load. Loss is defined by wire resistance and the proximity of objects to the tank.

The load is presented as its two native components: the detector and the headset.

The detector is the variable of concern, it is defined by the current necessary to drive the headset, everything surrounding the detector has to conform to its choice. The loss is defined by the ratio of the detector resistance to the load resistance plus that diode resistance.

The headset is defined by a power level you identified as one picowatt delivered to the ear. I think we can agree that was very generous. The loss is defined by the transducer efficiency.

This is the genesis of figure of merit, and that is your solution.

73's
Richard Clark, KB7QHC

4858. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 20:09:11 UTC
From: amdx <amdx@knology.net>
Message-ID: <7cffc$4ce435b0$45013905$17421@KNOLOGY.NET>
Source record: 6508

>>At low signal levels the RF input
>>resistance and audio output resistance of a detector diode are equal to
>>25,700,000*n/Is Ohms (current in nA).
>
> 25 million WHAT?
>
Ok One more, with a little help I figured it out.
It has to to with the Thermal Voltage of the diode.
Vt=KT/q
with k=1.38E-23 and q=1.6E-19. T is absolute temperature in degrees Kelvin,
k is Boltzmann's constant and q is the charge of an electron. VT is close
to 0.025 volts at 20 degrees Celsius.

With a slightly increased temperature the .025 is raised to .0257,
and .0257 / 1 nanoamp =25,700,000
Thanks, MikeK

4859. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 20:26:05 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <gnd8e6hpgqql3tp6aqocugfn17rgjlotu2@4ax.com>
Source record: 6509

On Wed, 17 Nov 2010 14:57:22 -0500, Fred McKenzie <fmmck@aol.com>
wrote:

>In article <ai07e6d18aj8ub7fthpm8djf973f4e1sid@4ax.com>,
> Richard Clark <kb7qhc@comcast.net> wrote:
>
>> We have an audio Z match. We have a diode Z match. There is no sense
>> that if this is a high-Z or a low-Z for either/both/neither.

Hi Fred,

The subtext of that observation was the lack of numbers.
Quantification will aid immensely and give perspective to the direness
of the problem.

>We have a diode detector, which is nonlinear. If you allow a filter
>capacitor on its output, there is current flow only on alternate RF
>voltage peaks, in order to charge up the capacitor for the amount lost
>to the audio load during the cycle. Its effect on circuit Q may be a
>fraction of the total, also consisting of coil Q and input circuit
>matching.

This is dangerously close to decoupling the problem by looking at
minutia. Q is the ratio of power in to power consumed.

>Therefore you want the diode connected to the high end of the coil, not
>transformed to a lower impedance point on the coil.

Your detector placement serves the consumption side and consumption -
listening to program content - is the whole point of detection.

Preserving Q does not serve that goal.

>Load impedance will affect audio level, so should be kept high for that
>reason.

Audio level "should" follow power applied, be it low voltage high
current (a speaker); or high voltage low current (a piezo). Preserving
power levels while changing its form is the purpose transduction.

>However there may be some value of load that produces the
>greatest audio output voltage. If too high, the filter capacitor would
>charge to the peak of the modulation waveform and stay there.

What you describe is a clamp, not a filter; but point is well taken.
What you have is the wrong balance of charge time to discharge time.
In other words, you have selected the wrong detector for the chosen
transducer, or vice-versa. Choose both to complement each other.

Consider, what would be lost if you clipped out that pesky cap?

73's
Richard Clark, KB7QHC

4860. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 20:46:39 UTC
From: amdx <amdx@knology.net>
Message-ID: <dfbb0$4ce43e78$45013905$19174@KNOLOGY.NET>
Source record: 6510

"Richard Clark" <kb7qhc@comcast.net> wrote in message
news:a168e69fvnoeuvt0b8u153fon598p777rh@4ax.com...
> On Wed, 17 Nov 2010 09:17:51 -0600, "amdx" <amdx@knology.net> wrote:
>
>>> At first blush I have to ask, "How many source resistances are there
>>> to be found for a Xtal radio?" I am not under the impression you have
>>> much flexibility in that regard.
>>
>> Every time you change frequency you change source resistance.
>>XL times Q equals source resistance, Q changes with frequency,
>>and XL changes with frequency.
>
> Hi Mike,
>
> There are a number of problems here. Q is strictly a function of
> RESISTANCE and nothing else.

Ya, loss resistance of the tank.
Can you agree that it varies with frequency?

> What you call source resistance, when using the math you provide, is
> actually source impedance. Impedance embraces resistance and is
> solely resistance when reactance is gone - such as at resonance.

The tank is used at resonance, so yes, source resistance.

> However, it would seem that the Xtal Radio community treats reactance
> as resistance interchangeably.

Not so!

> That is fine to a point, but it introduces serious problems in the
> usage of the term "match" as there are actually several types of
> "matching" and each has its peculiarity (only peculiar when you are
> unfamiliar with the other types).

Are you getting at conjugate match?

> It is a given that you are going to have to change either Xc or Xl if
> you are going to tune to another frequency. This alters the circuit
> Z, certainly; and for the AM band you have a 3:1 variation from band
> end-to-end.

So your in agreement that Rp is not fixed?

>>Also when you change to a different station with a different signal
strength

>>you change the current through the diode, this changes the resistance the
>>diode
>>presents to the tank.
>
> Without numbers, this is like anticipating worry about your MPG
> driving up a hill in comparison to driving down the same hill. Yes, a
> wild variation, but do you give up cars and start walking instead?
> Some of these "concerns" sound like they come from the AVC needy. I
> thought Xtal Radio folks would man up and get with the program.

No pick a different diode.
>
>>> However, what it all boils down to is that you have to live with
>>> whatever diode you select, and you shift the tap for the best
>>> performance (not many variables left in the game of Xtal radios, is
>>> there?).
>>
>>There are dozens of diodes to pick from, depends on the tank Z
>>and signal strength.
>
> No, actually you've either mis-read the intent (which is certainly a
> problem with that author's hodge-podge writing style) or you've read
> too many written sources that each only see part of the elephant.
> "It's a snake! We need something bulky."
> "It's a wall! We need something slim."
> "It's thin and flappy! We need something sturdy."
>
> The problem with the diode is in its forward current and reverse
> current. If they are about the same, you don't have a rectifier. This
> would be a weak signal problem. The forward current defines the
> series resistance of the diode and how much that is in comparison to
> the load defines the efficiency. You want more current to lower the
> diode resistance to increase the efficiency. Unfortunately this
> demands you have a higher source voltage that offers less current
> (Catch-22).
>
> However, this problem is strictly for a low Z load like a magnetic
> speaker - and thus enters the consternation over competing agendas
> that gives everyone the fits that seems they enjoy agonizing over when
> the solution is obvious. I will touch on that next:
>
>> I don't know what you mean when you say there aren't
>>many variables, there are many, many!
>>Coil Type (solenoid, spider, 3D solenoid)
>>Coil Form Material, paper, PVC, polypropylene, etc.
>
> Those are non-starters for those who love to struggle in hope against
> reality.
>
>>Wire type, solid, Litz

>
> Ah yes, the magic Litz wire that is the salvation. The solution for
> the problem that doesn't matter. You do this because you can, not
> because you need to. And then you return to life with the car still
> in the ditch (but you changed the air in the tires).

Can you wind a coil with a Q over 1000 with solid wire?

>>Antenna Match technique, Tap, cap tune, inductance coupling
>
> This has been long figured out. For nearly a century.
>
>>Diodes, Diodes, Diodes
>
> Whose solution is found in:
>
>>Audio, Transformer matching , high impedance piezo, sound powered
>>headphones, crystal earphone, horn driver.
>
> Whose choice is obvious in hi impedance.
>
> Like I said, there are not that many variables, until you find someone
> on a soap box with a stump speech about the invidious dereliction of
> design introduced with the Philips head screw. The advantages of the
> Bristol head anyone?
>
> Do not confuse the multitude of competing and contradicting factors as
> the multitude of variables.
>
> Introduce figure of merit to the discussion and argue about that. If
> that gets resolved, the solution will pop right out.
>
>> Here's some more info on the diode selection and why.
>>Richard I'm well aware of your great knowledge (not being facetious)
>>and my lack of math and knowledge on this, but I'm to the point where
>>it seems you are not willing to learn new information.
>
> There is no new information. It is a niche application you are
> talking about, not new science. The niche has its concerns and they
> are impacted by issues that are rarely a problem for the standard
> usage of the components you mention, but there have been no new
> devices introduced in this discussion. I see nothing innovative. In
> fact, the discussion is so in-bred it lacks coverage outside of a
> clubbish mainstream. I will offer something new below that is
> actually quite old.
>
>>It seems you already
>>know it all. This especially in regards to the idea that the diodes
>>characterists
>>are very important to losses in the radio.
>

> I have designed at the extreme edges of component characteristics,
> true. More often in regard to temperature variation, mechanical
> vibration, noise, accuracy, resolution, speed, bandwidth, linearity -
> all that went towards continuous service in a largish orange box in
> some jets.
>
> I have studied diodes to no end, especially LEDs and photodetectors.
> Talk about marginal signal detection and loss. I started with 1n34s
> being used as varactors back in the late 60s. PIN and Tunnel diodes
> followed. There is a world of non-linear devices out there. I
> especially like the surgistor and posistor. Any reports of their use
> in Xtal sets?
>
> I have maintained a number of audio standards and measurement devices.
> I have had to repair detectors that measured absolute value voltage
> out to 7 places, the same issues arose there too. Small currents?
> Like those that rise continuously through the air in femto-ampere
> levels? You would need polonium treated probes to measure them (or
> just use the anti-static record brushes of the 1970s).
>
>> I think one of these pages has a graph showing a diode not matched to the
>>current available has a 33db loss.
>> Here's more diode info.
>>http://www.crystal-radio.eu/endiodes.htm
>>http://www.bentongue.com/xtalset/17Is_n/17Is_n.html
>>http://www.klimaco.com/HAMRADIOPAGES/xtal_how_to.htm
>
> This stuff merely shows the agony of counter trending data. In other
> words select the optimal Is and you get trash Rd - and vice versa.
> Reporting the numbers doesn't solve the problem however.
>
> * * * * * * * *
>
> In this offered discussion there is nothing of how the pioneers
> managed it with galena crystals and cat whiskers. That data for
> comparison is starkly absent in this and their discussion.
>
> My Fourth Edition of "Standard Handbook for Electrical Engineers"
> (1915) offers Coherers and Magnetic detectors. The coverage is
> likewise absent of these alternatives.
>
> "Section 21-289 Contact Rectifiers. The rectifiers most frequently
> consist of a contact between a fine wire and some variety of mineral.
> Among the minerals frequently use are iron pyrites, galena, silicon,
> and molybdenite. In other forms, two crystals are used in contact,
> such as zinkite with chaleopyryte or bornite, or silicon with metallic
> arsenic.
> "For detecting the direct-current pulses, head telephones of from
> 1,000 to 3,000 Ohms resistance are ordinarily used."
>

> Returning to the obscure references, for magnetic detectors, consider:
> http://en.wikipedia.org/wiki/Magnetic_detector
> for the coherer, consider
> http://en.wikipedia.org/wiki/Coherer
>
> * * * * * * *
>
> You might want to reflect that this thread has not been about matching
> an antenna to a crystal radio at all. That topic was rather easily
> and quickly answered by J. Todd. Loss is defined by wire resistance
> and the proximity of objects to the tank.
>
> The match from the Tank is similarly simple - once you define the
> load. Loss is defined by wire resistance and the proximity of objects
> to the tank.
>
> The load is presented as its two native components: the detector and
> the headset.
>
> The detector is the variable of concern, it is defined by the current
> necessary to drive the headset, everything surrounding the detector
> has to conform to its choice. The loss is defined by the ratio of the
> detector resistance to the load resistance plus that diode resistance.
>
> The headset is defined by a power level you identified as one picowatt
> delivered to the ear. I think we can agree that was very generous.
> The loss is defined by the transducer efficiency.
>
> This is the genesis of figure of merit, and that is your solution.
>
> 73's
> Richard Clark, KB7QHC

I think you finally got it Richard.
Thanks, MikeK :-)

4861. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 22:05:16 UTC
From: FCC per Anna Scarpetta <n1jpr@hotmail.com>
Message-ID: <03ac5595-904e-4bec-a8b6-dbddab837e43@r6g2000vbf.googlegroups.com>
Source record: 6511

Tom, Richard, and everybody else, apologies to anyone who may even
remotely take offense.

4862. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 22:53:33 UTC
From: FCC per Anna Scarpetta <n1jpr@hotmail.com>
Message-ID: <ed66c27c-b35d-4e1d-abea-60bbb68bc147@o2g2000vbh.googlegroups.com>
Source record: 6512

> Use a fork to scoop water out of a glass to satisfy your thirst.
> I will work, just not well.
> MikeK

True, but operating crystal radios is much like sailing.

Maybe multiple taps is not that bad an idea.

- I never saw a crystal radio optimized for such a small tuning ration that the LC had a fixed impedance. A 1-to-3 tuning ratio is quite normal, and tank impedance will therefore vary considerably.

- On medium wave the impedance of the electrically very short wire antenna will vary, but not that much. It will stay probably in the order of a kiloohm or more. On shortwave it will swing considerably.

- If the receiver has to resolve different stations or at least clearly separate different SW broadcast bands (to listen to the most powerful broadcaster in each band, more is not doable), it may make sense to reduce the loading below optimum energy transfer at the resonant frequency.

This suggests that a coil with multiple taps could be useful. If the radio has a tapped coil and 3 croc clips (one each for the tuning cap, antenna, and detector) the user has to optimize over 3 dimensions in, and 2 dimensions out - wanted signal level and interference.

Great fun, but not easy.

The human ear is not linear and tends to be a bad level measuring instrument. It helps if the radio also has a microamp-meter to make relative linear comparisons in total signal level. A 50uA meter may have a DC resistance of 2kohm and load about the same as a magnetic headset, but a 500uA may be sensitive enough and load less.

The combination of separate improvements that the ear alone could not judge may in the end be considerable.

A digital voltmeter would be so high impedance as to be practically invisible even at very high impedances too, but it has a battery powered DC amplifier. IMO it is aesthetically incongruent with a RF-powered radio.

4863. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 23:31:26 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <3cf96903-b0d5-4baa-a7ee-61f68389ef71@v23g2000vbi.googlegroups.com>
Source record: 6513

On Nov 15, 1:26 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 15 nov, 02:59, "amdx" <a...@knology.net> wrote:
>
> > Hi Guys,
> > Assuming I have a tank circuit on a crystal radio with a Z at resonance of
> > 1.5 megaohms.
> > How would I make an antenna and extract maximum signal and keep the Z at
> > 750,000 ohms.
> >   If don't think that's what I want to do, tell me that too. :-)
> >   MikeK
>
> Hello Mike,
>
> Assuming you have a long wire outside and a ground provision, you may
> use an inductive coupling. By changing the distance between the
> antenna coil and the receiver coil, you modify the impedance
> transformation.
>
> Other method is capacitive coupling. Probably positioning the end of
> the antenna wire close to the high impedance side of the tank circuit
> will give the desired effect. Changing the distance changes the
> coupling.
>
> For inductive coupling, your receiver circuit can be floating, for
> capacitive coupling, the receiver should be grounded.
>
> By changing the coupling you can optimize for maximum selectivity
> (with reduced sensitivity) or maximum sensitivity (with reduces
> selectivity).
>
> Regarding the antenna, assuming LW and AM reception, long combined
> with high gives strongest signal, hence you can reduce the coupling to
> get best selectivity.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl
> without abc, PM will reach me very likely

I like your very practical advice here, Wim. For Mike, as Wim noted
in another post, you can simulate this in Spice quite easily. While
you're playing with it in Spice, you might also look at two high-Q
tanks, tuned to the same frequency, with a non-zero coupling

coefficient between the inductors. Excite the first with a voltage generator in series with the RLC tank, or a current source across it, and observe the frequency response at the second tank. Vary the coefficient of coupling between the coils and notice how small it is to get critical coupling. If you use LTSpice, you can use a .step statement to run a set of simulations over a range of k values, for example.

The flip side of this is that in LC filters that are very narrow-band that you design assuming no coupling among the resonators, expect to have to work some to insure that there really is no coupling among them in your implementation! Sometimes it gets difficult to shield well enough between adjacent resonators to get the performance you want.

Cheers,
Tom

4864. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 23:31:39 UTC
From: FCC per Anna Scarpetta <n1jpr@hotmail.com>
Message-ID: <b1891439-6faa-4e3a-9c19-a6147ec2038e@j5g2000vbg.googlegroups.com>
Source record: 6514

On Nov 15, 1:59 am, "amdx" <a...@knology.net> wrote:
> Hi Guys,
> Assuming I have a tank circuit on a crystal radio with a Z at resonance of
> 1.5 megaohms.
> How would I make an antenna and extract maximum signal and keep the Z at
> 750,000 ohms.

I did take part in the discussion of matching, but I am afraid you are
off by several orders of magnitude regarding the impedance value.

Say you shoot for resonance at 1 MHz: a 2.5 mH inductor (already
impractically large) and a 10 pf capacitor (already impossibly small)
will resonate close to 1 MHz but have an impedance of 16 kilohm or so,
100 times lower than your assumption.

For 10 MHz, it would be 1 pF and 250uH, again for 16 kohm.

In practical circuits the impedance is typically in the order of
300-2000 ohm.

A typical old-style mediumwave tuning capacitor has a maximum
capacitance of 360 pF to tune about 520 kHz at 850 ohm with a 260 uH
coil.

Assuming you use a much smaller than usual 100pF variable, say 130 pF
including tray capacitance in the coil, at the bottom of the band you
will need 760hH, and get 2.5 kiloohm.

On shortwave, let's say yo want to tune a lowest frequency of 6MHz
with only 60pF all included - again, nobody does that - you need 12uH
inductance but only get 450 ohm impedance.

4865. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 23:42:51 UTC
From: FCC per Anna Scarpetta <n1jpr@hotmail.com>
Message-ID: <8017929b-6151-4b38-ab63-f15ab7ddf000@b25g2000vbz.googlegroups.com>
Source record: 6515

> 1.5 megaohms

Am I somehow wrongheaded or am I missing messages from the thread??? I reread the whole thread and I think I didn't see anyone else addressing the impossible absolute impedance value. And you just don't transform over a 100:1 or more impedance ratio with impunity using passive devices only.

4866. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-17 23:49:21 UTC
From: FCC per Anna Scarpetta <n1jpr@hotmail.com>
Message-ID: <e3fe0093-5312-4e6e-8360-c6b1acc491cd@n30g2000vbb.googlegroups.com>
Source record: 6516

On Nov 17, 11:42 pm, FCC per Anna Scarpetta <n1...@hotmail.com> wrote:
> > 1.5 megaohms
>
> Am I somehow wrongheaded or am I missing messages from the thread??? I
> reread the whole thread and I think I didn't see anyone else
> addressing the impossible absolute impedance value. And you just don't
> transform over a 100:1 or more impedance ratio with impunity using
> passive devices only.

Well, NOW I do see messages on that.
AND I see I am somehow logged in with a totally dufus name, to
boot. :-(

Filippo / spamhog / N1JPR

4867. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-18 00:46:34 UTC
From: amdx <amdx@knology.net>
Message-ID: <32783$4ce4775a$18ec6dd7$2692@KNOLOGY.NET>
Source record: 6517

"FCC per Anna Scarpetta" <n1jpr@hotmail.com> wrote in message
news:b1891439-6faa-4e3a-9c19-a6147ec2038e@j5g2000vbg.googlegroups.com...
On Nov 15, 1:59 am, "amdx" <a...@knology.net> wrote:
> Hi Guys,
> Assuming I have a tank circuit on a crystal radio with a Z at resonance of
> 1.5 megaohms.
> How would I make an antenna and extract maximum signal and keep the Z at
> 750,000 ohms.

I did take part in the discussion of matching, but I am afraid you are
off by several orders of magnitude regarding the impedance value.

Hi FCC,
You have something wrong in your thinking, but tonight I'm not willing go
to far in
the description, Maybe tomorrow. We will use 240uh inductor and about 107pf
cap.
and assume a combined Q for the tank of 1000. and a parallel resonant
circuit.
The formula is 2 x pi x freq x L x Q. So at 1Mhz we have,
2 .x 3.14 x 1.000.000 x .00024 x 1000 = 1,507,200 ohms.
Look here http://www.crystal-radio.eu/engev.htm
There are more involved formulas, but this is close.
MikeK

4868. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-18 16:26:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ecjae61visijnlk7m51qsq1k0l7708peln@4ax.com>
Source record: 6518

On Wed, 17 Nov 2010 14:09:11 -0600, "amdx" <amdx@knology.net> wrote:

>>>At low signal levels the RF input
>>>resistance and audio output resistance of a detector diode are equal to
>>>25,700,000*n/Is Ohms (current in nA).
>>
>> 25 million WHAT?
>>
> Ok One more, with a little help I figured it out.
> It has to to with the Thermal Voltage of the diode.
>Vt=KT/q
>with k=1.38E-23 and q=1.6E-19. T is absolute temperature in degrees Kelvin,
>k is Boltzmann's constant and q is the charge of an electron. VT is close
>to 0.025 volts at 20 degrees Celsius.
>
>With a slightly increased temperature the .025 is raised to .0257,
> and .0257 / 1 nanoamp =25,700,000
> Thanks, MikeK
>

Hi Mike,

So, for the complete expression:
>>>25,700,000*n/Is Ohms (current in nA).
you take the same current and divide it out to yield
0.025*n
where n, as I observe (but fail to see the significance of) is a
multiplier of nearly 1.

Putting this back into the complete expression in the complete
statement:
>>>At low signal levels the RF input
>>>resistance and audio output resistance of a detector diode are equal to
>>>0.025 Ohms (current in nA).
or with temperature change:
>>>0.0257 Ohms (current in nA).

Sounds fairly trivial when we are talking about tenths of milliOhms
per degree facing into source Z of a million times that, and feeding a
load resistance that is at least a thousand times larger.

This temperature dependency, too, is something I worked with 30 odd
years ago. The temperature characteristic has been around as long as
the solid state diode. I used it specifically for measuring
temperature, as does every inexpensive electronic thermometer. My
design used a constant current LED (to indicate a complete circuit)

and a common diode in series, with that diode placed at the point of interest where temperature was a production flow variable. The voltage across that diode, minus an offset for Kelvin, was a linear indication of temperature, usually accurate to within 1 degree C, if not slightly better. The coefficient is roughly 2mV/degree C.

The one oddity I find with the original material you cite is that it specifies Is which is a reverse current, and the temperature dependency is for forward voltage characteristic curve.

Such things make me question the authenticity of these sources.

73's
Richard Clark, KB7QHC

4869. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-18 16:39:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e9lae6hr9p8qugsat35es5ed7nb25agb3b@4ax.com>
Source record: 6519

On Tue, 16 Nov 2010 12:47:02 -0800, Jim <jim@value.net> wrote:

>Here is some more info for you guys to chew on...
>
>http://www.midnightscience.com/download%20files/anatomy.pdf

OK Jim,

I gave it a look.

I have to wonder from the start, and in the context of Xtal sets that
are usually employed for BCB, where the author decided that a typical
antenna exhibited 50 Ohms resistance and 40pF capacitance.

That was the first of a number of similarly random values assigned to
components that has me drawing up cold. From that, I have to wonder
what the value is in the practice of transforming those values.

73's
Richard Clark, KB7QHC

4870. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-18 18:45:57 UTC
From: Jim <jim@value.net>
Message-ID: <ic3s8v$2tt$1@speranza.aioe.org>
Source record: 6520

On 11/18/2010 8:39 AM, Richard Clark wrote:
> On Tue, 16 Nov 2010 12:47:02 -0800, Jim<jim@value.net> wrote:
>
>> Here is some more info for you guys to chew on...
>>
>> http://www.midnightscience.com/download%20files/anatomy.pdf
>
> OK Jim,
>
> I gave it a look.
>
> I have to wonder from the start, and in the context of Xtal sets that
> are usually employed for BCB, where the author decided that a typical
> antenna exhibited 50 Ohms resistance and 40pF capacitance.
>
> That was the first of a number of similarly random values assigned to
> components that has me drawing up cold. From that, I have to wonder
> what the value is in the practice of transforming those values.
>
> 73's
> Richard Clark, KB7QHC

I think that you need to ask the author. I just wanted to add some other opinions.

I would say that he used some ideal values as a place to start with. Kind of a 'what if.'

-Jim

4871. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-18 23:20:53 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <e88b77a4-1a63-4125-83d3-391a54003101@q18g2000vbm.googlegroups.com>
Source record: 6521

On Nov 18, 2:45 pm, Jim <j...@value.net> wrote:
> On 11/18/2010 8:39 AM, Richard Clark wrote:
>
>
>
>
>
> > On Tue, 16 Nov 2010 12:47:02 -0800, Jim<j...@value.net> wrote:
>
> >> Here is some more info for you guys to chew on...
>
> >>http://www.midnightscience.com/download%20files/anatomy.pdf
>
> > OK Jim,
>
> > I gave it a look.
>
> > I have to wonder from the start, and in the context of Xtal sets that
> > are usually employed for BCB, where the author decided that a typical
> > antenna exhibited 50 Ohms resistance and 40pF capacitance.
>
> > That was the first of a number of similarly random values assigned to
> > components that has me drawing up cold. From that, I have to wonder
> > what the value is in the practice of transforming those values.
>
> > 73's
> > Richard Clark, KB7QHC
>
> I think that you need to ask the author. I just wanted to add some other
> opinions.
>
> I would say that he used some ideal values as a place to start with.
> Kind of a 'what if.'
>
>   -Jim- Hide quoted text -
>
> - Show quoted text -

When I was a kid I used to build crystal receivers that had a sliding
tap on the coil titerally wound on a toilet paper tube and adjusting
a variable cap. every station you received had a "best " posotion for
the cap and tap and this also seemed to change from day to day or even
minute to minute. This was my first lesson in the interaction between
impedance and resonance.

Jimmie

4872. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 00:11:06 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <acfbe6livrcun15v5kidnnvssrtv0h26vk@4ax.com>
Source record: 6522

On Thu, 18 Nov 2010 10:45:57 -0800, Jim <jim@value.net> wrote:

>I think that you need to ask the author.

Hi Jim,

There are too many indifferent scribblers to merit reading them, much less entering into a dialog when they already demonstrate a lack of communication skill. I tried that for years with Art.

Having said that, your suggested link did reveal someone who looked at the problem carefully and laid out the steps taken to achieve a result. What was missing was motivation, and a connection to reality (not being smart-assed, just wondering about the extra components decorating the schematic is all).

>I would say that he used some ideal values as a place to start with.
>Kind of a 'what if.'

The "What if" is demonstrated, and it certainly gives scope. However, ideal circuit values are far from apparent. It is just as easy to use values any Xtal set owner might find exhibited by his window screen, as contrasted starting with a full size BCB antenna with an odd reactive component tossed in for spice (excuse the pun, but it works at all levels). In other words, it takes absolutely no more effort to model what one can reasonably expect to find at home, than to go to a broadcast station and borrow their sky hook (and then antagonize the Field Engineer by tossing in a haphazard capacitor).

73's
Richard Clark, KB7QHC

4873. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 13:43:35 UTC
From: joe <none@invalid.domain>
Message-ID: <ic5ufs$4d8$1@speranza.aioe.org>
Source record: 6523

Richard Clark wrote:

> On Thu, 18 Nov 2010 10:45:57 -0800, Jim <jim@value.net> wrote:
>
>>I think that you need to ask the author.
>
> Hi Jim,
>
> There are too many indifferent scribblers to merit reading them, much
> less entering into a dialog when they already demonstrate a lack of
> communication skill. I tried that for years with Art.

How do you know this author would not be interested in your comments? He has presented much more than Art has in the past 10 years.

>
> Having said that, your suggested link did reveal someone who looked at
> the problem carefully and laid out the steps taken to achieve a
> result. What was missing was motivation, and a connection to reality
> (not being smart-assed, just wondering about the extra components
> decorating the schematic is all).

Which components did you determine to be 'extra' and why?

>
>>I would say that he used some ideal values as a place to start with.
>>Kind of a 'what if.'
>
> The "What if" is demonstrated, and it certainly gives scope. However,
> ideal circuit values are far from apparent. It is just as easy to use
> values any Xtal set owner might find exhibited by his window screen,
> as contrasted starting with a full size BCB antenna with an odd
> reactive component tossed in for spice (excuse the pun, but it works
> at all levels).

So, what values would you suggest?

> In other words, it takes absolutely no more effort to
> model what one can reasonably expect to find at home, than to go to a
> broadcast station and borrow their sky hook (and then antagonize the
> Field Engineer by tossing in a haphazard capacitor).
>
> 73's
> Richard Clark, KB7QHC

You talk like the pdf had significant faults, but your reply is so vague that you don't really add anything. Please share you understanding so that

others may learn.

4874. Noise Reduction Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 18:46:32 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ic6gme$h35$1@news.eternal-september.org>
Source record: 6524

Hello,

Not too sharp with noise reduction techniques.

And, too much of a Sr. Citizen now to actually build chokes, etc. myself
anymore, but would like to ask the following, please.

Have a new WinRadio Excalibur receiver, and it appears that I am picking
up a lot of noise from nearby "stuff":
Possibilities, I think, would include:

Comcast Router
PC Modem
And, a whole bunch of wal-warts which I assume are switching types.

Are there inexpensive, simple, ferrite toroids that I can clip on wires
that may help ?
Any that R/S sells that are worth a try ?

For the wal-warts, should they go on the AC input, the dc output, or both ?

Should they also go on USB cables between the PC and receiver module ?
All USB cables ?

How about the Modem to Router lead, and the Router to PC lead ?

Any part of the coax lead in from the receiving (only) antenna ?
(doubt it, but thought I'd ask this one anyway)

Any thoughts would be most appreciated.

Thanks,
Bob

4875. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 19:08:43 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ru6de695kgk90t47voqgbtdrnbpi5es96s@4ax.com>
Source record: 6525

On Fri, 19 Nov 2010 07:43:35 -0600, joe <none@invalid.domain> wrote:

>Which components did you determine to be 'extra' and why?

Hi Joe,

To enumerate:
Ra, 50 Ohms
Ca, 40pF
R1, 308 KOhms
D1, a selection criteria of 200nA Ir
Co, 200pF
and
Ro, 154 KOhms

The question why? you apply to me is as easily asked of the author because he says nothing on their choice, which give every appearance of being capricious.

Let's look at the last first, in the audio output we have a high frequency cutoff knee of 32 KHz, why? I can think of nothing to justify that selection that is 10 times outside of the passband.

We have an audio load of 154 KOhms, why? I can well imagine this being a piezo headset, but is it an optimal load (it would appear that the diode needs a heavier current draw than that). It is not a standard resistor value, so there must be some motivation for this value - but that is left to our imagination.

D1, a selection criteria of 200nA Ir, why? Is this a good selection, or a bad one? Again, lacking the information of motivation....

R1 appears to be inserted on the basis of an anticipated Q, a topic that is wholly absent from the computations and discussion! Why? This is the component I thought of as being "extra."

Ca and Ra have already been decried, and the Ca placement looks suspiciously on the wrong side of Ra.

>So, what values would you suggest?

I cannot imagine trying to figure out the agenda for the author. The piece is wholly unmotivated beyond being an etude of computation.

The values for Ra and XCa are infinite in possibilities. For the average BCBer with limited antenna options, Ra would typically be low, maybe an Ohm at the very highest (and probably much less). XCa would be high, maybe a KOhm (but not suspiciously high like the current 7

KOhms). As you can see, the differences from the original are considerable.

>You talk like the pdf had significant faults, but your reply is so vague
>that you don't really add anything. Please share you understanding so that
>others may learn.

Please reread my comments for praise where praise was due. If the rest sounded vague, it was entirely due to the vague material offered. Consider that also.

Further, asking me why don't I do _____ (fill in the blank), I have no interest in pushing that rock up the hill - but thanx for asking.

I am far more interested in the detector side of this, but the Xtal radio brotherhood approach this like Penitentes continuously flogging themselves in order to attain a religious high.

I would choose a quasi-digital solution with a shift ring register commutation style of detection. But that means I need a battery (ANATHEMA!!! I hear the cowled acolytes sputtering). If I use a battery I could as easily, sinfully listen to a transistor radio - and my MP3 player already suits my needs with its built in radio function.

40 years ago I worked on BaseBand sets and designed with synchronous detectors. This is all very interesting to me from my former devotion, but this XTAL splinter is rather provincial.

73's
Richard Clark, KB7QHC

4876. Re: Noise Reduction Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 19:34:18 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <shjde69m3sh7k3mjgn3i5al7ua34dk1n7o@4ax.com>
Source record: 6526

On Fri, 19 Nov 2010 13:46:32 -0500, Bob <rgsros@notme.invalid> wrote:

>Any thoughts would be most appreciated.

Hi Bob,

I clipped all of your questions because they can all be answered in a word:

Y E S

Now we can move on to "thoughts."

There are two modes for noise entry: radiation and conduction.

Radiation comes from the source "over the air."

Conduction comes from the source "through wire."

The Y E S answer snubs both at the source by putting a lot of Z in line with the generator thus reducing its drive for either mode. However, this is sometimes not enough and that is generally where the focus on conduction can pay off.

Now, when I said noise can come in "through wire," think of all the wire that interconnects your listening station, and:
Does that wire have a path to a noise source?

Break that path.

Unfortunately, the path can be obscure. One such blind spot that trips many up is the power lead, and the 19th century network called house wiring. One thing about this noise network is that it often follows a hub and spoke style of design. If your receiving station shares a breaker with the noise generator, that noise current is being siphoned into your receiver. What drives most folks nuts about trying to solve that is when they add a "ground" to their rig, the noise gets worse! To some degree this is called a ground loop.

Try moving your power plug to another socket in another room (which, presumably, is on a different breaker). A method for diagnosing where your problem is coming from is to use a portable radio as a noise detector (much as you would use a metal detector at the beach). Another method is the throw breakers one at a time and note if some noise abruptly vanishes. You will have then isolated your problem to a noise network branch.

This should keep you from winding chokes for a day or two.

73's
Richard Clark, KB7QHC

4877. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 21:35:42 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <4d9dfe0a-1584-43de-b42c-0f8624f72906@g25g2000yqn.googlegroups.com>
Source record: 6527

Hello Mike,

On 15 nov, 22:54, "amdx" <a...@knology.net> wrote:
> "Richard Clark" <kb7...@comcast.net> wrote in message
>
> news:ck13e6h300qmhmdad22aeu5s2j0i7evl1v@4ax.com...
>
>
>
> > On Mon, 15 Nov 2010 09:17:30 -0600, "amdx" <a...@knology.net> wrote:
>
> >>C shape laminated core
> >>with a
> >>small gap. The gap will be large enough that a small magnet will fit in
> >>it.
> >>The magnet
> >>is connected to a lever and on the other end is a diaphragm.
>
> > This doesn't sound like a Crystal radio project at all. You describe
> > nothing that comes close to even 1KOhm, much less 1MOhm in load. Your
> > descriptions all use appeals to sensitivity, not impedance.
>
> >> Trying to maximum signal for contest situations want a longer antenna.
>
> > This confounds your desire for higher Z. In the extreme (antenna of
> > several wavelengths and necessarily close to ground) will be less than
> > 1KOhm. In the mid-range, could be hi-Z IFF it is a halfwave long. In
> > the conventional lengths, some may pose a moderately hi-Z (maybe
> > KOhms). None will exhibit the Z you anticipate for your Tank.
>
> > As I said, start thinking backwards from the power delivered to your
> > ear. Can you express that as a number? Not much point in the rest of
> > this if you cannot.
>
> > 73's
> > Richard Clark, KB7QHC
>
>   Hi Richard,
> I have probably confused things, I have 4 or 5 threads running at this
> time.
>
> The C core EI core thing is a starting attempt to build a speaker with a
> high impedance
> to eliminate the losses of a matching transformer. The whole excercise is to

> build a crystal
> radio that will eack out the most sensitivity.
>
> 1 picowatt to the earphone is a good number.
>
>   For sensitivity the starting point has got to be the tank circuit, you
> want to build
> an inductor with very high Q and then mate that to a good quality capacitor.
> A Q of 1000 is possible over much of the AM BCB.
>   Can we agree on that?
>
> Now you need to couple in energy from an antenna. If this is adjusted for
> maximum power transfer, we have reduced the Q by 1/2 or Q=500.
> Assuming a 240uh inductor and frequency of 1 Mhz the XL is 1507 ohms,
> multiply that by the antenna loaded tank Q of 500 and we have an Rp =
> 753,500 ohms.
> Does that work for you?
>
> I think I found a good site for the antenna
matching;http://www.crystal-radio.eu/enantunittest1.htm
>
> Now we need to detect and tranfer the signal to a transducer

The transducer will be the difficult part (the antenna is quite simple
compared to this). As you may know, below 150mVRFpk across the
junction, rectified output voltage drops quadratically with RF input
voltage, hence detection efficiency.

So to get maximum voltage across the junction, you need a high
impedance rectifier (that means low "Is"). Disadvantage of this is
you need a transducer with same (very high) impedance (as I assume
you don't want to use electronic LF amplification). I did my
experiments with LF electronic amplification.

If you can't find / make one in the several hundred kOhms range, you
will probably need to use rectifiers with higher Is. If so, you also
need to transform the RF impedance to a lower value to get best RF
power transfer to the rectifier.

Regarding diodes, years ago I did experiments around 7 MHz with tuned
detectors where the diode capacitance is no longer small with respect
to the tuning capacitance.

When using hybrid schottky rectifiers (that are the ones with relative
high reverse blocking voltage), strange hysteresis effects occurred in
the DCout versus RFinput voltage curve. When using real schottky
rectifiers (like BAT15, 14, etc), this effect wasn't present. I didn't
document it (only some notes), so I can't share the full details with
you.

>
> I'll stop here till I get some feedback, I don't know my question anymore? \

> :-)
>   Mike.

Good luck finding/designing the best transducer,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me, very likely.

4878. Re: Noise Reduction Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 21:46:28 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <51ec2d7d-526d-4a4b-9c2a-e1bb0439d176@j5g2000vbg.googlegroups.com>
Source record: 6528

On Nov 19, 10:46 am, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> Not too sharp with noise reduction techniques.
>
> And, too much of a Sr. Citizen now to actually build chokes, etc. myself
> anymore, but would like to ask the following, please.
>
> Have a new WinRadio Excalibur receiver, and it appears that I am picking
> up a lot of noise from nearby "stuff":
> Possibilities, I think, would include:
>
> Comcast Router
> PC Modem
> And, a whole bunch of wal-warts which I assume are switching types.
>
> Are there inexpensive, simple, ferrite toroids that I can clip on wires
> that may help ?
> Any that R/S sells that are worth a try ?
>
> For the wal-warts, should they go on the AC input, the dc output, or both ?
>
> Should they also go on USB cables between the PC and receiver module ?
> All USB cables ?
>
> How about the Modem to Router lead, and the Router to PC lead ?
>
> Any part of the coax lead in from the receiving (only) antenna ?
> (doubt it, but thought I'd ask this one anyway)
>
> Any thoughts would be most appreciated.
>
> Thanks,
> Bob

Hi, Bob.
I had to Goggle the receiver to see what it was all about. So, now
some questions about the noise.

You have already determined the noise is continuous and repetitive by
thinking it may be from adjacent computer equipment. Does the noise go
away when you set the radio to FM? If it does, then the noise is
coming in from the antenna. If not, the noise is being picked up by
the radio chassis. Did you bond it metal radio box to the computer
metal chassis or housing? I hope you are not using a plastic cased lap

top computer.

I see the radio uses a USB connection to the computer. Do you have any other USB devices connected to the computer? If so, disconnect them all with the computer off, then turn the computer on and the radio on. Still same noise. If no, plug in other USB devices one at a time and listen for noise. If one of them is the source, you may need to get a separate powered USB expander and plug all the offending devices into it.

IF not USB related, you will need to go trough the steps of determining which accessory is causing the noise.

Are you using a standard CRT for a monitor, or a LCD monitor? The LCD will generate noise from the scanning electronics in the display panel and unless the back light is LEDs, the AC operated electroluminicent panels are quite noisy. Physically move the radio as far as you can from the monitor.

You asked for thoughts and I have one other. Except for the noise, how do you like the radio?

Paul, KD7HB

4879. Re: Noise Reduction Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-19 23:44:29 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ic7255$pr6$1@news.eternal-september.org>
Source record: 6529

Hi all,

Thanks so much guys for the really good tutorials.
Appreciate your time in doing so.

I like the Winradio Excalibur a lot.
But, there sure is a lot to learn.

With the price of "quality" big box receivers these days, there is
little doubt that SDR receivers is the wave of the future.

I really like my JRC NRD 545 a lot, but there are some really nice
things in using the Excalibur that the 545 doesn't offer.
e.g., seeing the complete (to 30 MHz) spectum in one view is really nice.

Regards, and thanks again.

Will try playing around with some of your suggestions.
Bob

On 11/19/2010 4:46 PM, KD7HB wrote:
> On Nov 19, 10:46 am, Bob<rgs...@notme.invalid> wrote:
>> Hello,
>>
>> Not too sharp with noise reduction techniques.
>>
>> And, too much of a Sr. Citizen now to actually build chokes, etc. myself
>> anymore, but would like to ask the following, please.
>>
>> Have a new WinRadio Excalibur receiver, and it appears that I am picking
>> up a lot of noise from nearby "stuff":
>> Possibilities, I think, would include:
>>
>> Comcast Router
>> PC Modem
>> And, a whole bunch of wal-warts which I assume are switching types.
>>
>> Are there inexpensive, simple, ferrite toroids that I can clip on wires
>> that may help ?
>> Any that R/S sells that are worth a try ?
>>
>> For the wal-warts, should they go on the AC input, the dc output, or both ?
>>
>> Should they also go on USB cables between the PC and receiver module ?
>> All USB cables ?

>>
>> How about the Modem to Router lead, and the Router to PC lead ?
>>
>> Any part of the coax lead in from the receiving (only) antenna ?
>> (doubt it, but thought I'd ask this one anyway)
>>
>> Any thoughts would be most appreciated.
>>
>> Thanks,
>> Bob
>
> Hi, Bob.
> I had to Goggle the receiver to see what it was all about. So, now
> some questions about the noise.
>
> You have already determined the noise is continuous and repetitive by
> thinking it may be from adjacent computer equipment. Does the noise go
> away when you set the radio to FM? If it does, then the noise is
> coming in from the antenna. If not, the noise is being picked up by
> the radio chassis. Did you bond it metal radio box to the computer
> metal chassis or housing? I hope you are not using a plastic cased lap
> top computer.
>
> I see the radio uses a USB connection to the computer. Do you have any
> other USB devices connected to the computer? If so, disconnect them
> all with the computer off, then turn the computer on and the radio on.
> Still same noise. If no, plug in other USB devices one at a time and
> listen for noise. If one of them is the source, you may need to get a
> separate powered USB expander and plug all the offending devices into
> it.
>
> IF not USB related, you will need to go trough the steps of
> determining which accessory is causing the noise.
>
> Are you using a standard CRT for a monitor, or a LCD monitor? The LCD
> will generate noise from the scanning electronics in the display panel
> and unless the back light is LEDs, the AC operated electroluminicent
> panels are quite noisy. Physically move the radio as far as you can
> from the monitor.
>
> You asked for thoughts and I have one other. Except for the noise, how
> do you like the radio?
>
> Paul, KD7HB

4880. Re: Noise Reduction Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 00:15:55 UTC
From: tom <news4792@taring.org>
Message-ID: <4ce71337$0$87580$8046368a@newsreader.iphouse.net>
Source record: 6530

On 11/19/2010 1:34 PM, Richard Clark wrote:
> On Fri, 19 Nov 2010 13:46:32 -0500, Bob<rgsros@notme.invalid> wrote:
>
>> Any thoughts would be most appreciated.
>
> Hi Bob,
>
> I clipped all of your questions because they can all be answered in a
> word:
>
> Y E S
>
> Now we can move on to "thoughts."
>
> There are two modes for noise entry: radiation and conduction.
>
> Radiation comes from the source "over the air."
>
> Conduction comes from the source "through wire."
>
> The Y E S answer snubs both at the source by putting a lot of Z in
> line with the generator thus reducing its drive for either mode.
> However, this is sometimes not enough and that is generally where the
> focus on conduction can pay off.
>
> Now, when I said noise can come in "through wire," think of all the
> wire that interconnects your listening station, and:
> Does that wire have a path to a noise source?
>
> Break that path.
>
> Unfortunately, the path can be obscure. One such blind spot that
> trips many up is the power lead, and the 19th century network called
> house wiring. One thing about this noise network is that it often
> follows a hub and spoke style of design. If your receiving station
> shares a breaker with the noise generator, that noise current is being
> siphoned into your receiver. What drives most folks nuts about trying
> to solve that is when they add a "ground" to their rig, the noise gets
> worse! To some degree this is called a ground loop.
>
> Try moving your power plug to another socket in another room (which,
> presumably, is on a different breaker). A method for diagnosing where
> your problem is coming from is to use a portable radio as a noise
> detector (much as you would use a metal detector at the beach).

> Another method is the throw breakers one at a time and note if some
> noise abruptly vanishes. You will have then isolated your problem to
> a noise network branch.
>
> This should keep you from winding chokes for a day or two.
>
> 73's
> Richard Clark, KB7QHC

Nice and succinct Richard. Thanks from me even though I don't have such
a problem right now, because even though I know everything you said,
it's good to have it stated clearly by someone else.

I will be saving this in my archives.

tom
K0TAR

4881. Re: For Sale Motorola TDD6034A VHF Vertical Collinear Antenna 23ft.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 00:28:08 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <295a4265-a9fc-47ef-b866-1486c841a48c@z19g2000yqb.googlegroups.com>
Source record: 6531

On Nov 14, 9:04 pm, "Sal M. Onella" <sob...@cox.net> wrote:

> a newsgroup that isn't for buying and selling.

Who sez?

And look at all the porn spam posted here - - you worry about an
antenna?

4882. Re: Noise Reduction Questions

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 00:49:17 UTC
From: Bruce Gordon <fast@btpost.net>
Message-ID: <fast-015271.15491519112010@news.starband.net>
Source record: 6532

In article <ic7255$pr6$1@news.eternal-september.org>,
Bob <rgsros@notme.invalid> wrote:

> Hi all,
>
> Thanks so much guys for the really good tutorials.
> Appreciate your time in doing so.
>
> I like the Winradio Excalibur a lot.
> But, there sure is a lot to learn.
>
> With the price of "quality" big box receivers these days, there is
> little doubt that SDR receivers is the wave of the future.
>
> I really like my JRC NRD 545 a lot, but there are some really nice
> things in using the Excalibur that the 545 doesn't offer.
> e.g., seeing the complete (to 30 MHz) spectum in one view is really nice.
>
> Regards, and thanks again.
>
> Will try playing around with some of your suggestions.
> Bob
> -------------------------

One thing that nobody has stated here, YET, is...

Eith a totally software controlled receiver, you have the opportunity to remove the receiver from the vicinity of the Noisy Electronics, by removing it, and it's antenna, from the shack, and putting it in a quiet location, somewhere else, and bringing the USB back to the computer in the shack via USB Extenders, or a USB Server that puts USB Stuff on an IP Network. We use this technique, all the time, up here in Alaska for our LF/MF/HF Commercial Radio systems, due to local Network, Computer, Office Equipment, and Lighting Noise, generated in the Office spaces used by companies that need to have the above Radio Communications options. I like to use a single 10BaseT (10 Mbs) IP Link to the Remote Site, that feeds a local USB/IP Server with USB/Serial Adapters, for Serial control of the Radio Systems. We bring the audio, back via an Analog Audio/USB Converter that also connects to the USB Server. All this stuff, is OTS (off the shelf) hardware and not all that expensive. One location uses 802.11N Wireless links, for the IP connection, that is 5 miles out in the bush. Very quiet indeed. All the USB is done with shielded USB Cabling, as is the Serial RS232/RS422/RS485 connections, and the USB Server and other hardware sit inside a nice shielded box, with Power, USB, and Ethernet, run thru isolators at the box.

Just saying.....

Bruce in Alaska AL7AQ

--
Bruce in Alaska add path before the @ for email

4883. Re: For Sale Motorola TDD6034A VHF Vertical Collinear Antenna 23ft.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 02:13:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4ce72ece$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6533

On 11/19/2010 6:28 PM, Bill wrote:
> On Nov 14, 9:04 pm, "Sal M. Onella"<sob...@cox.net> wrote:
>
>> a newsgroup that isn't for buying and selling.
>
> Who sez?
>
> And look at all the porn spam posted here - - you worry about an
> antenna?

Yes, we do.

tom
K0TAR

4884. Re: For Sale Motorola TDD6034A VHF Vertical Collinear Antenna 23ft.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 02:19:34 UTC
From: tom <news4792@taring.org>
Message-ID: <4ce73034$0$6701$8046368a@newsreader.iphouse.net>
Source record: 6534

On 11/19/2010 6:28 PM, Bill wrote:
> On Nov 14, 9:04 pm, "Sal M. Onella"<sob...@cox.net> wrote:
>
>> a newsgroup that isn't for buying and selling.
>
> Who sez?
>
> And look at all the porn spam posted here - - you worry about an
> antenna?

Should have mentioned, since so few seem to know it anymore, that hams
are supposed to have principles and respect the rules of the community.

My guess is you do not have a license. Good for us.

tom
K0TAR

4885. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 02:56:18 UTC
From: Bob <rmiller47@satx.rr.com>
Message-ID: <j1eee6dapu4gbbp52v4ib9q4ufrdq17ok4@4ax.com>
Source record: 6535

On Sat, 6 Nov 2010 03:39:36 -0700 (PDT), spamhog <n1jpr@hotmail.com>
wrote:

>I want to make a random-length inverted-V for general listening and
>perhaps, maybe, occasional HF work, no pretense to have perfect match
>or minimum losses. I see much discussion about feeding a random dipole
>with 450 or 600 ohm ladder line.
>
>I can lay a low loss 75 ohm line but absolutely not a ladder line, so
>I'd have to put a balun at the apex
>
>I'd cut a dipole of about 15 + 15 m (50+50 ft), 120 deg. inverted V,
>apex at 15 m.
>
>I could do 1:4 -> 300 ohm or 1:9 -> 625 ohm.
>
>What would be the least-bad?
>
>Thanks in advance!

It sounds like a simple G5RV would do what you want. You won't need
an antenna tuner for general listening -- you will need one for the
occasional hf work.

bob
k5qwg

4886. Re: For Sale Motorola TDD6034A VHF Vertical Collinear Antenna 23ft.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 13:50:18 UTC
From: TimBob <tmize57@juno.com>
Message-ID: <99d4e41b-ebff-46e8-83be-e4cffe0517e1@j9g2000vbr.googlegroups.com>
Source record: 6536

On Nov 19, 8:19 pm, tom <news4...@taring.org> wrote:
> On 11/19/2010 6:28 PM, Bill wrote:
>
> > On Nov 14, 9:04 pm, "Sal M. Onella"<sob...@cox.net> wrote:
>
> >> a newsgroup that isn't for buying and selling.
>
> > Who sez?
>
> > And look at all the porn spam posted here - - you worry about an
> > antenna?
>
> Should have mentioned, since so few seem to know it anymore, that hams
> are supposed to have principles and respect the rules of the community.
>
> My guess is you do not have a license. Good for us.
>
> tom
> K0TAR

My apologies, I have not posted here in a long time, forgot the
rules. Thanks for bringing it to my attention in a subtle and
graceful manner.
Good Day
Tim Mize N7XAU

4887. Re: Which is better: 5/8 wave vertical or J pole?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-20 15:50:43 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <d0e90aee-3437-4c25-9406-5f57e424e305@j9g2000vbr.googlegroups.com>
Source record: 6537

On Nov 14, 9:32 am, Cecil Moore <w5...@hotmail.com> wrote:
> On Nov 13, 9:35 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > This
> > equivalence "replacement" is forced further into unresolved exactness
> > if we move the same coil up into the radiator (without changing the
> > radiator's length).
>
> From a conceptual standpoint, there is no "unresolved exactness".
> Considering a base-loaded antenna vs a center-loaded antenna:
>
> I am writing an article that conceptually explains it all.

The first part of the article has been published:

http://www.eham.net/articles/24940
--
73, Cecil, w5dxp.com

4888. Re: For Sale Motorola TDD6034A VHF Vertical Collinear Antenna 23ft.

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-21 00:22:30 UTC
From: tom <news4792@taring.org>
Message-ID: <4ce86641$0$87592$8046368a@newsreader.iphouse.net>
Source record: 6538

On 11/20/2010 7:50 AM, TimBob wrote:
> On Nov 19, 8:19 pm, tom<news4...@taring.org> wrote:
>> On 11/19/2010 6:28 PM, Bill wrote:
>>
>>> On Nov 14, 9:04 pm, "Sal M. Onella"<sob...@cox.net> wrote:
>>
>>>> a newsgroup that isn't for buying and selling.
>>
>>> Who sez?
>>
>>> And look at all the porn spam posted here - - you worry about an
>>> antenna?
>>
>> Should have mentioned, since so few seem to know it anymore, that hams
>> are supposed to have principles and respect the rules of the community.
>>
>> My guess is you do not have a license. Good for us.
>>
>> tom
>> K0TAR
>
> My apologies, I have not posted here in a long time, forgot the
> rules. Thanks for bringing it to my attention in a subtle and
> graceful manner.
> Good Day
> Tim Mize N7XAU

Sounds good. And the no license comment wasn't directed at you.

73
tom

4889. feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-21 04:06:37 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <uqSdnXC7RrpbB3XRnZ2dnUVZ_u6dnZ2d@bright.net>
Source record: 6539

Spamhog (N1JPR ?)

It might be that you are asking for the surge impedance (Z0) of a transmission line that will minimize the SWR (wrt to the impedance of that TL) when the TL is connected to your antenna (over a frequency range). EZNEC offers a straight forward way of answering the question.

Model the antenna and request EZNEC to calculate SWR over the desired frequency span. Set the alternate Z0 to something like 200 ohms. Plot the SWR on a Smith chart with the alternate Z0 as the center. Adjust the alternate Z0 (you do not need to calculate again) until the Smith chart display is approximately centered and the alternate Z0 will be the desired Z0 of the transmission line.

It is doubtful that a TL with the desired Z0 exists.

It will be apparent to you that SWR will be high over the wide frequency range that you mentioned. As a receiving antenna for use from 3 to 30 MHz, this fact is of very little importance. It would be hard to have a receiver that has such a poor noise-figure as to be adversely affected.

73, Mac N8TT

P.S. The above technique is not applicable for relatively narrow frequency spans. Its normal utility is with LPDAs.

J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
----- Original Message -----
From: "spamhog" <n1jpr@hotmail.com>
Newsgroups: rec.radio.amateur.antenna
Sent: Tuesday, November 09, 2010 4:48 AM
Subject: Re: feeding random inverted V for RX

> K1TTT
>> just wind a coil choke
>
> Richard
>> What do you REALLY want?
>
> There is a difference between a 12:1 and a 3:1 mismatch, especially in
> a long coax run. What I want is a rough mid-of-the-range estimate of
> where impedance in a 50'+50' squat inverted-V dipole across say
> 3-20MHz.
>
> There is a gazillion description of such antennas fed via 450 ohm
> ladder lines, and a few with 600 ohm lines:

> - ready made 450 ohm plastic clad line is commercially available
> - 600 ohm line can be made with commercially available spacers for
> standard wire gauges.
>
> Neither suggests that the corresponding impedance is a good midpoint.
> The advantage of ladder lines is extremely low loss, allowing for
> massive mismatches without much loss due to the exponentially-
> decreasing but still substantial backwave.
>
> Being forced to use a coax, I am looking for a ballpark match not
> inspired by the current commercial availability of things I am not
> going to include in the design.
>
> The random dipole and the T2FD and related antennas (like the
> ubiquitous 3-wire damped dipole sold by many companies for
> professional use) are operationally somewhat similar. All are
> compromise antennas usable in a large spectrum, all are rather funny
> in terms of losses, radiation efficiency, and radiation pattern.
>
> The damping resistor is there exclusively to smooth the response over
> the spectrum, at a cost. One could even argue that a balun+coax fed
> tuned random dipole and an untuned T2FD of roughly similar size
> exhibit similar losses, ^cept one heats the coax more (once the ATU is
> peaked), and the other heats the resistor more, which should be handy
> in determining deicing strategies. ;-)
>
> There is plenty of literature, including some baseline simulations,
> for the T2FD etc.. I haven't found the same for inverted-V random
> dipoles. Any pointers? Have I been googling for the wrong things?
>
>
>

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net

4890. Grounding A BNC Coax Cable End ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-21 15:19:44 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <icbdah$bd0$1@news.eternal-september.org>
Source record: 6540

Hello,

I have a bnc coax cable from a receiving (only) antenna that ends up at
a plastic cased switch box. The box has no convenient grounding point.

I would like to ground the bnc of the coax end.

I can rig "something" up of course, but was wondering if anyone might
know of a bnc connector which perhaps has a wire lead coming out of it
for this kind of purpose, or a screw terminal, or something for
grounding the bnc shell (and hence the coax shield) ?

Looked, but couldn't find anything appropriate.

Thanks,
Bob

4891. Re: Grounding A BNC Coax Cable End ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-21 19:03:09 UTC
From: Fred McKenzie <fmmck@aol.com>
Message-ID: <fmmck-A4D1BB.14030921112010@5ad64b5e.bb.sky.com>
Source record: 6541

In article <icbdah$bd0$1@news.eternal-september.org>,
Bob <rgsros@notme.invalid> wrote:

> I have a bnc coax cable from a receiving (only) antenna that ends up at
> a plastic cased switch box. The box has no convenient grounding point.
>
> I would like to ground the bnc of the coax end.

Bob-

The BNC crimp connector I'm familiar with has a cylindrical ferrule that first slips over the Co-Ax. The connector body is then pushed onto the cable with a smaller cylinder sliding under the Co-Ax shield. Then the Ferrule is slid back over the shield end and inner cylinder, and finally crimped.

I don't think it would be practical to insert a wire to be captured in the crimping process. Although it might be possible to solder a wire to the ferrule after it had been crimped, the Co-Ax dielectric would probably be deformed by the heat.

Does the BNC connector have a mate in the box? If so, the mate might be a better place to attach a ground wire, especially if you want to disconnect the BNC at some point. If not, you could install a female connector on a grounding plate, that has no connection to the Co-Ax center conductor.

Fred
K4DII

4892. Re: Grounding A BNC Coax Cable End ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-21 19:07:38 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <48rie6l9k4mbn9oi17c6k2dkaqq39kg7om@4ax.com>
Source record: 6542

On Sun, 21 Nov 2010 10:19:44 -0500, Bob <rgsros@notme.invalid> wrote:

>Hello,
>
>I have a bnc coax cable from a receiving (only) antenna that ends up at
>a plastic cased switch box. The box has no convenient grounding point.
>
>I would like to ground the bnc of the coax end.
>
>I can rig "something" up of course, but was wondering if anyone might
>know of a bnc connector which perhaps has a wire lead coming out of it
>for this kind of purpose, or a screw terminal, or something for
>grounding the bnc shell (and hence the coax shield) ?
>
>Looked, but couldn't find anything appropriate.
>
>Thanks,
>Bob

Hi Bob,

The female BNC bulkhead connector often comes with a star/flat washer
style of solder tab.

73's
Richard Clark, KB7QHC

4893. Re: Grounding A BNC Coax Cable End ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-21 22:08:52 UTC
From: amdx <amdx@knology.net>
Message-ID: <55048$4ce99860$45013905$6928@KNOLOGY.NET>
Source record: 6543

"Bob" <rgsros@notme.invalid> wrote in message
news:icbdah$bd0$1@news.eternal-september.org...
> Hello,
>
> I have a bnc coax cable from a receiving (only) antenna that ends up at a
> plastic cased switch box. The box has no convenient grounding point.
>
> I would like to ground the bnc of the coax end.
>
> I can rig "something" up of course, but was wondering if anyone might know
> of a bnc connector which perhaps has a wire lead coming out of it for this
> kind of purpose, or a screw terminal, or something for grounding the bnc
> shell (and hence the coax shield) ?
>
> Looked, but couldn't find anything appropriate.
>
> Thanks,
> Bob
There's also this style which is overkill for you application.
As Richard said the star/solder tab will work
http://www.l-com.com/item.aspx?id=5484
Not the best picture but, on the expanded view you can see
a ground tab with hole and the center pin.
MikeK

4894. Re: Grounding A BNC Coax Cable End ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 08:11:47 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <mmtSWPFDXi6MFwdB@g3ohx.demon.co.uk>
Source record: 6544

In message <fmmck-A4D1BB.14030921112010@5ad64b5e.bb.sky.com>, Fred
McKenzie <fmmck@aol.com> writes
>In article <icbdah$bd0$1@news.eternal-september.org>,
> Bob <rgsros@notme.invalid> wrote:
>
>> I have a bnc coax cable from a receiving (only) antenna that ends up at
>> a plastic cased switch box. The box has no convenient grounding point.
>>
>> I would like to ground the bnc of the coax end.
>
>Bob-
>
>The BNC crimp connector I'm familiar with has a cylindrical ferrule that
>first slips over the Co-Ax. The connector body is then pushed onto the
>cable with a smaller cylinder sliding under the Co-Ax shield. Then the
>Ferrule is slid back over the shield end and inner cylinder, and finally
>crimped.
>
>I don't think it would be practical to insert a wire to be captured in
>the crimping process. Although it might be possible to solder a wire to
>the ferrule after it had been crimped, the Co-Ax dielectric would
>probably be deformed by the heat.
>
>Does the BNC connector have a mate in the box? If so, the mate might be
>a better place to attach a ground wire, especially if you want to
>disconnect the BNC at some point. If not, you could install a female
>connector on a grounding plate, that has no connection to the Co-Ax
>center conductor.
>
Ground wire with large alligator clip gripping BNC connector?
--
Ian

4895. Re: Grounding A BNC Coax Cable End ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 11:03:35 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <14f56581-0700-4b0d-9ea6-79db330b0f33@fj16g2000vbb.googlegroups.com>
Source record: 6545

On Nov 21, 2:03 pm, Fred McKenzie <fm...@aol.com> wrote:
> In article <icbdah$bd...@news.eternal-september.org>,
>
> Bob <rgs...@notme.invalid> wrote:
> > I have a bnc coax cable from a receiving (only) antenna that ends up at
> > a plastic cased switch box. The box has no convenient grounding point.
>
> > I would like to ground the bnc of the coax end.
>
> Bob-
>
> The BNC crimp connector I'm familiar with has a cylindrical ferrule that
> first slips over the Co-Ax. The connector body is then pushed onto the
> cable with a smaller cylinder sliding under the Co-Ax shield. Then the
> Ferrule is slid back over the shield end and inner cylinder, and finally
> crimped.
>
> I don't think it would be practical to insert a wire to be captured in
> the crimping process. Although it might be possible to solder a wire to
> the ferrule after it had been crimped, the Co-Ax dielectric would
> probably be deformed by the heat.
>

>
> Fred
> K4DII
PTFE cable should have no problen withstanding solder temps.

Jimmie

4896. Re: Grounding A BNC Coax Cable End ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 19:10:31 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <icef78$vd1$1@news.eternal-september.org>
Source record: 6546

hi all,

Thanks for suggestions and help.
Great Group.
Have learned a lot thanks to you all.

Much appreciated.

Happy Thanksgiving,
Bob

On 11/21/2010 10:19 AM, Bob wrote:
> Hello,
>
> I have a bnc coax cable from a receiving (only) antenna that ends up at
> a plastic cased switch box. The box has no convenient grounding point.
>
> I would like to ground the bnc of the coax end.
>
> I can rig "something" up of course, but was wondering if anyone might
> know of a bnc connector which perhaps has a wire lead coming out of it
> for this kind of purpose, or a screw terminal, or something for
> grounding the bnc shell (and hence the coax shield) ?
>
> Looked, but couldn't find anything appropriate.
>
> Thanks,
> Bob

4897. Common Mode Choke ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 19:22:33 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <iceftr$8s4$1@news.eternal-september.org>
Source record: 6547

Hi,

Like I mentioned in a previous post, I have a WinRadio Excalibur SDR
being fed by a PAR EF-SWL antenna.

Would like to improve the S/N ratio a bit.

After the PAR Balun, I have the typical coax run to the house.

I will get some of those snap on ferrites, as suggested, and try them out.

I have tried unplugging just about all of my wall warts in the vicinity,
the LinkSys Router and the Comcast Modem.
Surprisingly, at least to me, no discernable changes.

I see WinRadio offers, for $50 (ugh), a Common Mode Choke to go on the
coax at its end, right where it joins the Excalibur module.
(see specs, below)

Think it's worth a try ? Why ?
Thoughts on ?

Thanks, and a Happy Thanksgiving to all of you folks,
Bob

"This device provides a means of reducing or eliminating common-mode
noise from an antenna feedline, resulting in a considerable increase of
the received signal quality. Common-mode noise is generated by
computers, lamp dimmers and other electric or electronic appliances.
Such noise can be a problem especially in the lower portions of HF
spectrum, where weak signals can be sometimes completely masked by
assorted buzzes and other unwanted noises.

The Common-Mode Choke can be also very useful to provide an alternative
earthing point for an active antenna, if the antenna itself cannot be
grounded due to its location, or its ground connection is inadequate.

The WiNRADiO WR-CMC-30 common-mode choke is inserted in the antenna
coaxial feedline close to the receiver, in order to "choke" off
common-mode noise currents and passing them to ground without affecting
the useful signals between the antenna and the receiver.

The common-mode choke will let through DC current, which is useful in
situations where an active antenna (for example the WiNRADiO AX-81S)"

4898. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 20:28:52 UTC
From: Bajamatic <Bajamatic.730ae78@radiobanter.com>
Message-ID: <Bajamatic.730ae78@radiobanter.com>
Source record: 6550

I'll be sure to report back my findings.

Since posting this I've started to wonder if I really need a radio of the 7030 caliber. Thoughts on that? Am i going to find a substantial difference between something like the Grundig sat.750 and the AOR7030? Or even the little g5 portable? Seems like between this I might start to focus more on speaker quality as the reports are that they are all great radios? I'd love to hear what you all think about that idea.

--
Bajamatic

4899. Re: Common Mode Choke ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 20:47:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rpkle65at03790vi776hr4hf4sbb6b5oar@4ax.com>
Source record: 6548

On Mon, 22 Nov 2010 14:22:33 -0500, Bob <rgsros@notme.invalid> wrote:

>Hi,
>
>Like I mentioned in a previous post, I have a WinRadio Excalibur SDR
>being fed by a PAR EF-SWL antenna.
>
>Would like to improve the S/N ratio a bit.

Noise is the ear of the be-hearer. Characterize your problem with
noise levels observed at what time of day and in which band. If the
noise is bothersome, it is worth starting a log just so that you don't
go chasing your tail when it is merely seasonal.

>After the PAR Balun, I have the typical coax run to the house.
>
>I will get some of those snap on ferrites, as suggested, and try them out.
>
>I have tried unplugging just about all of my wall warts in the vicinity,
>the LinkSys Router and the Comcast Modem.
>Surprisingly, at least to me, no discernable changes.

Have you changed the source of power to your
WinRadio/Computer/what-ever? Use an extension cord to a power strip
that provides power to EVERY gizmo plugged into the computer
supporting your WinRadio. Plug the extension into every branch from
your breaker box.

Take note of the emphasis on EVERY! Any exception turns this exercise
into an useless endeavor. In the past when our Internet connection
went to a modem, the Telephone ground brought grief. Connections like
that can slip beneath the radar. EVERY means your antenna line too -
which is to mean it might pass through a grounded connection along the
way, and that is enough to scotch this deal.

>I see WinRadio offers, for $50 (ugh), a Common Mode Choke to go on the
>coax at its end, right where it joins the Excalibur module.
>(see specs, below)

You can find the same thing for less. You can build it even cheaper.
>Think it's worth a try ? Why ?

What's your time worth?

>Thoughts on ?

Sink a ground rod at the far end of your transmission line where it connects to the antenna. Connect the coax shield to that rod. Remember to connect that rod to your service ground through a SEPARATE wire. Using the coax shield to bring the far ground back to the shack invites disaster.

73's
Richard Clark, KB7QHC

4900. Re: Common Mode Choke ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 22:40:29 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <icergudpe1@news.jpl.nasa.gov>
Source record: 6549

Bob wrote:
> Hi,
>
> Like I mentioned in a previous post, I have a WinRadio Excalibur SDR
> being fed by a PAR EF-SWL antenna.
>
> Would like to improve the S/N ratio a bit.
>
> After the PAR Balun, I have the typical coax run to the house.
>
> I will get some of those snap on ferrites, as suggested, and try them out.
>
> I have tried unplugging just about all of my wall warts in the vicinity,
> the LinkSys Router and the Comcast Modem.
> Surprisingly, at least to me, no discernable changes.
>
> I see WinRadio offers, for $50 (ugh), a Common Mode Choke to go on the
> coax at its end, right where it joins the Excalibur module.
> (see specs, below)
>
> Think it's worth a try ? Why ?
> Thoughts on ?
>

See this: http://www.audiosystemsgroup.com/RFI-Ham.pdf for lots of
explanation about chokes, filtering, which mixes to use, where some
sources of interference come from, etc.

4901. From OP: Re: Common Mode Choke ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-22 23:30:04 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <iceudv$79q$1@news.eternal-september.org>
Source record: 6451

Hi Guys,

Just wanted to say thanks for the info., and taking the time to help me out.

Have read a fair amount of the theory, understood some of it, but am the
conviction that proper grounding, noise, etc. are truly one of those
subjects that combine theory and "art" together.
Sure is a lot to learn.

Regards,
Bob

On 11/22/2010 2:22 PM, Bob wrote:
> Hi,
>
> Like I mentioned in a previous post, I have a WinRadio Excalibur SDR
> being fed by a PAR EF-SWL antenna.
>
> Would like to improve the S/N ratio a bit.
>
> After the PAR Balun, I have the typical coax run to the house.
>
> I will get some of those snap on ferrites, as suggested, and try them out.
>
> I have tried unplugging just about all of my wall warts in the vicinity,
> the LinkSys Router and the Comcast Modem.
> Surprisingly, at least to me, no discernable changes.
>
> I see WinRadio offers, for $50 (ugh), a Common Mode Choke to go on the
> coax at its end, right where it joins the Excalibur module.
> (see specs, below)
>
> Think it's worth a try ? Why ?
> Thoughts on ?
>
> Thanks, and a Happy Thanksgiving to all of you folks,
> Bob
> ---
> "This device provides a means of reducing or eliminating common-mode
> noise from an antenna feedline, resulting in a considerable increase of
> the received signal quality. Common-mode noise is generated by
> computers, lamp dimmers and other electric or electronic appliances.
> Such noise can be a problem especially in the lower portions of HF
> spectrum, where weak signals can be sometimes completely masked by

> assorted buzzes and other unwanted noises.
>
> The Common-Mode Choke can be also very useful to provide an alternative
> earthing point for an active antenna, if the antenna itself cannot be
> grounded due to its location, or its ground connection is inadequate.
>
> The WiNRADiO WR-CMC-30 common-mode choke is inserted in the antenna
> coaxial feedline close to the receiver, in order to "choke" off
> common-mode noise currents and passing them to ground without affecting
> the useful signals between the antenna and the receiver.
>
> The common-mode choke will let through DC current, which is useful in
> situations where an active antenna (for example the WiNRADiO AX-81S)"

4902. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 02:27:47 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ps6me6lphn4mn3dnu9rqpnjpbhhph5in45@4ax.com>
Source record: 6452

On Mon, 22 Nov 2010 20:28:52 +0000, Bajamatic
<Bajamatic.730ae78@radiobanter.com> wrote:

>as the reports are that they are all
>great radios? I'd love to hear what you all think about that idea.

For hearing about how products perform, I put them into Amazon, and look at the customer reviews, and pay attention to the ones yelling MURDER!

For some products, those folks are lost at sea and asking for table napkins - or they are dead-on. Very easy to differentiate. When I looked at those complaining of Grundig quality, they sounded knowledgeable for some things, and hyper-sensitive about other things.

Amazon doesn't sell my Radio Shack 20-125, but it, too, finds web sites that offer a spread of reviews where, again, I look at the ones yelling MURDER! When I encounter one complaining that there was no tuning knob, I have to wonder. This sucker cost me $40, and I could easily see that feature missing before I pushed the credit card across the display case. Others complain of lack of sensitivity (I saw no evidence of them using anything but the whip). I've already heard more African stations in a day on my RS20-125 than they will in a lifetime on theirs - unless they go to Africa like I did. Another complains of bandwidth - c'mon, it is a consumer radio, not a communications receiver.

And then there is the class of disgruntled customer who grumbles about the poor fit of controls made by Chinese sources. They can find these problems with any product.

Being the type to expand upon this kind of grief, I would suspect from the from all comments considered that Grundig put a RS 20-125 inside their magnificent case which, perhaps, suffered some fit and feel problems (being Chinese made, after all - give me a break! Do they think they are Swiss Watches?). With a price ratio of 7:1, is that magnificent case something you need?

At the end of the day, you really need to visit the show room floor, look at the various models to appreciate how they are going to fit into your lifestyle - and then take them for a test drive. That is, put them on a known antenna, at the usual listening time, and listen.

73's
Richard Clark, KB7QHC

4903. Re: From OP: Re: Common Mode Choke ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 04:36:25 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <cea80ca4-3ac1-4944-8b1c-f95a6e55a31f@v12g2000vbh.googlegroups.com>
Source record: 6453

On Nov 22, 3:30 pm, Bob <rgs...@notme.invalid> wrote:
> Hi Guys,
>
> Just wanted to say thanks for the info., and taking the time to help me out.
>
> Have read a fair amount of the theory, understood some of it, but am the
> conviction that proper grounding, noise, etc. are truly one of those
> subjects that combine theory and "art" together.
> Sure is a lot to learn.
>
> Regards,
> Bob
> ----------
>
> On 11/22/2010 2:22 PM, Bob wrote:
>
> > Hi,
>
> > Like I mentioned in a previous post, I have a WinRadio Excalibur SDR
> > being fed by a PAR EF-SWL antenna.
>
> > Would like to improve the S/N ratio a bit.
>
> > After the PAR Balun, I have the typical coax run to the house.
>
> > I will get some of those snap on ferrites, as suggested, and try them out.
>
> > I have tried unplugging just about all of my wall warts in the vicinity,
> > the LinkSys Router and the Comcast Modem.
> > Surprisingly, at least to me, no discernable changes.
>
> > I see WinRadio offers, for $50 (ugh), a Common Mode Choke to go on the
> > coax at its end, right where it joins the Excalibur module.
> > (see specs, below)
>
> > Think it's worth a try ? Why ?
> > Thoughts on ?
>
> > Thanks, and a Happy Thanksgiving to all of you folks,
> > Bob
> > ----------
> > "This device provides a means of reducing or eliminating common-mode
> > noise from an antenna feedline, resulting in a considerable increase of
> > the received signal quality. Common-mode noise is generated by

> > computers, lamp dimmers and other electric or electronic appliances.
> > Such noise can be a problem especially in the lower portions of HF
> > spectrum, where weak signals can be sometimes completely masked by
> > assorted buzzes and other unwanted noises.
>
> > The Common-Mode Choke can be also very useful to provide an alternative
> > earthing point for an active antenna, if the antenna itself cannot be
> > grounded due to its location, or its ground connection is inadequate.
>
> > The WiNRADiO WR-CMC-30 common-mode choke is inserted in the antenna
> > coaxial feedline close to the receiver, in order to "choke" off
> > common-mode noise currents and passing them to ground without affecting
> > the useful signals between the antenna and the receiver.
>
> > The common-mode choke will let through DC current, which is useful in
> > situations where an active antenna (for example the WiNRADiO AX-81S)"

Bob, seems like you have never listened to shortwave radio before. You need to understand that noise is everywhere on the shortwave bands. Many frequencies are almost and sometimes are, totally unusable, for communications to a given area. Just the last several weeks, the 75 meter band, 3980 in particular, has been so noisy after about 5pm Pacific time, that communications with stations up to 300 miles away has been almost impossible. Static crashes, and all manner of noise. But stations 800-1000 miles are clear and readable.

The same problem happens every winter to the lower shortwave frequencies.

You need to tell us what frequencies you are listening to when the noise is there.

Paul, KD7HB

4904. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 11:12:21 UTC
From: FCC per Anna Scarpetta <n1jpr@hotmail.com>
Message-ID: <85a4da54-3ec8-4c7f-ae6d-8ab6d2449b8f@v23g2000vbi.googlegroups.com>
Source record: 6454

On Nov 21, 4:06 am, "J. Mc Laughlin" <j...@power-net.net> wrote:
> Spamhog (N1JPR?)
>
> It might be that you are asking for the surge impedance (Z0) of a
> transmission line that will minimize the SWR (wrt to the impedance of that
> TL) when the TL is connected to your antenna (over a frequency range).
> EZNEC offers a straight forward way of answering the question.
>
> Model the antenna and request EZNEC to calculate SWR over the desired
> frequency span. Set the alternate Z0 to something like 200 ohms. Plot the
> SWR on a Smith chart with the alternate Z0 as the center. Adjust the
> alternate Z0 (you do not need to calculate again) until the Smith chart
> display is approximately centered and the alternate Z0 will be the desired
> Z0 of the transmission line.
>
> It is doubtful that a TL with the desired Z0 exists.
>
> It will be apparent to you that SWR will be high over the wide frequency
> range that you mentioned. As a receiving antenna for use from 3 to 30 MHz,
> this fact is of very little importance. It would be hard to have a receiver
> that has such a poor noise-figure as to be adversely affected.
>
> 73,   Mac   N8TT
>
> P.S. The above technique is not applicable for relatively narrow frequency
> spans. Its normal utility is with LPDAs.
>
> J. McLaughlin; Michigan, USA
> Home: J...@power-net.net
>
>
>
> ----- Original Message -----
> From: "spamhog" <n1...@hotmail.com>
> Newsgroups: rec.radio.amateur.antenna
> Sent: Tuesday, November 09, 2010 4:48 AM
> Subject: Re: feeding random inverted V for RX
>
> > K1TTT
> >> just wind a coil choke
>
> > Richard
> >> What do you REALLY want?
>

> > There is a difference between a 12:1 and a 3:1 mismatch, especially in
> > a long coax run. What I want is a rough mid-of-the-range estimate of
> > where impedance in a 50'+50' squat inverted-V dipole across say
> > 3-20MHz.
>
> > There is a gazillion description of such antennas fed via 450 ohm
> > ladder lines, and a few with 600 ohm lines:
> > - ready made 450 ohm plastic clad line is commercially available
> > - 600 ohm line can be made with commercially available spacers for
> > standard wire gauges.
>
> > Neither suggests that the corresponding impedance is a good midpoint.
> > The advantage of ladder lines is extremely low loss, allowing for
> > massive mismatches without much loss due to the exponentially-
> > decreasing but still substantial backwave.
>
> > Being forced to use a coax, I am looking for a ballpark match not
> > inspired by the current commercial availability of things I am not
> > going to include in the design.
>
> > The random dipole and the T2FD and related antennas (like the
> > ubiquitous 3-wire damped dipole sold by many companies for
> > professional use) are operationally somewhat similar. All are
> > compromise antennas usable in a large spectrum, all are rather funny
> > in terms of losses, radiation efficiency, and radiation pattern.
>
> > The damping resistor is there exclusively to smooth the response over
> > the spectrum, at a cost. One could even argue that a balun+coax fed
> > tuned random dipole and an untuned T2FD of roughly similar size
> > exhibit similar losses, ^cept one heats the coax more (once the ATU is
> > peaked), and the other heats the resistor more, which should be handy
> > in determining deicing strategies. ;-)
>
> > There is plenty of literature, including some baseline simulations,
> > for the T2FD etc.. I haven't found the same for inverted-V random
> > dipoles. Any pointers? Have I been googling for the wrong things?
>
> --
> J. McLaughlin; Michigan, USA
> Home: J...@power-net.net

Thank you Mac! All I needed - confirmation that a way exists to find
the ballpark least-bad Z0 given the constraints.

Filippo N1JPR

4905. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 11:29:54 UTC
From: FCC per Anna Scarpetta <n1jpr@hotmail.com>
Message-ID: <2e3effc6-2993-4bac-8e71-18994ff8ac6e@k3g2000vbp.googlegroups.com>
Source record: 6455

@amdx: thank you! Will peruse.

@Richard: praise!

maaaybe we could adjourn to alt.techno-shamanism

4906. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 12:43:22 UTC
From: amdx <amdx@knology.net>
Message-ID: <6a7b3$4cebb6c8$18ec6dd7$23112@KNOLOGY.NET>
Source record: 6456

"FCC per Anna Scarpetta" <n1jpr@hotmail.com> wrote in message
news:2e3effc6-2993-4bac-8e71-18994ff8ac6e@k3g2000vbp.googlegroups.com...
> @amdx: thank you! Will peruse.
>
> @Richard: praise!
>
> maaaybe we could adjourn to alt.techno-shamanism

Not yet,
I still want Richard to act like he understands that
the diode characteristics are important and the diode must be
selected to match the circuit and received station signal strength.
BTW, what is the name of the teaching method where the teacher
questions every statement made? Wasn't it named after some famous
teacher/philosopher?
MikeK

4907. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 16:34:42 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <c565f82a-2c5a-4239-a46c-d20a95e63da8@s4g2000yql.googlegroups.com>
Source record: 6457

On Nov 23, 7:43 am, "amdx" <a...@knology.net> wrote:
> "FCC per Anna Scarpetta" <n1...@hotmail.com> wrote in
messagenews:2e3effc6-2993-4bac-8e71-18994ff8ac6e@k3g2000vbp.googlegroups.com...
>
> > @amdx: thank you! Will peruse.
>
> > @Richard: praise!
>
> > maaaybe we could adjourn to alt.techno-shamanism
>
> Not yet,
> I still want Richard to act like he understands that
> the diode characteristics are important and the diode must be
> selected to match the circuit and received station signal strength.
> BTW, what is the name of the teaching method where the teacher
> questions every statement made? Wasn't it named after some famous
> teacher/philosopher?
> MikeK

But what is the practicality of getting this type of match when the
impedance of the circuit changes every time you change frequency or
any other parameter. Search for such an optimum match is truly a
"fools errand". Just one of the reason most people dont listen to the
ballgame on a crystal set anymore.

Jimmie

4908. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 19:45:07 UTC
From: amdx <amdx@knology.net>
Message-ID: <b4ebe$4cec19a0$18ec6dd7$22495@KNOLOGY.NET>
Source record: 6458

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> wrote in message
news:c565f82a-2c5a-4239-a46c-d20a95e63da8@s4g2000yql.googlegroups.com...
On Nov 23, 7:43 am, "amdx" <a...@knology.net> wrote:
> "FCC per Anna Scarpetta" <n1...@hotmail.com> wrote in
> messagenews:2e3effc6-2993-4bac-8e71-18994ff8ac6e@k3g2000vbp.googlegroups.com...
>
> > @amdx: thank you! Will peruse.
>
> > @Richard: praise!
>
> > maaaybe we could adjourn to alt.techno-shamanism
>
> Not yet,
> I still want Richard to act like he understands that
> the diode characteristics are important and the diode must be
> selected to match the circuit and received station signal strength.
> BTW, what is the name of the teaching method where the teacher
> questions every statement made? Wasn't it named after some famous
> teacher/philosopher?
> MikeK

>But what is the practicality of getting this type of match when the
>impedance of the circuit changes every time you change frequency or
>any other parameter. Search for such an optimum match is truly a
>"fools errand". Just one of the reason most people dont listen to the
>ballgame on a crystal set anymore.
>Jimmie

Just call this the equivalent of collecting beanie babies. Any help
you give is like saying, Hey there's one at the yard sale down the road.
Suum cuique.
MikeK

4909. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 22:36:22 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <qjfoe69ps2pf1d2ha4id84va2ps6b8v700@4ax.com>
Source record: 6459

On Tue, 23 Nov 2010 06:43:22 -0600, "amdx" <amdx@knology.net> wrote:

>I still want Richard to act like he understands that
>the diode characteristics are important

Hi Mike,

This expectation is somewhat disconnected from your earlier acceptance
of my ordering of priorities through a figure of merit methodology.
This always works, or it reveals that the designer has a poor grasp on
what is valuable to him/her. There is absolutely nothing that anyone
can do about how assessed values shift in the mind of that designer.

>and the diode must be
>selected to match the circuit and received station signal strength.

That doesn't seem to be a solution for you. If you reread my posting
that ennumerated the priorities, one of which I incompletely quote
here:
>> The detector is the variable of concern, it is defined by the current
>> necessary to drive the headset, everything surrounding the detector
>> has to conform to its choice.
then you will find it is the inverse statement you have just offered.

Focus on any other variable will present a greater dissappointment.

73's
Richard Clark, KB7QHC

4910. For Paul From OP: Re: Common Mode Choke ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-23 23:56:09 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ichkatsup1@news.eternal-september.org>
Source record: 6460

Hi Paul,

I guess I'm one of those folks who pretty much tunes all over the place.
Really don't have any particular bands I stick with.

My questions on how to reduce noise are pretty much generic, in that I
thought I would like to lower the noise floor (as shown on the Excalibur
spectrum) and boost the S/N ratio, a bit, wherever practical.

My thinking was if it isn't too hard to do,and expensive,it's always
worth a try to improve things somewhat.

Will try some Ferrites over some of the cabling, and antenna, in the
near future, and possibly try that WinRadio common mode choke.

Will let you know how things go.

Much thanks for the interest and help,
Best regards,
Bob

On 11/22/2010 11:36 PM, KD7HB wrote:
> On Nov 22, 3:30 pm, Bob<rgs...@notme.invalid> wrote:
>> Hi Guys,
>>
>> Just wanted to say thanks for the info., and taking the time to help me out.
>>
>> Have read a fair amount of the theory, understood some of it, but am the
>> conviction that proper grounding, noise, etc. are truly one of those
>> subjects that combine theory and "art" together.
>> Sure is a lot to learn.
>>
>> Regards,
>> Bob
>> ---
>>
>> On 11/22/2010 2:22 PM, Bob wrote:
>>
>>> Hi,
>>
>>> Like I mentioned in a previous post, I have a WinRadio Excalibur SDR
>>> being fed by a PAR EF-SWL antenna.
>>
>>> Would like to improve the S/N ratio a bit.
>>

>>> After the PAR Balun, I have the typical coax run to the house.
>>
>>> I will get some of those snap on ferrites, as suggested, and try them out.
>>
>>> I have tried unplugging just about all of my wall warts in the vicinity,
>>> the LinkSys Router and the Comcast Modem.
>>> Surprisingly, at least to me, no discernable changes.
>>
>>> I see WinRadio offers, for $50 (ugh), a Common Mode Choke to go on the
>>> coax at its end, right where it joins the Excalibur module.
>>> (see specs, below)
>>
>>> Think it's worth a try ? Why ?
>>> Thoughts on ?
>>
>>> Thanks, and a Happy Thanksgiving to all of you folks,
>>> Bob
>>> ------------------
>>> "This device provides a means of reducing or eliminating common-mode
>>> noise from an antenna feedline, resulting in a considerable increase of
>>> the received signal quality. Common-mode noise is generated by
>>> computers, lamp dimmers and other electric or electronic appliances.
>>> Such noise can be a problem especially in the lower portions of HF
>>> spectrum, where weak signals can be sometimes completely masked by
>>> assorted buzzes and other unwanted noises.
>>
>>> The Common-Mode Choke can be also very useful to provide an alternative
>>> earthing point for an active antenna, if the antenna itself cannot be
>>> grounded due to its location, or its ground connection is inadequate.
>>
>>> The WiNRADiO WR-CMC-30 common-mode choke is inserted in the antenna
>>> coaxial feedline close to the receiver, in order to "choke" off
>>> common-mode noise currents and passing them to ground without affecting
>>> the useful signals between the antenna and the receiver.
>>
>>> The common-mode choke will let through DC current, which is useful in
>>> situations where an active antenna (for example the WiNRADiO AX-81S)"
>
> Bob, seems like you have never listened to shortwave radio before. You
> need to understand that noise is everywhere on the shortwave bands.
> Many frequencies are almost and sometimes are, totally unusable, for
> communications to a given area. Just the last several weeks, the 75
> meter band, 3980 in particular, has been so noisy after about 5pm
> Pacific time, that communications with stations up to 300 miles away
> has been almost impossible. Static crashes, and all manner of noise.
> But stations 800-1000 miles are clear and readable.
>
> The same problem happens every winter to the lower shortwave
> frequencies.
>

> You need to tell us what frequencies you are listening to when the
> noise is there.
>
> Paul, KD7HB

4911. Re: Random wire vs ANLP1

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-24 02:12:00 UTC
From: nm5k@wt.net
Message-ID: <97c583bf-11c5-4460-b1d6-28009bf98e03@k22g2000yqh.googlegroups.com>
Source record: 6461

On Nov 22, 2:28 pm, Bajamatic <Bajamatic.730a...@radiobanter.com>
wrote:
> I'll be sure to report back my findings.
>
> Since posting this I've started to wonder if I really need a radio of
> the 7030 caliber. Thoughts on that? Am i going to find a substantial
> difference between something like the Grundig sat.750 and the AOR7030?
> Or even the little g5 portable? Seems like between this I might start
> to focus more on speaker quality as the reports are that they are all
> great radios? I'd love to hear what you all think about that idea.
>
> --
> Bajamatic

Depends what you are listening to. AM broadcast, almost anything
will work. SSB, and weaker utility stations, a better receiver can pay
off. Not so much sensitivity, but filtering, image rejection with
larger
antennas, etc.. Often more stable too..
I've got loads of receivers, some of which I never use and forget
I even have.. IE: I've got three or four "portables", but never use
them.
But for SW/MW-BC, I could pick up any one of them, and have
no problems with a little more wire clipped to them.
But most of the reception I do is SSB, and listening to other
hams. So naturally, I usually prefer a bit better radio with
better selectivity. Some of my cheaper portables don't even
have SSB mode.. Some do though..
I've got several Drake receivers. The cheapest one being a
Drake SW-1, which does not have SSB capability.
But it's great for casual SW-BC, and MW-BC. It's S/S
and can run off 12v.
But useless for ham use, except for maybe catching a few
AMer's. For SSB use, I'd be grabbing one of my older Drakes.
Or.. maybe if I were trying to dig out some weak station
packed in between a bunch of powerhouses.
I've got a Drake 2C and 2 CQ, one of the original R4's, "0058
serial", and also a R4C. I've got one of the very first R4's built,
and one of the last.. :/ Both are pretty good radios.
My little IC-706mk2g is great for almost any kind of listening.
It's filtered tight enough for average SSB, but it's wide in
the AM mode, unless the filter is on. So the AM audio
sounds real good on it. The AM filter is actually too tight,
and almost useless so I almost never use it.

One thing I like about it, is it's general coverage and goes
up to UHF. So I can listen from LW, up through MW/SW
and on up through the air band, police bands, etc..
Makes a great scanner.
So many receivers, so little time.. Or money in some cases..
:/
You just have to decide mostly on what you want to
listen to.

4912. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-24 18:56:06 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <b0210b79-b557-4535-af5e-fcdc7be0e828@m20g2000prc.googlegroups.com>
Source record: 6462

On Nov 23, 2:45 pm, "amdx" <a...@knology.net> wrote:
> "JIMMIE" <JIMMIEDEE...@YAHOO.COM> wrote in message
>
> news:c565f82a-2c5a-4239-a46c-d20a95e63da8@s4g2000yql.googlegroups.com...
> On Nov 23, 7:43 am, "amdx" <a...@knology.net> wrote:
>
>
>
>
>
>
>
>
>
>
> > "FCC per Anna Scarpetta" <n1...@hotmail.com> wrote in
> > messagenews:2e3effc6-2993-4bac-8e71-18994ff8ac6e@k3g2000vbp.googlegroups.com...
>
> > > @amdx: thank you! Will peruse.
>
> > > @Richard: praise!
>
> > > maaaybe we could adjourn to alt.techno-shamanism
>
> > Not yet,
> > I still want Richard to act like he understands that
> > the diode characteristics are important and the diode must be
> > selected to match the circuit and received station signal strength.
> > BTW, what is the name of the teaching method where the teacher
> > questions every statement made? Wasn't it named after some famous
> > teacher/philosopher?
> > MikeK
> >But what is the practicality of getting this type of match when the
> >impedance of the circuit changes every time you change frequency or
> >any other parameter. Search for such an optimum match is truly a
> >"fools errand". Just one of the reason most people dont listen to the
> >ballgame on a crystal set anymore.
> >Jimmie
>
>   Just call this the equivalent of collecting beanie babies. Any help
> you give is like saying, Hey there's one at the yard sale down the road.
>   Suum cuique.
>   MikeK

Grin, I got a few radios that fits that.

Jimmie

4913. Re: feeding random inverted V for RX

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-24 21:56:36 UTC
From: "J. Mc Laughlin" <jcm@power-net.net>
Message-ID: <vMudnZ7OiPuRF3DRnZ2dnUVZ_omdnZ2d@bright.net>
Source record: 6463

Dear Filippo N1JPR: You are welcome. Indeed a scheme does exist to find
the ballpark least-bad Z0 given constraints.

For several sufficient reasons, you will find that using EZNEC is desirable.
All sorts of "what if" designs can be evaluated.

73, Mac N8TT

--
J. McLaughlin; Michigan, USA
Home: JCM@power-net.net
"FCC per Anna Scarpetta" <n1jpr@hotmail.com> wrote in message
news:85a4da54-3ec8-4c7f-ae6d-8ab6d2449b8f@v23g2000vbi.googlegroups.com...
On Nov 21, 4:06 am, "J. Mc Laughlin" <j...@power-net.net> wrote:
> Spamhog (N1JPR?)
>
> It might be that you are asking for the surge impedance (Z0) of a
> transmission line that will minimize the SWR (wrt to the impedance of that
> TL) when the TL is connected to your antenna (over a frequency range).
> EZNEC offers a straight forward way of answering the question.
>
> Model the antenna and request EZNEC to calculate SWR over the desired
> frequency span. Set the alternate Z0 to something like 200 ohms. Plot the
> SWR on a Smith chart with the alternate Z0 as the center. Adjust the
> alternate Z0 (you do not need to calculate again) until the Smith chart
> display is approximately centered and the alternate Z0 will be the desired
> Z0 of the transmission line.
>
> It is doubtful that a TL with the desired Z0 exists.
>
> It will be apparent to you that SWR will be high over the wide frequency
> range that you mentioned. As a receiving antenna for use from 3 to 30 MHz,
> this fact is of very little importance. It would be hard to have a
> receiver
> that has such a poor noise-figure as to be adversely affected.
>
> 73, Mac N8TT
>
> P.S. The above technique is not applicable for relatively narrow frequency
> spans. Its normal utility is with LPDAs.
>
> J. McLaughlin; Michigan, USA
> Home: J...@power-net.net
>
>

>
> ----- Original Message -----
> From: "spamhog" <n1...@hotmail.com>
> Newsgroups: rec.radio.amateur.antenna
> Sent: Tuesday, November 09, 2010 4:48 AM
> Subject: Re: feeding random inverted V for RX
>
> > K1TTT
> >> just wind a coil choke
>
> > Richard
> >> What do you REALLY want?
>
> > There is a difference between a 12:1 and a 3:1 mismatch, especially in
> > a long coax run. What I want is a rough mid-of-the-range estimate of
> > where impedance in a 50'+50' squat inverted-V dipole across say
> > 3-20MHz.
>
> > There is a gazillion description of such antennas fed via 450 ohm
> > ladder lines, and a few with 600 ohm lines:
> > - ready made 450 ohm plastic clad line is commercially available
> > - 600 ohm line can be made with commercially available spacers for
> > standard wire gauges.
>
> > Neither suggests that the corresponding impedance is a good midpoint.
> > The advantage of ladder lines is extremely low loss, allowing for
> > massive mismatches without much loss due to the exponentially-
> > decreasing but still substantial backwave.
>
> > Being forced to use a coax, I am looking for a ballpark match not
> > inspired by the current commercial availability of things I am not
> > going to include in the design.
>
> > The random dipole and the T2FD and related antennas (like the
> > ubiquitous 3-wire damped dipole sold by many companies for
> > professional use) are operationally somewhat similar. All are
> > compromise antennas usable in a large spectrum, all are rather funny
> > in terms of losses, radiation efficiency, and radiation pattern.
>
> > The damping resistor is there exclusively to smooth the response over
> > the spectrum, at a cost. One could even argue that a balun+coax fed
> > tuned random dipole and an untuned T2FD of roughly similar size
> > exhibit similar losses, ^cept one heats the coax more (once the ATU is
> > peaked), and the other heats the resistor more, which should be handy
> > in determining deicing strategies. ;-)
>
> > There is plenty of literature, including some baseline simulations,
> > for the T2FD etc.. I haven't found the same for inverted-V random
> > dipoles. Any pointers? Have I been googling for the wrong things?
>

> --
> J. McLaughlin; Michigan, USA
> Home: J...@power-net.net

Thank you Mac! All I needed - confirmation that a way exists to find
the ballpark least-bad Z0 given the constraints.

Filippo N1JPR

4914. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 02:01:19 UTC
From: tom <news4792@taring.org>
Message-ID: <4cedc370$0$87582$8046368a@newsreader.iphouse.net>
Source record: 6464

On 11/24/2010 12:56 PM, JIMMIE wrote:
>
> Grin, I got a few radios that fits that.
>
> Jimmie
>

BTW, the Grundig G6 Buzz Aldrin 40th Anniversary edition is on closeout
at Radio Shack. It's smaller than the name.

I couldn't resist myself. So far the best half-a-pocketbook sized radio
I've owned. Good AM filter width.

Actually it's the smallest multiband radio I've ever owed by about a
factor of 2.

tom
K0TAR

4915. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 05:49:51 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <bafecce6-91c0-4de7-b293-4f2cac0cc5e2@w18g2000vbe.googlegroups.com>
Source record: 6465

On Nov 24, 9:01 pm, tom <news4...@taring.org> wrote:
> On 11/24/2010 12:56 PM, JIMMIE wrote:
>
>
>
> > Grin, I got a few radios that fits that.
>
> > Jimmie
>
> BTW, the Grundig G6 Buzz Aldrin 40th Anniversary edition is on closeout
> at Radio Shack. It's smaller than the name.
>
> I couldn't resist myself. So far the best half-a-pocketbook sized radio
> I've owned. Good AM filter width.
>
> Actually it's the smallest multiband radio I've ever owed by about a
> factor of 2.
>
> tom
> K0TAR

Hi Tom, Did you ever try anything with that NVIS antenna. I think I am going to put up one permanent in back yard, turn the RV into my ham shack or dog house whichever description is appropriate at the time.

Jimmie

4916. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 15:17:57 UTC
From: tom <news4792@taring.org>
Message-ID: <4cee7e22$0$6700$8046368a@newsreader.iphouse.net>
Source record: 6466

On 11/24/2010 11:49 PM, JIMMIE wrote:
> Hi Tom, Did you ever try anything with that NVIS antenna. I think I am
> going to put up one permanent in back yard, turn the RV into my ham
> shack or dog house whichever description is appropriate at the time.
>
> Jimmie

No, not yet. Not enough time. I do plan on it though, thanks.
Possibly this coming spring.

tom
K0TAR

4917. Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 16:53:54 UTC
From: Keith <kilowattradio@use-reply-to.invalid>
Message-ID: <251120100853548107%kilowattradio@use-reply-to.invalid>
Source record: 6467
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

<http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/mp53/player_config.php?token=07b_1284580365%26embed=1>

Shortened URL:
<http://bit.ly/b9VMU0>

--
Best Regards,

Keith
http://home.comcast.net/~kilowattradio/

4918. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 18:48:56 UTC
From: dave <dave@dave.dave>
Message-ID: <4ceeaf83$0$5527$bd467cd0@news.dslextreme.com>
Source record: 6468
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

Keith wrote:
>
> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
> mp53/player_config.php?token=07b_1284580365%26embed=1>
>
> Shortened URL:
> <http://bit.ly/b9VMU0>
>

This guy carries 30 pounds of tools up the ladder with him? Most climbers I know take the end of a line with them, then attach a pulley where they'll be working, then they send the end of the rope back down. Then the ground crew can send up tools, parts, whatever, and you don't have to worry about not forgetting anything but the rope and the pulley.

Maybe he works alone...

4919. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 20:22:50 UTC
From: Rob <nomail@example.com>
Message-ID: <slrniethcq.tqe.nomail@xs8.xs4all.nl>
Source record: 6469
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

dave <dave@dave.dave> wrote:
> Keith wrote:
>>
>> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
>> mp53/player_config.php?token=07b_1284580365%26embed=1>
>>
>> Shortened URL:
>> <http://bit.ly/b9VMU0>
>>
>
> This guy carries 30 pounds of tools up the ladder with him? Most
> climbers I know take the end of a line with them, then attach a pulley
> where they'll be working, then they send the end of the rope back down.
> Then the ground crew can send up tools, parts, whatever, and you don't
> have to worry about not forgetting anything but the rope and the pulley.

The climbers you know probably climb 100 ft towers?

With this tower that would require 3,400 ft of rope, which probably
weighs more than the tools and will be very difficult to handle.

4920. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 20:41:53 UTC
From: Brenda Ann <newsgroups@fullspectrumradio.org>
Message-ID: <BrWdnR8ibIePV3PRnZ2dnVY3goqdnZ2d@giganews.com>
Source record: 6470
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

"Rob" wrote in message news:slrniethcq.tqe.nomail@xs8.xs4all.nl...

dave <dave@dave.dave> wrote:
> Keith wrote:
>>
>> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
>> mp53/player_config.php?token=07b_1284580365%26embed=1>
>>
>> Shortened URL:
>> <http://bit.ly/b9VMU0>
>>
>
> This guy carries 30 pounds of tools up the ladder with him? Most
> climbers I know take the end of a line with them, then attach a pulley
> where they'll be working, then they send the end of the rope back down.
> Then the ground crew can send up tools, parts, whatever, and you don't
> have to worry about not forgetting anything but the rope and the pulley.

The climbers you know probably climb 100 ft towers?

With this tower that would require 3,400 ft of rope, which probably
weighs more than the tools and will be very difficult to handle.

Not to mention the extreme likelihood of the rope getting blown around
and/or snagged on any of dozens of appendages (microwave antennas, FM and
comms antennas, tower lighting, etc) that are on such tall structures.

4921. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 20:54:24 UTC
From: dave <dave@dave.dave>
Message-ID: <4ceeccea$0$5514$bd467cd0@news.dslextreme.com>
Source record: 6471
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

Rob wrote:
> dave<dave@dave.dave> wrote:
>> Keith wrote:
>>>
>>> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
>>> mp53/player_config.php?token=07b_1284580365%26embed=1>
>>>
>>> Shortened URL:
>>> <http://bit.ly/b9VMU0>
>>>
>>
>> This guy carries 30 pounds of tools up the ladder with him? Most
>> climbers I know take the end of a line with them, then attach a pulley
>> where they'll be working, then they send the end of the rope back down.
>> Then the ground crew can send up tools, parts, whatever, and you don't
>> have to worry about not forgetting anything but the rope and the pulley.
>
> The climbers you know probably climb 100 ft towers?
>
> With this tower that would require 3,400 ft of rope, which probably
> weighs more than the tools and will be very difficult to handle.

You take a messenger rope (3/32") up with you. Once through the pulley
and back down that rope is used to lift a more substantial rope, all
done by the winch on the service truck. This is a safety feature. People
cramp up sometimes.

4922. WTB: Force 12 Relay Switch Box for EF-180B Rotatable Diploe

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 20:55:34 UTC
From: N3BJ <N3BJ@cox.net>
Message-ID: <1acd33a9-6793-463f-8f09-ce1a2ee9276c@r21g2000pri.googlegroups.com>
Source record: 6472

Looking for the 3 Relay Switch Box for an old Force 12 EF-180B
rotatable
dipole. Might consider rolling my own if someone could forward a
manual or
schematic.

Alan, N3BJ

4923. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 20:58:09 UTC
From: dave <dave@dave.dave>
Message-ID: <4ceecdcc$0$5514$bd467cd0@news.dslextreme.com>
Source record: 6473
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

Brenda Ann wrote:
>
>
> "Rob" wrote in message news:slrniethcq.tqe.nomail@xs8.xs4all.nl...
>
> dave <dave@dave.dave> wrote:
>> Keith wrote:
>>>
>>> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
>>> mp53/player_config.php?token=07b_1284580365%26embed=1>
>>>
>>> Shortened URL:
>>> <http://bit.ly/b9VMU0>
>>>
>>
>> This guy carries 30 pounds of tools up the ladder with him? Most
>> climbers I know take the end of a line with them, then attach a pulley
>> where they'll be working, then they send the end of the rope back down.
>> Then the ground crew can send up tools, parts, whatever, and you don't
>> have to worry about not forgetting anything but the rope and the pulley.
>
> The climbers you know probably climb 100 ft towers?
>
> With this tower that would require 3,400 ft of rope, which probably
> weighs more than the tools and will be very difficult to handle.
>
>
> ---
>
> ---
>
>
> Not to mention the extreme likelihood of the rope getting blown around
> and/or snagged on any of dozens of appendages (microwave antennas, FM
> and comms antennas, tower lighting, etc) that are on such tall structures.
>
>

You usually have a ground crew person feeding the line and watching such
things. California has stricter laws than OSHA. I think you have to clip
on when climbing here.

4924. Re: Matching antenna to crystal radio

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-25 22:55:40 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <c236e76f-e38d-409d-9a4b-f5ba4f0b8be7@29g2000prb.googlegroups.com>
Source record: 6474

On Nov 25, 11:17 am, tom <news4...@taring.org> wrote:
> On 11/24/2010 11:49 PM, JIMMIE wrote:
>
> > Hi Tom, Did you ever try anything with that NVIS antenna. I think I am
> > going to put up one permanent in back yard, turn the RV into my ham
> > shack or dog house whichever description is appropriate at the time.
>
> > Jimmie
>
> No, not yet. Not enough time. I do plan on it though, thanks.
> Possibly this coming spring.
>
> tom
> K0TAR

I first discovered NVIS of sorts although I didnt know what it was
called back in the early 70s with 11M radio. I found that a homemade
1.25 wl antenna would often work areas during skip conditions that
were different from my 5/8 wl antenna. Some were in the neighborhood
of 100 miles away which was unusual for a CB. Normally you couldnt
hear anything from 30 miles out to about 300. After 300 you could pick
up skip signals.

Jimmie

4925. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 00:57:14 UTC
From: Jeff Liebermann <jeffl@cruzio.com>
Message-ID: <611ue6p1utu1i8s44lcklfk95pa5h29amc@4ax.com>
Source record: 6475
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On 25 Nov 2010 20:22:50 GMT, Rob <nomail@example.com> wrote:

>With this tower that would require 3,400 ft of rope, which probably
>weighs more than the tools and will be very difficult to handle.

9mm static line weighs 57 gm/meter. A 1000 meter loop would weight
57kg or 126 lbs. No thanks. Also, the line has quite a bit of wind
resistance and will probably cause the 30 lb tool bag to sway quite a
bit in the wind. However, since he rode the elevator almost to the
top, he might be able to handle a 50 meter single static line to the
top of the elevator.

Nice video. I wonder what they were repairing on top of the tower?
Replacing the tower light?

--
Jeff Liebermann jeffl@cruzio.com
150 Felker St #D http://www.LearnByDestroying.com
Santa Cruz CA 95060 http://802.11junk.com
Skype: JeffLiebermann AE6KS 831-336-2558

4926. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 03:21:13 UTC
From: "D. Peter Maus" <dpetermaus@att.net>
Message-ID: <icn939mdr2@news.eternal-september.org>
Source record: 6476
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On 11/25/10 10:53 , Keith wrote:
>
> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
> mp53/player_config.php?token=07b_1284580365%26embed=1>
>
> Shortened URL:
> <http://bit.ly/b9VMU0>
>

Didn't we see this about 3 months ago?

4927. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 03:28:40 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <icn9ha$m2n$1@news.eternal-september.org>
Source record: 6477
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

"Keith" <kilowattradio@use-reply-to.invalid> wrote in message
news:251120100853548107%kilowattradio@use-reply-to.invalid...
>
> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
> mp53/player_config.php?token=07b_1284580365%26embed=1>
>
> Shortened URL:
> <http://bit.ly/b9VMU0>
>
> -- -
> Best Regards,
>
> Keith
> http://home.comcast.net/~kilowattradio/
-
Cool. I have three friends who got sick watching the video :)
Wayne

4928. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 06:33:58 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <86lue6l8css23l4kc1efpnksmhg5dtr9c2@4ax.com>
Source record: 6478
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On Thu, 25 Nov 2010 10:48:56 -0800, dave <dave@dave.dave> wrote:

>Keith wrote:
>>
>> <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
>> mp53/player_config.php?token=07b_1284580365%26embed=1>
>>
>> Shortened URL:
>> <http://bit.ly/b9VMU0>
>>
>
>This guy carries 30 pounds of tools up the ladder with him? Most
>climbers I know take the end of a line with them, then attach a pulley
>where they'll be working, then they send the end of the rope back down.
>Then the ground crew can send up tools, parts, whatever, and you don't
>have to worry about not forgetting anything but the rope and the pulley.
>
>Maybe he works alone...

how much does 1700' of line weigh?

4929. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 13:59:40 UTC
From: dave <dave@dave.dave>
Message-ID: <4cefbd36$0$5502$bd467cd0@news.dslextreme.com>
Source record: 6479
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

bpuharic wrote:
> On Thu, 25 Nov 2010 10:48:56 -0800, dave<dave@dave.dave> wrote:

>> This guy carries 30 pounds of tools up the ladder with him? Most
>> climbers I know take the end of a line with them, then attach a pulley
>> where they'll be working, then they send the end of the rope back down.
>> Then the ground crew can send up tools, parts, whatever, and you don't
>> have to worry about not forgetting anything but the rope and the pulley.
>>
>> Maybe he works alone...
>
> how much does 1700' of line weigh?

Press Release

Tower Association Responds to Erroneous and Dangerous Video

The following statement is being issued by the National Association of
Tower Erectors (NATE) regarding a dangerous video post erroneously
characterizing ï¿½free climbingï¿½ on towers as lawful and common.
NATE would like to publicly denounce the message of the recently posted
video depicting two men climbing a broadcast tower. NATE asserts that
the posting of the content was misguided and its messages should not be
given credence by any viewer.
The ï¿½Stairway to Heavenï¿½ video, reportedly launched by
TheOnLineEngineer.org, suggests that free climbing is an accepted method
of ascending and descending broadcast and telecommunication towers. The
video incorrectly asserts that free climbing is accepted by OSHA and
that ï¿½most tower workers climb this way.ï¿½ The video also depicts as
standard procedure other dangerous and prohibited conduct not condoned
by NATE or OSHA. There are many inaccuracies in this video.
NATEï¿½s efforts to establish a culture of safety in the wireless and
broadcast tower industry encourages everyone involved with tower work to
adhere to recognized safe practices. The video in question is an example
of a climber who is either unaware of recognized safety practices or is
unwilling to take the time to protect his life and the life of his
co-worker in the video. By extension it encourages others to employ
unsafe climbing techniques not endorsed by either OSHA or NATE.
Contractors who refuse to operate safely should never be hired. This
video is one more example of why the efforts of NATE, our membership and
industry partners are imperative.
NATE, the industryï¿½s leader in tower safety, continues to pursue working
relationships with carriers, broadcasters and other tower
owner/operators to ensure that only qualified contractors set foot on

tower sites. The Association has worked with OSHA to develop safety best practices and educational programs to ensure every tower worker goes home safely every day. Companies which allow free climbing and other violations of recognized safety practices are placing lives in danger and jeopardizing tower work services.
NATE is looking forward to OSHAï¿½s statement clarifying this matter for the industry.
Work Quality in Question
Employers who allow such practices will likely cut corners on other aspects of their work. NATE asks, ï¿½If a company or employee will cut corners with the lives of its workers, on what other aspects of work will they be willing to cut corners?ï¿½ Owners and operators who hire this type of contractor are opening themselves up to legal and regulatory actions and are additionally running the risk of system malfunctions, adding unnecessary costs on top of endangering lives.
NATE Requests Contact From Tower Owners and Operators
NATE is requesting contact from carriers, broadcasters and other entities who own, operate or control wireless and broadcast towers as well as the industry groups who represent them. NATE is doggedly pursuing working relationships with these organizations to ensure that a culture of safety exists throughout the industry and that only qualified contractors set foot on tower sites. If your organization fits this description, please contact Patrick Howey at 888-882-5865 or patrick@natehome.com.

http://www.natehome.com

4930. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 14:21:12 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5b1884d8-794c-4c35-8d51-8491150d656c@i41g2000vbn.googlegroups.com>
Source record: 6480
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On Nov 26, 3:21 am, "D. Peter Maus" <dpeterm...@att.net> wrote:
> On 11/25/10 10:53 , Keith wrote:
>
>
>
> > <http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
> > mp53/player_config.php?token=07b_1284580365%26embed=1>
>
> > Shortened URL:
> > <http://bit.ly/b9VMU0>
>
> Didn't we see this about 3 months ago?

yeah, and you'll probably see it brought up every few months for quite
a while now when someone new finds it for the first time.

4931. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 17:15:41 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <icopvppfd1@news.eternal-september.org>
Source record: 6481
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

"dave" <dave@dave.dave> wrote in message
news:4cefbd36$0$5502$bd467cd0@news.dslextreme.com...
> bpuharic wrote:
>> On Thu, 25 Nov 2010 10:48:56 -0800, dave<dave@dave.dave> wrote:
>
>>> This guy carries 30 pounds of tools up the ladder with him? Most
>>> climbers I know take the end of a line with them, then attach a pulley
>>> where they'll be working, then they send the end of the rope back down.
>>> Then the ground crew can send up tools, parts, whatever, and you don't
>>> have to worry about not forgetting anything but the rope and the pulley.
>>>
>>> Maybe he works alone...
>>
>> how much does 1700' of line weigh?
>
> Press Release
>
> Tower Association Responds to Erroneous and Dangerous Video
>
> The following statement is being issued by the National Association of
> Tower Erectors (NATE) regarding a dangerous video post erroneously
> characterizing "free climbing" on towers as lawful and common.
> NATE would like to publicly denounce the message of the recently posted
> video depicting two men climbing a broadcast tower. NATE asserts that the
> posting of the content was misguided and its messages should not be given
> credence by any viewer.
> The "Stairway to Heaven" video, reportedly launched by
> TheOnLineEngineer.org, suggests that free climbing is an accepted method
> of ascending and descending broadcast and telecommunication towers. The
> video incorrectly asserts that free climbing is accepted by OSHA and that
> "most tower workers climb this way." The video also depicts as standard
> procedure other dangerous and prohibited conduct not condoned by NATE or
> OSHA. There are many inaccuracies in this video.
> NATE's efforts to establish a culture of safety in the wireless and
> broadcast tower industry encourages everyone involved with tower work to
> adhere to recognized safe practices. The video in question is an example
> of a climber who is either unaware of recognized safety practices or is
> unwilling to take the time to protect his life and the life of his
> co-worker in the video. By extension it encourages others to employ unsafe
> climbing techniques not endorsed by either OSHA or NATE. Contractors who
> refuse to operate safely should never be hired. This video is one more
> example of why the efforts of NATE, our membership and industry partners

> are imperative.
> NATE, the industry's leader in tower safety, continues to pursue working
> relationships with carriers, broadcasters and other tower owner/operators
> to ensure that only qualified contractors set foot on tower sites. The
> Association has worked with OSHA to develop safety best practices and
> educational programs to ensure every tower worker goes home safely every
> day. Companies which allow free climbing and other violations of
> recognized safety practices are placing lives in danger and jeopardizing
> tower work services.
> NATE is looking forward to OSHA's statement clarifying this matter for the
> industry.
> Work Quality in Question
> Employers who allow such practices will likely cut corners on other
> aspects of their work. NATE asks, "If a company or employee will cut
> corners with the lives of its workers, on what other aspects of work will
> they be willing to cut corners?" Owners and operators who hire this type
> of contractor are opening themselves up to legal and regulatory actions
> and are additionally running the risk of system malfunctions, adding
> unnecessary costs on top of endangering lives.
> NATE Requests Contact From Tower Owners and Operators
> NATE is requesting contact from carriers, broadcasters and other entities
> who own, operate or control wireless and broadcast towers as well as the
> industry groups who represent them. NATE is doggedly pursuing working
> relationships with these organizations to ensure that a culture of safety
> exists throughout the industry and that only qualified contractors set
> foot on tower sites. If your organization fits this description, please
> contact Patrick Howey at 888-882-5865 or patrick@natehome.com.
>
> http://www.natehome.com
-
Heh heh....so that's why the faces were blurred in the video :)

4932. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 19:05:21 UTC
From: Boris Tuđan <boris.tudan@ka.t-com.hr>
Message-ID: <icp0dh$471$1@news2.carnet.hr>
Source record: 6482
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

Wayne wrote:
> Heh heh....so that's why the faces were blurred in the video :)

You quoted complete post just for your one line of silly text? Learn to
quote first, then report to news groups.

--
Keep 'em Rolling! http://www.mvpa.org/
MVPA: 29718

http://s186.photobucket.com/albums/x51/btudan/

73 de 9A6KTB - Boris

4933. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 20:20:17 UTC
From: "D. Stussy" <spam+newsgroups@bde-arc.ampr.org>
Message-ID: <icp4pt$c4g$1@snarked.org>
Source record: 6483
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

"dave" <dave@dave.dave> wrote in message
news:4ceeaf83$0$5527$bd467cd0@news.dslextreme.com...
> Keith wrote:
> >
<http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
> > mp53/player_config.php?token=07b_1284580365%26embed=1>
> >
> > Shortened URL:
> > <http://bit.ly/b9VMU0>
>
> This guy carries 30 pounds of tools up the ladder with him? Most
> climbers I know take the end of a line with them, then attach a pulley
> where they'll be working, then they send the end of the rope back down.
> Then the ground crew can send up tools, parts, whatever, and you don't
> have to worry about not forgetting anything but the rope and the pulley.
>
> Maybe he works alone...

Maybe the weight of his rope for that size of tower is more than 30
pounds....

4934. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 22:53:35 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <92e0f6hgpllinv6phbac0niv1km81l66v8@4ax.com>
Source record: 6484
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On Thu, 25 Nov 2010 08:53:54 -0800, Keith
<kilowattradio@use-reply-to.invalid> wrote:

>
><http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
>mp53/player_config.php?token=07b_1284580365%26embed=1>
>
>Shortened URL:
><http://bit.ly/b9VMU0>

these guys are nucking futs. when i climb i'm ALWAYS attached. too
many uncertainties in positioning, grabbing, etc. all it itakes is 1
mistake

4935. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-26 22:56:31 UTC
From: bpuharic <wf3h@comcast.net>
Message-ID: <mme0f61sa4utp1nrm5eop7apt4ci9gucti@4ax.com>
Source record: 6485
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On Fri, 26 Nov 2010 05:59:40 -0800, dave <dave@dave.dave> wrote:

>
>
>Tower Association Responds to Erroneous and Dangerous Video
>

glad you posted this. when i climb i'm ALWAYS, ALWAYS attached to the
tower....althought the highest i've climbed is 155', it really doesnt
matter at this point. once you fall more than 15' or so, the results
are pretty much the same

4936. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 03:24:46 UTC
From: RHF <rhf-newsgroups@pacbell.net>
Message-ID: <3af47c3e-209e-4569-a2a4-61d3ff36b709@37g2000prx.googlegroups.com>
Source record: 6486
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On Nov 26, 2:56 pm, bpuharic <w...@comcast.net> wrote:
> On Fri, 26 Nov 2010 05:59:40 -0800, dave <d...@dave.dave> wrote:
>
> >Tower Association Responds to Erroneous and Dangerous Video
>
> glad you posted this. when i climb i'm ALWAYS, ALWAYS attached to the
> tower....althought the highest i've climbed is 155', it really doesnt
> matter at this point. once you fall more than 15' or so, the results
> are pretty much the same

Yeah Messy !
.

4937. Re: Climbing a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 03:27:30 UTC
From: RHF <rhf-newsgroups@pacbell.net>
Message-ID: <d886e430-a683-4d7a-83bd-81475b02d597@f20g2000prn.googlegroups.com>
Source record: 6487
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

On Nov 26, 2:53 pm, bpuharic <w...@comcast.net> wrote:
> On Thu, 25 Nov 2010 08:53:54 -0800, Keith
>
> <kilowattra...@use-reply-to.invalid> wrote:
>
> ><http://www.liveleak.com/mp53/player.swf?config=http://www.liveleak.com/
> >mp53/player_config.php?token=07b_1284580365%26embed=1>
>
> >Shortened URL:
> ><http://bit.ly/b9VMU0>
>
> these guys are nucking futs. when i climb i'm ALWAYS attached. too
> many uncertainties in positioning, grabbing, etc. all it itakes is 1
> mistake

There are more things to 'consider' with a
Live {Powered} Tower then simply Falling . . .
.

4938. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 16:11:36 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <icrajq$i79$1@news.eternal-september.org>
Source record: 6488
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

"Boris Tu&#65533;an" <boris.tudan@ka.t-com.hr> wrote in message
news:icp0dh$471$1@news2.carnet.hr...
> Wayne wrote:
>> Heh heh....so that's why the faces were blurred in the video :)
>
> You quoted complete post just for your one line of silly text? Learn to
> quote first, then report to news groups.
>
> 73 de 9A6KTB - Boris
-
Get some manners, then get back to us.

4939. Hy-Gain BN-86 balun for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 17:31:30 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <icrf9f$6si$2@news.eternal-september.org>
Source record: 6489

I have a Hy-Gain BN-86 3-30 MHz 1500W 50-ohm balun for sale. I'm
asking $40 for it. The instruction manual can be viewed at:

http://www.thiecom.de/pdf/BN-86.pdf

The balun can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4940. Heath VHF SWR meter for sale

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 17:32:13 UTC
From: Henry <wa0goz@arrl.net>
Message-ID: <icrfap$6si$3@news.eternal-september.org>
Source record: 6490

I have a Heath HM-2102 VHF SWR meter 50-160 MHz
0-25 and 0-250 watts. Very good condition.

I'm *asking* $40 plus shipping.

It can be viewed at:

http://home.comcast.net/~hsknoll/site/?/photos/&PHPSESSID=29ec62ea0bf1fe4d25e318b011cf0bbf

or

http://tinyurl.com/yktwxpz click on photo to enlarge it.

Henry WA0GOZ

4941. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 20:06:25 UTC
From: Boris Tuđan <boris.tudan@ka.t-com.hr>
Message-ID: <icroc1$j9e$1@news2.carnet.hr>
Source record: 6491
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

Wayne wrote:
> Get some manners, then get back to us.

Learn to quote and read netiquette when you get some time. You don't
want to be retarded for the rest of your life.

--
Keep 'em Rolling! http://www.mvpa.org/
MVPA: 29718

http://s186.photobucket.com/albums/x51/btudan/

73 de 9A6KTB - Boris

4942. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 21:44:55 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <icru55eon1@news.eternal-september.org>
Source record: 6492
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

"Boris Tu&#65533;an" <boris.tudan@ka.t-com.hr> wrote in message
news:icroc1$j9e$1@news2.carnet.hr...
> Wayne wrote:
>> Get some manners, then get back to us.
>
> Learn to quote and read netiquette when you get some time. You don't want
> to be retarded for the rest of your life.
>
> 73 de 9A6KTB - Boris
-
While you are waiting for me to do your homework assignments, how about
boning up on simple etiquette and trying to avoid PWD.
(posting while drunk)

4943. SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 21:55:46 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <4170c333-48a8-4341-9ded-1376fb71ae8e@z20g2000pra.googlegroups.com>
Source record: 6493

I have a Homebrewed SWR meter I was thinking of calibrating it to read power by appling a dial for the "full scale adjust" potentiometer. Meter would be initially calibrated against a know accurate wattmeter. Variable HIgh Power RF source would be an Amateur band SSB TX modulated by a single tone audio source. Power varied by adjusting the level of the tone. Power would be read from the dial pointer. One thought is to use a difference meter reference for each ham band .... 10M full scale 15M a little less. Any thought s on this method would be appreciated.

Jimmie

4944. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 22:50:54 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <NIY4NKUOtY8MFwLx@g3ohx.demon.co.uk>
Source record: 6494

In message
<4170c333-48a8-4341-9ded-1376fb71ae8e@z20g2000pra.googlegroups.com>,
JIMMIE <JIMMIEDEE123@YAHOO.COM> writes
>I have a Homebrewed SWR meter I was thinking of calibrating it to read
>power by appling a dial for the "full scale adjust" potentiometer.
>Meter would be initially calibrated against a know accurate wattmeter.
>Variable HIgh Power RF source would be an Amateur band SSB TX
>modulated by a single tone audio source. Power varied by adjusting the
>level of the tone. Power would be read from the dial pointer. One
>thought is to use a difference meter reference for each ham band ....
>10M full scale 15M a little less. Any thought s on this method would
>be appreciated.
>
Provided you calibrate it, the meter should be able to 'dual-task' as a
power meter. An RF power meter is really only an SWR meter which is
calibrated accurately in power.

The variation of the SWR meter's sensitivity from band to band depends
on which type of circuit it uses.

If it's the 'old-fashioned' type, which uses a short length of
air-spaced coax with an additional wire inserted as a coupling loop, the
sensitivity increases significantly with increasing frequency.

If it is of the ferrite transformer type, the sensitivity should be
pretty constant on all bands, and that is the best type to use for power
measurements.
--
Ian

4945. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-27 22:57:30 UTC
From: Sven Lundbech <oz7s@hotmail.com>
Message-ID: <4cf18cd6$0$36587$edfadb0f@dtext01.news.tele.dk>
Source record: 6495

"JIMMIE" <JIMMIEDEE123@YAHOO.COM> skrev i en meddelelse
news:4170c333-48a8-4341-9ded-1376fb71ae8e@z20g2000pra.googlegroups.com...
>I have a Homebrewed SWR meter I was thinking of calibrating it to read
> power by appling a dial for the "full scale adjust" potentiometer.
> Meter would be initially calibrated against a know accurate wattmeter.
> Variable HIgh Power RF source would be an Amateur band SSB TX
> modulated by a single tone audio source. Power varied by adjusting the
> level of the tone. Power would be read from the dial pointer. One
> thought is to use a difference meter reference for each ham band ....
> 10M full scale 15M a little less. Any thought s on this method would
> be appreciated.
>
>
> Jimmie

dr Jimmie,

From your last remark I guss that your SWR meter bridge principle consists
of some kind of coupling pick-up loop where the RF output versus frequency
is not flat but follows a +6 dB/octave characteristic, i.e. more sensitive
as the RF frequency rises.

In that case you have you have two options: Calibrate the meter individually
for each amateur band or pass the coupled RF through a -6 dB/octave low pass
filter beforde detection.

It might be easier to add to your SWR meter a separate RF detector to sample
the RF at the main line. This is easily made (mostly) frequency independent
and it can be calibrated separatey from the SWR part. You will of course
need to add a switch in order to change from SWR to power readings.

vy 73
OZ7S Sven
Technical Editor Emeritus
OZ Magazine

4946. Re: Board Cop Alert Board Cop Alert

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-28 01:28:08 UTC
From: dave <dave@dave.dave>
Message-ID: <4cf1b00f$0$5534$bd467cd0@news.dslextreme.com>
Source record: 6496
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

Wayne wrote:
> "Boris Tuï¿½an"<boris.tudan@ka.t-com.hr> wrote in message
> news:icroc1$j9e$1@news2.carnet.hr...
>> Wayne wrote:
>>> Get some manners, then get back to us.
>>
>> Learn to quote and read netiquette when you get some time. You don't want
>> to be retarded for the rest of your life.
>>
>> 73 de 9A6KTB - Boris
> -
> While you are waiting for me to do your homework assignments, how about
> boning up on simple etiquette and trying to avoid PWD.
> (posting while drunk)
>
>

4947. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-28 01:54:30 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <0edba76c-b67c-43a4-94a5-831acdd386a8@f20g2000vbc.googlegroups.com>
Source record: 6497

On Nov 27, 6:50 pm, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> In message
> <4170c333-48a8-4341-9ded-1376fb71a...@z20g2000pra.googlegroups.com>,
> JIMMIE <JIMMIEDEE...@YAHOO.COM> writes>I have a Homebrewed SWR meter I was thinking of
calibrating it to read
> >power by appling a dial for the "full scale adjust" potentiometer.
> >Meter would be initially calibrated against a know accurate wattmeter.
> >Variable HIgh Power RF source would be an Amateur band SSB TX
> >modulated by a single tone audio source. Power varied by adjusting the
> >level of the tone. Power would be read from the dial pointer. One
> >thought is to use a difference meter reference for each ham band ....
> >10M full scale 15M a little less. Any thought s on this method would
> >be appreciated.
>
> Provided you calibrate it, the meter should be able to 'dual-task' as a
> power meter. An RF power meter is really only an SWR meter which is
> calibrated accurately in power.
>
> The variation of the SWR meter's sensitivity from band to band depends
> on which type of circuit it uses.
>
> If it's the 'old-fashioned' type, which uses a short length of
> air-spaced coax with an additional wire inserted as a coupling loop, the
> sensitivity increases significantly with increasing frequency.
>
> If it is of the ferrite transformer type, the sensitivity should be
> pretty constant on all bands, and that is the best type to use for power
> measurements.
> --
> Ian

Yes Ian it does use a piece of coax for the pickup. It should be a
simple matter to modify it to the ferrite transformer type.

Thanks

4948. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-28 08:58:04 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <uUswKrCcmh8MFw$4@g3ohx.demon.co.uk>
Source record: 6498

In message
<0edba76c-b67c-43a4-94a5-831acdd386a8@f20g2000vbc.googlegroups.com>,
JIMMIE <JIMMIEDEE123@YAHOO.COM> writes
>On Nov 27, 6:50ï¿½pm, Ian Jackson
><ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
>> In message
>> <4170c333-48a8-4341-9ded-1376fb71a...@z20g2000pra.googlegroups.com>,
>> JIMMIE <JIMMIEDEE...@YAHOO.COM> writes>I have a Homebrewed SWR meter
>>I was thinking of calibrating it to read
>> >power by appling a dial for the ï¿½"full scale adjust" potentiometer.
>> >Meter would be initially calibrated against a know accurate wattmeter.
>> >Variable HIgh Power RF source would be an ï¿½Amateur band SSB TX
>> >modulated by a single tone audio source. Power varied by adjusting the
>> >level of the tone. Power would be read from the dial pointer. One
>> >thought is to use a difference meter reference for each ham band ....
>> >10M full scale 15M a little less. Any thought s on this method would
>> >be appreciated.
>>
>> Provided you calibrate it, the meter should be able to 'dual-task' as a
>> power meter. An RF power meter is really only an SWR meter which is
>> calibrated accurately in power.
>>
>> The variation of the SWR meter's sensitivity from band to band depends
>> on which type of circuit it uses.
>>
>> If it's the 'old-fashioned' type, which uses a short length of
>> air-spaced coax with an additional wire inserted as a coupling loop, the
>> sensitivity increases significantly with increasing frequency.
>>
>> If it is of the ferrite transformer type, the sensitivity should be
>> pretty constant on all bands, and that is the best type to use for power
>> measurements.
>> --
>> Ian
>
>Yes Ian it does use a piece of coax for the pickup. It should be a
>simple matter to modify it to the ferrite transformer type.
>
In which case, I would suggest a spot of Googling, or searching in the
usual handbooks. [At one time, every handbook had at least one article
on a DIY RF power meter.] There are many variants of the circuit, and
their complexity varies.

I've had a quick Google myself (eg 'rf hf power swr meter'), and at first, it seemed surprisingly difficult to find anything really basic. However, the inclusion of 'wattmeter' was much more successful. These are some of the hits:

<http://f1frv.free.fr/main3h_SWR_Bridges.html>

<http://www.ece.msstate.edu/courses/design/ece4542/2004_fall/rf_wattmeter/deliverables/design1/files/approach/approach.pdf>

<http://www.thiecom.de/pdf/MFJ-841.pdf>

<http://webcache.googleusercontent.com/search?q=cache:QB1n1PsxaL8J:sm0vpo.com/use/swrpwr.htm+rf+swr+power+meter&cd=30&hl=en&ct=clnk&gl=uk>

<http://speakyssb.blogspot.com/2009/06/another-swr-meter-part-ii.html>

<http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=19485>

--
Ian

4949. Re: Milking a 1,700 ft Antenna Tower

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-28 15:14:00 UTC
From: Boris Tuđan <boris.tudan@ka.t-com.hr>
Message-ID: <ictrjo$ia3$1@news2.carnet.hr>
Source record: 6499
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

Wayne wrote:
> While you are waiting for me to do your homework assignments, how about
> boning up on simple etiquette and trying to avoid PWD.
> (posting while drunk)

I won't loose too much time with you, Arabs will do the punishing.

Take care.

--
Keep 'em Rolling! http://www.mvpa.org/
MVPA: 29718

http://s186.photobucket.com/albums/x51/btudan/

73 de 9A6KTB - Boris

4950. antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-28 21:32:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a32a883e-14d3-49f3-a8f9-559d6dfbc75a@fj16g2000vbb.googlegroups.com>
Source record: 6500

I have been struggling with this for some time
so maybe somebody can set me straight.
We wind a flat plate spiral antenna and we get to a point where the
center medium becomes saturated with flux.
Now I add even more coils. What action does that precipitate? I would
like to think that the Meissner effect (perfect diamagnetism) then
takes over and swamps the external magnetic field as with a
superconductor (ie opposite to that of a paramagnetic) The skin
effect is thus removed allowing the current flow to the surface by
allowing the atomic structure to relax, and add to the current already
in place to allow fully efficient radiation as it now lies outside the
confines of conductor resistance.
This is my effort in determining what is it that drives the constant
impedance attributes of a meander type array?
Regards
Art

4951. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-28 22:37:28 UTC
From: "Helmut Wabnig"
Message-ID: <79m5f6hi14m6120jnumd1ne8prh6cl3n3p@4ax.com>
Source record: 6551

On Sun, 28 Nov 2010 13:32:09 -0800 (PST), Art Unwin
<arthurunwin@gmail.com> wrote:

>I have been struggling with this for some time
>so maybe somebody can set me straight.
>We wind a flat plate spiral antenna and we get to a point where the
>center medium becomes saturated with flux.
>Now I add even more coils. What action does that precipitate? I would
>like to think that the Meissner effect (perfect diamagnetism) then
>takes over and swamps the external magnetic field as with a
>superconductor (ie opposite to that of a paramagnetic) The skin
>effect is thus removed allowing the current flow to the surface by
>allowing the atomic structure to relax, and add to the current already
>in place to allow fully efficient radiation as it now lies outside the
>confines of conductor resistance.
>This is my effort in determining what is it that drives the constant
>impedance attributes of a meander type array?
>Regards
>Art
no meissner, no diamagnetism no swamps no paramagnetics
no relax, no outside,

Whatever.

Those broad band antennas work, that's for sure,
without your ingredients.

w.

4952. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-28 23:46:05 UTC
From: nm5k@wt.net
Message-ID: <0db72c91-689b-4f8b-ba97-2ac51b8278d7@i18g2000yqn.googlegroups.com>
Source record: 6552

On Nov 28, 3:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I have been struggling with this for some time
> so maybe somebody can set me straight.
> We wind a flat plate spiral antenna and we get to a point where the
> center medium becomes saturated with flux.
> Now I add even more coils. What action does that precipitate? I would
> like to think that the Meissner effect (perfect diamagnetism) then
> takes over and swamps the external magnetic field as with a
> superconductor (ie opposite to that of a paramagnetic) The skin
> effect is thus removed allowing the current flow to the surface by
> allowing the atomic structure to relax, and add to the current already
> in place to allow fully efficient radiation as it now lies outside the
> confines of conductor resistance.
> This is my effort in determining what is it that drives the constant
> impedance attributes of a meander type array?
> Regards
> Art

Are you questioning your effort, or all the false
theories you are conjuring?
For you to truly see the light, you will need to build one
of those antennas, and then do A/B comparison tests
against a known benchmark such as the dipole.
The fact that you will never even approach the efficiency
of a dipole will then dissolve all your other theories into
leftover turkey casserole. We could call it "Meander Casserole"
if one were desiring to patent it and publish the recipe. :/

4953. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-29 00:25:49 UTC
From: Spamm Trappe <spam_trap@invalid.invalid>
Message-ID: <slrnif5sod.2dl1.knock_yourself_out@shell.config.com>
Source record: 6553

On Sun, 28 Nov 2010 13:32:09 -0800 (PST), Art Unwin wrote:
> I have been struggling with this for some time

You don't have to tell anyone about that in _this_ ng!

4954. grundig satellit 750 antenna replacement store

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-29 00:32:19 UTC
From: bunsack <bunsack.738ebd9@radiobanter.com>
Message-ID: <bunsack.738ebd9@radiobanter.com>
Source record: 6554

where do go to replace this antenna

--
bunsack

4955. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-29 19:18:16 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <9b8f4ba9-21cd-4944-93c1-e29fb5f7ee1a@z17g2000prz.googlegroups.com>
Source record: 6555

On Nov 28, 3:58 am, Ian Jackson
<ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> In message
> <0edba76c-b67c-43a4-94a5-831acdd38...@f20g2000vbc.googlegroups.com>,
> JIMMIE <JIMMIEDEE...@YAHOO.COM> writes
>
> >On Nov 27, 6:50 pm, Ian Jackson
> ><ianREMOVETHISjack...@g3ohx.demon.co.uk> wrote:
> >> In message
> >> <4170c333-48a8-4341-9ded-1376fb71a...@z20g2000pra.googlegroups.com>,
> >> JIMMIE <JIMMIEDEE...@YAHOO.COM> writes>I have a Homebrewed SWR meter
> >>I was thinking of calibrating it to read
> >> >power by appling a dial for the "full scale adjust" potentiometer.
> >> >Meter would be initially calibrated against a know accurate wattmeter.
> >> >Variable HIgh Power RF source would be an Amateur band SSB TX
> >> >modulated by a single tone audio source. Power varied by adjusting the
> >> >level of the tone. Power would be read from the dial pointer. One
> >> >thought is to use a difference meter reference for each ham band ....
> >> >10M full scale 15M a little less. Any thought s on this method would
> >> >be appreciated.
>
> >> Provided you calibrate it, the meter should be able to 'dual-task' as a
> >> power meter. An RF power meter is really only an SWR meter which is
> >> calibrated accurately in power.
>
> >> The variation of the SWR meter's sensitivity from band to band depends
> >> on which type of circuit it uses.
>
> >> If it's the 'old-fashioned' type, which uses a short length of
> >> air-spaced coax with an additional wire inserted as a coupling loop, the
> >> sensitivity increases significantly with increasing frequency.
>
> >> If it is of the ferrite transformer type, the sensitivity should be
> >> pretty constant on all bands, and that is the best type to use for power
> >> measurements.
> >> --
> >> Ian
>
> >Yes Ian it does use a piece of coax for the pickup. It should be a
> >simple matter to modify it to the ferrite transformer type.
>
> In which case, I would suggest a spot of Googling, or searching in the
> usual handbooks. [At one time, every handbook had at least one article
> on a DIY RF power meter.] There are many variants of the circuit, and

> their complexity varies.
>
> I've had a quick Google myself (eg 'rf hf power swr meter'), and at
> first, it seemed surprisingly difficult to find anything really basic.
> However, the inclusion of 'wattmeter' was much more successful. These
> are some of the hits:
>
> <http://f1frv.free.fr/main3h_SWR_Bridges.html>
>
> <http://www.ece.msstate.edu/courses/design/ece4542/2004_fall/rf_wattme...>
>
> <http://www.thiecom.de/pdf/MFJ-841.pdf>
>
> <http://webcache.googleusercontent.com/search?q=cache:QB1n1PsxaL8J:sm0vpo
> .com/use/swrpwr.htm+rf+swr+power+meter&cd=30&hl=en&ct=clnk&gl=uk>
>
> <http://speakyssb.blogspot.com/2009/06/another-swr-meter-part-ii.html>
>
> <http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=19485>
>
> --
> Ian

Thanks Ian. Found one in my junk box with a little postage stamp sized meter(broken). Removed the innards from it replacing the the reflectometer in the other unit. This pickup seems to have a lot more output than the old trough type that was in it. Will have to play with some resistor values to get it to play well with the metering circuit.

Jimmie

4956. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-29 19:51:18 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E4045ACBFDA2nonenowhere@61.9.134.55>
Source record: 6556

If it is the type where calibration varied with frequency, you could copy what was done with some commercial instruments of the seventies, eg the Oskerblok.

1. Calibrate the sensitivity knob with a logging scale.

2. Add a power scale to the meter face.

3. Measure a set of points of sensitivity setting vs frequency where the meter scale is correctly calibrated for power.

4. Create an interpolated smooth graph as a lookup, and attach it to the instrument.

Be prepared for significant linearity error at the low frequency end if you calibrated the meter for low fsd power.

If it is a Bruene type sensor, the response should be reasonably flat within a frequency range which you must establish.

The interesting thing with either type of sensor (and both are used in Bird elements, though the first type is frequency compensated), is that although the Pfwd and Pref power readings are of each of no value by themselves, the power in the line is Pfwd-Pref irrespective of the load impedance or line Zo.

Owen

4957. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-29 22:42:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <bf893264-d6d0-43bc-8f79-7af4e43bf44c@35g2000prb.googlegroups.com>
Source record: 6557

On Nov 28, 9:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I have been struggling with this for some time
> so maybe somebody can set me straight.
> We wind a flat plate spiral antenna and we get to a point where the
> center medium becomes saturated with flux.
> Now I add even more coils. What action does that precipitate? I would
> like to think that the Meissner effect (perfect diamagnetism) then
> takes over and swamps the external magnetic field as with a
> superconductor (ie opposite to that of a paramagnetic) The skin
> effect is thus removed allowing the current flow to the surface by
> allowing the atomic structure to relax, and add to the current already
> in place to allow fully efficient radiation as it now lies outside the
> confines of conductor resistance.
> This is my effort in determining what is it that drives the constant
> impedance attributes of a meander type array?
> Regards
> Art

what is the 'medium' that gets saturated?

4958. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-29 23:43:56 UTC
From: me9@privacy.net
Message-ID: <517E00571F%brian13434@lycos.co.uk>
Source record: 6558

On 29 Nov,
K1TTT <k1ttt@arrl.net> wrote:

>
> what is the 'medium' that gets saturated?

Aether.

--
BD
Change lycos to yahoo to reply

4959. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-30 00:42:49 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <2627751a-5eec-4bed-ae4e-183c4966895c@p1g2000yqm.googlegroups.com>
Source record: 6559

On Nov 29, 4:42 pm, K1TTT <k1...@arrl.net> wrote:
> On Nov 28, 9:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > I have been struggling with this for some time
> > so maybe somebody can set me straight.
> > We wind a flat plate spiral antenna and we get to a point where the
> > center medium becomes saturated with flux.
> > Now I add even more coils. What action does that precipitate? I would
> > like to think that the Meissner effect (perfect diamagnetism) then
> > takes over and swamps the external magnetic field as with a
> > superconductor (ie opposite to that of a paramagnetic) The skin
> > effect is thus removed allowing the current flow to the surface by
> > allowing the atomic structure to relax, and add to the current already
> > in place to allow fully efficient radiation as it now lies outside the
> > confines of conductor resistance.
> > This is my effort in determining what is it that drives the constant
> > impedance attributes of a meander type array?
> > Regards
> > Art
>
> what is the 'medium' that gets saturated?

Air

4960. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-30 01:35:14 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3ce217a4-0410-4794-a7cd-696dd55034b0@z9g2000yqz.googlegroups.com>
Source record: 6560

On Nov 29, 4:42 pm, K1TTT <k1...@arrl.net> wrote:
> On Nov 28, 9:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > I have been struggling with this for some time
> > so maybe somebody can set me straight.
> > We wind a flat plate spiral antenna and we get to a point where the
> > center medium becomes saturated with flux.
> > Now I add even more coils. What action does that precipitate? I would
> > like to think that the Meissner effect (perfect diamagnetism) then
> > takes over and swamps the external magnetic field as with a
> > superconductor (ie opposite to that of a paramagnetic) The skin
> > effect is thus removed allowing the current flow to the surface by
> > allowing the atomic structure to relax, and add to the current already
> > in place to allow fully efficient radiation as it now lies outside the
> > confines of conductor resistance.
> > This is my effort in determining what is it that drives the constant
> > impedance attributes of a meander type array?
> > Regards
> > Art
>
> what is the 'medium' that gets saturated?

As a furthur background to the question.
I modelled a two coil spring to make a closed circuit. Running thru
the swr vs frequency I find that when I get into the Ghz realm the
anti resonance value migrates to 52 ohms with low
reactance escursions. Later the resistance value drops to single
digits and then fraction of ohms together with slight reactance
escursions
with R being less than the wire used. At the same time gain shot up to
the high twenties in cyclic form but with the extremely low impedance.
The current flow at the feed point was 100% surge quickly dropping to
a constant 25% current flow .I then made a 5 wire tape
very close wound pancake about 24" dia which I placed inside a bowl
shield which was grounded. This provided a fairly constant impedance
with what appears to the ear to be a doubling of more of gain against
a quiet background. I have nothing else to add except the computer
program does have a precipetous drop in impedance which sort of
alignes with superconductors when it changes over to perfect
diamagnetic, where skin factor of the conductor is removed allowing
current flow outside the conductor as shown by its low impedance. The
pancakes (stacked) with short length compared to a linear solenoid

are fed at the center where surge current is at its highest and where all wires tape ends are electrically connected together to complete a closed mesh type tape. The same can be done with a 100 foot roll insect window mesh with the material backed by thin duct tape.
Thus the point of the question, What propels
the reverse swamping of the previously weak
diamagnetic fields?
Thanks for looking
Art
With the current leaving the conductor the two vectors for the most efficient elevation and thrust (are vector with heliical spin) to the surface residing particles as shown by Gauss which also aligns with Maxwell.

4961. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-30 02:30:35 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <64742616-8150-48b7-b537-b2b8b7806d76@z9g2000yqz.googlegroups.com>
Source record: 6561

On Nov 29, 7:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Nov 29, 4:42 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Nov 28, 9:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > I have been struggling with this for some time
> > > so maybe somebody can set me straight.
> > > We wind a flat plate spiral antenna and we get to a point where the
> > > center medium becomes saturated with flux.
> > > Now I add even more coils. What action does that precipitate? I would
> > > like to think that the Meissner effect (perfect diamagnetism) then
> > > takes over and swamps the external magnetic field as with a
> > > superconductor (ie opposite to that of a paramagnetic) The skin
> > > effect is thus removed allowing the current flow to the surface by
> > > allowing the atomic structure to relax, and add to the current already
> > > in place to allow fully efficient radiation as it now lies outside the
> > > confines of conductor resistance.
> > > This is my effort in determining what is it that drives the constant
> > > impedance attributes of a meander type array?
> > > Regards
> > > Art
>
> > what is the 'medium' that gets saturated?
>
> As a furthur background to the question.
> I modelled a two coil spring to make a closed circuit. Running thru
> the swr vs frequency I find that when I get into the Ghz realm the
> anti resonance value migrates to 52 ohms with low
> reactance escursions. Later the resistance value drops to single
> digits and then fraction of ohms together with slight reactance
> escursions
> with R being less than the wire used. At the same time gain shot up to
> the high twenties in cyclic form but with the extremely low impedance.
> The current flow at the feed point was 100% surge quickly dropping to
> a constant 25% current flow .I then made a 5 wire tape
> very close wound pancake about 24" dia which I placed inside a bowl
> shield which was grounded. This provided a fairly constant impedance
> with what appears to the ear to be a doubling of more of gain against
> a quiet background. I have nothing else to add except the computer
> program does have a precipetous drop in impedance which sort of
> alignes with superconductors when it changes over to perfect
> diamagnetic, where skin factor of the conductor is removed allowing

> current flow outside the conductor as shown by its low impedance. The
> pancakes (stacked) with short length compared to a linear solenoid
> are fed at the center where surge current is at its highest and where
> all wires tape ends are electrically connected together to complete a
> closed mesh type tape. The same can be done with a 100 foot roll
> insect window mesh with the material backed by thin duct tape.
> Thus the point of the question, What propels
> the reverse swamping of the previously weak
> diamagnetic fields?
> Thanks for looking
> Art
> With the current leaving the conductor the two vectors for the most
> efficient elevation and thrust (are vector with heliical spin) to
> the surface residing particles as shown by Gauss which also aligns
> with Maxwell.

One thing I should mention is when the "surface" current flow begins
the radiation pattern goes thru a 90 degree phase change(a connection
to the EH driven antennas perhaps?)
I am now re writing the program with the x and y coordinates
interchanged to see if some clues
come to light when f/b and gain figures change from the X to the Y
axis
Art

4962. Re: Glen Martin Engineering = Rooftop Towers

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-30 10:02:30 UTC
From: ml <m@di.net>
Message-ID: <m-F4DE31.05023030112010@news.optonline.net>
Source record: 6562

In article <NylBo.10352$lL3.5047@newsfe08.iad>,
"Barry" <none@nospam.org> wrote:

> "dave" <dave@dave.dave> wrote in message
> news:4cd555f2$0$5486$bd467cd0@news.dslextreme.com...
> >
> > http://www.starkelectronic.com/cmhard.htm
> >
>
> This site is primarily chimney mounts and a few galvanized steel tripods.
> The house does not have a chimney (after all, I live in SC), and a tower
> with four legs is preferable to a tripod when roof-mounting an antenna at
> the apex.
>
> Barry WA4VZQ

that alot of posts regarding possibly not liking Glen Martin,

it's good to shop around and plenty of other companies

why not just check out one of the others? like rohn or the others
mentioned here?

even more choices via google

4963. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-11-30 21:50:35 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <5c52ec1d-f61b-453a-8990-c4892501724f@y23g2000yqd.googlegroups.com>
Source record: 6563

On Nov 29, 2:51 pm, Owen Duffy <n...@no.where> wrote:
> If it is the type where calibration varied with frequency, you could copy
> what was done with some commercial instruments of the seventies, eg the
> Oskerblok.
>
> 1. Calibrate the sensitivity knob with a logging scale.
>
> 2. Add a power scale to the meter face.
>
> 3. Measure a set of points of sensitivity setting vs frequency where the
> meter scale is correctly calibrated for power.
>
> 4. Create an interpolated smooth graph as a lookup, and attach it to the
> instrument.
>
> Be prepared for significant linearity error at the low frequency end if
> you calibrated the meter for low fsd power.
>
> If it is a Bruene type sensor, the response should be reasonably flat
> within a frequency range which you must establish.
>
> The interesting thing with either type of sensor (and both are used in
> Bird elements, though the first type is frequency compensated), is that
> although the Pfwd and Pref power readings are of each of no value by
> themselves, the power in the line is Pfwd-Pref irrespective of the load
> impedance or line Zo.
>
> Owen

Owen, the meter is just a 1 to 100 linear scale meter on on 100 uA
movement. Ive used it for years just to "guesstamate" VSWR. Not really
as inaccurately as one may think. My thought was to cal a scale for
the "full scale set" knob so that when the meter is adjusted for full
scale the knob position will indicate power. Part of the reason for
doing it this way is that it is a nice large good quality meter and I
dont want to risk damaging it by taking it apart. I may have other
uses for it later on. Im thinking "linear scale capacitance meter
similar to the heathkit model. I intend to use an NE555 osc instead
of vacuum tube osc should I do this .

Jimmie

4964. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 02:23:57 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <okbbf6hfj5i2rlreha2lkjcivkbhb8i6et@4ax.com>
Source record: 6564

On Tue, 30 Nov 2010 13:50:35 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>Owen, the meter is just a 1 to 100 linear scale meter on on 100 uA
>movement. Ive used it for years just to "guesstamate" VSWR. Not really
>as inaccurately as one may think. My thought was to cal a scale for
>the "full scale set" knob so that when the meter is adjusted for full
>scale the knob position will indicate power. Part of the reason for
>doing it this way is that it is a nice large good quality meter and I
>dont want to risk damaging it by taking it apart. I may have other
>uses for it later on. Im thinking "linear scale capacitance meter
>similar to the heathkit model. I intend to use an NE555 osc instead
>of vacuum tube osc should I do this .
>
>Jimmie

Hi Jimmie,

On reading this, several thoughts came to mind. You write about
having used a linear scale to guesstimate SWR. Sounds good and it
immediately leads us to an existential question:
"What value is there in knowing the value of SWR?"

The first motivation following a glance at the SWR meter is to LOWER
the SWR, for whatever value it may reveal. In this sense, the value
is a trivial consideration - relative indications are enough to
achieve the goal.

Using the feed from a Bruene style detector pair into a Log-Amp will
give you a power response in a linear scale. If you want to know the
SWR with accuracy, you can throw the reverse switch for the second
power reading and compute, or you can throw the reverse switch and
start twisting nobs to make the power indication go away.
consider:
http://rfdesign.com/mag/503rfd33.pdf
Says it all in one page - with pictures, schematics, and math too.

I don't quite catch the drift of the "capacitance meter" paired up
with NE555 osc. I presume you mean to construct a DC-Freq converter?

73's
Richard Clark, KB7QHC

4965. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 05:18:44 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <eec57ed4-60c8-41d9-96cd-500adf3578cb@29g2000prb.googlegroups.com>
Source record: 6565

On Nov 30, 9:23 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Tue, 30 Nov 2010 13:50:35 -0800 (PST), JIMMIE
>
> <JIMMIEDEE...@YAHOO.COM> wrote:
> >Owen, the meter is just a 1 to 100 linear scale meter on on 100 uA
> >movement. Ive used it for years just to "guesstamate" VSWR. Not really
> >as inaccurately as one may think. My thought was to cal a scale for
> >the "full scale set" knob so that when the meter is adjusted for full
> >scale the knob position will indicate power. Part of the reason for
> >doing it this way is that it is a nice large good quality meter and I
> >dont want to risk damaging it by taking it apart. I may have other
> >uses for it later on. Im thinking "linear scale capacitance meter
> >similar to the heathkit model. I intend to use an NE555 osc instead
> >of vacuum tube osc should I do this .
>
> >Jimmie
>
> Hi Jimmie,
>
> On reading this, several thoughts came to mind. You write about
> having used a linear scale to guesstimate SWR. Sounds good and it
> immediately leads us to an existential question:
>   "What value is there in knowing the value of SWR?"
>
> The first motivation following a glance at the SWR meter is to LOWER
> the SWR, for whatever value it may reveal. In this sense, the value
> is a trivial consideration - relative indications are enough to
> achieve the goal.
>
> Using the feed from a Bruene style detector pair into a Log-Amp will
> give you a power response in a linear scale. If you want to know the
> SWR with accuracy, you can throw the reverse switch for the second
> power reading and compute, or you can throw the reverse switch and
> start twisting nobs to make the power indication go away.
> consider:http://rfdesign.com/mag/503rfd33.pdf
> Says it all in one page - with pictures, schematics, and math too.
>
> I don't quite catch the drift of the "capacitance meter" paired up
> with NE555 osc. I presume you mean to construct a DC-Freq converter?
>
> 73's
> Richard Clark, KB7QHC

Heathkit made a linear scale capacitance meter years ago dont remember the model #. CM? I think. Circuit use a tube in a multivibrator configuration the NE555 is just a more modern approach to th same circuit. Cap to be tested is in series with the osc and meter. Current through the circuit is a linear function of capacitance or for that matter frequency. I never got around and may never still build the circuit because I can always bread board a little circuit to use with my function generator when I want to measure a capacitor. I cal the circuit using some precision caps before use. I agree with your view of usefulness of knowing SWR. I use it mostly as a relative health indicator of my antenna system. . A high SWR on my 40M dipole may indicate something is not well and I should look out the window while an unrealistically low reading on 2M probably means I have water in my coax.

BTW the reason I bought the little home brew SWR meter was to source the meter and box for this project. My lack of real need for it has kept the little hamfest treasure an SWR bridge.

Jimmie

4966. Crossposting Permitted to rec.radio.amateur.moderated

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 07:00:02 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/moderated/crossposting-1-1291186801@panix.com>
Source record: 6566
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/moderated/crossposting
Revision: 1.1 2009/04/12 19:42:04
Posting-Frequency: posted monthly
URL: http://www.panix.com/~rram/usenet/rram/index.html

Changes followed by "|".

After a 30-day public discussion and feedback period to gauge reader
opinions in March of 2009:

http://groups.google.com/group/rec.radio.amateur.moderated/browse_thread/thread/d7d337db35
f23326

the rec.radio.amateur.moderated Moderation Team has decided to consider
amending its charter, and permit limited simultaneous crossposting to
rec.radio.amateur.moderated and one other unmoderated
amateur-radio-related discussion newsgroup. We are currently trying
this on a temporary basis (90 days, through early July 2009), and adopt
it permanently if successful.

Approved rec.radio.amateur.* newsgroups are those that are currently
listed in the latest version of the "List of Big Eight Newsgroups" which
is crossposted monthly to news.announce.newgroups, news.groups, and
news.lists.misc.

Approved alt.radio.amateur.* and alt.ham-radio.* newsgroups are those
that have been created consistent with the suggestions in "So You Want
to Create an Alt Newsgroup" at:

http://www.faqs.org/faqs/alt-creation-guide/

Approved regional hierarchy newsgroups are those that contain either
"radio.amateur" or "ham-radio" in their names, including
uk.radio.amateur and aus.radio.amateur.misc.

We will make every reasonable effort to keep our list of approved
newsgroups up-to-date. In case we have overlooked any, and a submission
is rejected in error as a result, the rejected submitter can E-mail us
at our administrative contact address (in the signature at the bottom of
this article, and the default Reply-To for the rejection message)
requesting that it be added, and that the article be approved. We may
still choose to reject articles crossposted to any alt.* newsgroup with
an inappropriate name, including obscene language, embedded
name-calling, or encouragement of unlawful conduct.
```

Please direct any comments, questions, or criticisms to
rec-radio-amateur-moderated-request@panix.com.

4967. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 11:31:00 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <id5bi5$37i$1@news.eternal-september.org>
Source record: 6567

JIMMIE Inscribed thus:

> On Nov 30, 9:23 pm, Richard Clark <kb7...@comcast.net> wrote:
>> On Tue, 30 Nov 2010 13:50:35 -0800 (PST), JIMMIE
>>
>> <JIMMIEDEE...@YAHOO.COM> wrote:
>> >Owen, the meter is just a 1 to 100 linear scale meter on on 100 uA
>> >movement. Ive used it for years just to "guesstamate" VSWR. Not
>> >really as inaccurately as one may think. My thought was to cal a
>> >scale for the "full scale set" knob so that when the meter is
>> >adjusted for full scale the knob position will indicate power. Part
>> >of the reason for doing it this way is that it is a nice large good
>> >quality meter and I dont want to risk damaging it by taking it
>> >apart. I may have other uses for it later on. Im thinking "linear
>> >scale capacitance meter similar to the heathkit model. I intend to
>> >use an NE555 osc instead of vacuum tube osc should I do this .
>>
>> >Jimmie
>>
>> Hi Jimmie,
>>
>> On reading this, several thoughts came to mind. You write about
>> having used a linear scale to guesstimate SWR. Sounds good and it
>> immediately leads us to an existential question:
>> "What value is there in knowing the value of SWR?"
>>
>> The first motivation following a glance at the SWR meter is to LOWER
>> the SWR, for whatever value it may reveal. In this sense, the value
>> is a trivial consideration - relative indications are enough to
>> achieve the goal.
>>
>> Using the feed from a Bruene style detector pair into a Log-Amp will
>> give you a power response in a linear scale. If you want to know the
>> SWR with accuracy, you can throw the reverse switch for the second
>> power reading and compute, or you can throw the reverse switch and
>> start twisting nobs to make the power indication go away.
>> consider:http://rfdesign.com/mag/503rfd33.pdf
>> Says it all in one page - with pictures, schematics, and math too.
>>
>> I don't quite catch the drift of the "capacitance meter" paired up
>> with NE555 osc. I presume you mean to construct a DC-Freq converter?
>>
>> 73's
>> Richard Clark, KB7QHC

>
> Heathkit made a linear scale capacitance meter years ago dont remember
> the model #. CM? I think. Circuit use a tube in a multivibrator
> configuration the NE555 is just a more modern approach to th same
> circuit. Cap to be tested is in series with the osc and meter. Current
> through the circuit is a linear function of capacitance or for that
> matter frequency. I never got around and may never still build the
> circuit because I can always bread board a little circuit to use with
> my function generator when I want to measure a capacitor. I cal the
> circuit using some precision caps before use. I agree with your view
> of usefulness of knowing SWR. I use it mostly as a relative health
> indicator of my antenna system. . A high SWR on my 40M dipole may
> indicate something is not well and I should look out the window while
> an unrealistically low reading on 2M probably means I have water in my
> coax.
>
> BTW the reason I bought the little home brew SWR meter was to source
> the meter and box for this project. My lack of real need for it has
> kept the little hamfest treasure an SWR bridge.
>
> Jimmie

Jimmie.
Have you seen this ?
<http://ironbark.bendigo.latrobe.edu.au/~rice/lc/>
I've just built this version.
<http://panteltje.com/panteltje/pic/lc_pic>

--
Best Regards:
Baron.

4968. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 19:23:29 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E4240F6D9517nonenowhere@61.9.134.55>
Source record: 6568

If I have followed the thread properlty, you have a VSWR meter and you have now decided to replace the coupler. The meter movement is actually intended for another project.

It might not have occurred to you that if the diode voltage drop is small wrt the RF voltage being rectified, that the 0 to 100 meter scale could be taken to be rho (the magnitude of the complex reflection coefficient) in percent. But, there is an if in there, verification is needed.

The calculator at http://www.vk1od.net/calc/tl/vswrc.php accepts rho as an input (it is called the voltage reflection coefficient in the calculator). So, if you were measuring SWR and you had 'set' the fwd direction for fsd, then read for example 15/100 reflected, rho=0.15 and the calculator will tell you that VSWR=1.35.

Owen

4969. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 20:13:12 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <id6a58$sj0$2@news.eternal-september.org>
Source record: 6569

Owen Duffy Inscribed thus:

> If I have followed the thread properlty, you have a VSWR meter and you
> have now decided to replace the coupler. The meter movement is
> actually intended for another project.
>
> It might not have occurred to you that if the diode voltage drop is
> small wrt the RF voltage being rectified, that the 0 to 100 meter
> scale could be taken to be rho (the magnitude of the complex
> reflection coefficient) in percent. But, there is an if in there,
> verification is needed.
>
> The calculator at http://www.vk1od.net/calc/tl/vswrc.php accepts rho
> as an input (it is called the voltage reflection coefficient in the
> calculator). So, if you were measuring SWR and you had 'set' the fwd
> direction for fsd, then read for example 15/100 reflected, rho=0.15
> and the calculator will tell you that VSWR=1.35.
>
> Owen

In other words, half scale will be 3:1 !

--
Best Regards:
Baron.

4970. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 20:34:55 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E424D11B81EFnonenowhere@61.9.134.55>
Source record: 6570

Baron <baron.nospam@linuxmaniac.nospam.net> wrote in news:id6a58$sj0$2
@news.eternal-september.org:
>
> In other words, half scale will be 3:1 !

If you think that the entire content is captured in your summary, you
aren't as clever as you think.

Jimmie and other readers might glean more from it than you apparently did.

Owen

4971. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 20:46:39 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E424F0EA4C1Enonenowhere@61.9.134.55>
Source record: 6571

justme <jbleaux@gmail.com> wrote in
news:i0n1d69u7it6006ho9506n06cf097i7j6s@4ax.com:

> Hi, Folks.
>
> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> configuration will not do. PVC pipe will not do. Welding rod would
> do but it is expensive.
>
> I was thinking of Fiberglas tape, twisted and put in place and then
> resin applied but that is very cumbersome.

These might not be regarded as cheap, but they are designed for purpose:
http://www.tet-emtron.com/product-p/te-450sp.htm . They are not 4 to 5
inches wide, the seller claims about 450 ohms using 2mm diameter bare wire.

If you used insulated wire, Zo would be a little higher (eg 1mm conductor
would give somewhere between 500 and 600 ohms).

Owen

4972. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 21:01:10 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <id6cv7kto1@news.eternal-september.org>
Source record: 6572

Owen Duffy Inscribed thus:

> Baron <baron.nospam@linuxmaniac.nospam.net> wrote in news:id6a58$sj0$2
> @news.eternal-september.org:
>>
>> In other words, half scale will be 3:1 !
>
> If you think that the entire content is captured in your summary, you
> aren't as clever as you think.
>
> Jimmie and other readers might glean more from it than you apparently
> did.
>
> Owen

Yes I missed some words ! It wasn't very clear at all.
I should have said that the reverse power would be 3:1 at half scale.

The point being that if you adjust forward power for full scale meter
reading then 3:1 reverse power will be at half scale, 2:1 quarter scale
etc.

--
Best Regards:
Baron.

4973. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 21:15:22 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E4253EC0D529nonenowhere@61.9.134.55>
Source record: 6573

Baron <baron.nospam@linuxmaniac.nospam.net> wrote in news:id6cv7kto1
@news.eternal-september.org:

...
> The point being that if you adjust forward power for full scale meter
> reading then 3:1 reverse power will be at half scale, 2:1 quarter scale

"then 3:1 reverse power will be at half scale" is gobbledegook.

Would you like another guess?

If diode voltage drop is insignificant, quarter scale (rho=0.25) equates to
VSWR=1.67.

Owen

4974. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 22:21:52 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <86ffc363-6c23-435a-94b9-8b746b0da80f@30g2000yql.googlegroups.com>
Source record: 6574

On Dec 1, 2:23 pm, Owen Duffy <n...@no.where> wrote:
> If I have followed the thread properlty, you have a VSWR meter and you have
> now decided to replace the coupler. The meter movement is actually intended
> for another project.
>
> It might not have occurred to you that if the diode voltage drop is small
> wrt the RF voltage being rectified, that the 0 to 100 meter scale could be
> taken to be rho (the magnitude of the complex reflection coefficient) in
> percent. But, there is an if in there, verification is needed.
>
> The calculator athttp://www.vk1od.net/calc/tl/vswrc.phpaccepts rho as an
> input (it is called the voltage reflection coefficient in the calculator).
> So, if you were measuring SWR and you had 'set' the fwd direction for fsd,
> then read for example 15/100 reflected, rho=0.15 and the calculator will
> tell you that VSWR=1.35.
>
> Owen

True enough, but checking SWR isnt my main concern I can interpolate
that well enough. I was just wondering if my idea for measuring power
via a calibrated full scale adjust dial would be a valid procedure.

Jimmie

4975. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 22:49:41 UTC
From: Owen Duffy <none@no.where>
Message-ID: <Xns9E4263E7E8698nonenowhere@61.9.134.55>
Source record: 6575

JIMMIE <JIMMIEDEE123@YAHOO.COM> wrote in
news:86ffc363-6c23-435a-94b9-8b746b0da80f@30g2000yql.googlegroups.com:

...
> True enough, but checking SWR isnt my main concern I can interpolate
> that well enough. I was just wondering if my idea for measuring power
> via a calibrated full scale adjust dial would be a valid procedure.

You could do it the way you describe. The question is not whether it can be done, but rather what the expected error is. Meausuring RF power is a challenge, and adding the potentiometer setting as a variable element adds error. That was a weakness with the Oskerblock sheme I mentioned earlier.

I don't really understand the issue with the meter. I see meter movements on Futurlec for $10.

An alternative approach is to use a DMM with a lookup graph to interpolate detector voltage to power. So, you put a jack on the instrument to pick of the DC from the fwd and rev detectors, and do up a cal chart relating that voltage to power.

I have added a 1/4" TRS jack to a commercial VSWR / Directional Wattmeter doing just that, and have created a cal chart in a spreadsheet that allows cubic spline interpolation for high resolution power measurement. Whilst improving the resolution doesn't improve absolute accuracy, the high resolution capability is really handy for some tests.

An article describing the technique is at http://www.vk1od.net/measurement/irpm.htm , and it includes a link to the spreadsheet which has the cubic spline interpolation feature.

Owen

4976. Re: SWR meter as power meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-01 23:42:16 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <id6mgo$g5k$1@news.jpl.nasa.gov>
Source record: 6576

Richard Clark wrote:
> On Tue, 30 Nov 2010 13:50:35 -0800 (PST), JIMMIE
> <JIMMIEDEE123@YAHOO.COM> wrote:
>
>> Owen, the meter is just a 1 to 100 linear scale meter on on 100 uA
>> movement. Ive used it for years just to "guesstamate" VSWR. Not really
>> as inaccurately as one may think. My thought was to cal a scale for
>> the "full scale set" knob so that when the meter is adjusted for full
>> scale the knob position will indicate power. Part of the reason for
>> doing it this way is that it is a nice large good quality meter and I
>> dont want to risk damaging it by taking it apart. I may have other
>> uses for it later on. Im thinking "linear scale capacitance meter
>> similar to the heathkit model. I intend to use an NE555 osc instead
>> of vacuum tube osc should I do this .
>>
>> Jimmie
>
> Hi Jimmie,
>
> On reading this, several thoughts came to mind. You write about
> having used a linear scale to guesstimate SWR. Sounds good and it
> immediately leads us to an existential question:
> "What value is there in knowing the value of SWR?"
>
> The first motivation following a glance at the SWR meter is to LOWER
> the SWR, for whatever value it may reveal. In this sense, the value
> is a trivial consideration - relative indications are enough to
> achieve the goal.
>
> Using the feed from a Bruene style detector pair into a Log-Amp will
> give you a power response in a linear scale.

These days, unless you're deliberately trying to retrofit, you'd be
better off with a scratch design using the very nice Analog Devices RF
power detector chips (huge dynamic range, temperature compensated) and a
microcontroller to do the calibration for directivity. A fancy one
might even attempt measure the frequency and do that part of the cal as
well.

Once you're not trying to go directly from detector device to a meter,
you can do a lot of useful stuff. If you still want a meter needle, have
the microcontroller put out an analog signal.

It would probably even be cheaper than trying to make a really flat
coupler with good directivity.

4977. homemade balun question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-02 12:24:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrniff3u1.456.gsm@cable.mendelson.com>
Source record: 6577

I made a 300 ohm twinlead folded dipole that is resonant at around 15mHz.
It was cut because I wanted to try some 20m operation with an indoor antenna
and that fit exactly the space.

The ham I wanted to reach was km away, across a valley. I figured with a
tuner and a few watts, I could reach him.

I never used it for that, he moved before we ever got together.

I put the antenna up outside to use for an SWL antenna. It is fed with
about 6 feet of twinlead and then 75 ohm coax. It worked best at 15mHz,
and slowly degraded as frequencies got lower. It was useable at 7mHz for
reception.

At MW frequencies it's basicly a noise pickup and no signals could be
received.

I made a balun from 9 trifilar turns of wire that I had (.5mm plastic
insulated). The instructions I was following said to use 10 turns of
#14 enamel on a wider core, but 9 were all that fit on the core I had.
The core is 8mmx80mm with a permeability of 400.

When I hooked it up to the antenna, I found that the resonant frequency
shifted to 14mHz. My guess is that the feedline now is part of the antenna.
However at 7Mhz it is totally dead. So dead that a signal that reads S5 on
my receiver using a 2m JPole hung from the near end of the folded dipole
as an antenna does not move the s-meter at all. The null extends from
around 6950 kHz up to around 7300.

The question is why and what can I do to improve it?

Is it because there is null in the system because it is resonant at 14mHz and
it is unresonant at 1/2 of that? Is it because the balun acts as a 7mHz trap?

I now have some cores that are 8x140 and 10x200. If I make a balun using the
same wire (enamled wire is not available to me) with a different number of
turns, will it behave differently? For example, if I make a balun with a few
more turns, will the null move down?

My guestimate is that I can get 15 turns on a 140mm rod, and 22 slightly larger
ones on a 200mm rod.

How far down can I go? Will moving it down affect upper frequency response?
Can I move it down far enough that the balun will do something useful
at AM broadcast frequencies?

Some of the 10mm rods were broken into pieces in shipping. Does that affect
their performance? Can I just use the pieces as they are?

Thanks in advance,

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Those who cannot remember the past are condemned to misquote it.

4978. Re: homemade balun question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-02 19:45:13 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <28sff694n7pjf6e7mj5m1a19ss72jrrgf7@4ax.com>
Source record: 6578

On Thu, 2 Dec 2010 12:24:04 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

Hi Geoff,

This is a pretty busy agenda:

>I made a 300 ohm twinlead folded dipole that is resonant at around 15mHz.
>It was cut because I wanted to try some 20m operation with an indoor antenna
>and that fit exactly the space.

This should have been foreboding (resonance so near by?).

>I put the antenna up outside to use for an SWL antenna. It is fed with
>about 6 feet of twinlead and then 75 ohm coax. It worked best at 15mHz,
>and slowly degraded as frequencies got lower. It was useable at 7mHz for
>reception.
>
>At MW frequencies it's basicly a noise pickup and no signals could be
>received.

These signal reports sound more like issues of propagation than issues
of the antenna. In other words: normal.

>I made a balun from 9 trifilar turns of wire that I had (.5mm plastic
>insulated). The instructions I was following said to use 10 turns of
>#14 enamel on a wider core, but 9 were all that fit on the core I had.
>The core is 8mmx80mm with a permeability of 400.

You say instructions, but instructions for what (to what end, to what
purpose)? Why trifilar? This is suggestive of a voltage BalUn, which
is not going to give you the choking action you need to reduce noise
problems.

Keep your BalUn as is (I don't think it is going to materially improve
anything) and add a W2DU style to its input.

>When I hooked it up to the antenna, I found that the resonant frequency
>shifted to 14mHz. My guess is that the feedline now is part of the antenna.
>However at 7Mhz it is totally dead. So dead that a signal that reads S5 on
>my receiver using a 2m JPole hung from the near end of the folded dipole
>as an antenna does not move the s-meter at all. The null extends from
>around 6950 kHz up to around 7300.

This still sounds like the vagaries of propagation. Do you keep logs?

>The question is why and what can I do to improve it?

Your lead out to the antenna could have a short/open in it. I presume
you use your tuner, however of late I have been given the impression
that SWLers of this generation sneer at it in favor of the magic
BalUns they chase on the Internet (given you are a frequent poster
here, I give you the benefit of the doubt).

>Is it because there is null in the system because it is resonant at 14mHz and
>it is unresonant at 1/2 of that? Is it because the balun acts as a 7mHz trap?

The electrical properties are unrelated to the pattern properties. We
speak of nulls in a pattern.

If you are referencing a null in tuning, then that would occur at
either resonance, or anti-resonance (broadly speaking). If this is
your intent, then, yes, "nulls" would represent impedance matching
issues which in turn would put a block to signals. A tuner is a
design tool for this situation.

>I now have some cores that are 8x140 and 10x200. If I make a balun using the
>same wire (enamled wire is not available to me) with a different number of
>turns, will it behave differently? For example, if I make a balun with a few
>more turns, will the null move down?

Uhhhh. We need to decouple "null" somehow, from the discussion, or
give it a more descriptive treatment.

You describe a problem that is binary:
I used to have signals
I don't have signals
what you describe in fumbling with turns ratios is a continuum:
I used to have booming signals
I have weak signals

BalUns are not used to offset/fill/sharpen nulls of any type.

>My guestimate is that I can get 15 turns on a 140mm rod, and 22 slightly larger
>ones on a 200mm rod.
>
>How far down can I go? Will moving it down affect upper frequency response?
>Can I move it down far enough that the balun will do something useful
>at AM broadcast frequencies?

Solve your problems one at a time.

>Some of the 10mm rods were broken into pieces in shipping. Does that affect
>their performance? Can I just use the pieces as they are?

Magnetic performance is impacted by air gaps. In some situation this
is an asset where saturation is an issue. Super glue the pieces for
the closest fit.

73's
Richard Clark, KB7QHC

4979. Re: homemade balun question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-02 20:34:09 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnifg0eb.cqn.gsm@cable.mendelson.com>
Source record: 6579

Richard Clark wrote:
> This should have been foreboding (resonance so near by?).

Well, it stretched from one end of my apartment to the other. It just happend
to be slightly short of a 20m folded dipole.

> You say instructions, but instructions for what (to what end, to what
> purpose)? Why trifilar? This is suggestive of a voltage BalUn, which
> is not going to give you the choking action you need to reduce noise
> problems.

It from a book "Simple, Low-Cost Wire Antennas for Radio Amateurs" by
Coan and Orr.

>
>>When I hooked it up to the antenna, I found that the resonant frequency
>>shifted to 14mHz. My guess is that the feedline now is part of the antenna.
>>However at 7Mhz it is totally dead. So dead that a signal that reads S5 on
>>my receiver using a 2m JPole hung from the near end of the folded dipole
>>as an antenna does not move the s-meter at all. The null extends from
>>around 6950 kHz up to around 7300.
>
> This still sounds like the vagaries of propagation. Do you keep logs?

It's not needed. I have two coaxes going outside, one to the folded dipole,
one to the J-Pole. If I tune in a station in the "dead" range (7.0-7.3mHz),
using the J-Pole as my antenna that reads s-5, when I switch to the folded
dipole, it barely moves the s-meter at all.

> Your lead out to the antenna could have a short/open in it.

Possible, but at 14mHz, it comes in great, far better than the J-Pole.

> I presume
> you use your tuner, however of late I have been given the impression
> that SWLers of this generation sneer at it in favor of the magic
> BalUns they chase on the Internet (given you are a frequent poster
> here, I give you the benefit of the doubt).

It was an experiment. I was hoping to use the antenna to transmit too, and
can't run twinlead out to it. So the compromise was the Balun at the far
end of a coax. I can't say if it worked at all, I never got far enough to
try.

> The electrical properties are unrelated to the pattern properties. We
> speak of nulls in a pattern.

My bad, I was speaking of a null, as in a frequency range with zero
(or close to it) signal.

> If you are referencing a null in tuning, then that would occur at
> either resonance, or anti-resonance (broadly speaking). If this is
> your intent, then, yes, "nulls" would represent impedance matching
> issues which in turn would put a block to signals. A tuner is a
> design tool for this situation.

Thanks, that's easy to try. Would it work on the near end of the system?
radio -> tuner -> 10 meters of coax -> balun -> 300 ohm feedline -> 300 ohm
folded dipole.

> Solve your problems one at a time.

Thanks. that's a good idea.

>>Some of the 10mm rods were broken into pieces in shipping. Does that affect
>>their performance? Can I just use the pieces as they are?
>
> Magnetic performance is impacted by air gaps. In some situation this
> is an asset where saturation is an issue. Super glue the pieces for
> the closest fit.

Sorry, I wasn't clear. Someone on another mailing list said that breaking
a ferite rod could magnetize it. I don't want to glue them together
again, I would use the pieces as they are.

Maybe a better question would of been to start from the begining and ask "I
have a 300 ohm twinlead folded dipole resonant at 15mHz, with an aprox 6 foot
twinlead feed line. I need to feed that with 10-15 meters of 75 ohm coax.
How do I get that to appear resonant to my transmitter on 14 mHz, and hopefully
7 and 28 mHz and get some signals in and out?".

Thanks and 73,

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Those who cannot remember the past are condemned to misquote it.

4980. Re: homemade balun question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-02 21:49:20 UTC
From: nm5k@wt.net
Message-ID: <d0392c26-4c1e-466a-bf2b-7090acd50222@j25g2000yqa.googlegroups.com>
Source record: 6580

On Dec 2, 2:34 pm, "Geoffrey S. Mendelson" <g...@mendelson.com> wrote:

> Maybe a better question would of been to start from the begining and ask "I
> have a 300 ohm twinlead folded dipole resonant at 15mHz, with an aprox 6 foot
> twinlead feed line. I need to feed that with 10-15 meters of 75 ohm coax.
> How do I get that to appear resonant to my transmitter on 14 mHz, and hopefully
> 7 and 28 mHz and get some signals in and out?".
>

You are trying to get a lot from a 20m dipole. And that feed line
setup just complicates things and adds undue loss.
Myself, I would start over from scratch if you really want to
transmit on all three bands. Are you limited to the size of
the dipole? Do you have to use coax?
As far as receiving lower bands, I'd try unhooking one leg
of the feed line. Just feed the center conductor. That
should cure the dead antenna problem as far as just
listening on the lower bands.

4981. Re: homemade balun question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-02 21:55:56 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <YqOdnczSpYJwiGXRnZ2dnUVZ_vGdnZ2d@earthlink.com>
Source record: 6581

"Geoffrey S. Mendelson" <gsm@mendelson.com> wrote in message
news:slrniff3u1.456.gsm@cable.mendelson.com...
>I made a 300 ohm twinlead folded dipole that is resonant at around 15mHz.
> It was cut because I wanted to try some 20m operation with an indoor
> antenna
> and that fit exactly the space.
>
> The ham I wanted to reach was km away, across a valley. I figured with a
> tuner and a few watts, I could reach him.
>
> I never used it for that, he moved before we ever got together.
>
> I put the antenna up outside to use for an SWL antenna. It is fed with
> about 6 feet of twinlead and then 75 ohm coax. It worked best at 15mHz,
> and slowly degraded as frequencies got lower. It was useable at 7mHz for
> reception.
>
> At MW frequencies it's basicly a noise pickup and no signals could be
> received.
>
> I made a balun from 9 trifilar turns of wire that I had (.5mm plastic
> insulated). The instructions I was following said to use 10 turns of
> #14 enamel on a wider core, but 9 were all that fit on the core I had.
> The core is 8mmx80mm with a permeability of 400.
>
> When I hooked it up to the antenna, I found that the resonant frequency
> shifted to 14mHz. My guess is that the feedline now is part of the
> antenna.
> However at 7Mhz it is totally dead. So dead that a signal that reads S5 on
> my receiver using a 2m JPole hung from the near end of the folded dipole
> as an antenna does not move the s-meter at all. The null extends from
> around 6950 kHz up to around 7300.
>
> The question is why and what can I do to improve it?
>

I think I would not go with a folded dipole and balun. Especially if you
want to use it to transmitt with.

If you do not have enough space for a full size antenna you may want to try
what is called an inverted U antenna. YOu run the horizontal elements as
far as you can and drop the ends down. Somewhere I saw a way to stack
several like this for multibands. It is difficult to make a dipole operate
on a much lower frequency. That is if you cut one for 20 meters, it is
difficult to make it opwerate on 40 meters.

4982. Re: homemade balun question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-02 23:30:19 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <8afc616d-0dbe-4342-ac9d-ae02a4029254@g25g2000yqn.googlegroups.com>
Source record: 6582

On 2 dic, 13:24, "Geoffrey S. Mendelson" <g...@mendelson.com> wrote:
> I made a 300 ohm twinlead folded dipole that is resonant at around 15mHz.
> It was cut because I wanted to try some 20m operation with an indoor antenna
> and that fit exactly the space.
>
> The ham I wanted to reach was km away, across a valley. I figured with a
> tuner and a few watts, I could reach him.
>
> I never used it for that, he moved before we ever got together.
>
> I put the antenna up outside to use for an SWL antenna. It is fed with
> about 6 feet of twinlead and then 75 ohm coax. It worked best at 15mHz,
> and slowly degraded as frequencies got lower. It was useable at 7mHz for
> reception.
>
> At MW frequencies it's basicly a noise pickup and no signals could be
> received.
>
> I made a balun from 9 trifilar turns of wire that I had (.5mm plastic
> insulated). The instructions I was following said to use 10 turns of
> #14 enamel on a wider core, but 9 were all that fit on the core I had.
> The core is 8mmx80mm with a permeability of 400.
>
> When I hooked it up to the antenna, I found that the resonant frequency
> shifted to 14mHz. My guess is that the feedline now is part of the antenna.
> However at 7Mhz it is totally dead. So dead that a signal that reads S5 on
> my receiver using a 2m JPole hung from the near end of the folded dipole
> as an antenna does not move the s-meter at all. The null extends from
> around 6950 kHz up to around 7300.
>
> The question is why and what can I do to improve it?
>
> Is it because there is null in the system because it is resonant at 14mHz and
> it is unresonant at 1/2 of that? Is it because the balun acts as a 7mHz trap?
>
> I now have some cores that are 8x140 and 10x200. If I make a balun using the
> same wire (enamled wire is not available to me) with a different number of
> turns, will it behave differently? For example, if I make a balun with a few
> more turns, will the null move down?
>
> My guestimate is that I can get 15 turns on a 140mm rod, and 22 slightly larger
> ones on a 200mm rod.
>
> How far down can I go? Will moving it down affect upper frequency response?

> Can I move it down far enough that the balun will do something useful
> at AM broadcast frequencies?
>
> Some of the 10mm rods were broken into pieces in shipping. Does that affect
> their performance? Can I just use the pieces as they are?
>
> Thanks in advance,
>
> Geoff.
>
> --
> Geoffrey S. Mendelson N3OWJ/4X1GM
> Those who cannot remember the past are condemned to misquote it.

Hello Geoffrey.

I think the problem is in the folded dipole. It works as long as it is in resonance (so that current in all wires is in phase). At half the frequency, it will behave more like a halve wave loop with very small loop area (as the wires are in parallel). This is not an effective arrangement. Maybe you can try to cut the short (so it becomes an open dipole with non-straight halves).

When you live in a quiet environment, a 4:1 or 9:1 balun will increase both signal and noise for frequencies below resonance (so that antenna noise exceeds your receiver's noise).

Regarding the feedline between antenna and balun. If the balun does function well, the feedline will not contribute to the radiation pattern (current are opposite), but it will provide impedance transformation, so it becomes part of the tuning (hence resonant frequencies).

From your balun description, I can't figure out what you have in your hands Maybe you have link to a description you followed. I prefer baluns that provide common mode suppression so that when there is some asymmetry in the system, the coaxial feeder doesn't become part of the radiating/receiving antenna structure. A guanella type balun wound on two magnetically separate cores/rods does provide common mode suppression.

Regarding ferrite rods (for a 4:1 guanella balun for example), if the broken surfaces still mate closely, just use some liquid adhesive and join them. As most of the field lines go to air, effective permeability doesn't change practically.

For making a really wide band balun, you need the right ferrite material. For wide band applications I use, for example, fairrite material 43 [ur=800] (material 31 [ur=1500] would be better). You need a material that has high permeability at low frequency and also reasonable permeability at high frequency. Many power ferrites have good permeability at low frequency, but it drops rapidly at increasing

frequency.

If your choice is limited, try to get ferrite material indicated for HF (1.. 100 MHz) EMI suppression. As it is for reception only, I would not go for rods, but toroids. Toroids provide higher inductance at low frequency because of the closed magnetic path (so you need less turns).

Regarding MW broadcast reception. I get best results with vertical polarized antennas, so your dipole may not be good for this.

Best regards,

Wim
PA3DJS
www.tetech.nl

4983. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 04:44:24 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <fe7646d4-5d36-4e60-b94e-11e06e708334@r19g2000prm.googlegroups.com>
Source record: 6583

On Nov 29, 8:30 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Nov 29, 7:35 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Nov 29, 4:42 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Nov 28, 9:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > I have been struggling with this for some time
> > > > so maybe somebody can set me straight.
> > > > We wind a flat plate spiral antenna and we get to a point where the
> > > > center medium becomes saturated with flux.
> > > > Now I add even more coils. What action does that precipitate? I would
> > > > like to think that the Meissner effect (perfect diamagnetism) then
> > > > takes over and swamps the external magnetic field as with a
> > > > superconductor (ie opposite to that of a paramagnetic) The skin
> > > > effect is thus removed allowing the current flow to the surface by
> > > > allowing the atomic structure to relax, and add to the current already
> > > > in place to allow fully efficient radiation as it now lies outside the
> > > > confines of conductor resistance.
> > > > This is my effort in determining what is it that drives the constant
> > > > impedance attributes of a meander type array?
> > > > Regards
> > > > Art
>
> > > what is the 'medium' that gets saturated?
>
> > As a furthur background to the question.
> > I modelled a two coil spring to make a closed circuit. Running thru
> > the swr vs frequency I find that when I get into the Ghz realm the
> > anti resonance value migrates to 52 ohms with low
> > reactance escursions. Later the resistance value drops to single
> > digits and then fraction of ohms together with slight reactance
> > escursions
> > with R being less than the wire used. At the same time gain shot up to
> > the high twenties in cyclic form but with the extremely low impedance.
> > The current flow at the feed point was 100% surge quickly dropping to
> > a constant 25% current flow .I then made a 5 wire tape
> > very close wound pancake about 24" dia which I placed inside a bowl
> > shield which was grounded. This provided a fairly constant impedance
> > with what appears to the ear to be a doubling of more of gain against
> > a quiet background. I have nothing else to add except the computer
> > program does have a precipetous drop in impedance which sort of

> > alignes with superconductors when it changes over to perfect
> > diamagnetic, where skin factor of the conductor is removed allowing
> > current flow outside the conductor as shown by its low impedance. The
> > pancakes (stacked) with short length compared to a linear solenoid
> > are fed at the center where surge current is at its highest and where
> > all wires tape ends are electrically connected together to complete a
> > closed mesh type tape. The same can be done with a 100 foot roll
> > insect window mesh with the material backed by thin duct tape.
> > Thus the point of the question, What propels
> > the reverse swamping of the previously weak
> > diamagnetic fields?
> > Thanks for looking
> > Art
> > With the current leaving the conductor the two vectors for the most
> > efficient elevation and thrust (are vector with heliical spin) to
> > the surface residing particles as shown by Gauss which also aligns
> > with Maxwell.
>
> One thing I should mention is when the "surface" current flow begins
> the radiation pattern goes thru a 90 degree phase change(a connection
> to the EH driven antennas perhaps?)
> I am now re writing the program with the x and y coordinates
> interchanged to see if some clues
> come to light when f/b and gain figures change from the X to the Y
> axis
> Art

What happens after the magnetic field is saturated is excess energy
then goes to increase the electric field which is enclosed inside a
shield or Faraday cage for maximum density which produces two vectors
equal to the two vectors created by gravity and spin as shown with the
tipped vertical. These vectors arise fro a diamagnetic condition when
the electrical field achieves satuaration or maximum density with a
Farady shield.
The importance of these two vectors is that we have the displacement
vector which elevates particles or electrons at rest on the coil
wire,.
It is this vector which is equal and opposite to gravity that allows
for ":straight line trajectory" of the negatively charged particle
such that the other vector is free from constriction in all forms
which is synonomous to equilibrium.
Thus a solenoid can be seen as a radiator according to Maxwell where
the magnetic vector is canceled for maximum efficiency.
This also shows that the previous two element design where both
elements are resonant within a boundary which must be included as a
shield around the two element array for maximum efficiency.
I find it completely fascinating that the two vectors I propose as
Einstein's predicted version of the Standard Model turns up once again
in this solenoid version of a radiator within a Faraday cage to which
a horn is easily added.

So this thread now comes to closure
Regards
Art

4984. Re: homemade balun question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 07:38:01 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6a4hf6dbdgl43oc0sh2lqm28fieo34415u@4ax.com>
Source record: 6584

On Thu, 2 Dec 2010 20:34:09 +0000 (UTC), "Geoffrey S. Mendelson"
<gsm@mendelson.com> wrote:

>> This still sounds like the vagaries of propagation. Do you keep logs?
>
>It's not needed. I have two coaxes going outside, one to the folded dipole,
>one to the J-Pole. If I tune in a station in the "dead" range (7.0-7.3mHz),
>using the J-Pole as my antenna that reads s-5, when I switch to the folded
>dipole, it barely moves the s-meter at all.

Hi Geoff,

That confirms propagation - more a matter of polarization. We keep a
variety of antennas to suit just situations. Polarization diversity
is what that is called.

>> Your lead out to the antenna could have a short/open in it.
>
>Possible, but at 14mHz, it comes in great, far better than the J-Pole.

I presume by this response, your antenna/line being "dead" at 15 MHz
(it should be a busy band) is quite alive at 14 MHz (which, too,
should be a busy band).

>My bad, I was speaking of a null, as in a frequency range with zero
>(or close to it) signal.

The following is pedantic for its own sake:
Null in engineering denotes the indication offered in a balanced
situation - the meter indication in a bridge - where two potentials
are equal (no current flows in the meter). As you adjust the arm on
one side of the bridge, the approach of equality reduces the potential
between both side of the meter, and its indication "nulls."

>> If you are referencing a null in tuning, then that would occur at
>> either resonance, or anti-resonance (broadly speaking). If this is
>> your intent, then, yes, "nulls" would represent impedance matching
>> issues which in turn would put a block to signals. A tuner is a
>> design tool for this situation.
>
>Thanks, that's easy to try. Would it work on the near end of the system?
>radio -> tuner -> 10 meters of coax -> balun -> 300 ohm feedline -> 300 ohm
>folded dipole.

That is good solution; the perfect topology would have the tuner at
the 300 Ohm folded dipole with coax back to the radio.

>>>Some of the 10mm rods were broken into pieces in shipping. Does that affect
>>>their performance? Can I just use the pieces as they are?
>>
>> Magnetic performance is impacted by air gaps. In some situation this
>> is an asset where saturation is an issue. Super glue the pieces for
>> the closest fit.
>
>Sorry, I wasn't clear. Someone on another mailing list said that breaking
>a ferite rod could magnetize it. I don't want to glue them together
>again, I would use the pieces as they are.

Someone on another mailing list has mixed priorities. So what? (Not
to say I buy their guff.)

Feel fine to use them as they are, but if you were to use them as
stock for choking purposes, more bulk ferrite offers more bulk
isolation.

>Maybe a better question would of been to start from the begining and ask "I
>have a 300 ohm twinlead folded dipole resonant at 15mHz, with an aprox 6 foot
>twinlead feed line. I need to feed that with 10-15 meters of 75 ohm coax.
>How do I get that to appear resonant to my transmitter on 14 mHz, and hopefully
>7 and 28 mHz and get some signals in and out?".

The fold in the dipole, the approx 6 foot twinlead feed line, the 75
Ohm coax, and the BalUn are unnecessary elaborations. The combination
of all sounds like complexity squared to achieve a goal by applying
nebulous charms.

Resonance is resonance and the rest is unnecessary. You put up an
ordinary dipole, connect an ordinary line to it (OK, so it can be 75
Ohm line if that is what is handy) THROUGH a choke (AKA 1:1 BalUn),
and to a tuner at your radio. The tuner solves resonance. Sometimes
a tuner cannot cope with extreme natural resonances such as a fullwave
dipole presents you on the band you want. Cut the size of the dipole
and move on.

The combination of folded dipole, odd twinlead line, and high ratio
BalUn (almost always of the wrong construction) suggests the desire
for an "all band antenna." That and unicorn horns for aphrodisiacs
are sought by many and claimed real by liars or fools. Marrying the
term "resonate" or seeking resonance from these antennas compounds the
lie or the foolishness.

The usual (and inverted wish from seeking resonance) is that this
solution of dipole/tuner dashes the SWLer's desire for frequency
agility (no time to tune an optimal signal when chasing the bands).
The simple solution is the Fan Dipole. This new solution being too
easy and lacking the mystique of charms, amulets, and complexity to
fuss over, SWLer's quickly reject simple success to cozy up to the
oddities of their failure in contrast to the glowing (lying or
foolish) reports of others (liars or fools) using the (presumably)
same contorted design.

It's not like any of these contorted designs bring any gain to the table. And the gain differences between them and a simple dipole wouldn't move the S-Meter more than a needle's width!

The reason why I am quick to dismiss "frequency agile" requirements is that I know full well that SWLing demands your full attention on one frequency to pick up that interval ID signal, or just recognize the style of programming if you are going to catch that DX. The agility race is won by the patient listener.

However, if you really want an "all band" antenna that is "frequency agile" then the Fan Dipole will do that on every band you cut an element for. All it takes is wire (and it would seem you, and others, made that investment with the fold).

73's
Richard Clark, KB7QHC

4985. Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 11:17:20 UTC
From: frankieNrosie <frankieNrosie.73eda99@radiobanter.com>
Message-ID: <frankieNrosie.73eda99@radiobanter.com>
Source record: 6588

Hi,

I newbie in antenna area. Currently, I'm trying to design a folded
dipole antenna. Thus, I need some ideas on how to design that antenna
such the dimensions, length and others.

Please help me. Thanks.

--
frankieNrosie

4986. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 11:57:00 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <idaluc$6b8$1@ra.nrl.navy.mil>
Source record: 6585

On 12/02/2010 11:44 PM, Art Unwin wrote:
> What happens after the magnetic field is saturated is excess energy
> then goes to increase the electric field which is enclosed inside a
> shield or Faraday cage for maximum density which produces two vectors
> equal to the two vectors created by gravity and spin as shown with the
> tipped vertical. These vectors arise fro a diamagnetic condition when
> the electrical field achieves satuaration or maximum density with a
> Farady shield.
> The importance of these two vectors is that we have the displacement
> vector which elevates particles or electrons at rest on the coil
> wire,.
> It is this vector which is equal and opposite to gravity that allows
> for ":straight line trajectory" of the negatively charged particle
> such that the other vector is free from constriction in all forms
> which is synonomous to equilibrium.
> Thus a solenoid can be seen as a radiator according to Maxwell where
> the magnetic vector is canceled for maximum efficiency.
> This also shows that the previous two element design where both
> elements are resonant within a boundary which must be included as a
> shield around the two element array for maximum efficiency.
> I find it completely fascinating that the two vectors I propose as
> Einstein's predicted version of the Standard Model turns up once again
> in this solenoid version of a radiator within a Faraday cage to which
> a horn is easily added.
> So this thread now comes to closure
> Regards
> Art

Art,

Shirley, you can't be serious! (with apologies to the late, great Leslie Nielsen). Sincerely, and 73s from N4GGO,
--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil

Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

4987. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 14:46:26 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c1ef5fad-0769-4f3f-833e-fe8b6da16f50@o14g2000prn.googlegroups.com>
Source record: 6586

On Dec 3, 5:57 am, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 12/02/2010 11:44 PM, Art Unwin wrote:
> > What happens after the magnetic field is saturated is excess energy
>
>
>
> > then goes to increase the electric field which is enclosed inside a
> > shield or Faraday cage for maximum density which produces two vectors
> > equal to the two vectors created by gravity and spin as shown with the
> > tipped vertical. These vectors arise fro a diamagnetic condition when
> > the electrical field achieves satuaration or maximum density with a
> > Farady shield.
> > The importance of these two vectors is that we have the displacement
> > vector which elevates particles or electrons at rest on the coil
> > wire,.
> > It is this vector which is equal and opposite to gravity that allows
> > for ":straight line trajectory" of the negatively charged particle
> > such that the other vector is free from constriction in all forms
> > which is synonomous to equilibrium.
> > Thus a solenoid can be seen as a radiator according to Maxwell where
> > the magnetic vector is canceled for maximum efficiency.
> > This also shows that the previous two element design where both
> > elements are resonant within a boundary which must be included as a
> > shield around the two element array for maximum efficiency.
> > I find it completely fascinating that the two vectors I propose as
> > Einstein's predicted version of the Standard Model turns up once again
> > in this solenoid version of a radiator within a Faraday cage to which
> > a horn is easily added.
> > So this thread now comes to closure
> > Regards
> > Art
>
> Art,
>
> Shirley, you can't be serious! (with apologies to the late, great Leslie
> Nielsen). Sincerely, and 73s from N4GGO,
> --
> John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
>
> Naval Research Laboratory
> 4555 Overlook Avenue, SW
> Washington, DC 20375-5337

Yes, I am very serious about my findings. I am very sorry that others are unable to follow my same path to obtain the same joys of discovery.
For some reason people cannot fathom the idea of equilibrium and that displacement current provides the equal of the gravity vector.
There is no way a charge can travel in a straight line up to the heavens and down again
without the neutralisation of gravity and without the auspices of spin . The same goes with respect to light according to the Zeeman effect
Regards
Art

4988. Half delta loop antenna: more...

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 15:05:20 UTC
From: "cybrinjn@gmail.com" <cybrinjn@gmail.com>
Message-ID: <d3348690-84ab-47ea-9440-50c433cee971@22g2000prx.googlegroups.com>
Source record: 6587

I found a five page article in the Sept. 1982 QST by VE2CV and W1FB,
titled "The Half-Delta Loop: A Critical Analysis and Practical
Deployment." It is just what I was looking for -- a real analysis
with formulas, charts, graphs, and diagrams. Well, I just got a
couple hundred feet of antenna wire and some insulators. All I need
is some lousy weather to put this thing up!

4989. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 17:31:40 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <s4mns7-ikj.ln1@mail.specsol.com>
Source record: 6589

frankieNrosie <frankieNrosie.73eda99@radiobanter.com> wrote:
>
> Hi,
>
> I newbie in antenna area. Currently, I'm trying to design a folded
> dipole antenna. Thus, I need some ideas on how to design that antenna
> such the dimensions, length and others.
>
> Please help me. Thanks.

http://www.k7mem.150m.com/Electronic_Notebook/antennas/folded_dipole.html

--
Jim Pennino

Remove .spam.sux to reply.

4990. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 18:13:56 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <8981cf57-a1b5-4734-bab7-a9fabb6e8d81@l20g2000vbd.googlegroups.com>
Source record: 6590

On Dec 3, 5:17 am, frankieNrosie <frankieNrosie.
73ed...@radiobanter.com> wrote:
> I'm trying to design a folded dipole antenna

Please give us some more information. Design frequency? Single-Band?
50-ohm source? Local or DX?
--
73, Cecil, www.w5dxp.com

4991. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-03 22:22:53 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <916cc24b-8862-4076-b5de-2a5c0fd5ad2c@22g2000prx.googlegroups.com>
Source record: 6591

On Dec 3, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 3, 5:57 am, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
>
>
>
> > On 12/02/2010 11:44 PM, Art Unwin wrote:
> > > What happens after the magnetic field is saturated is excess energy
>
> > > then goes to increase the electric field which is enclosed inside a
> > > shield or Faraday cage for maximum density which produces two vectors
> > > equal to the two vectors created by gravity and spin as shown with the
> > > tipped vertical. These vectors arise fro a diamagnetic condition when
> > > the electrical field achieves satuaration or maximum density with a
> > > Farady shield.
> > > The importance of these two vectors is that we have the displacement
> > > vector which elevates particles or electrons at rest on the coil
> > > wire,.
> > > It is this vector which is equal and opposite to gravity that allows
> > > for ":straight line trajectory" of the negatively charged particle
> > > such that the other vector is free from constriction in all forms
> > > which is synonomous to equilibrium.
> > > Thus a solenoid can be seen as a radiator according to Maxwell where
> > > the magnetic vector is canceled for maximum efficiency.
> > > This also shows that the previous two element design where both
> > > elements are resonant within a boundary which must be included as a
> > > shield around the two element array for maximum efficiency.
> > > I find it completely fascinating that the two vectors I propose as
> > > Einstein's predicted version of the Standard Model turns up once again
> > > in this solenoid version of a radiator within a Faraday cage to which
> > > a horn is easily added.
> > > So this thread now comes to closure
> > > Regards
> > > Art
>
> > Art,
>
> > Shirley, you can't be serious! (with apologies to the late, great Leslie
> > Nielsen). Sincerely, and 73s from N4GGO,
> > --
> > John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
>
> > Naval Research Laboratory
> > 4555 Overlook Avenue, SW
> > Washington, DC 20375-5337

>
> Yes, I am very serious about my findings. I am very sorry that others
> are unable to follow my same path to obtain the same joys of
> discovery.
> For some reason people cannot fathom the idea of equilibrium and that
> displacement current provides the equal of the gravity vector.
> There is no way a charge can travel in a straight line up to the
> heavens and down again
> without the neutralisation of gravity and without the auspices of
> spin . The same goes with respect to light according to the Zeeman
> effect
> Regards
> Art

keep dreaming art... neither air nor aether can saturate or we would
have many other weird phenomena than your antennas.

4992. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 01:02:35 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7d2bcf2d-c182-4db7-bd2a-03b81b460120@k13g2000vbq.googlegroups.com>
Source record: 6592

On Dec 3, 4:22 pm, K1TTT <k1...@arrl.net> wrote:
> On Dec 3, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 3, 5:57 am, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
>
> > > On 12/02/2010 11:44 PM, Art Unwin wrote:
> > > > > What happens after the magnetic field is saturated is excess energy
>
> > > > then goes to increase the electric field which is enclosed inside a
> > > > shield or Faraday cage for maximum density which produces two vectors
> > > > equal to the two vectors created by gravity and spin as shown with the
> > > > tipped vertical. These vectors arise fro a diamagnetic condition when
> > > > the electrical field achieves satuaration or maximum density with a
> > > > Farady shield.
> > > > The importance of these two vectors is that we have the displacement
> > > > vector which elevates particles or electrons at rest on the coil
> > > > wire,.
> > > > It is this vector which is equal and opposite to gravity that allows
> > > > for ":straight line trajectory" of the negatively charged particle
> > > > such that the other vector is free from constriction in all forms
> > > > which is synonomous to equilibrium.
> > > > Thus a solenoid can be seen as a radiator according to Maxwell where
> > > > the magnetic vector is canceled for maximum efficiency.
> > > > This also shows that the previous two element design where both
> > > > elements are resonant within a boundary which must be included as a
> > > > shield around the two element array for maximum efficiency.
> > > > I find it completely fascinating that the two vectors I propose as
> > > > Einstein's predicted version of the Standard Model turns up once again
> > > > in this solenoid version of a radiator within a Faraday cage to which
> > > > a horn is easily added.
> > > > So this thread now comes to closure
> > > > Regards
> > > > Art
>
> > > Art,
>
> > > Shirley, you can't be serious! (with apologies to the late, great Leslie
> > > Nielsen). Sincerely, and 73s from N4GGO,
> > > --
> > > John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
>
> > > Naval Research Laboratory

> > > 4555 Overlook Avenue, SW
> > > Washington, DC 20375-5337
>
> > Yes, I am very serious about my findings. I am very sorry that others
> > are unable to follow my same path to obtain the same joys of
> > discovery.
> > For some reason people cannot fathom the idea of equilibrium and that
> > displacement current provides the equal of the gravity vector.
> > There is no way a charge can travel in a straight line up to the
> > heavens and down again
> > without the neutralisation of gravity and without the auspices of
> > spin . The same goes with respect to light according to the Zeeman
> > effect
> > Regards
> > Art
>
> keep dreaming art... neither air nor aether can saturate or we would
> have many other weird phenomena than your antennas.

I am not dreaming! The magnetic field increases density until it
reaches a maximum.
The curve of B vs H clearly shows this in a similar curve to Hooke's
Law for strength of materials. At the point of saturation the value of
B comes to a halt and where H takes off and increases rapidly. I would
imagine that if you searched the web under saturation magnetic fields
or some other similar key words you will eventually find verification
of what I have described. You might want to search under diamagnetic
because you eventually come to the point where diamagnetic field
predominates which puts you in the same position of superconductor
where skin resistance is removed. I am extremely surprised that as a
electrical engineer you never covered magnetics in depth. If you find
verification on the absence of saturation in magnetic fields I will be
more than happy to apologize for my lax memory of my early days. Up to
now tho, you have never produced evidence or any reasoning to back up
your comments or status as an electrical engineer, scientist or what
have you!. Was it ever explained to you that levitation
by fields is exactly equal in direction and value
to gravity? How do you explain to amateurs how "straight line
trajectory" is attained when explaining skip or are you going to deny
that also? I look forward to reading your back up
research statements that support your positions.
Regards
Art

4993. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 01:46:54 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <5v4jf61c42e7373kta2v0m4a6ec3k8icep@4ax.com>
Source record: 6593

On Fri, 3 Dec 2010 14:22:53 -0800 (PST), some gomer wrote:

>> There is no way a charge can travel in a straight line up to the
>> heavens and down again
>> without the neutralisation of gravity and without the auspices of
>> spin .

How does one neutralize gravity? The anti-gravity of comic books?

Let's see, the energy of an electromagnetic interaction is
1000000000000000000000000000000000000000 times greater than gravity.

So, when an electron pushes a charge against gravity, it has 400dB
more effect than gravity pulling back. In comic book terms, that is a
Thousand, Billion, Billion, Billion times stronger than gravity.

An ant weighs 0.003 grams, and the Earth weighs 5.9 x 10^27 g, so you
would need 10000000000 planet Earths to replicate the neutralization
between the energy of gravity and the energy of electromagnetic
interaction (assuming the ant was an electron of ant-like proportions,
energy-wise).

Such is the sandtrap of neutralization across units of measure. It is
much like the folks of 100 years ago claiming a car couldn't drive up
a hill without a warp drive engine with a dilithium crystal controlled
gravimetric field displacement manifold.

As we all know (or almost all), Gene Roddenberry is the authority to
turn to on the basis of this last claim being fulfilled some 50 years
from now by Zefram Cochrane developing the first warp-capable
starship. How we currently get to the top of hills in a car is
considered as an example of superstitious mass hysteria.

We can all rest assured that this meets the criteria of not coming
from any text book because it hasn't happened yet. *Whew* Hence, it
cannot be disproven. Don't rush to the patent office however, this is
considered Post-Art.

73's
Richard Clark, KB7QHC

4994. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 02:50:44 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bd42ed54-a39b-404e-928b-57fa8acc74a3@35g2000prb.googlegroups.com>
Source record: 6594

On Dec 3, 7:46 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 3 Dec 2010 14:22:53 -0800 (PST), some gomer wrote:
> >> There is no way a charge can travel in a straight line up to the
> >> heavens and down again
> >> without the neutralisation of gravity and without the auspices of
> >> spin .
>
> How does one neutralize gravity? The anti-gravity of comic books?
>
> Let's see, the energy of an electromagnetic interaction is
> 1000000000000000000000000000000000000000 times greater than gravity.
>
> So, when an electron pushes a charge against gravity, it has 400dB
> more effect than gravity pulling back. In comic book terms, that is a
> Thousand, Billion, Billion, Billion times stronger than gravity.
>
> An ant weighs 0.003 grams, and the Earth weighs 5.9 x 10^27 g, so you
> would need 10000000000 planet Earths to replicate the neutralization
> between the energy of gravity and the energy of electromagnetic
> interaction (assuming the ant was an electron of ant-like proportions,
> energy-wise).
>
> Such is the sandtrap of neutralization across units of measure. It is
> much like the folks of 100 years ago claiming a car couldn't drive up
> a hill without a warp drive engine with a dilithium crystal controlled
> gravimetric field displacement manifold.
>
> As we all know (or almost all), Gene Roddenberry is the authority to
> turn to on the basis of this last claim being fulfilled some 50 years
> from now by Zefram Cochrane developing the first warp-capable
> starship. How we currently get to the top of hills in a car is
> considered as an example of superstitious mass hysteria.
>
> We can all rest assured that this meets the criteria of not coming
> from any text book because it hasn't happened yet. *Whew* Hence, it
> cannot be disproven. Don't rush to the patent office however, this is
> considered Post-Art.
>
> 73's
> Richard Clark, KB7QHC
Just rubbish
You are just being foolish. Have you never elevated anything using
magnets? If you haven't then buy a kit to see it for yourself.
The same is used in many places in science

and Industry where transport is raised to avoid friction. I warrant that you probably can see same on video on the net or a frog suspended in air .
If you cannot neutralize gravity then you cannot have straight line trajectory. Period. When a particle is raised from a surface then you do not have to account for friction when propelling
or accelerating it. Thus all energy applied is used solely to achieve radiation without the burden of friction created by skin depth which is not accounted for in Maxwells equations as it reduces efficiency.
As I said at the beginning you are just acting silly or being a fool.Or, have no understanding of the term equilibrium or Newtons laws for that matter. Now a question, Why did Maxwell use the term "displacement current" and what was he suggesting what was being displaced from the control of gravity? Now get going, collect a lot of random words. Put them in a container and shake it and pull out a word at a time as you normally do with any written response.

4995. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 15:23:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <9998d161-8233-488b-ba3f-4a988749778e@c17g2000prm.googlegroups.com>
Source record: 6595

On Dec 4, 1:02 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 3, 4:22 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Dec 3, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 3, 5:57 am, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
>
> > > > On 12/02/2010 11:44 PM, Art Unwin wrote:
> > > > > What happens after the magnetic field is saturated is excess energy
>
> > > > > then goes to increase the electric field which is enclosed inside a
> > > > > shield or Faraday cage for maximum density which produces two vectors
> > > > > equal to the two vectors created by gravity and spin as shown with the
> > > > > tipped vertical. These vectors arise fro a diamagnetic condition when
> > > > > the electrical field achieves satuaration or maximum density with a
> > > > > Farady shield.
> > > > > The importance of these two vectors is that we have the displacement
> > > > > vector which elevates particles or electrons at rest on the coil
> > > > > wire,.
> > > > > It is this vector which is equal and opposite to gravity that allows
> > > > > for ":straight line trajectory" of the negatively charged particle
> > > > > such that the other vector is free from constriction in all forms
> > > > > which is synonomous to equilibrium.
> > > > > Thus a solenoid can be seen as a radiator according to Maxwell where
> > > > > the magnetic vector is canceled for maximum efficiency.
> > > > > This also shows that the previous two element design where both
> > > > > elements are resonant within a boundary which must be included as a
> > > > > shield around the two element array for maximum efficiency.
> > > > > I find it completely fascinating that the two vectors I propose as
> > > > > Einstein's predicted version of the Standard Model turns up once again
> > > > > in this solenoid version of a radiator within a Faraday cage to which
> > > > > a horn is easily added.
> > > > > So this thread now comes to closure
> > > > > Regards
> > > > > Art
>
> > > > Art,
>
> > > > Shirley, you can't be serious! (with apologies to the late, great Leslie
> > > > Nielsen). Sincerely, and 73s from N4GGO,
> > > > --
> > > > John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil

>
> > > > Naval Research Laboratory
> > > > 4555 Overlook Avenue, SW
> > > > Washington, DC 20375-5337
>
> > > Yes, I am very serious about my findings. I am very sorry that others
> > > are unable to follow my same path to obtain the same joys of
> > > discovery.
> > > For some reason people cannot fathom the idea of equilibrium and that
> > > displacement current provides the equal of the gravity vector.
> > > There is no way a charge can travel in a straight line up to the
> > > heavens and down again
> > > without the neutralisation of gravity and without the auspices of
> > > spin . The same goes with respect to light according to the Zeeman
> > > effect
> > > Regards
> > > Art
>
> > keep dreaming art... neither air nor aether can saturate or we would
> > have many other weird phenomena than your antennas.
>
> I am not dreaming! The magnetic field increases density until it
> reaches a maximum.
> The curve of B vs H clearly shows this in a similar curve to Hooke's
> Law for strength of materials. At the point of saturation the value of
> B comes to a halt and where H takes off and increases rapidly. I would
> imagine that if you searched the web under saturation magnetic fields
> or some other similar key words you will eventually find verification
> of what I have described. You might want to search under diamagnetic
> because you eventually come to the point where diamagnetic field
> predominates which puts you in the same position of superconductor
> where skin resistance is removed. I am extremely surprised that as a
> electrical engineer you never covered magnetics in depth. If you find
> verification on the absence of saturation in magnetic fields I will be
> more than happy to apologize for my lax memory of my early days. Up to
> now tho, you have never produced evidence or any reasoning to back up
> your comments or status as an electrical engineer, scientist or what
> have you!. Was it ever explained to you that levitation
> by fields is exactly equal in direction and value
> to gravity? How do you explain to amateurs how "straight line
> trajectory" is attained when explaining skip or are you going to deny
> that also? I look forward to reading your back up
> research statements that support your positions.
> Regards
> Art

you are looking at curves for ferromagnetic materials that do have a
saturation level... the point where all the magnetic dipoles in the
material are lined up. for your quick browsing enjoyment:
http://en.wikipedia.org/wiki/Saturation_%28magnetic%29

http://www.allaboutcircuits.com/vol_1/chpt_14/4.html
http://www.coilgun.info/theorymath/saturation.htm
at least one of those specifically states that air core magnets do not saturate.

4996. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 15:28:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b774fe7b-5811-4c8e-bd5a-d4d439ade845@37g2000prx.googlegroups.com>
Source record: 6596

On Dec 4, 2:50 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 3, 7:46 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > On Fri, 3 Dec 2010 14:22:53 -0800 (PST), some gomer wrote:
> > >> There is no way a charge can travel in a straight line up to the
> > >> heavens and down again
> > >> without the neutralisation of gravity and without the auspices of
> > >> spin .
>
> > How does one neutralize gravity? The anti-gravity of comic books?
>
> > Let's see, the energy of an electromagnetic interaction is
> > 1000000000000000000000000000000000000000 times greater than gravity.
>
> > So, when an electron pushes a charge against gravity, it has 400dB
> > more effect than gravity pulling back. In comic book terms, that is a
> > Thousand, Billion, Billion, Billion times stronger than gravity.
>
> > An ant weighs 0.003 grams, and the Earth weighs 5.9 x 10^27 g, so you
> > would need 10000000000 planet Earths to replicate the neutralization
> > between the energy of gravity and the energy of electromagnetic
> > interaction (assuming the ant was an electron of ant-like proportions,
> > energy-wise).
>
> > Such is the sandtrap of neutralization across units of measure. It is
> > much like the folks of 100 years ago claiming a car couldn't drive up
> > a hill without a warp drive engine with a dilithium crystal controlled
> > gravimetric field displacement manifold.
>
> > As we all know (or almost all), Gene Roddenberry is the authority to
> > turn to on the basis of this last claim being fulfilled some 50 years
> > from now by Zefram Cochrane developing the first warp-capable
> > starship. How we currently get to the top of hills in a car is
> > considered as an example of superstitious mass hysteria.
>
> > We can all rest assured that this meets the criteria of not coming
> > from any text book because it hasn't happened yet. *Whew* Hence, it
> > cannot be disproven. Don't rush to the patent office however, this is
> > considered Post-Art.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Just rubbish

> You are just being foolish. Have you never elevated anything using
> magnets? If you haven't then buy a kit to see it for yourself.
> The same is used in many places in science
> and Industry where transport is raised to avoid friction. I warrant
> that you probably can see same on video on the net or a frog suspended
> in air .
> If you cannot neutralize gravity then you cannot have straight line
> trajectory. Period. When a particle is raised from a surface then you
> do not have to account for friction when propelling
> or accelerating it. Thus all energy applied is used solely to achieve
> radiation without the burden of friction created by skin depth which
> is not accounted for in Maxwells equations as it reduces efficiency.
> As I said at the beginning you are just acting silly or being a
> fool.Or, have no understanding of the term equilibrium or Newtons laws
> for that matter. Now a question, Why did Maxwell use the term
> "displacement current" and what was he suggesting what was being
> displaced from the control of gravity? Now get going, collect a lot of
> random words. Put them in a container and shake it and pull out a word
> at a time as you normally do with any written response.

you can oppose gravity, but you cannot neutralize it. yes, you can levitate with magnets, but if gravity were not still in operation the item would fly off into space due to centrifugal force. if just levitating something is evidence of neutralizing gravity then you can do it by just using pressurized air to lift something... of course you could theorize that the military has figured out how to neutralize gravity because they use hovercraft, that would make a nice conspiracy theory.

4997. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 17:16:08 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ce01296f-cbb6-47e8-95aa-dd3b5a8e53e4@d24g2000prj.googlegroups.com>
Source record: 6597

On Dec 4, 9:28 am, K1TTT <k1...@arrl.net> wrote:
> On Dec 4, 2:50 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 3, 7:46 pm, Richard Clark <kb7...@comcast.net> wrote:
>
> > > On Fri, 3 Dec 2010 14:22:53 -0800 (PST), some gomer wrote:
> > > >> There is no way a charge can travel in a straight line up to the
> > > >> heavens and down again
> > > >> without the neutralisation of gravity and without the auspices of
> > > >> spin .
>
> > > How does one neutralize gravity? The anti-gravity of comic books?
>
> > > Let's see, the energy of an electromagnetic interaction is
> > > 10000000000000000000000000000000000000000 times greater than gravity.
>
> > > So, when an electron pushes a charge against gravity, it has 400dB
> > > more effect than gravity pulling back. In comic book terms, that is a
> > > Thousand, Billion, Billion, Billion times stronger than gravity.
>
> > > An ant weighs 0.003 grams, and the Earth weighs 5.9 x 10^27 g, so you
> > > would need 10000000000 planet Earths to replicate the neutralization
> > > between the energy of gravity and the energy of electromagnetic
> > > interaction (assuming the ant was an electron of ant-like proportions,
> > > energy-wise).
>
> > > Such is the sandtrap of neutralization across units of measure. It is
> > > much like the folks of 100 years ago claiming a car couldn't drive up
> > > a hill without a warp drive engine with a dilithium crystal controlled
> > > gravimetric field displacement manifold.
>
> > > As we all know (or almost all), Gene Roddenberry is the authority to
> > > turn to on the basis of this last claim being fulfilled some 50 years
> > > from now by Zefram Cochrane developing the first warp-capable
> > > starship. How we currently get to the top of hills in a car is
> > > considered as an example of superstitious mass hysteria.
>
> > > We can all rest assured that this meets the criteria of not coming
> > > from any text book because it hasn't happened yet. *Whew* Hence, it
> > > cannot be disproven. Don't rush to the patent office however, this is
> > > considered Post-Art.
>

> > > 73's
> > > Richard Clark, KB7QHC
>
> > Just rubbish
> > You are just being foolish. Have you never elevated anything using
> > magnets? If you haven't then buy a kit to see it for yourself.
> > The same is used in many places in science
> > and Industry where transport is raised to avoid friction. I warrant
> > that you probably can see same on video on the net or a frog suspended
> > in air .
> > If you cannot neutralize gravity then you cannot have straight line
> > trajectory. Period. When a particle is raised from a surface then you
> > do not have to account for friction when propelling
> > or accelerating it. Thus all energy applied is used solely to achieve
> > radiation without the burden of friction created by skin depth which
> > is not accounted for in Maxwells equations as it reduces efficiency.
> > As I said at the beginning you are just acting silly or being a
> > fool.Or, have no understanding of the term equilibrium or Newtons laws
> > for that matter. Now a question, Why did Maxwell use the term
> > "displacement current" and what was he suggesting what was being
> > displaced from the control of gravity? Now get going, collect a lot of
> > random words. Put them in a container and shake it and pull out a word
> > at a time as you normally do with any written response.
>
> you can oppose gravity, but you cannot neutralize it. yes, you can
> levitate with magnets, but if gravity were not still in operation the
> item would fly off into space due to centrifugal force. if just
> levitating something is evidence of neutralizing gravity then you can
> do it by just using pressurized air to lift something... of course you
> could theorize that the military has figured out how to neutralize
> gravity because they use hovercraft, that would make a nice conspiracy
> theory.

I am anxious to look at the browsing hints you supplied in your other
posting . But for the moment I want to look at the word "neutralize"
which I refer to as generating a state of equilibrium. We are
obviously intending the same meaning or observation so now I have to
look up the dictionary to see what the problem is with the term
"neutralize"
Thank you

4998. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 17:23:20 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <0ptkf6526rjccqiisqq9dup8iq4otom2f1@4ax.com>
Source record: 6598

>you can oppose gravity, but you cannot neutralize it.

Let's compare the force of gravity of earth to the force of
electromagnetic interaction of electrons:

Take a balloon,
rub it against your hair,
put the balloon close to the ground,
pick up an ant with electromagnetic interaction,
Gravity loses.

If this were "anti-gravity" then patents would be used for wallpaper.
(Have I just revealed a secret? Are there any new antenna designs
appearing on WikiLeaks?)

73's
Richard Clark, KB7QHC

4999. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 18:13:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <8c208eee-2e4b-44b0-8624-b5b0e302e314@k14g2000pre.googlegroups.com>
Source record: 6599

On Dec 4, 9:23 am, K1TTT <k1...@arrl.net> wrote:
> On Dec 4, 1:02 am, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 3, 4:22 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Dec 3, 2:46 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Dec 3, 5:57 am, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
>
> > > > > On 12/02/2010 11:44 PM, Art Unwin wrote:
> > > > > > What happens after the magnetic field is saturated is excess energy
>
> > > > > then goes to increase the electric field which is enclosed inside a
> > > > > shield or Faraday cage for maximum density which produces two vectors
> > > > > equal to the two vectors created by gravity and spin as shown with the
> > > > > tipped vertical. These vectors arise fro a diamagnetic condition when
> > > > > the electrical field achieves satuaration or maximum density with a
> > > > > Farady shield.
> > > > > The importance of these two vectors is that we have the displacement
> > > > > vector which elevates particles or electrons at rest on the coil
> > > > > wire,.
> > > > > It is this vector which is equal and opposite to gravity that allows
> > > > > for ":straight line trajectory" of the negatively charged particle
> > > > > such that the other vector is free from constriction in all forms
> > > > > which is synonomous to equilibrium.
> > > > > Thus a solenoid can be seen as a radiator according to Maxwell where
> > > > > the magnetic vector is canceled for maximum efficiency.
> > > > > This also shows that the previous two element design where both
> > > > > elements are resonant within a boundary which must be included as a
> > > > > shield around the two element array for maximum efficiency.
> > > > > I find it completely fascinating that the two vectors I propose as
> > > > > Einstein's predicted version of the Standard Model turns up once again
> > > > > in this solenoid version of a radiator within a Faraday cage to which
> > > > > a horn is easily added.
> > > > > So this thread now comes to closure
> > > > > Regards
> > > > > Art
>
> > > > Art,
>
> > > > Shirley, you can't be serious! (with apologies to the late, great Leslie
> > > > Nielsen). Sincerely, and 73s from N4GGO,

> > > > > --
> > > > > John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
>
> > > > > Naval Research Laboratory
> > > > > 4555 Overlook Avenue, SW
> > > > > Washington, DC 20375-5337
>
> > > > Yes, I am very serious about my findings. I am very sorry that others
> > > > are unable to follow my same path to obtain the same joys of
> > > > discovery.
> > > > For some reason people cannot fathom the idea of equilibrium and that
> > > > displacement current provides the equal of the gravity vector.
> > > > There is no way a charge can travel in a straight line up to the
> > > > heavens and down again
> > > > without the neutralisation of gravity and without the auspices of
> > > > spin . The same goes with respect to light according to the Zeeman
> > > > effect
> > > > Regards
> > > > Art
>
> > > keep dreaming art... neither air nor aether can saturate or we would
> > > have many other weird phenomena than your antennas.
>
> > I am not dreaming! The magnetic field increases density until it
> > reaches a maximum.
> > The curve of B vs H clearly shows this in a similar curve to Hooke's
> > Law for strength of materials. At the point of saturation the value of
> > B comes to a halt and where H takes off and increases rapidly. I would
> > imagine that if you searched the web under saturation magnetic fields
> > or some other similar key words you will eventually find verification
> > of what I have described. You might want to search under diamagnetic
> > because you eventually come to the point where diamagnetic field
> > predominates which puts you in the same position of superconductor
> > where skin resistance is removed. I am extremely surprised that as a
> > electrical engineer you never covered magnetics in depth. If you find
> > verification on the absence of saturation in magnetic fields I will be
> > more than happy to apologize for my lax memory of my early days. Up to
> > now tho, you have never produced evidence or any reasoning to back up
> > your comments or status as an electrical engineer, scientist or what
> > have you!. Was it ever explained to you that levitation
> > by fields is exactly equal in direction and value
> > to gravity? How do you explain to amateurs how "straight line
> > trajectory" is attained when explaining skip or are you going to deny
> > that also? I look forward to reading your back up
> > research statements that support your positions.
> > Regards
> > Art
>
> you are looking at curves for ferromagnetic materials that do have a
> saturation level... the point where all the magnetic dipoles in the

> material are lined up. for your quick browsing enjoyment:http://en.wikipedia.org/wiki/Saturation_%28magnetic%29http://www.allaboutcircuits.com/vol_1/chpt_14/4.htmlhttp://www.coilgun.info/theorymath/saturation.htm
> at least one of those specifically states that air core magnets do not
> saturate.

You are correct about the existance of the statement regarding
saturation of air but that is playing on words comparing the very
least of
return for power applied versus a ferrite enclosed in a pocket of air.
Now we have a situation that infers that it is when a ferrite attaines
saturation then excess flux is retained by air such that force has
made a transition from its previously linear form. But the fact is
that the electric field also drops such that regardless of the
increased size of the coil the flux containment of air is now dropping
from the maximum point attained and cannot exceed that point. Now you
can make the point that this is not truely a point of saturation
because of the increasing flux requirement for minimum retainment but
the real world shows that when the maximum point is reached, that
point cannot be retained.
Interesting subject., thanks for your interest
Regards
Art

5000. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 18:22:21 UTC
From: No Spam <nospam@nospam.com>
Message-ID: <ide0stjtv1@news.albasani.net>
Source record: 6600

On Fri, 03 Dec 2010 11:17:20 +0000, frankieNrosie wrote:

> Hi,
>
> I newbie in antenna area. Currently, I'm trying to design a folded
> dipole antenna. Thus, I need some ideas on how to design that antenna
> such the dimensions, length and others.
>
> Please help me. Thanks.

http://www.hard-core-dx.com/nordicdx/antenna/wire/t2design.html
http://www.hard-core-dx.com/nordicdx/antenna/wire/t2fd.html

Balan and term resistors can be purchased here
http://www.packetradio.com/catalog/index.php?main_page=index&cPath=45

Or you can build the term resistor and balum yourself
I used a carbon watercleaner cartridge to build my term resisor :-)

5001. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-04 19:44:55 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <fg6lf6dd871m2tp2rgvb3v2pk9vvunhk1i@4ax.com>
Source record: 6401

On Sat, 4 Dec 2010 18:22:21 +0000 (UTC), No Spam <nospam@nospam.com>
wrote:

>I used a carbon watercleaner cartridge to build my term resisor :-)

! ! ! !

This demands more discussion.

73's
Richard Clark, KB7QHC

5002. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-05 18:51:23 UTC
From: Sean Con <universeexplorer@cwahi.net>
Message-ID: <MPG.2765fd836e07e44989681@news.aioe.org>
Source record: 6402

Hi ...

I am let to chime in, but I would really like to take part in the discussions.

Aurthur, I am a student of physics. The way I understand the situation is as follows:

There is no charge moving. In practice, nothing is moving. an EM (strictly E) field is created, into which power is distributed. So if you pump more power after some saturation, the medium will breakdown to provide an alternative mode of transport, i.e. direct conduction in this case

Therefore i would appreciate if you elaborate what you mean by trajectory of the charge.

s

In article <a32a883e-14d3-49f3-a8f9-559d6dfbc75a@fj16g2000vbb.googlegroups.com>, arthurunwin@gmail.com says...
>
> I have been struggling with this for some time
> so maybe somebody can set me straight.
> We wind a flat plate spiral antenna and we get to a point where the
> center medium becomes saturated with flux.
> Now I add even more coils. What action does that precipitate? I would
> like to think that the Meissner effect (perfect diamagnetism) then
> takes over and swamps the external magnetic field as with a
> superconductor (ie opposite to that of a paramagnetic) The skin
> effect is thus removed allowing the current flow to the surface by
> allowing the atomic structure to relax, and add to the current already
> in place to allow fully efficient radiation as it now lies outside the
> confines of conductor resistance.
> This is my effort in determining what is it that drives the constant
> impedance attributes of a meander type array?
> Regards
> Art

5003. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-05 19:52:44 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7c1c6c39-a863-41bd-9b35-affe07144cd3@21g2000prv.googlegroups.com>
Source record: 6403

On Dec 5, 12:51 pm, Sean Con <universeexplo...@cwahi.net> wrote:
> Hi ...
> SNIP

Hi Sean
Re acceleration of charge.
First I have little training in physics so I am not pre programmed. I am an old retired mechanical engineer
Stating facts as I see them.

Adding time variant to a Gaussian field results in Maxwell equation for radiation establishing a particle as a carrier of charge. Solar particles are attracted to diamagnetic surfaces which are also used for radiators.
Only one resistance reflects energy supplied to a charge. the other resistance of skin depth is a loss.When a external magnetic field is removed from a radiator so is skin depth and current flows on the surface. For Maximum efficiency the particle must be raised for friction reasons and a displacement current does just that. Now a Faraday cage I see as a separation
of fields imposed on a particle,The magnetic portion stays on the outside of the shield and the electric field alignes itself on the inside
cancels leaving only AC current , a reverse of radiation transmission
For a solenoid we have all the above features, A Faraday shield around a radiator. The radiator is a Meander form and resistive or non frequency relevant. Now the radiator is energized for transmission B reaches saturation
energy transferred to H until the coil becomes diamagnetic. The displacement current raises resting particle neutralizing gravity and is in equilibrium.All energy applied to the particle is now equal to acceleration of charge for maximum efficiency such that the thrust and spin allows for straight line trajectory. All the above can be seen from superconductor reaction equivilency. The two vectors of thrust and helical spin applied to the particle are Newtons reaction to Earth's position in the Universe and reflected by the two vectors of a time variant current which is also the same as
a boundary break to release a particle from a Gaussian field during the Big Bang and the basic forces envisaged by Einstein for the Standard Model ala the twisted ladder of life itself.
Regards
Art xg

5004. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-05 21:01:00 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <bacc6b07-ed75-450f-aa7e-b8695d5a86d7@f20g2000prn.googlegroups.com>
Source record: 6404

On Dec 5, 1:52 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 5, 12:51 pm, Sean Con <universeexplo...@cwahi.net> wrote:
>
> > Hi ...
> > SNIP
>
> Hi Sean
> Re acceleration of charge.
> First I have little training in physics so I am not pre programmed. I
> am an old retired mechanical engineer
> Stating facts as I see them.
>
> Adding time variant to a Gaussian field results in Maxwell equation
> for radiation establishing a particle as a carrier of charge. Solar
> particles are attracted to diamagnetic surfaces which are also used
> for radiators.
> Only one resistance reflects energy supplied to a charge. the other
> resistance of skin depth is a loss.When a external magnetic field is
> removed from a radiator so is skin depth and current flows on the
> surface. For Maximum efficiency the particle must be raised for
> friction reasons and a displacement current does just that. Now a
> Faraday cage I see as a separation
> of fields imposed on a particle,The magnetic portion stays on the
> outside of the shield and the electric field alignes itself on the
> inside
> cancels leaving only AC current , a reverse of radiation transmission
> For a solenoid we have all the above features, A Faraday shield around
> a radiator. The radiator is a Meander form and resistive or non
> frequency relevant. Now the radiator is energized for transmission B
> reaches saturation
> energy transferred to H until the coil becomes diamagnetic. The
> displacement current raises resting particle neutralizing gravity and
> is in equilibrium.All energy applied to the particle is now equal to
> acceleration of charge for maximum efficiency such that the thrust and
> spin allows for straight line trajectory. All the above can be seen
> from superconductor reaction equivilency. The two vectors of thrust
> and helical spin applied to the particle are Newtons reaction to
> Earth's position in the Universe and reflected by the two vectors of a
> time variant current which is also the same as
> a boundary break to release a particle from a Gaussian field during
> the Big Bang and the basic forces envisaged by Einstein for the
> Standard Model ala the twisted ladder of life itself.
> Regards
> Art xg

Searn
It has taken me several years to convince some
of the transition from electrostatics of Gauss to the Mathematics of
Maxwell to establish particles instead of waves., Probably the cgs
units create confusion. I would have liked to start from the "double
slit" experiment which has created a monkey fist stuck in a jar. If
only people could step back from a stubborn position
it would be an easy transfer of thought from a double slit experiment
to one of a array of slot antennas to get things back on track. The
last few years has taught me that many see passing the amateur radio
exam as a passport equivalent into the society of physics and the
protector of printed books of the ARRL so I am clearly outnumbered
with respect to the resistance to change.

5005. Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-05 21:28:56 UTC
From: No Spam <nospam@nospam.com>
Message-ID: <idh06nfud1@news.albasani.net>
Source record: 6405

On Sat, 04 Dec 2010 11:44:55 -0800, Richard Clark wrote:

> On Sat, 4 Dec 2010 18:22:21 +0000 (UTC), No Spam <nospam@nospam.com>
> wrote:
>
>>I used a carbon watercleaner cartridge to build my term resisor :-)
>
> ! ! ! !
>
> This demands more discussion.
>
> 73's
> Richard Clark, KB7QHC

Sure!
I have dremmel-tooled open a used dried-out water filter cartridge from my fridge that contained a hollow carbon shaft about 10" long and 3" in diameter with a 3/4 inch hollow inside diameter. The end to end resistance was about 600ohms. The carbon shaft is a bit soft and crumbles under the pressure of tools. This was how I destroyed the first unit I played with in trying to make it 480ohms by trimming the ends.

Using another filter, I encapsulated the carbon shaft inside a sewer tube. (Denser PVC and hopfully more impervious to heat) I attached conductors to the ends using flat washers with springs and left vent holes in the PVC end caps when I attached them to push it all together. I did not attempt to trim the resistance by shaving the length. The modules finished resistance measured ~590ohms.

Since this WAS a used water filter, I ran some HV through it to heat it up a bit to see if it would vent gas or smoke. The resistance decreased a bit as it heated but returned to near 600ohms when it cooled. I kept the power to less then 100w using my bench HV power supply. After about 1 minute, the PVC started to feel warm but no smoke was seen though it did stink a bit.

The whole PVC module I made sweeps out flat from 1Mhz (bottom of my test gear) to ~40Mhz where I think my wiring started having some effects. I had to use springs on the ends to push the contact washers up against the carbon shaft and suspect I need to come up with something better here. Also, the pressure of the springs and end caps varied the resistance about 20 ohms.

I have run about 400w avg for several minutes into the load under voice and so-far the damn thing is still hanging on the T2FD antenna and loads just fine. In usage, the resistance varied about 50ohms upward in the

last several months of tracking it. I hope to remove the resistor shortly and inspect if there is any chemical reaction with the steel washers and the carbon rod ends. I need some better way to make this contact and also some way to increase the surface area of the contact to stabilize and perhaps reduce the resistance. I'm thinking copper pipe endcaps heated up and cooled over the ends either on the outer diameter or on the inside hollow part of the carbon shaft.

/****/
Another idea I just had is perhaps having someone with a ceramics oven paint on the endcaps with ceramic glaze. It would look like a giant ceramic resistor! But then again, I would guess that as the resistor heated up, it would crack. Never mind...
/****/

I now have another filter module to dissect. I hope to come up with a better way to mount contacts to the carbon shaft and some way to assure a nice airflow around and hopefully through it to allow for higher power.

In retrospect, with the amount of time and work I've put into this resistor project, I would have been better off purchasing the buxcomm resistors for $25. (I have one) But then again, I had fun playing with this too! If anything, ideally, I hope to come up with something that weighs half the weight of the buxcomm resistor so my T2FD antenna looks more graceful under the burden of the resistor. :-)

73!

5006. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 00:07:20 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <a1888f58-64ac-495e-a7fc-8bd360dd9d33@d8g2000yqf.googlegroups.com>
Source record: 6406

On Dec 5, 4:28 pm, No Spam <nos...@nospam.com> wrote:
> On Sat, 04 Dec 2010 11:44:55 -0800, Richard Clark wrote:
> > On Sat, 4 Dec 2010 18:22:21 +0000 (UTC), No Spam <nos...@nospam.com>
> > wrote:
>
> >>I used a carbon watercleaner cartridge to build my term resisor :-)
>
> > ! ! ! !
>
> > This demands more discussion.
>
> > 73's
> > Richard Clark, KB7QHC
>
> Sure!
> I have dremmel-tooled open a used dried-out water filter cartridge from
> my fridge that contained a hollow carbon shaft about 10" long and 3" in
> diameter with a 3/4 inch hollow inside diameter. The end to end
> resistance was about 600ohms. The carbon shaft is a bit soft and crumbles
> under the pressure of tools. This was how I destroyed the first unit I
> played with in trying to make it 480ohms by trimming the ends.
>
> Using another filter, I encapsulated the carbon shaft inside a sewer
> tube. (Denser PVC and hopfully more impervious to heat) I attached
> conductors to the ends using flat washers with springs and left vent
> holes in the PVC end caps when I attached them to push it all together. I
> did not attempt to trim the resistance by shaving the length. The modules
> finished resistance measured ~590ohms.
>
> Since this WAS a used water filter, I ran some HV through it to heat it
> up a bit to see if it would vent gas or smoke. The resistance decreased a
> bit as it heated but returned to near 600ohms when it cooled. I kept the
> power to less then 100w using my bench HV power supply. After about 1
> minute, the PVC started to feel warm but no smoke was seen though it did
> stink a bit.
>
> The whole PVC module I made sweeps out flat from 1Mhz (bottom of my test
> gear) to ~40Mhz where I think my wiring started having some effects. I
> had to use springs on the ends to push the contact washers up against the
> carbon shaft and suspect I need to come up with something better here.
> Also, the pressure of the springs and end caps varied the resistance
> about 20 ohms.
>
> I have run about 400w avg for several minutes into the load under voice

> and so-far the damn thing is still hanging on the T2FD antenna and loads
> just fine. In usage, the resistance varied about 50ohms upward in the
> last several months of tracking it. I hope to remove the resistor shortly
> and inspect if there is any chemical reaction with the steel washers and
> the carbon rod ends. I need some better way to make this contact and also
> some way to increase the surface area of the contact to stabilize and
> perhaps reduce the resistance. I'm thinking copper pipe endcaps heated up
> and cooled over the ends either on the outer diameter or on the inside
> hollow part of the carbon shaft.
>
> /****/
> Another idea I just had is perhaps having someone with a ceramics oven
> paint on the endcaps with ceramic glaze. It would look like a giant
> ceramic resistor! But then again, I would guess that as the resistor
> heated up, it would crack.   Never mind...
> /****/
>
> I now have another filter module to dissect. I hope to come up with a
> better way to mount contacts to the carbon shaft and some way to assure a
> nice airflow around and hopefully through it to allow for higher power.
>
> In retrospect, with the amount of time and work I've put into this
> resistor project, I would have been better off purchasing the buxcomm
> resistors for $25. (I have one)   But then again, I had fun playing with
> this too! If anything, ideally, I hope to come up with something that
> weighs half the weight of the buxcomm resistor so my T2FD antenna looks
> more graceful under the burden of the resistor. :-)
>
> 73!

A better way to attach it may be to electroplate Cu on the ends of it.
Did this with some battery cores one time. Think I used CuSO4 solution
as the electrolyte.

Jimmie

5007. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 01:13:06 UTC
From: Nordic Breeds WA4VZQ <wa4vzqNO@SPAMlive.com>
Message-ID: <idhdb2$8vm$1@news.eternal-september.org>
Source record: 6407

"No Spam" <nospam@nospam.com> wrote in message
news:idh06nfud1@news.albasani.net...
> I have dremmel-tooled open a used dried-out water filter cartridge from
> my fridge that contained a hollow carbon shaft about 10" long and 3" in
> diameter with a 3/4 inch hollow inside diameter. The end to end
> resistance was about 600ohms. The carbon shaft is a bit soft and
> crumbles
> under the pressure of tools. This was how I destroyed the first unit I
> played with in trying to make it 480ohms by trimming the ends.
>
> Using another filter, I encapsulated the carbon shaft inside a sewer
> tube. (Denser PVC and hopfully more impervious to heat) I attached
> conductors to the ends using flat washers with springs and left vent
> holes in the PVC end caps when I attached them to push it all together.
> I
> did not attempt to trim the resistance by shaving the length. The
> modules
> finished resistance measured ~590ohms.
>
> Since this WAS a used water filter, I ran some HV through it to heat it
> up a bit to see if it would vent gas or smoke. The resistance decreased
> a
> bit as it heated but returned to near 600ohms when it cooled. I kept
> the
> power to less then 100w using my bench HV power supply. After about 1
> minute, the PVC started to feel warm but no smoke was seen though it
> did
> stink a bit.
>
> The whole PVC module I made sweeps out flat from 1Mhz (bottom of my
> test
> gear) to ~40Mhz where I think my wiring started having some effects. I
> had to use springs on the ends to push the contact washers up against
> the
> carbon shaft and suspect I need to come up with something better here.
> Also, the pressure of the springs and end caps varied the resistance
> about 20 ohms.
>
> I have run about 400w avg for several minutes into the load under voice
> and so-far the damn thing is still hanging on the T2FD antenna and
> loads
> just fine. In usage, the resistance varied about 50ohms upward in the
> last several months of tracking it. I hope to remove the resistor
> shortly

> and inspect if there is any chemical reaction with the steel washers
> and
> the carbon rod ends. I need some better way to make this contact and
> also
> some way to increase the surface area of the contact to stabilize and
> perhaps reduce the resistance. I'm thinking copper pipe endcaps heated
> up
> and cooled over the ends either on the outer diameter or on the inside
> hollow part of the carbon shaft.
>
> /****/
> Another idea I just had is perhaps having someone with a ceramics oven
> paint on the endcaps with ceramic glaze. It would look like a giant
> ceramic resistor! But then again, I would guess that as the resistor
> heated up, it would crack. Never mind...
> /****/
>
> I now have another filter module to dissect. I hope to come up with a
> better way to mount contacts to the carbon shaft and some way to assure
> a
> nice airflow around and hopefully through it to allow for higher power.
>
> In retrospect, with the amount of time and work I've put into this
> resistor project, I would have been better off purchasing the buxcomm
> resistors for $25. (I have one) But then again, I had fun playing
> with
> this too! If anything, ideally, I hope to come up with something that
> weighs half the weight of the buxcomm resistor so my T2FD antenna looks
> more graceful under the burden of the resistor. :-)

The water cleaner cartridge is activated charcoal with a small amount of organic binder. It is not graphite as graphite will not function to clean the water. Activated charcoal has an extremely large surface area which adsorbs contaminants. Depending on how it is produced, a gram of activated charcoal can have from 100 to 1000 square meters of surface area.

Your idea of a metallic ceramic glaze will not work as the glaze is a low temperature melting glass (usually a lead glass) with fine metallic particles in it. Once fired, the glass melts, but the metallic particles are still insulated from each other.

You can buy conductive copper, nickel, and silver based paints for repairing printed circuit boards. GC Electronics sells small bottles of silver print paint (Part No. 22-024 1 troy oz. Bottle) which has a surface resistivity of 0.1 ohms per square, and nickel print paint (Part No. 22-207 2 fl. oz. Bottle) which has a surface resistivity of 5 to 6 ohms per square. Be extremely careful when diluting these paints. Use only chemically pure solvents as any oil or other such material in the solvent will serve to insulate the particles from each other. GC Part No. 10-4102 Polystyrene

Q-dope thinner (toluene) might be suitable. I would suggest the nickel print paint as the silver print is quite expensive. Heed the warnings in the respective MSDS's for these products.

Another alternative is to have the ends of the activated charcoal rod electroplated. A thin copper flash film applied to each end, followed by a thicker conventional electroplate would give you contacts that could be soldered to. If there is someone in your area that does electroless nickel plating, this would also be suitable.

An entirely different approach would be to use a conductive liquid for the resistance. An old QST article in June, 1965, entitled "Aqueous Dummy Loads" by Alexander Marion, W2CUE (now a silent key, I believe), should give you some ideas.

73, Dr. Barry L. Ornitz WA4VZQ

5008. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 02:05:32 UTC
From: tom <news4792@taring.org>
Message-ID: <4cfc44ec$0$6711$8046368a@newsreader.iphouse.net>
Source record: 6408

On 12/5/2010 3:01 PM, Art Unwin wrote:
> On Dec 5, 1:52 pm, Art Unwin<arthurun...@gmail.com> wrote:
>> On Dec 5, 12:51 pm, Sean Con<universeexplo...@cwahi.net> wrote:
>>
>>> Hi ...
>>> SNIP
>>
>> Hi Sean
>> Re acceleration of charge.
>> First I have little training in physics so I am not pre programmed. I
>> am an old retired mechanical engineer
>> Stating facts as I see them.
>>
>> Adding time variant to a Gaussian field results in Maxwell equation
>> for radiation establishing a particle as a carrier of charge. Solar
>> particles are attracted to diamagnetic surfaces which are also used
>> for radiators.
>> Only one resistance reflects energy supplied to a charge. the other
>> resistance of skin depth is a loss.When a external magnetic field is
>> removed from a radiator so is skin depth and current flows on the
>> surface. For Maximum efficiency the particle must be raised for
>> friction reasons and a displacement current does just that. Now a
>> Faraday cage I see as a separation
>> of fields imposed on a particle,The magnetic portion stays on the
>> outside of the shield and the electric field alignes itself on the
>> inside
>> cancels leaving only AC current , a reverse of radiation transmission
>> For a solenoid we have all the above features, A Faraday shield around
>> a radiator. The radiator is a Meander form and resistive or non
>> frequency relevant. Now the radiator is energized for transmission B
>> reaches saturation
>> energy transferred to H until the coil becomes diamagnetic. The
>> displacement current raises resting particle neutralizing gravity and
>> is in equilibrium.All energy applied to the particle is now equal to
>> acceleration of charge for maximum efficiency such that the thrust and
>> spin allows for straight line trajectory. All the above can be seen
>> from superconductor reaction equivilency. The two vectors of thrust
>> and helical spin applied to the particle are Newtons reaction to
>> Earth's position in the Universe and reflected by the two vectors of a
>> time variant current which is also the same as
>> a boundary break to release a particle from a Gaussian field during
>> the Big Bang and the basic forces envisaged by Einstein for the
>> Standard Model ala the twisted ladder of life itself.
>> Regards

>> Art xg
>
> Searn
> It has taken me several years to convince some
> of the transition from electrostatics of Gauss to the Mathematics of
> Maxwell to establish particles instead of waves., Probably the cgs
> units create confusion. I would have liked to start from the "double
> slit" experiment which has created a monkey fist stuck in a jar. If
> only people could step back from a stubborn position
> it would be an easy transfer of thought from a double slit experiment
> to one of a array of slot antennas to get things back on track. The
> last few years has taught me that many see passing the amateur radio
> exam as a passport equivalent into the society of physics and the
> protector of printed books of the ARRL so I am clearly outnumbered
> with respect to the resistance to change.

Sean

Amusing isn't he? He's written thousands, perhaps tens of thousands, of
line of this, none exactly the same.

If you want to start a "discussion" with him it will never end unless he
says it does, and often not then.

73
tom
K0TAR

5009. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 03:35:56 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <ufmof6de950mis1diak5jc7a9vcoq5j1mo@4ax.com>
Source record: 6409

On Sun, 5 Dec 2010 21:28:56 +0000 (UTC), No Spam <nospam@nospam.com>
wrote:

>In retrospect, with the amount of time and work I've put into this
>resistor project, I would have been better off purchasing the buxcomm
>resistors for $25. (I have one) But then again, I had fun playing with
>this too! If anything, ideally, I hope to come up with something that
>weighs half the weight of the buxcomm resistor so my T2FD antenna looks
>more graceful under the burden of the resistor. :-)

Thanx for the follow-up, it was indeed of interest.

73's
Richard Clark, KB7QHC

5010. Rigid, unguyed dipole end supports?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 14:23:46 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E4655692A4DBVeebleFetzer@216.250.188.140>
Source record: 6410

The size and layout of our city lot means that I can fit a 40 meter dipole in the back yard with one end supported at the peak of the roof, but with no way to guy a mast to hold up the other end. Power lines run directly along the property line in back, there electrical service line runs right across the roof of the detached garage and there are no trees back there.

I picked up a couple of [cheap] 10' steel mast sections at the local Radio Shack and attached the lower section to our fence with conduit clamps, but just the weight of the antenna under minimum tension causes the upper section to bow significantly.

I'd like to replace the far-end support with something that will stay erect under tension without guys. Getting higher than 20' would be nice too.

Can anybody offer practical suggestions to someone with essentially no mechanical skills, pointers to articles on the subject or commercial products?

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5011. Re: Rigid, unguyed dipole end supports?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 16:10:37 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <Ytqdndix9s5hl2DRnZ2dnUVZ_vadnZ2d@earthlink.com>
Source record: 6411

"Bert Hyman" <bert@iphouse.com> wrote in message
news:Xns9E4655692A4DBVeebleFetzer@216.250.188.140...
> The size and layout of our city lot means that I can fit a 40 meter dipole
> in the back yard with one end supported at the peak of the roof, but with
> no way to guy a mast to hold up the other end. Power lines run directly
> along the property line in back, there electrical service line runs right
> across the roof of the detached garage and there are no trees back there.
>
> I picked up a couple of [cheap] 10' steel mast sections at the local Radio
> Shack and attached the lower section to our fence with conduit clamps, but
> just the weight of the antenna under minimum tension causes the upper
> section to bow significantly.
>
> I'd like to replace the far-end support with something that will stay
> erect
> under tension without guys. Getting higher than 20' would be nice too.
>
> Can anybody offer practical suggestions to someone with essentially no
> mechanical skills, pointers to articles on the subject or commercial
> products?
>
> --
> Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

While it may not be too inexpensive, you can use some Rohn 25G tower sections. There may be soe other inexpensive tower sections you can use. I was in a similar situation. I could support one end and the middle of an 80 meter dipole. I found some used tower for about $ 30 per 10 foot section. I was going to save it to put up a tower someday. I decided I could put two sectons together and also use one of the 10 foot sections of TV mast like you have. I think the TV mast woud fit over one of the legs. I also put a big eye bolt at the top of the mast with a rope through it so I could pull up the antenna wire. This was done before the tower was raised so there is no need to climb it. To climb it I would think you would want about a yard of cement in the ground, then you could go up to about 30 feet of tower. I just rested the tower on the ground and took a couple of radiator clamps and fastened it to the pipe that held up the corner of the chain link fence. I used it this was for about 3 years before I moved.

5012. Re: Rigid, unguyed dipole end supports?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 16:30:53 UTC
From: "J. Todd" <jetodd@bcsupernet.com>
Message-ID: <MPG.2766af9978c25b90989682@news.eternal-september.org>
Source record: 6412

In article <Xns9E4655692A4DBVeebleFetzer@216.250.188.140>,
bert@iphouse.com says...
> The size and layout of our city lot means that I can fit a 40 meter dipole
> in the back yard with one end supported at the peak of the roof, but with
> no way to guy a mast to hold up the other end. Power lines run directly
> along the property line in back, there electrical service line runs right
> across the roof of the detached garage and there are no trees back there.
>
> I picked up a couple of [cheap] 10' steel mast sections at the local Radio
> Shack and attached the lower section to our fence with conduit clamps, but
> just the weight of the antenna under minimum tension causes the upper
> section to bow significantly.
>
> I'd like to replace the far-end support with something that will stay erect
> under tension without guys. Getting higher than 20' would be nice too.
>
> Can anybody offer practical suggestions to someone with essentially no
> mechanical skills, pointers to articles on the subject or commercial
> products?
>
>
Maybe a strut halfway up the fence side of the mast, with a stay from
the mast top, over the strut end, and secured to the bottom of the mast.
Tension to straighten the bend, Think sailboat "diamond stays"

5013. Re: Rigid, unguyed dipole end supports?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 18:21:11 UTC
From: jerry <jhotemw@hotmail.com>
Message-ID: <idj9in$l2o$1@news.eternal-september.org>
Source record: 6413

On Mon, 06 Dec 2010 14:23:46 +0000, Bert Hyman wrote:

> The size and layout of our city lot means that I can fit a 40 meter
> dipole in the back yard with one end supported at the peak of the roof,
> but with no way to guy a mast to hold up the other end. Power lines run
> directly along the property line in back, there electrical service line
> runs right across the roof of the detached garage and there are no trees
> back there.
>
> I picked up a couple of [cheap] 10' steel mast sections at the local
> Radio Shack and attached the lower section to our fence with conduit
> clamps, but just the weight of the antenna under minimum tension causes
> the upper section to bow significantly.
>
> I'd like to replace the far-end support with something that will stay
> erect under tension without guys. Getting higher than 20' would be nice
> too.
>
> Can anybody offer practical suggestions to someone with essentially no
> mechanical skills, pointers to articles on the subject or commercial
> products?

I set up an 80m dipole using three masts made of 20 foot long 2x4's from the lumberyard. I don't use any guy ropes, even on the end masts. I just made diagonal braces from shorter 2x4's -- about 6-8 feet each -- with two braces on each vertical mast.

The braces are attached to the mast with carriage bolts and one long lag screw for the brace that attaches to the narrow edge of the mast. The braces are arranged at 90 degree angles to each other and are dug into the ground about 1 to 2 feet deep (that's all I can dig in this yard before hitting hardpan). Each brace has a short "deadman" stick screwed on the bottom of it to keep it from pulling out of the dirt.

There is also a vertical brace dug into the dirt and rising about 3 feet above ground line. The actual mast is lapped onto the vertical brace with two carriage bolts. The purpose of the vertical brace is mostly to get the maximum rise out of the 20 foot mast. You could also just bury the end of the mast itself into the dirt.

It's been up for a year now and hasn't come down even in the wind storms and ice storms we have had. Be sure and orient the 2x4 mast so the "strong" direction is opposed to the weight of the antenna.

5014. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 20:01:01 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <idjfdt$3nb$2@news.jpl.nasa.gov>
Source record: 6414

No Spam wrote:
> On Sat, 04 Dec 2010 11:44:55 -0800, Richard Clark wrote:
>
>> On Sat, 4 Dec 2010 18:22:21 +0000 (UTC), No Spam <nospam@nospam.com>
>> wrote:
>>
>>> I used a carbon watercleaner cartridge to build my term resisor :-)
>> ! ! ! !
>>
>> This demands more discussion.
>>
>> 73's
>> Richard Clark, KB7QHC
>
> Sure!
> I have dremmel-tooled open a used dried-out water filter cartridge from
> my fridge that contained a hollow carbon shaft about 10" long and 3" in
> diameter with a 3/4 inch hollow inside diameter. The end to end
> resistance was about 600ohms. The carbon shaft is a bit soft and crumbles
> under the pressure of tools. This was how I destroyed the first unit I
> played with in trying to make it 480ohms by trimming the ends.
>
> /****/
> Another idea I just had is perhaps having someone with a ceramics oven
> paint on the endcaps with ceramic glaze. It would look like a giant
> ceramic resistor! But then again, I would guess that as the resistor
> heated up, it would crack. Never mind...
> /****/
>
> I now have another filter module to dissect. I hope to come up with a
> better way to mount contacts to the carbon shaft and some way to assure a
> nice airflow around and hopefully through it to allow for higher power.
>

Electrodes from an carbon arc light or pencil leads can also be used for
a non precision resistor.

Carbon "suppressor" ignition wire

Copper sulfate in water makes a nice resistor, too. It's used a lot for
"energy dump" resistors in pulse power applications.

The power limiting thing on resistors like this is the packaging. If you
put it inside PVC pipe, then the thermal resistance of the PVC limits
how fast you can get the heat out (and the maximum temperature, too)

5015. Re: Rigid, unguyed dipole end supports?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 20:53:22 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E46D47F9BA3FVeebleFetzer@216.250.188.140>
Source record: 6415

In news:MPG.2766af9978c25b90989682@news.eternal-september.org J. Todd <jetodd@bcsupernet.com> wrote:

> In article <Xns9E4655692A4DBVeebleFetzer@216.250.188.140>,
> bert@iphouse.com says...
>>
>> Can anybody offer practical suggestions to someone with essentially
>> no mechanical skills, pointers to articles on the subject or
>> commercial products?
>>
>>
> Maybe a strut halfway up the fence side of the mast, with a stay
> from the mast top, over the strut end, and secured to the bottom of the
> mast. Tension to straighten the bend, Think sailboat "diamond stays"

That sounds like something I've seen on utility poles, except that the guy doesn't connect at the bottom of the mast, but goes straight down from the strut, parallel to the mast, and is anchored in the ground. I probably have enough room on the other side of the fence for something like that.

BTW, I'm collecting and "analyzing" all these responses for next spring; the ground's already frozen and we have our first foot of snow cover for the winter.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5016. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 21:52:21 UTC
From: Nordic Breeds WA4VZQ <wa4vzqNO@SPAMlive.com>
Message-ID: <idjlumurn1@news.eternal-september.org>
Source record: 6416

"Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
news:idjfdt$3nb$2@news.jpl.nasa.gov...
> Copper sulfate in water makes a nice resistor, too. It's used a lot for
> "energy dump" resistors in pulse power applications.

From a theoretical standpoint, copper sulfate solutions should increase
their resistance with frequency more rapidly than the sodium and ammonium
chloride solutions used in the ARRL article. This is mainly due to ion
mobiity in solutions.

> The power limiting thing on resistors like this is the packaging. If
> you put it inside PVC pipe, then the thermal resistance of the PVC
> limits how fast you can get the heat out (and the maximum temperature,
> too)

Heat transfer was the primary reason for using transformer oil or mineral oil in the old Heath Cantenna. Without the oil, the Globar carborundum resistor would rapidly overheat. With the oil, the resistor could could dissipate 200 watts continuously. If you started with room temperature mineral oil, it could dissipate a kilowatt for about a minute before the oil got too hot and reached the flash point. Medicinal mineral oils have an open-cup flashpoint between 171 and 221 °C depending on the specific manufacturer, while that of technical grade oils is somewhat lower. Of course, Heath suggested removing power to the Cantenna when it reached 60 °C [the temperature at which the can is too hot to touch continuously]. At the time the HN-31 was produced, transformer oils generally contained polychlorinated biphenyl (PCB) additives which reduced their flammability. This is why Heath rated the Cantenna at 1 KW for ten minutes or less when it was filled to the proper level with transformer oil.

I have a Bird dummy load rated at 1 kW continuous. It has a larger
resistive element, still immersed in oil. However, the case is finned to
help dissipate the heat.

Jim is quite correct about the PVC pipe limiting the heat transfer. I
would suggest using power chip resistors. Digi-Key carries Bournes chip
resistors rated at 50 ohms and 100 watts for less than $8 each.

73, Dr. Barry L. Ornitz WA4VZQ

5017. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 22:14:50 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <4CFD605A.9040101@jpl.nasa.gov>
Source record: 6418

Nordic Breeds WA4VZQ wrote:
> "Jim Lux" <james.p.lux@jpl.nasa.gov> wrote in message
> news:idjfdt$3nb$2@news.jpl.nasa.gov...
>> Copper sulfate in water makes a nice resistor, too. It's used a lot for
>> "energy dump" resistors in pulse power applications.
>
> From a theoretical standpoint, copper sulfate solutions should increase
> their resistance with frequency more rapidly than the sodium and ammonium
> chloride solutions used in the ARRL article. This is mainly due to ion
> mobiity in solutions.
>

Copper sulfate is popular because it is compatible with copper
electrodes, too. Sodium chloride tends to corrode the electrodes.

There might also be some difference in solubility, which would affect
the range of resistances available.

http://home.earthlink.net/~jimlux/hv/rwater.htm has a discussion of
building water resistors for HV applications.

5018. Re: Rigid, unguyed dipole end supports?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-06 22:57:15 UTC
From: John Passaneau <w3jxp@arrl.net>
Message-ID: <idjpob$bg62$1@tr22n12.aset.psu.edu>
Source record: 6417

On 12/6/2010 9:23 AM, Bert Hyman wrote:
> The size and layout of our city lot means that I can fit a 40 meter dipole
> in the back yard with one end supported at the peak of the roof, but with
> no way to guy a mast to hold up the other end. Power lines run directly
> along the property line in back, there electrical service line runs right
> across the roof of the detached garage and there are no trees back there.
>
> I picked up a couple of [cheap] 10' steel mast sections at the local Radio
> Shack and attached the lower section to our fence with conduit clamps, but
> just the weight of the antenna under minimum tension causes the upper
> section to bow significantly.
>
> I'd like to replace the far-end support with something that will stay erect
> under tension without guys. Getting higher than 20' would be nice too.
>
> Can anybody offer practical suggestions to someone with essentially no
> mechanical skills, pointers to articles on the subject or commercial
> products?
>

Hi Bert:
Let me tell you what I'm using for my dipole. I have a 40' tower about the middle of my lot. The dipole center is supported by the tower and the ends are supported by flagpoles. In the front yard its a real one piece spun aluminum flag pole for the "looks" and in the back the pole is a 21'long 1 5/8" steel pipe that is used for the top rail in industrial chain link fencing. Both poles are mounted as flagpoles are commonly done (look up erecting flagpoles on the web) with 2' of the pipe in the ground making it 19' out of the ground. The advantage of flagpole mounting is it's relatively easy to take down if maintenance is need. My dipole is heavy as it's a HB fan dipole and covers 160 through 30 meters. I though the pipe would bend too much so when I put it up I fastened a rope the back side of the top for a back guy. I never used it and when the time comes to work on it (paint maybe) I will remove it. Works well and looks good and not hard to put up as I did it with out any help.

John W3JXP

5019. Re: Rigid, unguyed dipole end supports?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 00:12:58 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E46B94E3FBC7VeebleFetzer@216.250.188.140>
Source record: 6419

In news:idjpob$bg62$1@tr22n12.aset.psu.edu John Passaneau
<w3jxp@arrl.net> wrote:

> In the front yard its a real one piece spun aluminum flag pole for the
> "looks" and in the back the pole is a 21'long 1 5/8" steel pipe that
> is used for the top rail in industrial chain link fencing.

The fence top rail stuff is actually rigid enough to not only stand up
by itself, but to support a little side load? Any idea how much farther
up you could have gone without the thing starting to get floppy?

Sounds like something worth looking at.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5020. Seeking New FAQ/Intro Maintainers for rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 07:05:03 UTC
From: rram@panix.com
Message-ID: <radio/ham-radio/recruitment-1-1291705500@panix.com>
Source record: 6420
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.info

```
Posted-By: auto-faq 3.3.2 beta (PGPMoose V2.0, Perl 5.005)
Archive-name: radio/ham-radio/recruitment
Revision: 1.2 2009/11/25 14:41:01
Posting-Frequency: posted monthly
URL: http://www.faqs.org/faqs/radio/personal-intro/

Changes followed by "|".

The rec.radio.info newsgroup, first established in 1993, has been
recently revived by an active moderation team. We are currently seeking
suitable information, FAQ, and bulletin articles from the entire
rec.radio.* newsgroup hierarchy for simultaneous cross-posting to our
newsgroup.

We are seeking a replacement maintainer for the following information
bulletin formerly posted to rec.radio.amateur.* (and currently archived
at http://www.faqs.org/faqs/radio/personal-intro/ ):

radio/personal-intro
Subject: Guide to the rec.radio Newsgroups
Maintainer: jeffreyh@Hawaii.Edu (Jeffrey Herman)
Last Posted: 9 Nov 2001 06:18:17 GMT
Posting-Frequency: 15th of each month

One significant omission, requiring immediate updates, for this article |
is that it does not mention newer amateur radio newsgroups created since |
it was written, including: |

rec.radio.amateur.antenna |
rec.radio.amateur.boatanchors |
rec.radio.amateur.dx |
rec.radio.amateur.equipment |
rec.radio.amateur.homebrew |
rec.radio.amateur.moderated |
rec.radio.amateur.space |

We are willing to provide any technical support necessary to get this
article updated and automatically posted again at a regular interval.
This would include establishing contact with the original maintainer for
any necessary permissions. We would prefer to seek a new, dedicated
maintainer at this time, rather than start auto-posting the original
article ourselves.

For more information about our newsgroup, see:
```

http://www.panix.com/~rram/usenet/rri/index.html

Please direct any comments, questions, or criticisms to
rec-radio-info-request@panix.com.

5021. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 11:42:09 UTC
From: david <none@nospam.com>
Message-ID: <idl6ihrtr1@news.eternal-september.org>
Source record: 6421

On Mon, 06 Dec 2010 16:52:21 -0500, Nordic Breeds WA4VZQ rearranged some electrons to say:

>
> Jim is quite correct about the PVC pipe limiting the heat transfer. I
> would suggest using power chip resistors. Digi-Key carries Bournes chip
> resistors rated at 50 ohms and 100 watts for less than $8 each.
>
> 73, Dr. Barry L. Ornitz WA4VZQ

Amen on the thick-film chip resistors. I built a 200W dummy load using two 100 ohm 100W devices in parallel.

5022. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 16:23:24 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <d794d973-9be1-45f1-bc19-3b8918acf17f@o14g2000prn.googlegroups.com>
Source record: 6422

On Dec 5, 8:13 pm, "Nordic Breeds WA4VZQ" <wa4vz...@SPAMlive.com>
wrote:
> "No Spam" <nos...@nospam.com> wrote in message
>
> news:idh06nfud1@news.albasani.net...
>
>
>
> > I have dremmel-tooled open a used dried-out water filter cartridge from
> > my fridge that contained a hollow carbon shaft about 10" long and 3" in
> > diameter with a 3/4 inch hollow inside diameter. The end to end
> > resistance was about 600ohms. The carbon shaft is a bit soft and
> > crumbles
> > under the pressure of tools. This was how I destroyed the first unit I
> > played with in trying to make it 480ohms by trimming the ends.
>
> > Using another filter, I encapsulated the carbon shaft inside a sewer
> > tube. (Denser PVC and hopfully more impervious to heat) I attached
> > conductors to the ends using flat washers with springs and left vent
> > holes in the PVC end caps when I attached them to push it all together.
> > I
> > did not attempt to trim the resistance by shaving the length. The
> > modules
> > finished resistance measured ~590ohms.
>
> > Since this WAS a used water filter, I ran some HV through it to heat it
> > up a bit to see if it would vent gas or smoke. The resistance decreased
> > a
> > bit as it heated but returned to near 600ohms when it cooled. I kept
> > the
> > power to less then 100w using my bench HV power supply. After about 1
> > minute, the PVC started to feel warm but no smoke was seen though it
> > did
> > stink a bit.
>
> > The whole PVC module I made sweeps out flat from 1Mhz (bottom of my
> > test
> > gear) to ~40Mhz where I think my wiring started having some effects. I
> > had to use springs on the ends to push the contact washers up against
> > the
> > carbon shaft and suspect I need to come up with something better here.
> > Also, the pressure of the springs and end caps varied the resistance
> > about 20 ohms.
>

> > I have run about 400w avg for several minutes into the load under voice
> > and so-far the damn thing is still hanging on the T2FD antenna and
> > loads
> > just fine. In usage, the resistance varied about 50ohms upward in the
> > last several months of tracking it. I hope to remove the resistor
> > shortly
> > and inspect if there is any chemical reaction with the steel washers
> > and
> > the carbon rod ends. I need some better way to make this contact and
> > also
> > some way to increase the surface area of the contact to stabilize and
> > perhaps reduce the resistance. I'm thinking copper pipe endcaps heated
> > up
> > and cooled over the ends either on the outer diameter or on the inside
> > hollow part of the carbon shaft.
>
> > /****/
> > Another idea I just had is perhaps having someone with a ceramics oven
> > paint on the endcaps with ceramic glaze. It would look like a giant
> > ceramic resistor! But then again, I would guess that as the resistor
> > heated up, it would crack.   Never mind...
> > /****/
>
> > I now have another filter module to dissect. I hope to come up with a
> > better way to mount contacts to the carbon shaft and some way to assure
> > a
> > nice airflow around and hopefully through it to allow for higher power.
>
> > In retrospect, with the amount of time and work I've put into this
> > resistor project, I would have been better off purchasing the buxcomm
> > resistors for $25. (I have one)   But then again, I had fun playing
> > with
> > this too! If anything, ideally, I hope to come up with something that
> > weighs half the weight of the buxcomm resistor so my T2FD antenna looks
> > more graceful under the burden of the resistor. :-)
>
> The water cleaner cartridge is activated charcoal with a small amount of
> organic binder. It is not graphite as graphite will not function to
> clean the water. Activated charcoal has an extremely large surface area
> which adsorbs contaminants. Depending on how it is produced, a gram of
> activated charcoal can have from 100 to 1000 square meters of surface
> area.
>
> Your idea of a metallic ceramic glaze will not work as the glaze is a low
> temperature melting glass (usually a lead glass) with fine metallic
> particles in it. Once fired, the glass melts, but the metallic particles
> are still insulated from each other.
>
> You can buy conductive copper, nickel, and silver based paints for
> repairing printed circuit boards. GC Electronics sells small bottles of

> silver print paint (Part No. 22-024 1 troy oz. Bottle) which has a
> surface resistivity of 0.1 ohms per square, and nickel print paint (Part
> No. 22-207 2 fl. oz. Bottle) which has a surface resistivity of 5 to 6
> ohms per square. Be extremely careful when diluting these paints. Use
> only chemically pure solvents as any oil or other such material in the
> solvent will serve to insulate the particles from each other. GC Part
> No. 10-4102 Polystyrene
> Q-dope thinner (toluene) might be suitable. I would suggest the nickel
> print paint as the silver print is quite expensive. Heed the warnings in
> the respective MSDS's for these products.
>
> Another alternative is to have the ends of the activated charcoal rod
> electroplated. A thin copper flash film applied to each end, followed by
> a thicker conventional electroplate would give you contacts that could be
> soldered to. If there is someone in your area that does electroless
> nickel plating, this would also be suitable.
>
> An entirely different approach would be to use a conductive liquid for
> the resistance. An old QST article in June, 1965, entitled "Aqueous
> Dummy Loads" by Alexander Marion, W2CUE (now a silent key, I believe),
> should give you some ideas.
>
>   73, Dr. Barry L. Ornitz   WA4VZQ

Yes, I had a friend who was in the Navy during WWII, he described how
they used buckets of salt(sea) water for dummy loads. The further you
put the electrode in the bucket the lower the resistance.

Jimmie

5023. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 16:34:08 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <0a79ea52-7455-4504-baaa-a1d062f489d7@k14g2000pre.googlegroups.com>
Source record: 6423

On Dec 5, 9:05 pm, tom <news4...@taring.org> wrote:
> On 12/5/2010 3:01 PM, Art Unwin wrote:
>
>
>
> > On Dec 5, 1:52 pm, Art Unwin<arthurun...@gmail.com> wrote:
> >> On Dec 5, 12:51 pm, Sean Con<universeexplo...@cwahi.net> wrote:
>
> >>> Hi ...
> >>> SNIP
>
> >> Hi Sean
> >> Re acceleration of charge.
> >> First I have little training in physics so I am not pre programmed. I
> >> am an old retired mechanical engineer
> >> Stating facts as I see them.
>
> >> Adding time variant to a Gaussian field results in Maxwell equation
> >> for radiation establishing a particle as a carrier of charge. Solar
> >> particles are attracted to diamagnetic surfaces which are also used
> >> for radiators.
> >> Only one resistance reflects energy supplied to a charge. the other
> >> resistance of skin depth is a loss.When a external magnetic field is
> >> removed from a radiator so is skin depth and current flows on the
> >> surface. For Maximum efficiency the particle must be raised for
> >> friction reasons and a displacement current does just that. Now a
> >> Faraday cage I see as a separation
> >> of fields imposed on a particle,The magnetic portion stays on the
> >> outside of the shield and the electric field alignes itself on the
> >> inside
> >> cancels leaving only AC current , a reverse of radiation transmission
> >> For a solenoid we have all the above features, A Faraday shield around
> >> a radiator. The radiator is a Meander form and resistive or non
> >> frequency relevant. Now the radiator is energized for transmission B
> >> reaches saturation
> >> energy transferred to H until the coil becomes diamagnetic. The
> >> displacement current raises resting particle neutralizing gravity and
> >> is in equilibrium.All energy applied to the particle is now equal to
> >> acceleration of charge for maximum efficiency such that the thrust and
> >> spin allows for straight line trajectory. All the above can be seen
> >> from superconductor reaction equivilency. The two vectors of thrust
> >> and helical spin applied to the particle are Newtons reaction to
> >> Earth's position in the Universe and reflected by the two vectors of a
> >> time variant current which is also the same as

> >> a boundary break to release a particle from a Gaussian field during
> >> the Big Bang and the basic forces envisaged by Einstein for the
> >> Standard Model ala the twisted ladder of life itself.
> >> Regards
> >> Art xg
>
> > Searn
> > It has taken me several years to convince some
> > of the transition from electrostatics of Gauss to the Mathematics of
> > Maxwell to establish particles instead of waves., Probably the cgs
> > units create confusion. I would have liked to start from the "double
> > slit" experiment which has created a monkey fist stuck in a jar. If
> > only people could step back from a stubborn position
> > it would be an easy transfer of thought from a double slit experiment
> > to one of a array of slot antennas to get things back on track. The
> > last few years has taught me that many see passing the amateur radio
> > exam as a passport equivalent into the society of physics and the
> > protector of printed books of the ARRL so I am clearly outnumbered
> > with respect to the resistance to change.
>
> Sean
>
> Amusing isn't he? He's written thousands, perhaps tens of thousands, of
> line of this, none exactly the same.
>
> If you want to start a "discussion" with him it will never end unless he
> says it does, and often not then.
>
> 73
> tom
> K0TAR

Probably just a lonely old fart, could be any of us in a few years.
Sounds like some of us are already getting there.I knew a guy that
worked with him, said he was pretty sharp back in the day.

Jimmie

5024. Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 20:34:55 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <ne6tf69j7javasp734tkqp7sek8pruo7u5@4ax.com>
Source record: 6424

It seems awfully quiet here lately...
Has every one moved to another location or could it be everyone but me
has all their questions answered?

John Ferrell W8CCW

5025. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 20:52:17 UTC
From: KD7HB <co_farmer@yahoo.com>
Message-ID: <865bf925-a721-41ed-9002-558d01467ce8@o14g2000yqe.googlegroups.com>
Source record: 6425

On Dec 7, 12:34 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> It seems awfully quiet here lately...
> Has every one moved to another location or could it be everyone but me
> has all their questions answered?
>
> John Ferrell W8CCW

John, the weather is just now getting to where we can begin working on antennas. 4" snow on the ground and rain predicted. Perhaps tomorrow I can start working on tightening up the four corners of my 160 meter horizontal loop. Or finish tuning the 5BTV out in the pasture.

Have been thinking about a Beverage. Have mile or more of tiny shielded wire I got at Boeing Surplus years ago. It's about 1/16 inch diameter. Silver plated copper. Used in aircraft, somewhere. Figured I would tie inner conductor to shield. Use 1" pvc pipe about eight feet long for supports. Drive rebar into the ground as far as possible (18") and stick the PVC over it. Put the wire in a slot at the top. I can run the wire SW almost 600' before I hit the edge of the property. Then a 2 watt carbon resistor to ground. Need a transformer at the house end to match to coax.

Also need to get started on cleaning up and painting the tower. Haven't had time to get it up. Mayby have to wait for another 5 years!

There, is that enough about antennas?

73, Paul KD7HB

5026. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 20:58:49 UTC
From: nm5k@wt.net
Message-ID: <5a1c0731-b811-4664-8408-c52462fa34b0@r29g2000yqj.googlegroups.com>
Source record: 6426

On Dec 7, 2:34 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> It seems awfully quiet here lately...
> Has every one moved to another location or could it be everyone but me
> has all their questions answered?
>
> John Ferrell W8CCW

Prior Art has made us all obsolete. :/

5027. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 21:43:10 UTC
From: Gordon <gonzo@alltomyself.com>
Message-ID: <Xns9E478B922D47Bgreederxprtnet@94.75.214.90>
Source record: 6427

John Ferrell <jferrell13@triad.rr.com> wrote in
news:ne6tf69j7javasp734tkqp7sek8pruo7u5@4ax.com:

> It seems awfully quiet here lately...
> Has every one moved to another location or could it be everyone but me
> has all their questions answered?
>
> John Ferrell W8CCW

Not the time of year to be working on antennas.
Also, we had a spike in traffic during the DTV
transition. It's all kinda tapered off.

5028. Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-07 23:11:16 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4cfebf14$0$7537$426a74cc@news.free.fr>
Source record: 6428

Hello,

I am a complete newbie in SWL.

At fourth floor (last one) of a building, I get a balcony where I could put an antenna for ham and broadcast reception (SWL). Well the balcony is quite small, but quite comfortable too :)

Now, I get a poor wire from my flat to the ground (near the ground). It gives me some night reception for broadcast from 500 KHz to 1500 MHz (it is quite interesting, but quite limited too...). Except that, I get nothing. Frustrating.

I planned to build some loop antennas, but first of all, I wanted to focus on long wire antennas.

Please, give me your thoughts:

I am about to build a long wire antenna, but something quite different... Like hand-held receivers antennas, I want to wrap 100 meters of standard wire around on a 4cm (diameter) plastic tube (like a slinky antenna).

I get three different ways to do that:
- like the standard long wire, feeder on one side with a 9:1 balun
- like a dipole (feeder at the center)
- like a 1/4 wave (vertical one) with the steel fence for the ground and to hang up the plastic tube. The fence itself is grounded.

What do you think about this type of antenna?

What about the reception efficiency of each kind of solution for all bands between 500 KHz to 30 MHz?

Tell me if it is interesting to test that or I should not lose my time and begin building a loop antenna?

Thanks.

Sebastien.

In French :

Hello,

Ma situation est la suivante. Au 4ème et dernier étage d'un immeuble, je dispose d'un balcon sur lequel disposer une antenne pour recevoir les émission broadcast et les émissions radio-amateur en HF. Evidemment, c'est assez petit quoiqu'assez confortable.

Pour le moment, un vague fil pendouillait par le balcon, ce dernier m'offrant un peu de réception, de nuit entre 500 Hz et 1500 MHz (c'est pas inintéressant, mais c'est limité....). Sorti de ça, je n'ai rien. Fort sentiment de frustration.

J'ai en projet la réalisation d'une antenne loop, mais dans un premier temps, je voudrais me concentrer sur le long fil.

J'aurais voulu avoir votre avis.

Je suis sur le point de construire une antenne de réception de type long fil, mais modifiée... A l'image des antennes de réception des récepteurs portables, je pensais bobiner une bonne longueur de fil (une centaine de mètres) sur du tuyau PVC de diamètre 4cm (fil électrique de base, bobinage à spires jointives).

Trois possibilités s'offrent à moi :
- Alimentation par une extrémité, le long fil classique, mais bobiné
- Alimentation au milieu en doublet 1/2 ondes, évidemment toujours bobiné
- Alimentation en quart d'onde, verticale (encore bobiné), en utilisant la rambarde métallique comme terre (et comme support pour mon tube), la rambarde faisant la longueur de l'immeuble (la rambarde étant elle-même raccordée à la terre).

Que pensez-vous du principe ?

Et que pensez-vous du rendement de chacune des solutions en HF toutes bandes ?

Avec mes remerciements,

Sébastien.

5029. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 00:21:41 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <udjtf6ti1ouj7aqscjuvvlqmpdkjql7hik@4ax.com>
Source record: 6429

On 07 Dec 2010 23:11:16 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>Now, I get a poor wire from my flat to the ground (near the ground). It
>gives me some night reception for broadcast from 500 KHz to 1500 MHz (it
>is quite interesting, but quite limited too...). Except that, I get
>nothing. Frustrating.

Hi Sebastien,

Use an antenna tuner (same thing Amateurs use, but without the
meters).

You probably need this because of the Broadcast transmitters. Those
transmitters can force your radio to create an AGC voltage even when
you are not tuned to the Broadcast frequency. This AGC voltage causes
your radio to lose sensitivity.

To put it another way, suppose:
you have a strong Broadcast station nearby on 1 MHz;
you connect your radio to a long antenna for SWL;
you tune to the 31M band;
the Broadcast signal creates a very strong AGC;
you (naturally) do not hear the Broadcast signal;
you (un-naturally) do not hear many 31M band signals.

To solve this:
Add a tuner;
you adjust it for the 31M band;
it removes the Broadcast signal;
your AGC voltage is now based on 31M band signals;
your radio becomes very sensitive;
you hear more 31M band signals.

This will also work for weak Broadcast signals.

73's
Richard Clark, KB7QHC

5030. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 00:45:41 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4cfed535$0$26869$426a74cc@news.free.fr>
Source record: 6430

Hello,

On Tue, 07 Dec 2010 16:21:41 -0800, Richard Clark wrote:

> On 07 Dec 2010 23:11:16 GMT, Sébastien MEDARD <titi@tut.com> wrote:
>
>
> To solve this: Add a tuner;

You cut corners :) I was thinking about adding a Tuner or maybe something that is called preselector/tuner...

But, before that I just wanted to know what would be a good antenna, or good antennas for where I live.

Thus, I was thinking about adapting the basics (long wire, dipole) to my situation. What do you think about shorting a long wire to a big self?

Would this self work better adapted on one side, like a dipole or a quarter of a wave?

By the way..... What would be a good antenna tuner for a SWL? Any advice for a brand? Any advice for a good DIY kit? :)

Thanks.

Sebastien.

5031. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 04:34:04 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnifu2fp.g8e.gsm@cable.mendelson.com>
Source record: 6431

S?bastien MEDARD wrote:
> By the way..... What would be a good antenna tuner for a SWL? Any advice
> for a brand? Any advice for a good DIY kit? :)

Here's my suggestion. It's a combination pre-selector and amplifer:

http://rffun.com/catalog/preamps/2158.html

If you are handy with a soldering iron you can easily add a second receiver
output.

Geoff.
--
Geoffrey S. Mendelson N3OWJ/4X1GM
Those who cannot remember the past are condemned to misquote it.

5032. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 05:58:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <rl6uf6lf91cfg70rqqj5ss6c3qquh6tq8n@4ax.com>
Source record: 6432

On 08 Dec 2010 00:45:41 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>But, before that I just wanted to know what would be a good antenna, or
>good antennas for where I live.

Hi Sebastien,

The best is the one that will be as high as possible. Length should
be 5 to 10 meters. Orientation should be broadside to the stations
you want to listen to. You should have a choke (W2DU style BalUn)
connected at the feedpoint. One example shown at:
http://www.n0ss.net/qrp_1-1_w2du_coaxial_balun.pdf

You should think of more than one antenna (maybe one vertical, one
horizontal).

Paying attention to your ground is important, but if you live upstairs
in an apartment, then think dipole (even if one side is vertical -
where the horizontal wire would be called a "long-wire").

>By the way..... What would be a good antenna tuner for a SWL? Any advice
>for a brand? Any advice for a good DIY kit? :)

The price you could pay is not a predictor of performance. Look at
the schematic on the last page of:
http://www.mfjenterprises.com/man/pdf/MFJ-902.pdf
It can be built from parts for less than $100. It basically
represents the most flexible design, but there are other useful
designs. Even there, with a good switching design you could use the
same components to build them too. (I am thinking of PI
configuration, L, and so on).

Old AM (tube) radio parts are perfect for building your own tuner.

73's
Richard Clark, KB7QHC

5033. radioamatuer.it

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 09:38:00 UTC
From: computer bit <computerbit74@gmail.com>
Message-ID: <2f5680a9-cca1-4f3c-a05c-cd543f531084@f20g2000prn.googlegroups.com>
Source record: 6433

visit http://www.radioamateur.it

5034. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 14:52:09 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <655vf6hq1ing2s15b7ghj18h53r36fceqd@4ax.com>
Source record: 6434

On Tue, 7 Dec 2010 12:52:17 -0800 (PST), KD7HB <co_farmer@yahoo.com>
wrote:

>On Dec 7, 12:34ï¿½pm, John Ferrell <jferrel...@triad.rr.com> wrote:
>> It seems awfully quiet here lately...
>> Has every one moved to another location or could it be everyone but me
>> has all their questions answered?
>>
>> John Ferrell W8CCW
>
>John, the weather is just now getting to where we can begin working on
>antennas. 4" snow on the ground and rain predicted. Perhaps tomorrow I
>can start working on tightening up the four corners of my 160 meter
>horizontal loop. Or finish tuning the 5BTV out in the pasture.
>
>Have been thinking about a Beverage. Have mile or more of tiny
>shielded wire I got at Boeing Surplus years ago. It's about 1/16 inch
>diameter. Silver plated copper. Used in aircraft, somewhere. Figured I
>would tie inner conductor to shield. Use 1" pvc pipe about eight feet
>long for supports. Drive rebar into the ground as far as possible
>(18") and stick the PVC over it. Put the wire in a slot at the top. I
>can run the wire SW almost 600' before I hit the edge of the property.
>Then a 2 watt carbon resistor to ground. Need a transformer at the
>house end to match to coax.
>
>Also need to get started on cleaning up and painting the tower.
>Haven't had time to get it up. Mayby have to wait for another 5 years!
>
>There, is that enough about antennas?
>
>73, Paul KD7HB

Great post! I am always interested in the projects of others...and the
results, good or bad. I quit thinking about a Beverage due to
unwelcome horse traffic. For some reason when people get a horse they
think that it comes with a license to treat their neighbors property
as open range! I don't mind the traffic, it is the risk of the horse
getting tangled and injured in my ever changing antenna projects. And
then there is the matter of the ever present Road Apples that my dog
finds so attractive...

There is never "enough" information and experience reports on antenna
experimenting!

An Interesting incident this past week:
A few days ago I was chatting with a friend on the telephone and tuning through the 20m PSK-31 when I heard a 3 land call with a CQ. Since most PSK contacts are a matter of a few keystrokes I answered him. I needed to verify the SGC-237 tuner was working properly on the 30 foot vertical anyway. From that point I just had to share the QSO with my buddy Bill on the telephone. It turned out that the contact was Maritime Mobile off the coast of Angola Africa where he is the Captain of a sea-going tug (220 Feet!) that re supplies oil drilling platforms!

I keep hearing that it takes a beam antenna way up in the air and lots of power to work DX. I was running 30 watts PSK into an end fed half wave vertical that is a ground level.

I keep hearing that the problem with verticals is that they radiate equally poorly in all directions...

Those Hams that complain that they cannot work HF because of antenna restrictions could do the same with a flag pole antenna.

John Ferrell W8CCW

5035. PSK was Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 18:29:51 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <idoiqv$qp7$1@news.jpl.nasa.gov>
Source record: 6436

John Ferrell wrote:

> An Interesting incident this past week:
> A few days ago I was chatting with a friend on the telephone and
> tuning through the 20m PSK-31 when I heard a 3 land call with a CQ.
> Since most PSK contacts are a matter of a few keystrokes I answered
> him. I needed to verify the SGC-237 tuner was working properly on the
> 30 foot vertical anyway. From that point I just had to share the QSO
> with my buddy Bill on the telephone. It turned out that the contact
> was Maritime Mobile off the coast of Angola Africa where he is the
> Captain of a sea-going tug (220 Feet!) that re supplies oil drilling
> platforms!
>
> I keep hearing that it takes a beam antenna way up in the air and
> lots of power to work DX. I was running 30 watts PSK into an end fed
> half wave vertical that is a ground level.
>
> I keep hearing that the problem with verticals is that they radiate
> equally poorly in all directions...
>
> Those Hams that complain that they cannot work HF because of antenna
> restrictions could do the same with a flag pole antenna.
>
> John Ferrell W8CCW

This is one of the appeals of PSK31..

You don't need much radiated power to work the world. The bandwidth
really is 31 Hz, after all.

5036. Re: radioamatuer.it

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 18:37:26 UTC
From: Huy-Man <Huy-Man@web.de>
Message-ID: <idoj97$20f$03$1@news.t-online.com>
Source record: 6435

Am 08.12.2010 10:38, schrieb computer bit:
> visit http://www.radioamateur.it
Why?

5037. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 19:14:16 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E4886AA5CDDCVeebleFetzer@216.250.188.140>
Source record: 6437

In news:655vf6hq1ing2s15b7ghj18h53r36fceqd@4ax.com John Ferrell
<jferrell13@triad.rr.com> wrote:

> I keep hearing that it takes a beam antenna way up in the air and
> lots of power to work DX. I was running 30 watts PSK into an end fed
> half wave vertical that is a ground level.

I've got 236 worked and 223 confirmed, running 100 watts into a
vertical.

> I keep hearing that the problem with verticals is that they radiate
> equally poorly in all directions...

Well, that's true.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5038. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 19:52:21 UTC
From: Sean Con <universeexplorer@cwahi.net>
Message-ID: <MPG.276a005a20a3ca61989682@news.aioe.org>
Source record: 6438

> the displacement current raises resting particle neutralizing gravity
and
> is in equilibrium.

Ok every one ..

the gausian field does result in maxwells equation. thats right.
solar particles are attracted to diamagnetic surfaces ... I dont
understand this. they have magnetic field lines frozen to them, if the
temperature is below some critical value, and are attracked bz other
magnetic field lines. thats a big story from MHD

some resistance leads to energy loss .. probably energy is being
converted to heat, not loss.

Current flows to a radiator skin --- farady said it should be so --
charge must move to outer surface

for maximum efficiency particles must be raised due to friction
reasons.. most likely not.
they dont feel friction, but the do encounter collisions, and the emf is
supplied to overcome the unwanted energy conversion during collisions.
They probably do not raise at surface because of efficiency issues, most
likely, as much as I know, they leave surface because ot surface is full
of electrons supplied from the electrode by the emf.

and the raising probably do not neutralize gravity, the field is putting
a larger force than gravity on those particles.

I can imagine gravity being turned off, but for that i would expect the
force to arise from a mass field, or something which has no component
along gravity. Art, how do you be sure that this force is "turning off"
or neutralizing gravity, and not just "working against gravity"

regards
s

5039. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 20:25:26 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <e8pvf6hhcjvghdsbv3u1s9hitqiehqg4u5@4ax.com>
Source record: 6439

On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
<universeexplorer@cwahi.net> wrote:

It is difficult to separate the report from the reporter here (if, in
fact, such a distinction exists):

>some resistance leads to energy loss .. probably energy is being
>converted to heat, not loss.

Heat is not loss if heat is your objective. This is a curious
objective in light of the topics discussed here.

>for maximum efficiency particles must be raised due to friction
>reasons.. most likely not.

Must be...likely not. This is a curious self-annulment of a
statement. Basically it erases itself as a concept. One has to
wonder why bandwidth was expended in its expression.

>they dont feel friction, but the do encounter collisions,

Particles "feel?" Well, if we were to descend to anthropomorphizing
inanimate objects, then what would friction feel like but one bumping
into another? Again, a curious self-annulling statement and more
wasted bandwidth.

>and the emf is
>supplied to overcome the unwanted energy conversion during collisions.

"Unwanted?" Putting that "feeling" (now psychological) aside, we now
have spontaneous energy (emf) springing out of the void? A cure for
entropy has been discovered.

>They probably do not raise at surface because of efficiency issues,

Efficiency has now become an actor ("because of")?

>most
>likely, as much as I know, they leave surface because ot surface is full
>of electrons supplied from the electrode by the emf.

Ah, the source of emf! Well, that being said (and I am not sure that
saying it is enough), how much emf is required to accomplish this feat
of leaving the surface?

>and the raising probably do not neutralize gravity, the field is putting
>a larger force than gravity on those particles.
>
>I can imagine gravity being turned off, but for that i would expect the

>force to arise from a mass field, or something which has no component
>along gravity. Art, how do you be sure that this force is "turning off"
>or neutralizing gravity, and not just "working against gravity"

Asking for explanations is not nearly as useful, or even productive, as asking for solutions. As with my question above about "How much emf?", the solution to that is a number with units of measure. If the number is unsuitable for a solution, no amount of explanation will replace that. If no number is offered, there is no explanation.

Words may be written, but they amount to fantasy only. Only the patent office will publish fantasy that conventional publishing would discard.

73's
Richard Clark, KB7QHC

5040. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 21:33:03 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <9d312aee-09c5-4fc5-96ca-b68e433eb86e@e16g2000pri.googlegroups.com>
Source record: 6440

On Dec 8, 1:52 pm, Sean Con <universeexplo...@cwahi.net> wrote:
> > the displacement current raises resting particle neutralizing gravity
> and
> > is in equilibrium.
>
> Ok every one ..
>
> the gausian field does result in maxwells equation. thats right.
VG
> solar particles are attracted to diamagnetic surfaces ... I dont
VG
> understand this. they have magnetic field lines frozen to them, if the
> temperature is below some critical value, and are attracked bz other
> magnetic field lines. thats a big story from MHD
Temperature is not involved. They form a skin
or boundary with hoop stress

>
> some resistance leads to energy loss .. probably energy is being
> converted to heat, not loss.
No energy conversion, they are at rest.

>
> Current flows to a radiator skin --- farady said it should be so --
> charge must move to outer surface

Excellent
>
> for maximum efficiency particles must be raised due to friction
> reasons.. most likely not.
> they dont feel friction,
They must be placed in equilibrium otherwise you have a peeling action
that is a loss.
Now we have a single action and a equal reaction in place with no
losses.

but the do encounter collisions, and the emf is
> supplied to overcome the unwanted energy conversion during collisions.
Apparently particles in flight have a repelling force between them.
Either way the two vectors of current and displacement is applied
to the particle.
Now this particle does not take off with a parabolic curve and fall to
the ground because of gravity. The particle travels in a straight
line.
The two vectors applied to the particle are equal and opposite to

Gravity and the rotation of the Earth

> They probably do not raise at surface because of efficiency issues, most
> likely, as much as I know, they leave surface because ot surface is full
> of electrons supplied from the electrode by the emf.
The electrons at rest are free electrons and are not part of the
substance or mass upon which they rest. An example is the skin upon
water which itself is a diamagnetic material. Place a magnet near the
skin and it will repel or bend the skin surface.
>
> and the raising probably do not neutralize gravity, the field is putting.
The problem here is the word neutralize. Gravity enforces itself with
a vector that provides certain phenomina such as dragging a particle
to the ground. If one renders that vector neutral by an equal and
opposite force
then our little particle carrying a charge is not affect by gravity
and unless impacted by another vector or a magnetic field it will
continue to travel in a straight line.

> a larger force than gravity on those particles.
>
> I can imagine gravity being turned off, but for that i would expect the
> force to arise from a mass field, or something which has no component
> along gravity. Art, how do you be sure that this force is "turning off"
> or neutralizing gravity, and not just "working against gravity"

You do not turn Gravity off! You can have a vector working against
gravity and in a loosing battle no less, but until that vector is
equal and opposite to gravity the effects of gravity cannot be said to
be neutralized. Remember, we are only relating to the vectors implied
upon the particle alone according to boundary rules.and the
"resultant" vector remains a straight line.
>
> regards
> s
Regards
Art

5041. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 21:56:18 UTC
From: Wayne <mygarbagecan@verizon.net>
Message-ID: <idouu1qjs1@news.eternal-september.org>
Source record: 6441

"John Ferrell" <jferrell13@triad.rr.com> wrote in message
news:ne6tf69j7javasp734tkqp7sek8pruo7u5@4ax.com...
> It seems awfully quiet here lately...
> Has every one moved to another location or could it be everyone but me
> has all their questions answered?
>
> John Ferrell W8CCW
-
It does seem to be a little quiet. Anybody want to discuss fractals, as in
the GFW (Great Fractal Wars TM) of a few years ago? That was definitely not
a quiet time :)
Wayne
W5GIE

5042. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 22:21:20 UTC
From: Sean Con <universeexplorer@cwahi.net>
Message-ID: <MPG.276a2339eb4035d6989683@news.aioe.org>
Source record: 6442

In article <e8pvf6hhcjvghdsbv3u1s9hitqiehqg4u5@4ax.com>,
kb7qhc@comcast.net says...
>
> On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
> <universeexplorer@cwahi.net> wrote:
>
> It is difficult to separate the report from the reporter here (if, in
> fact, such a distinction exists):
>
> >some resistance leads to energy loss .. probably energy is being
> >converted to heat, not loss.
>
> Heat is not loss if heat is your objective. This is a curious

boy... what is happening here - i feel lost

firstly, Art, temperature IS involved, when we are talking about solar wind plasmas

second, richard, i guess my sentencing style is confusing
"some resistance leads to energy loss .. " <-- this is copied from art's previous message (if you follow the messages, you would notice the copying)

"probably energy is being converted to heat, not loss." <-- this is what i commented

probably now you see why some other sentences appear self contradicting because the first part is art's message, second part is what i write

and sorry for writing "feel", english is not my mother language, but i believe you understood what i wanted to express

.....

Art, can you please contact me to my email address directly, because i feel people dont like us discussing something.

you can see my email address in the message, can you please also make some diagrams etc.. ?

thank you

5043. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 23:09:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2d5cc077-533e-4676-803d-639445ac2129@i32g2000pri.googlegroups.com>
Source record: 6443

On Dec 8, 10:21 pm, Sean Con <universeexplo...@cwahi.net> wrote:
> In article <e8pvf6hhcjvghdsbv3u1s9hitqiehqg...@4ax.com>,
> kb7...@comcast.net says...
>
>
>
> > On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
> > <universeexplo...@cwahi.net> wrote:
>
> > It is difficult to separate the report from the reporter here (if, in
> > fact, such a distinction exists):
>
> > >some resistance leads to energy loss .. probably energy is being
> > >converted to heat, not loss.
>
> > Heat is not loss if heat is your objective. This is a curious
>
> boy... what is happening here - i feel lost
>
> firstly, Art, temperature IS involved, when we are talking about solar
> wind plasmas
>
> second, richard, i guess my sentencing style is confusing
> "some resistance leads to energy loss .. " <-- this is copied from art's
> previous message (if you follow the messages, you would notice the
> copying)
>
> "probably energy is being converted to heat, not loss." <-- this is what
> i commented
>
> probably now you see why some other sentences appear self contradicting
> because the first part is art's message, second part is what i write
>
> and sorry for writing "feel", english is not my mother language, but i
> believe you understood what i wanted to express
>
> .....
>
> Art, can you please contact me to my email address directly, because i
> feel people dont like us discussing something.
>
> you can see my email address in the message, can you please also make
> some diagrams etc.. ?
>

> thank you

no, please do continue on here!! it helps keep the rest of us amused
watching art spin new bafflegab in response to questions. just don't
expect any of it to make sense.

5044. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 23:12:01 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3889d69e-c050-49b6-91ed-0691ad7d2b62@c13g2000prc.googlegroups.com>
Source record: 6444

On Dec 8, 4:21 pm, Sean Con <universeexplo...@cwahi.net> wrote:
> In article <e8pvf6hhcjvghdsbv3u1s9hitqiehqg...@4ax.com>,
> kb7...@comcast.net says...
>
>
>
> > On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
> > <universeexplo...@cwahi.net> wrote:
>
> > It is difficult to separate the report from the reporter here (if, in
> > fact, such a distinction exists):
>
> > >some resistance leads to energy loss .. probably energy is being
> > >converted to heat, not loss.
>
> > Heat is not loss if heat is your objective. This is a curious
>
> boy... what is happening here - i feel lost
>
> firstly, Art, temperature IS involved, when we are talking about solar
> wind plasmas
>
> second, richard, i guess my sentencing style is confusing
> "some resistance leads to energy loss .. " <-- this is copied from art's
> previous message (if you follow the messages, you would notice the
> copying)
>
> "probably energy is being converted to heat, not loss." <-- this is what
> i commented
>
> probably now you see why some other sentences appear self contradicting
> because the first part is art's message, second part is what i write
>
> and sorry for writing "feel", english is not my mother language, but i
> believe you understood what i wanted to express
>
> .....
>
> Art, can you please contact me to my email address directly, because i
> feel people dont like us discussing something.
>
> you can see my email address in the message, can you please also make
> some diagrams etc.. ?
>

> thank you

You are correct, the group does not like this sort of thing being
discussed and so will attack you.But to go private is to run away from
them.
None of them have offered alternative solutions
or even addressed the problem so they present no harm to any
discussion as it is all beyond their ken
Cheers and beers
Art

5045. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-08 23:53:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3a50g6563c0489ldd6g6iagk7bkuk17461@4ax.com>
Source record: 6445

On Wed, 8 Dec 2010 23:21:20 +0100, Sean Con
<universeexplorer@cwahi.net> wrote:

>In article <e8pvf6hhcjvghdsbv3u1s9hitqiehqg4u5@4ax.com>,
>kb7qhc@comcast.net says...
>>
>> On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
>> <universeexplorer@cwahi.net> wrote:
>>
>> It is difficult to separate the report from the reporter here (if, in
>> fact, such a distinction exists):
>>
>> >some resistance leads to energy loss .. probably energy is being
>> >converted to heat, not loss.
>>
>> Heat is not loss if heat is your objective. This is a curious
>
>boy... what is happening here - i feel lost
>
>
>
>firstly, Art, temperature IS involved, when we are talking about solar
>wind plasmas
>
>second, richard, i guess my sentencing style is confusing

That is why I said separating the report from the reporter (who is the
author of what is being written?) is a strain.

>"some resistance leads to energy loss .. " <-- this is copied from art's
>previous message (if you follow the messages, you would notice the
>copying)

I have long since abandoned reading Art. If the sense of my response
to your post is any indicator, then you can well imagine the waste of
time in that pursuit.

Let's just look at this isolated, attributed quote you have re-framed.
Look between the quotes you offer - not much said there that isn't
already obvious. However, valid quotes in isolation are one thing,
but stringing them together does not bring any authenticity to a
"theory."

In other words, cut and paste phrases is not a logical argument.

>"probably energy is being converted to heat, not loss." <-- this is what
>i commented

Then there is a problem that is attributable to you. If you want
heat, then that is not loss in the conventional sense. You have not
clarified your intent.

>probably now you see why some other sentences appear self contradicting
>because the first part is art's message, second part is what i write

You need to employ the conventions of newsgroup etiquette, then. The
fashion of my interlacing your comments and mine clearly distinguish
who is the author. This is done by the distinct characters that are
inserted by a news-reader. This is an automatic feature.

>and sorry for writing "feel", english is not my mother language, but i
>believe you understood what i wanted to express

But I could not distinguish you from Art to be able "to give you the
benefit of the doubt."

>Art, can you please contact me to my email address directly, because i
>feel people dont like us discussing something.

Why don't you email him directly?

73's
Richard Clark, KB7QHC

5046. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 02:11:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <d88cace5-39f7-4a46-8c63-02ef48a0010e@a17g2000yql.googlegroups.com>
Source record: 6446

On Dec 8, 5:09 pm, K1TTT <k1...@arrl.net> wrote:
> On Dec 8, 10:21 pm, Sean Con <universeexplo...@cwahi.net> wrote:
>
>
>
> > In article <e8pvf6hhcjvghdsbv3u1s9hitqiehqg...@4ax.com>,
> > kb7...@comcast.net says...
>
> > > On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
> > > <universeexplo...@cwahi.net> wrote:
>
> > > It is difficult to separate the report from the reporter here (if, in
> > > fact, such a distinction exists):
>
> > > >some resistance leads to energy loss .. probably energy is being
> > > >converted to heat, not loss.
>
> > > Heat is not loss if heat is your objective. This is a curious
>
> > boy... what is happening here - i feel lost
>
> > firstly, Art, temperature IS involved, when we are talking about solar
> > wind plasmas
>
> > second, richard, i guess my sentencing style is confusing
> > "some resistance leads to energy loss .. " <-- this is copied from art's
> > previous message (if you follow the messages, you would notice the
> > copying)
>
> > "probably energy is being converted to heat, not loss." <-- this is what
> > i commented
>
> > probably now you see why some other sentences appear self contradicting
> > because the first part is art's message, second part is what i write
>
> > and sorry for writing "feel", english is not my mother language, but i
> > believe you understood what i wanted to express
>
> > .....
>
> > Art, can you please contact me to my email address directly, because i
> > feel people dont like us discussing something.
>
> > you can see my email address in the message, can you please also make

> > some diagrams etc.. ?
>
> > thank you
>
> no, please do continue on here!! it helps keep the rest of us amused
> watching art spin new bafflegab in response to questions. just don't
> expect any of it to make sense.

Sean, I agree, stand your ground.There are a few good people in this group it is just that some post more than others without content. If their posts have no content for debate then they are of no interest to you. You personally had no trouble with respect to particles while others are still struggling with it So your expectations of them to provide info is just misplaced. It is my belief that they reject Maxwells addition with respect to displacement current as they do not understand and also deny simple levitation.
As a radio ham you knew before hand as you that skip represented straight line trajectory
and you easily recognized the tran as well as the
transition from static to dynamic. I am sure you also know that only units used by Mawell represent the path
to maximum efficiency in radiation as well as
the ratio of capacitance to inductance must be
unity. At the same time you must also be aware that once the particle is raised it is in equilibrium the same as the maglev train removes friction from the equation.
For efficiency in radiation you are only interested in radiation resistance and once applied current rises to the surface of a conductor the particle has nothing to resist the applied current accelerating it. What is important in all these transitions is the term diamagnetic which REJECTS a magnetic field whereas a magnet attracts. Forsuperconductors
a similar thing happens in that the conductor becomes diamagnetic and rejects a magnetic field, it is no longer intrinsically carrying a current. The idea to explain straight line trajectory of a charge was the notion that no mass was involved for gravity to act upon.
Not only does Gauss point to the error in this thinking but 20th century experiments show that mass is present. But all still resist change
but have nothing, but nothing, and thus keep their hands clenched inside the cookie jar.
Now look at the Yagi antenna, it is not in equilibrium and it actively uses magnetism as its driving force. It certainly does a good job in producing productive gain in a particular direction but for efficiency it is miserable when compared to a dish radiator. Why? because it deals with two separate resistances where Maxwell implies only one. Efficiency means that all work done is solely to produce a said requirement without unrequired and incidental loss.
Now think about the reciprocal of transmission
with the Faraday shield in mind. It is the only thing that separates

electrical and magnetic charge/fields to leave just current., Now put a radiator inside such that the fields produced
changes the enclosure to a diamagnetic structure. I will leave you to figure out the rest with respect to what flows on the surface and not within the shield just like a superconductor.
Start off with a radiator where a field can increase no more such that it moves to increase another field to generate an exceedingly strong field while reducing the field from which it was transferred. Now watch for the hyena howls from those who resist change and see what they have to offer.
Regards
Art KB9MZ....xg

5047. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 03:47:54 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3b239423-e64a-4a58-99e9-2916ea342029@g26g2000vba.googlegroups.com>
Source record: 6447

On Dec 8, 8:18 pm, n...@wt.net wrote:
> On Dec 8, 4:21 pm, Sean Con <universeexplo...@cwahi.net> wrote:
>
>
>
> > Art, can you please contact me to my email address directly, because i
> > feel people dont like us discussing something.
>
> Actually, quite the opposite. I think he's a hoot, and look
> forward to his posts. It's better than the comedy channel.
> Feel free to carry on.

Sean, the poster is qualified to speak into a microphone as he has a
ham licence. However he freely admits to not graduating from high
school, so please judge his comments on his background. He is not the
only one in this group that has ham licence and feels qualified
in physics to a University level.
Anybody can post an opinion on this newsgroup
even tho the title has a suggestion of some antenna expertise. On the
other side oif the coin there are a few qualified and degreed with
respect to antennas but refuse to get involved
verbally with spammers on the side lines. We had a guy with a
doctorate from MIT who came aboard to explain Gauss contribution with
respect to amalgamating static with dynamic which you noted equaled
Maxwell's equation for radiation, but he left after they trashed his
mathematical input. Most still think that Gaussian input to Maxwells
laws only with respect to magnetics and nothing else despite being
shown the mathematics of the addition of a time variant to a Gaussian
boundary. Only a few understand the importance of equilibrium no less
or what it means, even tho it has been explained to them more than
once.
Everybody is mentioned in the archives with copies of their past
postings. You should get the message after viewing some of those, most
of which is just spam with zero content.
Stand fast
Art

5048. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 04:36:59 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <492b322e-3487-4330-bc15-ed034ad07cc0@q18g2000vbk.googlegroups.com>
Source record: 6448

On Dec 8, 10:15 pm, n...@wt.net wrote:
> On Dec 8, 9:47 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 8, 8:18 pm, n...@wt.net wrote:
>
> > > On Dec 8, 4:21 pm, Sean Con <universeexplo...@cwahi.net> wrote:
>
> > > > Art, can you please contact me to my email address directly, because i
> > > > feel people dont like us discussing something.
>
> > > Actually, quite the opposite. I think he's a hoot, and look
> > > forward to his posts. It's better than the comedy channel.
> > > Feel free to carry on.
>
> > Sean, the poster is qualified to speak into a microphone as he has a
> > ham licence. However he freely admits to not graduating from high
> > school, so please judge his comments on his background. He is not the
> > only one in this group that has ham licence and feels qualified
> > in physics to a University level.
>
> I'm sure it must chap your ass to no end, that someone
> who was expelled from high school knows more about
> antennas than you do.
> But this type of retort is about all you can expect from
> an individual who's qualifications and training in antenna
> theory or even physics in general are no greater than mine.
>
> For one thing, they don't teach antenna theory in high school.
> So it's obvious that anyone that does know any amount of
> antenna theory did not learn it in high school, unless they
> learned it on their own. I was building antennas when I was in
> Junior High. So I was already learning antenna theory before
> I even got to High School. How about you?
>
> You do not know physics on a university level, so I fail to
> see how your complaint carries any weight at all.
> But the real irony is that you whine about my education,
> but yet you can't even spell license. :/
> It would be pathetic if it were not so damn hilarious.
>
> I talk about real antennas. Not conjured mumbo jumbo
> pseudo science theories.

> You are the only person I know that tries to explain
> the operation of a device that doesn't even exist.
> And yes, I find it hilarious. Deal with it.

Well you do admit to no high school graduation
and appear to be proud of it so it is a bit silly for you to throw
stones being such an easy target. Now if you were willing to learn and
debate we all could judge what you have to offer. I do agree that you
had a lot of experience with different antennas during your CB
days.Your interpretation of your experiments
however may vary from others. I f you do have some knoweledge that is
pertinent to my comments or overthrow them your standing within the
group may well rise but you appear to have nothing to share other than
spam.

5049. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 05:38:10 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <c8baecda-8457-424b-9558-2f483530d79e@p8g2000vbs.googlegroups.com>
Source record: 6449

On Dec 8, 11:07 pm, n...@wt.net wrote:
> On Dec 8, 10:36 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > Well you do admit to no high school graduation
> > and appear to be proud of it so it is a bit silly for you to throw
> > stones being such an easy target.
>
> Being as I was expelled, I really didn't have much say so
> in the matter. Easy target? Don't make me laugh..
> How many people do you see claiming what I write
> is mumbo jumbo pseudo science horse caca?
>
> How many for you?
>
> I rest my case.. :/
>
> > Now if you were willing to learn and
> > debate we all could judge what you have to offer.
>
> More than once I've shot down a few of your silly
> theories with a single shot. I didn't even have to reload.
> Of course, you either fail to comprehend, or you totally
> ignore. I consider that a personal problem which is
> out of my control. You can lead a jackass to water,
> but damned if you can make one drink it..
>
> > I do agree that you
> > had a lot of experience with different antennas during your CB
> > days.
>
> My CB days? Art, you are a braying jackass.
> I built my first 40 meter transmitter from junk parts when
> I was in the 8th grade. I was a SWL well before then.
>
> But even I were into CB's, what difference would that make?
> Absolutely none. Radios operated on 27 mhz seem
> to follow all the same rules as ones operated on 28 mhz
> last time I looked.
>
> Are you claiming special properties for CB radios?
>
> >Your interpretation of your experiments

> > however may vary from others.
>
> What experiments would those be?
> I've done hundreds of them..
>
> > I f you do have some knoweledge that is
> > pertinent to my comments or overthrow them your standing within the
> > group may well rise but you appear to have nothing to share other than
> > spam.
>
> My first post in this thread detailed a simple way
> for you to prove or disprove all of your pseudo science
> theories. It was so simple, even a caveman could do it.
> But not that crap for brains Art Unwin... Nooooooooooo!
> He's still lost in the fog, clutching at straws, and
> barking at the levitating neutrinos.
>
> And trying to figure out how to spell knowledge. :/

So what is the reason you inserted yourself into this thread? What is
it that you wanted to offer to this thread? Do you have a problem with
the levitation of neutrinos that you just can't let go?Just pull out a
point stated in this thread and supply a reasoned technical approach
as to why it couldn't possibly be so. Perhaps you can start with the
Gaussian contribution with respect to particles instead of waves which
got you started way back when.
Your choice and chance to share your technical expertise with respect
to radiation and where you have a quarrel with what I present or
propose. So Sean as you can see there is considerable opposition to
talk in technical terms about radiation where SWR discussions
is considered to be the cusp of ham radio.

5050. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 05:42:33 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <ca0fc121-ad97-4f8e-b6b2-264d2f16e544@35g2000prt.googlegroups.com>
Source record: 6450

On Dec 8, 12:25 pm, Jim Higgins <inva...@invalid.invalid> wrote:
> On Sun, 5 Dec 2010 21:28:56 +0000 (UTC), No Spam <nos...@nospam.com>
> wrote:
>
> >Another idea I just had is perhaps having someone with a ceramics oven
> >paint on the endcaps with ceramic glaze. It would look like a giant
> >ceramic resistor! But then again, I would guess that as the resistor
> >heated up, it would crack.   Never mind...
>
> I'd guess the high heat used to fire ceramics would simply cause the
> carbon to burn up.

In the Navy, the shipyards all have a device called a Load Bank. It's
a
large metal tank on an insulated vehicle. The tank is filled up with
salt water and electrodes lowered into it to test the output of the
ship's
generators. Any chance that it has ham applications? I intend to try
it
first with an antenna analyzer and then, if it looks promising, my rig.

5051. Re: radioamatuer.it

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 15:46:37 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <lbu1g6lgf2321ctb62q8jh7fhv370ame78@4ax.com>
Source record: 6351

On Wed, 8 Dec 2010 01:38:00 -0800 (PST), computer bit
<computerbit74@gmail.com> wrote:

>visit http://www.radioamateur.it
Norton has flagged this as a malicious site.

John Ferrell W8CCW

5052. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 15:48:56 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <9gu1g6l6j3au35hg3466be4pm3mman1pqi@4ax.com>
Source record: 6352

On 08 Dec 2010 19:14:16 GMT, Bert Hyman <bert@iphouse.com> wrote:

>In news:655vf6hq1ing2s15b7ghj18h53r36fceqd@4ax.com John Ferrell
><jferrell13@triad.rr.com> wrote:
>
>> I keep hearing that it takes a beam antenna way up in the air and
>> lots of power to work DX. I was running 30 watts PSK into an end fed
>> half wave vertical that is a ground level.
>
>I've got 236 worked and 223 confirmed, running 100 watts into a
>vertical.
>
>> I keep hearing that the problem with verticals is that they radiate
>> equally poorly in all directions...
>
>Well, that's true.
Also a truth:
They radiate equally well in all compass points!
John Ferrell W8CCW

5053. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 15:56:58 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <7b42c3ed-a44a-4563-b439-4b45a13bc274@p26g2000pra.googlegroups.com>
Source record: 6353

On Dec 9, 12:42 am, "Sal M. Onella" <sob...@cox.net> wrote:
> On Dec 8, 12:25 pm, Jim Higgins <inva...@invalid.invalid> wrote:
>
> > On Sun, 5 Dec 2010 21:28:56 +0000 (UTC), No Spam <nos...@nospam.com>
> > wrote:
>
> > >Another idea I just had is perhaps having someone with a ceramics oven
> > >paint on the endcaps with ceramic glaze. It would look like a giant
> > >ceramic resistor! But then again, I would guess that as the resistor
> > >heated up, it would crack.   Never mind...
>
> > I'd guess the high heat used to fire ceramics would simply cause the
> > carbon to burn up.
>
> In the Navy, the shipyards all have a device called a Load Bank. It's
> a
> large metal tank on an insulated vehicle. The tank is filled up with
> salt water and electrodes lowered into it to test the output of the
> ship's
> generators. Any chance that it has ham applications? I intend to try
> it
> first with an antenna analyzer and then, if it looks promising, my rig.

Yes they did the same with transmitters, often all you need was a
metal mop bucket and a piece of copper pipe.

Jimmie

5054. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 16:10:15 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <f2a1de9d-fe1a-4d3b-b576-ed73cda97a28@w2g2000yqb.googlegroups.com>
Source record: 6354

On Nov 2, 10:56 pm, justme <jble...@gmail.com> wrote:
> Hi, Folks.
>
> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> configuration will not do. PVC pipe will not do. Welding rod would
> do but it is expensive.
>
> I was thinking of Fiberglas tape, twisted and put in place and then
> resin applied but that is very cumbersome.
>
> Any ideas out there?
>
> Thank you.

I came by some glass rope (believe it was used for making fireproof
curtains) I saturated it in resin to make some fiberglass rods. I
would think other types of rope impregnated with resin may work, Ive
seen burlap successfully used with resin so I am thinking hemp rope
may work.

Jimmie

5055. Re: Too Quiet!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 16:16:03 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <8pu1g6lcegldocqfjh21g712025qttlkio@4ax.com>
Source record: 6355

On Wed, 8 Dec 2010 13:56:18 -0800, "Wayne" <mygarbagecan@verizon.net>
wrote:

>
>"John Ferrell" <jferrell13@triad.rr.com> wrote in message
>news:ne6tf69j7javasp734tkqp7sek8pruo7u5@4ax.com...
>> It seems awfully quiet here lately...
>> Has every one moved to another location or could it be everyone but me
>> has all their questions answered?
>>
>> John Ferrell W8CCW
>-
>It does seem to be a little quiet. Anybody want to discuss fractals, as in
>the GFW (Great Fractal Wars TM) of a few years ago? That was definitely not
>a quiet time :)
>Wayne
>W5GIE
>
I lost interest in that subject pretty quick the last time around. It
seemed to quickly degenerate into what my Dad referred to as a "Peeing
Contest" which he further explained as a vicious argument short on
facts, long on anger and unlikely to have a conclusion or any
redeeming value.

My current view of the subject "Antennas" is that their are two
relevant components. The first is antenna geometry, the second is
matching it to the load.

Geometry determines the gain and the patterns across the spectrum.
Matching relates to minimizing losses.

I reserve the option of changing my mind but at least for the moment I
consider these as Axioms, that is: accepted principles.

Next I deduce that a "Perfect Antenna" is one that meets or exceeds
one's current needs.

It then follows that the "Best Antenna" is best one that can be
implemented within the projects available resources.

Anyone care to debate further?

John Ferrell W8CCW

5056. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 17:11:54 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d010dda$0$13964$426a74cc@news.free.fr>
Source record: 6356

Hello,

On Tue, 07 Dec 2010 21:58:17 -0800, Richard Clark wrote:

> On 08 Dec 2010 00:45:41 GMT, Sébastien MEDARD <titi@tut.com> wrote:
>
>>But, before that I just wanted to know what would be a good antenna, or
>>good antennas for where I live.
>
> want to listen to. You should have a choke (W2DU style BalUn) connected
> at the feedpoint. One example shown at:
> http://www.n0ss.net/qrp_1-1_w2du_coaxial_balun.pdf

That's the first thing I will do. Ferrite ordered :)

> Paying attention to your ground is important, but if you live upstairs
> in an apartment, then think dipole (even if one side is vertical - where
> the horizontal wire would be called a "long-wire").

OK.

>>By the way..... What would be a good antenna tuner for a SWL? Any
>>advice for a brand? Any advice for a good DIY kit? :)
>
> The price you could pay is not a predictor of performance. Look at the
> schematic on the last page of:
> http://www.mfjenterprises.com/man/pdf/MFJ-902.pdf

Seems not so simple for me.

I see two things on the schematic :

- 2 variable capcitor and an inductance on the center
- A balun for balanced line (ie dipole????)

As I already get a balun for dipole could you confirm that I just need the
center part of the schematic?

If the answer is yes, if I understand the schematic well, both of
variable capacitors are put one after the other inserted into the line.
The big question is how to make the variable inductance? Some wire wired
on a ferrite rod? (L ---------- A????) with a selector? Are the number
of half-loops means the number of turns?

> Even there, with a good
> switching design you could use the same components to build them too.
> (I am thinking of PI configuration, L, and so on).

What is the influence of these different configurations?

> Old AM (tube) radio parts are perfect for building your own tuner.

It seems I need to find some :)

Thank you for your patience,

Sebastien.

5057. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 17:51:10 UTC
From: Jim <jim@value.net>
Message-ID: <idr4ub$qa6$1@speranza.aioe.org>
Source record: 6357

On 12/9/2010 7:56 AM, JIMMIE wrote:
> On Dec 9, 12:42 am, "Sal M. Onella"<sob...@cox.net> wrote:
>> On Dec 8, 12:25 pm, Jim Higgins<inva...@invalid.invalid> wrote:
>>
>>> On Sun, 5 Dec 2010 21:28:56 +0000 (UTC), No Spam<nos...@nospam.com>
>>> wrote:
>>
>>>> Another idea I just had is perhaps having someone with a ceramics oven
>>>> paint on the endcaps with ceramic glaze. It would look like a giant
>>>> ceramic resistor! But then again, I would guess that as the resistor
>>>> heated up, it would crack. Never mind...
>>
>>> I'd guess the high heat used to fire ceramics would simply cause the
>>> carbon to burn up.
>>
>> In the Navy, the shipyards all have a device called a Load Bank. It's
>> a
>> large metal tank on an insulated vehicle. The tank is filled up with
>> salt water and electrodes lowered into it to test the output of the
>> ship's
>> generators. Any chance that it has ham applications? I intend to try
>> it
>> first with an antenna analyzer and then, if it looks promising, my rig.
>
> Yes they did the same with transmitters, often all you need was a
> metal mop bucket and a piece of copper pipe>
> Jimmie

A water load bank is good for hundreds of KW at 60hz.

For use with a pair of 6146's we used to wire a lamp to a coax
connector. We had a load as well as visual indication of the relative
power output.

5058. Re: radioamatuer.it

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 17:53:03 UTC
From: Wymsey MK111 <nouglyspammers@radiowymsey.org>
Message-ID: <idr51ujom1@news.eternal-september.org>
Source record: 6358

On 09/12/10 15:46, John Ferrell wrote:
> On Wed, 8 Dec 2010 01:38:00 -0800 (PST), computer bit
> <computerbit74@gmail.com> wrote:
>
>> visit http://www.radioamateur.it
> Norton has flagged this as a malicious site.
>
> John Ferrell W8CCW

Nothing flagged here - page source looks fine.

Ubuntu says OK :-)

--
M0WYM
www.radiowymsey.org

Sales @ radiowymsey
http://shop.ebay.co.uk/gnome7763/m.html?

5059. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 19:33:27 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8sa2g6l7klaob0bt7ecqddqm78ntffmc0b@4ax.com>
Source record: 6359

On 09 Dec 2010 17:11:54 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>> http://www.n0ss.net/qrp_1-1_w2du_coaxial_balun.pdf
>
>That's the first thing I will do. Ferrite ordered :)

Hi Sï¿½bastien,

Good first step.

>> http://www.mfjenterprises.com/man/pdf/MFJ-902.pdf
>
>Seems not so simple for me.
>
>I see two things on the schematic :
>
>- 2 variable capcitor and an inductance on the center

Good.

>- A balun for balanced line (ie dipole????)

Yes.

>As I already get a balun for dipole could you confirm that I just need the
>center part of the schematic?

Confirmed, yes.

>If the answer is yes, if I understand the schematic well, both of
>variable capacitors are put one after the other inserted into the line.
>The big question is how to make the variable inductance? Some wire wired
>on a ferrite rod? (L ---------- A????) with a selector? Are the number
>of half-loops means the number of turns?

Making the coil is easy. It is just bare wire. You connect leads
between various turns in the coil and a switch. A three to five
position switch will work. You can even wind separate coils and put
them on the switch so they add up in series as you turn the switch.

>> Even there, with a good
>> switching design you could use the same components to build them too.
>> (I am thinking of PI configuration, L, and so on).
>
>What is the influence of these different configurations?

Some antennas (I am speaking of their wavelength, not style like
horizontal, vertical, end-fed, or other) are easier to tune with these

other styles, but the style offered in the link is fairly general purpose.

>> Old AM (tube) radio parts are perfect for building your own tuner.
>
>It seems I need to find some :)

It may not be easy, but if you can find the right shop, you will find many. Tell the shop owner you want this for experimentation and you might get something that isn't in the shop display. The only thing you really need is the variable capacitor from two radios. This technology was very common and found in nearly every home in the 1950s and 60s, but now would be rare unless you find that shop.

>Thank you for your patience,

Feel free to ask more questions when it comes time to put this together.

73's
Richard Clark, KB7QHC

5060. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-09 20:27:19 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <ce314c73-24ea-4169-9a87-f201716f9a3a@k22g2000yqh.googlegroups.com>
Source record: 6360

On Dec 8, 8:11 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 8, 5:09 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Dec 8, 10:21 pm, Sean Con <universeexplo...@cwahi.net> wrote:
>
> > > In article <e8pvf6hhcjvghdsbv3u1s9hitqiehqg...@4ax.com>,
> > > kb7...@comcast.net says...
>
> > > > On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
> > > > <universeexplo...@cwahi.net> wrote:
>
> > > > It is difficult to separate the report from the reporter here (if, in
> > > > fact, such a distinction exists):
>
> > > > >some resistance leads to energy loss .. probably energy is being
> > > > >converted to heat, not loss.
>
> > > > Heat is not loss if heat is your objective. This is a curious
>
> > > boy... what is happening here - i feel lost
>
> > > firstly, Art, temperature IS involved, when we are talking about solar
> > > wind plasmas
>
> > > second, richard, i guess my sentencing style is confusing
> > > "some resistance leads to energy loss .. " <-- this is copied from art's
> > > previous message (if you follow the messages, you would notice the
> > > copying)
>
> > > "probably energy is being converted to heat, not loss." <-- this is what
> > > i commented
>
> > > probably now you see why some other sentences appear self contradicting
> > > because the first part is art's message, second part is what i write
>
> > > and sorry for writing "feel", english is not my mother language, but i
> > > believe you understood what i wanted to express
>
> > > .....
>
> > > Art, can you please contact me to my email address directly, because i
> > > feel people dont like us discussing something.

>
> > > you can see my email address in the message, can you please also make
> > > some diagrams etc.. ?
>
> > > thank you
>
> > no, please do continue on here!! it helps keep the rest of us amused
> > watching art spin new bafflegab in response to questions. just don't
> > expect any of it to make sense.
>
> Sean, I agree, stand your ground.There are a few good people in this
> group it is just that some post more than others without content. If
> their posts have no content for debate then they are of no interest to
> you. You personally had no trouble with respect to particles while
> others are still struggling with it So your expectations of them to
> provide info is just misplaced. It is my belief that they reject
> Maxwells addition with respect to displacement current as they do not
> understand and also deny simple levitation.
> As a radio ham you knew before hand as you that skip represented
> straight line trajectory
> and you easily recognized the tran as well as the
> transition from static to dynamic. I am sure you also know that only
> units used by Mawell represent the path
> to maximum efficiency in radiation as well as
> the ratio of capacitance to inductance must be
> unity. At the same time you must also be aware that once the particle
> is raised it is in equilibrium the same as the maglev train removes
> friction from the equation.
> For efficiency in radiation you are only interested in radiation
> resistance and once applied current rises to the surface of a
> conductor the particle has nothing to resist the applied current
> accelerating it. What is important in all these transitions is the
> term diamagnetic which REJECTS a magnetic field whereas a magnet
> attracts. Forsuperconductors
> a similar thing happens in that the conductor becomes diamagnetic and
> rejects a magnetic field, it is no longer intrinsically carrying a
> current. The idea to explain straight line trajectory of a charge was
> the notion that no mass was involved for gravity to act upon.
> Not only does Gauss point to the error in this thinking but 20th
> century experiments show that mass is present. But all still resist
> change
> but have nothing, but nothing, and thus keep their hands clenched
> inside the cookie jar.
> Now look at the Yagi antenna, it is not in equilibrium and it actively
> uses magnetism as its driving force. It certainly does a good job in
> producing productive gain in a particular direction but for efficiency
> it is miserable when compared to a dish radiator. Why? because it
> deals with two separate resistances where Maxwell implies only one.
> Efficiency means that all work done is solely to produce a said
> requirement without unrequired and incidental loss.

> Now think about the reciprocal of transmission
> with the Faraday shield in mind. It is the only thing that separates
> electrical and magnetic charge/fields to leave just current., Now put
> a radiator inside such that the fields produced
> changes the enclosure to a diamagnetic structure. I will leave you to
> figure out the rest with respect to what flows on the surface and not
> within the shield just like a superconductor.
> Start off with a radiator where a field can increase no more such that
> it moves to increase another field to generate an exceedingly strong
> field while reducing the field from which it was transferred. Now
> watch for the hyena howls from those who resist change and see what
> they have to offer.
> Regards
> Art KB9MZ....xg

Sean, let us review the initial question again but this time with
respect to the Faraday shield.
You may have seen a yagi antenna inside a circle or boundary to
explain a mathematical point. Well boundary rules state internally
must be in a state of equilibrium and a yagi antenna
is clearly not in equilibrium. Now a air solenoid
can be considered in a state of equilibrium which is resistive because
it is a meander form.
Its strength can be determined by K n sq/length
so we only need the solenoid to be the width of two wire where a
closed circuit is formed which is a requirement of equilibrium.If this
solenoid/
pancake antenna is placed inside a Faraday cage it can radiate a
signal if an opening in the cage is supplied. To receive the Faraday
shield can revert to a time varying current because both the
electrical and magnetic field which are the constituent part of the
current can only travel on the surface of the cage i.e. one field on
the inside and the other on the inside so they each cancel leaving
only the applied current in its singular form. One can argue about the
presence of skin depth but it is really of no concern here.
Now let us consider transmit. The pancake when energized will generate
a non frequency dependent radiating field which means it has a
bandwidth that can cover all amateur bands with a constant impedance
of 50 ohms as long as enough wire is used. It does this when the cage
being diamagnetic repels the magnetic field generated by the solenoid
which one can declared as non contributrary to RF generation.
This way we have isolated radiation generating force from non
productive forces such as element resistance both in transmit and
recieve
thus proving the reciprical effect.
When the above is applied to Nec programs in the form of a helix in a
closed circuit form it shows that if enough wire is present you can
get a very broard band where the gain increases to the high 20s dbi as
the magnetic field is rejected by the Faraday shield and where the
reactance deviations are so small that the arrangement can be

considered non frequency relevent. Key points in this discussion is equilibrium ala closed circuit that is resistive and the presence of a diamagnetic field that does not get swamped by a magnetic field that removes skin effect interfering with the movement of current to the outside of the confines of a element.
Now to make one of these radiaters one can use computer conductor tape strips stapled together and wound in between two flat plywood boards to a minimum of 2 ft dia and feed at the center. When removing the board spray a skin of foam over the pancake so that it can be easily handles. Tho the tape are electrically connected the current flow will still be the same as a contiuous wire or radiater. The pancake can be placed directly on the ground inside of a
bowl made of wire mesh where the outside of the bowl is directly grounded close by to syphon off noise.
Sorry about not using a spell checker to fend off the hyeanas.
Cheers and beers
Art

5061. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 00:15:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7d86bca8-eb5f-45af-ba6f-7d7313f300ed@fu15g2000vbb.googlegroups.com>
Source record: 6361

```
On Dec 9, 8:27 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 8, 8:11 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 8, 5:09 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Dec 8, 10:21 pm, Sean Con <universeexplo...@cwahi.net> wrote:
>
> > > > In article <e8pvf6hhcjvghdsbv3u1s9hitqiehqg...@4ax.com>,
> > > > kb7...@comcast.net says...
>
> > > > > On Wed, 8 Dec 2010 20:52:21 +0100, Sean Con
> > > > > <universeexplo...@cwahi.net> wrote:
>
> > > > > It is difficult to separate the report from the reporter here (if, in
> > > > > fact, such a distinction exists):
>
> > > > > >some resistance leads to energy loss .. probably energy is being
> > > > > >converted to heat, not loss.
>
> > > > > Heat is not loss if heat is your objective.  This is a curious
>
> > > > boy... what is happening here - i feel lost
>
> > > > firstly, Art, temperature IS involved, when we are talking about solar
> > > > wind plasmas
>
> > > > second, richard, i guess my sentencing style is confusing
> > > > "some resistance leads to energy loss .. " <-- this is copied from art's
> > > > previous message (if you follow the messages, you would notice the
> > > > copying)
>
> > > > "probably energy is being converted to heat, not loss." <-- this is what
> > > > i commented
>
> > > > probably now you see why some other sentences appear self contradicting
> > > > because the first part is art's message, second part is what i write
>
> > > > and sorry for writing "feel", english is not my mother language, but i
> > > > believe you understood what i wanted to express
>
> > > > .....
>
```

> > > > Art, can you please contact me to my email address directly, because i
> > > > feel people dont like us discussing something.
>
> > > > you can see my email address in the message, can you please also make
> > > > some diagrams etc.. ?
>
> > > > thank you
>
> > > no, please do continue on here!! it helps keep the rest of us amused
> > > watching art spin new bafflegab in response to questions. just don't
> > > expect any of it to make sense.
>
> > Sean, I agree, stand your ground.There are a few good people in this
> > group it is just that some post more than others without content. If
> > their posts have no content for debate then they are of no interest to
> > you. You personally had no trouble with respect to particles while
> > others are still struggling with it So your expectations of them to
> > provide info is just misplaced. It is my belief that they reject
> > Maxwells addition with respect to displacement current as they do not
> > understand and also deny simple levitation.
> > As a radio ham you knew before hand as you that skip represented
> > straight line trajectory
> > and you easily recognized the tran as well as the
> > transition from static to dynamic. I am sure you also know that only
> > units used by Mawell represent the path
> > to maximum efficiency in radiation as well as
> > the ratio of capacitance to inductance must be
> > unity. At the same time you must also be aware that once the particle
> > is raised it is in equilibrium the same as the maglev train removes
> > friction from the equation.
> > For efficiency in radiation you are only interested in radiation
> > resistance and once applied current rises to the surface of a
> > conductor the particle has nothing to resist the applied current
> > accelerating it. What is important in all these transitions is the
> > term diamagnetic which REJECTS a magnetic field whereas a magnet
> > attracts. Forsuperconductors
> > a similar thing happens in that the conductor becomes diamagnetic and
> > rejects a magnetic field, it is no longer intrinsically carrying a
> > current. The idea to explain straight line trajectory of a charge was
> > the notion that no mass was involved for gravity to act upon.
> > Not only does Gauss point to the error in this thinking but 20th
> > century experiments show that mass is present. But all still resist
> > change
> > but have nothing, but nothing, and thus keep their hands clenched
> > inside the cookie jar.
> > Now look at the Yagi antenna, it is not in equilibrium and it actively
> > uses magnetism as its driving force. It certainly does a good job in
> > producing productive gain in a particular direction but for efficiency
> > it is miserable when compared to a dish radiator. Why? because it
> > deals with two separate resistances where Maxwell implies only one.

> > Efficiency means that all work done is solely to produce a said
> > requirement without unrequired and incidental loss.
> > Now think about the reciprocal of transmission
> > with the Faraday shield in mind. It is the only thing that separates
> > electrical and magnetic charge/fields to leave just current., Now put
> > a radiator inside such that the fields produced
> > changes the enclosure to a diamagnetic structure. I will leave you to
> > figure out the rest with respect to what flows on the surface and not
> > within the shield just like a superconductor.
> > Start off with a radiator where a field can increase no more such that
> > it moves to increase another field to generate an exceedingly strong
> > field while reducing the field from which it was transferred. Now
> > watch for the hyena howls from those who resist change and see what
> > they have to offer.
> > Regards
> > Art KB9MZ....xg
>
> Sean, let us review the initial question again but this time with
> respect to the Faraday shield.
> You may have seen a yagi antenna inside a circle or boundary to
> explain a mathematical point. Well boundary rules state internally
> must be in a state of equilibrium and a yagi antenna
> is clearly not in equilibrium. Now a air solenoid
> can be considered in a state of equilibrium which is resistive because
> it is a meander form.
> Its strength can be determined by K n sq/length
> so we only need the solenoid to be the width of two wire where a
> closed circuit is formed which is a requirement of equilibrium.If this
> solenoid/
> pancake antenna is placed inside a Faraday cage it can radiate a
> signal if an opening in the cage is supplied. To receive the Faraday
> shield can revert to a time varying current because both the
> electrical and magnetic field which are the constituent part of the
> current can only travel on the surface of the cage i.e. one field on
> the inside and the other on the inside so they each cancel leaving
> only the applied current in its singular form. One can argue about the
> presence of skin depth but it is really of no concern here.
> Now let us consider transmit. The pancake when energized will generate
> a non frequency dependent radiating field which means it has a
> bandwidth that can cover all amateur bands with a constant impedance
> of 50 ohms as long as enough wire is used. It does this when the cage
> being diamagnetic repels the magnetic field generated by the solenoid
> which one can declared as non contributrary to RF generation.
> This way we have isolated radiation generating force from non
> productive forces such as element resistance both in transmit and
> recieve
> thus proving the reciprical effect.
> When the above is applied to Nec programs in the form of a helix in a
> closed circuit form it shows that if enough wire is present you can
> get a very broard band where the gain increases to the high 20s dbi as

> the magnetic field is rejected by the Faraday shield and where the
> reactance deviations are so small that the arrangement can be
> considered non frequency relevent. Key points in this discussion is
> equilibrium ala closed circuit that is resistive and the presence of a
> diamagnetic field that does not get swamped by a magnetic field that
> removes skin effect interfering with the movement of current to the
> outside of the confines of a element.
> Now to make one of these radiaters one can use computer conductor tape
> strips stapled together and wound in between two flat plywood boards
> to a minimum of 2 ft dia and feed at the center. When removing the
> board spray a skin of foam over the pancake so that it can be easily
> handles. Tho the tape are electrically connected the current flow will
> still be the same as a contiuous wire or radiater. The pancake can be
> placed directly on the ground inside of a
> bowl made of wire mesh where the outside of the bowl is directly
> grounded close by to syphon off noise.
> Sorry about not using a spell checker to fend off the hyeanas.
> Cheers and beers
> Art

ah art, i'm glad to see you ran out of your meds again and are back in
good form.

5062. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 01:31:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4d0182f6$0$6700$8046368a@newsreader.iphouse.net>
Source record: 6362

On 12/8/2010 5:12 PM, Art Unwin wrote:
>
> You are correct, the group does not like this sort of thing being
> discussed and so will attack you.But to go private is to run away from
> them.
> None of them have offered alternative solutions
> or even addressed the problem so they present no harm to any
> discussion as it is all beyond their ken
> Cheers and beers
> Art

I will wager a nicely pulled beer at your pub of choice in the
Minneapolis metro area that no one from the normal crowd, and I use
"normal" intentionally, will "attack" Sean.

tom
K0TAR

5063. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 01:43:34 UTC
From: tom <news4792@taring.org>
Message-ID: <4d0185c2$0$87582$8046368a@newsreader.iphouse.net>
Source record: 6363

On 12/8/2010 9:47 PM, Art Unwin wrote:
> On Dec 8, 8:18 pm, n...@wt.net wrote:
>> On Dec 8, 4:21 pm, Sean Con<universeexplo...@cwahi.net> wrote:
>>
>>
>>
>>> Art, can you please contact me to my email address directly, because i
>>> feel people dont like us discussing something.
>>
>> Actually, quite the opposite. I think he's a hoot, and look
>> forward to his posts. It's better than the comedy channel.
>> Feel free to carry on.
>
> Sean, the poster is qualified to speak into a microphone as he has a
> ham licence. However he freely admits to not graduating from high
> school, so please judge his comments on his background. He is not the
> only one in this group that has ham licence and feels qualified
> in physics to a University level.

There was a man who did not graduate high school that many considered a fool and a kook. And to prove it, well maybe to prove it, he named his daughter Shanda. That's a bit odd maybe, but his last name was Lear. So he made a joke. Whether poor or not I won't judge. Obviously different than the pack, though.

So this non-high-school-graduate that had probably never even taken physics or chemistry decided to be an engineer. He read a lot, thought a lot, worked a lot, and designed something others said was not feasible - a small, inexpensive and reliable jet aircraft. The Lear Jet.

Putting people down because of their lack of a high school degree when they are obviously intelligent as well as quite thoroughly self educated brands YOU as unintelligent, not them.

tom
K0TAR

5064. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 01:55:41 UTC
From: tom <news4792@taring.org>
Message-ID: <4d018898$0$87582$8046368a@newsreader.iphouse.net>
Source record: 6364

On 12/8/2010 11:38 PM, Art Unwin wrote:
> On Dec 8, 11:07 pm, n...@wt.net wrote:
<snip>
>> My first post in this thread detailed a simple way
>> for you to prove or disprove all of your pseudo science
>> theories. It was so simple, even a caveman could do it.
>> But not that crap for brains Art Unwin... Noooooooooo!
>> He's still lost in the fog, clutching at straws, and
>> barking at the levitating neutrinos.
>>
>> And trying to figure out how to spell knowledge. :/
>
> So what is the reason you inserted yourself into this thread? What is
> it that you wanted to offer to this thread? Do you have a problem with
> the levitation of neutrinos that you just can't let go?Just pull out a
> point stated in this thread and supply a reasoned technical approach
> as to why it couldn't possibly be so. Perhaps you can start with the
> Gaussian contribution with respect to particles instead of waves which
> got you started way back when.
> Your choice and chance to share your technical expertise with respect
> to radiation and where you have a quarrel with what I present or
> propose. So Sean as you can see there is considerable opposition to
> talk in technical terms about radiation where SWR discussions
> is considered to be the cusp of ham radio.

One of the things that highlights your intellect is how you never deal
with the responses from the people, all you do is change the subject.

tom
K0TAR

5065. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 02:05:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <nfe8t7-755.ln1@mail.specsol.com>
Source record: 6365

tom <news4792@taring.org> wrote:
> On 12/8/2010 9:47 PM, Art Unwin wrote:
>> On Dec 8, 8:18 pm, n...@wt.net wrote:
>>> On Dec 8, 4:21 pm, Sean Con<universeexplo...@cwahi.net> wrote:
>>>
>>>
>>>
>>>> Art, can you please contact me to my email address directly, because i
>>>> feel people dont like us discussing something.
>>>
>>> Actually, quite the opposite. I think he's a hoot, and look
>>> forward to his posts. It's better than the comedy channel.
>>> Feel free to carry on.
>>
>> Sean, the poster is qualified to speak into a microphone as he has a
>> ham licence. However he freely admits to not graduating from high
>> school, so please judge his comments on his background. He is not the
>> only one in this group that has ham licence and feels qualified
>> in physics to a University level.
>
> There was a man who did not graduate high school that many considered a
> fool and a kook. And to prove it, well maybe to prove it, he named his
> daughter Shanda. That's a bit odd maybe, but his last name was Lear.
> So he made a joke. Whether poor or not I won't judge. Obviously
> different than the pack, though.
>
> So this non-high-school-graduate that had probably never even taken
> physics or chemistry decided to be an engineer. He read a lot, thought
> a lot, worked a lot, and designed something others said was not feasible
> - a small, inexpensive and reliable jet aircraft. The Lear Jet.

Bill Lear attended school until the eighth grade when he dropped out
and joined the Navy as a WWI radio operator. That is the extent of his
formal education.

Besides the jet, he invented the first practical car radio, the patents to
which he sold to what became Motorola.

He developed radio direction finders, autopilots, automatic landing systems,
and avionics for general aviation aircraft.

He came up with the 8-track stereo originally to provide music systems for
his business jets.

The Canadair CL-600 Challenger bussiness jet is a Bill Lear design.

The Hannibal Regional Airport, William P. Lear Field was named in his honor.

Not bad for a high school drop out from Missouri.

> Putting people down because of their lack of a high school degree when
> they are obviously intelligent as well as quite thoroughly self educated
> brands YOU as unintelligent, not them.
>
> tom
> K0TAR

--
Jim Pennino

Remove .spam.sux to reply.

5066. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 03:21:48 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <7343a4bc-2b58-497f-87f0-57f0be2f2dfd@k21g2000vbd.googlegroups.com>
Source record: 6366

On Dec 9, 1:51 pm, Jim <j...@value.net> wrote:
> On 12/9/2010 7:56 AM, JIMMIE wrote:
>
>
>
>
>
> > On Dec 9, 12:42 am, "Sal M. Onella"<sob...@cox.net> wrote:
> >> On Dec 8, 12:25 pm, Jim Higgins<inva...@invalid.invalid> wrote:
>
> >>> On Sun, 5 Dec 2010 21:28:56 +0000 (UTC), No Spam<nos...@nospam.com>
> >>> wrote:
>
> >>>> Another idea I just had is perhaps having someone with a ceramics oven
> >>>> paint on the endcaps with ceramic glaze. It would look like a giant
> >>>> ceramic resistor! But then again, I would guess that as the resistor
> >>>> heated up, it would crack.   Never mind...
>
> >>> I'd guess the high heat used to fire ceramics would simply cause the
> >>> carbon to burn up.
>
> >> In the Navy, the shipyards all have a device called a Load Bank. It's
> >> a
> >> large metal tank on an insulated vehicle. The tank is filled up with
> >> salt water and electrodes lowered into it to test the output of the
> >> ship's
> >> generators. Any chance that it has ham applications? I intend to try
> >> it
> >> first with an antenna analyzer and then, if it looks promising, my rig.
>
> > > Yes they did the same with transmitters, often all you need was a
> > > metal mop bucket and a piece of copper pipe>
> > > Jimmie
>
> > A water load bank is good for hundreds of KW at 60hz.
>
> > For use with a pair of 6146's we used to wire a lamp to a coax
> > connector. We had a load as well as visual indication of the relative
> > power output.- Hide quoted text -
>
> > - Show quoted text -

I built a wattmeter of sorts around a circuit like that. After tuning
up the transmitter to light bulb dummy load I would measure the

resistnace of a photo resistor exposed to the light then see how much 60Hz AC voltage and current took to light the lamps to the same brillance.

Jimmie

5067. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 03:29:56 UTC
From: Jim <jim@value.net>
Message-ID: <ids6rk$b80$2@speranza.aioe.org>
Source record: 6367

>>
>>> Yes they did the same with transmitters, often all you need was a
>>> metal mop bucket and a piece of copper pipe>
>>> Jimmie
>>
>> A water load bank is good for hundreds of KW at 60hz.
>>
>> For use with a pair of 6146's we used to wire a lamp to a coax
>> connector. We had a load as well as visual indication of the relative
>> power output.- Hide quoted text -
>>
>> - Show quoted text -
>
> I built a wattmeter of sorts around a circuit like that. After tuning
> up the transmitter to light bulb dummy load I would measure the
> resistnace of a photo resistor exposed to the light then see how much
> 60Hz AC voltage and current took to light the lamps to the same
> brillance.
>
> Jimmie

if you were really good you could estimate the power from the brightness
in real time. it did take a lot of practice.

5068. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 04:21:11 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6db13dcd-325e-47ec-b98a-6724d33ce825@k13g2000vbq.googlegroups.com>
Source record: 6368

On Dec 9, 8:05 pm, j...@specsol.spam.sux.com wrote:
> tom <news4...@taring.org> wrote:
> > On 12/8/2010 9:47 PM, Art Unwin wrote:
> >> On Dec 8, 8:18 pm, n...@wt.net wrote:
> >>> On Dec 8, 4:21 pm, Sean Con<universeexplo...@cwahi.net> wrote:
>
> >>>> Art, can you please contact me to my email address directly, because i
> >>>> feel people dont like us discussing something.
>
> >>> Actually, quite the opposite. I think he's a hoot, and look
> >>> forward to his posts. It's better than the comedy channel.
> >>> Feel free to carry on.
>
> >> Sean, the poster is qualified to speak into a microphone as he has a
> >> ham licence. However he freely admits to not graduating from high
> >> school, so please judge his comments on his background. He is not the
> >> only one in this group that has ham licence and feels qualified
> >> in physics to a University level.
>
> > There was a man who did not graduate high school that many considered a
> > fool and a kook. And to prove it, well maybe to prove it, he named his
> > daughter Shanda. That's a bit odd maybe, but his last name was Lear.
> > So he made a joke. Whether poor or not I won't judge. Obviously
> > different than the pack, though.
>
> > So this non-high-school-graduate that had probably never even taken
> > physics or chemistry decided to be an engineer. He read a lot, thought
> > a lot, worked a lot, and designed something others said was not feasible
> > - a small, inexpensive and reliable jet aircraft. The Lear Jet.
>
> Bill Lear attended school until the eighth grade when he dropped out
> and joined the Navy as a WWI radio operator. That is the extent of his
> formal education.
>
> Besides the jet, he invented the first practical car radio, the patents to
> which he sold to what became Motorola.
>
> He developed radio direction finders, autopilots, automatic landing systems,
> and avionics for general aviation aircraft.
>
> He came up with the 8-track stereo originally to provide music systems for
> his business jets.
>
> The Canadair CL-600 Challenger bussiness jet is a Bill Lear design.

>
> The Hannibal Regional Airport, William P. Lear Field was named in his honor.
>
> Not bad for a high school drop out from Missouri.
>
> > Putting people down because of their lack of a high school degree when
> > they are obviously intelligent as well as quite thoroughly self educated
> > brands YOU as unintelligent, not them.
>
> > tom
> > K0TAR
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

To
Jim,Tom, Sux etc
Why are you using different names addreses etc
on the same thread, All of which are talking to each other and using
the same computer to provide the thoughts of you, yourself and other
peoples names in a effort to show a unity of thought. Looking up past
posts of all these people show that a lot of people are using your
computer and talking to each other on the same subject, like talking
to the choir. All of your split personalities are easily reckognizable
when you use them to put down different people on the net.
Stop trying to hide your identity as your character always gives you
away. A fool is a fool which always stays a fool which is his
character that he can't shake. Which one of your split personalities
are you confering with on the subject of antennas

5069. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 04:51:51 UTC
From: tom <news4792@taring.org>
Message-ID: <4d01b1e2$0$6700$8046368a@newsreader.iphouse.net>
Source record: 6369

On 12/9/2010 10:21 PM, Art Unwin wrote:>
> To
> Jim,Tom, Sux etc
> Why are you using different names addreses etc
> on the same thread, All of which are talking to each other and using
> the same computer to provide the thoughts of you, yourself and other
> peoples names in a effort to show a unity of thought. Looking up past
> posts of all these people show that a lot of people are using your
> computer and talking to each other on the same subject, like talking
> to the choir. All of your split personalities are easily reckognizable
> when you use them to put down different people on the net.
> Stop trying to hide your identity as your character always gives you
> away. A fool is a fool which always stays a fool which is his
> character that he can't shake. Which one of your split personalities
> are you confering with on the subject of antennas

Wow.

tom
K0TAR

5070. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 05:06:21 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <91b313d8-81f2-4b03-9a77-08c3b4aa21ba@g25g2000yqn.googlegroups.com>
Source record: 6370

On Dec 9, 10:51 pm, tom <news4...@taring.org> wrote:
> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> > To
> > Jim,Tom, Sux etc
> > Why are you using different names addreses etc
> > on the same thread, All of which are talking to each other and using
> > the same computer to provide the thoughts of you, yourself and other
> > peoples names in a effort to show a unity of thought. Looking up past
> > posts of all these people show that a lot of people are using your
> > computer and talking to each other on the same subject, like talking
> > to the choir. All of your split personalities are easily reckognizable
> > when you use them to put down different people on the net.
> > Stop trying to hide your identity as your character always gives you
> > away. A fool is a fool which always stays a fool which is his
> > character that he can't shake. Which one of your split personalities
> > are you confering with on the subject of antennas
>
> Wow.
>
> tom
> K0TAR

yes Tom, not only are you using different identities I would not be
surprised if it were you
stuffing the porno on the group also.Hard to stop spamming after you
start and get away with it

5071. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 05:06:44 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <44p8t7-5k6.ln1@mail.specsol.com>
Source record: 6371

Art Unwin <arthurunwin@gmail.com> wrote:

> To
> Jim,Tom, Sux etc
> Why are you using different names addreses etc
> on the same thread, All of which are talking to each other and using
> the same computer to provide the thoughts of you, yourself and other
> peoples names in a effort to show a unity of thought. Looking up past
> posts of all these people show that a lot of people are using your
> computer and talking to each other on the same subject, like talking
> to the choir. All of your split personalities are easily reckognizable
> when you use them to put down different people on the net.
> Stop trying to hide your identity as your character always gives you
> away. A fool is a fool which always stays a fool which is his
> character that he can't shake. Which one of your split personalities
> are you confering with on the subject of antennas

This is a new height in your lunacy.

--
Jim Pennino

Remove .spam.sux to reply.

5072. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 06:26:53 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <4qh3g6914jff3100oqett600h4j36hdq4g@4ax.com>
Source record: 6372

On Thu, 9 Dec 2010 19:21:48 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>I built a wattmeter of sorts around a circuit like that. After tuning
>up the transmitter to light bulb dummy load I would measure the
>resistnace of a photo resistor exposed to the light then see how much
>60Hz AC voltage and current took to light the lamps to the same
>brillance.

Hi Jimmie,

An excellent example of the concept of a transfer standard. This
method is one of the oldest and most robust methods of accurate
measurement. It removes a lot of variables (by, ironically, not
changing them) that would be exceedingly difficult to determine their
impact upon an accurate measurement.

73's
Richard Clark, KB7QHC

5073. What does this mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 12:55:21 UTC
From: "carkenord@juno.com" <carkenord@juno.com>
Message-ID: <c7e157cc-414d-43ac-ae78-ec79c0806d9f@29g2000prb.googlegroups.com>
Source record: 6373

I was reading about an Off-Center Fed Dipole (OCFD) antenna.

The following statement was made:

"An effective balun can be made by coiling up coax providing it is
self-resonate at or very near the operation frequency"

In the above statement, what does "self resonate" mean?

Lee KA0FPJ

5074. Re: What does this mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 13:55:15 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <574f8b83-b55c-434d-8e83-3c9df3d56164@w29g2000vba.googlegroups.com>
Source record: 6374

On Dec 10, 12:55 pm, "carken...@juno.com" <carken...@juno.com> wrote:
> I was reading about an Off-Center Fed Dipole (OCFD) antenna.
>
> The following statement was made:
>
> "An effective balun can be made by coiling up coax providing it is
> self-resonate at or very near the operation frequency"
>
> In the above statement, what does "self resonate" mean?
>
> Lee KA0FPJ

in that context it means that the coil of coax has distributed capacitance and inductance that at some frequency presents a parallel resonant circuit which makes a high impedance for currents on the shield of the coax. you can see the effects in the table on my web site (http://www.k1ttt.net/technote/airbalun.html) where there are peaks in the impedance of the air core 'baluns'... it is actually more correct to call them chokes than baluns since they really just try to choke off the current on the shield of the coax at the feed point.

5075. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 13:57:14 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <aee1bc37-215c-4f47-9078-dfa43504baff@h22g2000vbr.googlegroups.com>
Source record: 6375

On Dec 10, 5:06 am, j...@specsol.spam.sux.com wrote:
> Art Unwin <arthurun...@gmail.com> wrote:
> > To
> > Jim,Tom, Sux etc
> > Why are you using different names addreses etc
> > on the same thread, All of which are talking to each other and using
> > the same computer to provide the thoughts of you, yourself and other
> > peoples names in a effort to show a unity of thought. Looking up past
> > posts of all these people show that a lot of people are using your
> > computer and talking to each other on the same subject, like talking
> > to the choir. All of your split personalities are easily reckognizable
> > when you use them to put down different people on the net.
> > Stop trying to hide your identity as your character always gives you
> > away. A fool is a fool which always stays a fool which is his
> > character that he can't shake. Which one of your split personalities
> > are you confering with on the subject of antennas
>
> This is a new height in your lunacy.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

yeah, he must really be out of meds... starting to get paranoid now.

5076. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 14:15:51 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <3cb1259f-549e-4960-9303-624c48bcf4df@p1g2000yqm.googlegroups.com>
Source record: 6376

On 8 dic, 00:11, Sébastien MEDARD <t...@tut.com> wrote:
> Hello,
>
> I am a complete newbie in SWL.
>
> At fourth floor (last one) of a building, I get a balcony where I could
> put an antenna for ham and broadcast reception (SWL). Well the balcony is
> quite small, but quite comfortable too :)
>
> Now, I get a poor wire from my flat to the ground (near the ground). It
> gives me some night reception for broadcast from 500 KHz to 1500 MHz (it
> is quite interesting, but quite limited too...). Except that, I get
> nothing. Frustrating.
>
> I planned to build some loop antennas, but first of all, I wanted to
> focus on long wire antennas.
>
> Please, give me your thoughts:
>
> I am about to build a long wire antenna, but something quite different...
> Like hand-held receivers antennas, I want to wrap 100 meters of standard
> wire around on a 4cm (diameter) plastic tube (like a slinky antenna).
>
> I get three different ways to do that:
> - like the standard long wire, feeder on one side with a 9:1 balun
> - like a dipole (feeder at the center)
> - like a 1/4 wave (vertical one) with the steel fence for the ground and
> to hang up the plastic tube. The fence itself is grounded.
>
> What do you think about this type of antenna?
>
> What about the reception efficiency of each kind of solution for all
> bands between 500 KHz to 30 MHz?
>
> Tell me if it is interesting to test that or I should not lose my time
> and begin building a loop antenna?
>
> Thanks.
>
> Sebastien.
>
> In French :
>
> Hello,

>
> Ma situation est la suivante. Au 4ème et dernier étage d'un immeuble, je
> dispose d'un balcon sur lequel disposer une antenne pour recevoir les
> émission broadcast et les émissions radio-amateur en HF. Evidemment,
> c'est assez petit quoiqu'assez confortable.
>
> Pour le moment, un vague fil pendouillait par le balcon, ce dernier
> m'offrant un peu de réception, de nuit entre 500 Hz et 1500 MHz (c'est
> pas inintéressant, mais c'est limité....). Sorti de ça, je n'ai rien.
> Fort sentiment de frustration.
>
> J'ai en projet la réalisation d'une antenne loop, mais dans un premier
> temps, je voudrais me concentrer sur le long fil.
>
> J'aurais voulu avoir votre avis.
>
> Je suis sur le point de construire une antenne de réception de type long
> fil, mais modifiée... A l'image des antennes de réception des récepteurs
> portables, je pensais bobiner une bonne longueur de fil (une centaine de
> mètres) sur du tuyau PVC de diamètre 4cm (fil électrique de base,
> bobinage à spires jointives).
>
> Trois possibilités s'offrent à moi :
> - Alimentation par une extrémité, le long fil classique, mais bobiné
> - Alimentation au milieu en doublet 1/2 ondes, évidemment toujours bobiné
> - Alimentation en quart d'onde, verticale (encore bobiné), en utilisant
> la rambarde métallique comme terre (et comme support pour mon tube), la
> rambarde faisant la longueur de l'immeuble (la rambarde étant elle-même
> raccordée à la terre).
>
> Que pensez-vous du principe ?
>
> Et que pensez-vous du rendement de chacune des solutions en HF toutes
> bandes ?
>
> Avec mes remerciements,
>
> Sébastien.

Hello Sébastien,

For reception matching is not of primary interest. Good impedance
match may even overload your receiver.

The trick is to get sufficient signal (and nevertheless noise), so
that the antenna noise just exceeds your receiver noise. Further
investment in getting more signal output will not help your, it may
result in worse reception because of overloading electronic circuits
in your receiver.

If your balcony has a metal fence (that may be connected to rebar also), you can use this as a ground provision for a wire antenna of about 5… 10m.

Connect the wire to the center conductor of a coaxial cable. Connect the braid directly to the metal (without wire in between) of the railing, fence, etc. Feed the coaxial cable through the wall and connect it to your receiver's external antenna input. You must connect both center conductor and braid as (probably) shown in the user's manual. You may add ferrites around the coaxial cable to suppress indoor generated man made noise.

Maximize the distance between the building and the wire (so don't let it hang vertically down close to the building).

Adding a 9:1 transformer (outside, directly below the antenna) will increase antenna output at the lower bands. This does not automatically mean that your S/N ratio increases also.

Portable receivers may experience overload. A preselector may help. www.tetech.nl/divers/SimplePreselector2.jpg shows an (old) example. This one tunes from 3.3 to 26 MHz. By changing the crocodile clips, you can perform some matching to get more output from the antenna, and change the bandwidth of the preselection. Right side of the inductors is grounded to the copper, left side goes to the tuning capacitor. The switch adds the left half of the capacitor and 200 pF fixed capacitance for the lower bands. The shadow up-left is from the ferrite common mode choke (not shown on the image).

For the lower bands (AM broadcast) a loop may have advantage. The directivity of a (portable) loop you can use to enhance or suppress stations and/or noise. Small loops need to be tuned (with some matching also) to get sufficient output. Several portable SW receivers do not have an external antenna input for the 500..1600 kHz range (it always uses the internal ferrite stick antenna).

Figure 2(a) in http://www.compliance-club.com/archive/old_archive/030718.htm shows the construction of a loop out of coaxial cable. These types of loops have built-in balanced to coaxial transition. A square or circle of about 1m (diameter) is a good start for the AM BC band.

Be careful with (expensive) loop antennas. If you can't get reception with a simple well-constructed (tuned) loop because of local interference (noise), the most expensive loop will not change that.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc PM will reach me

5077. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 14:37:26 UTC
From: joe <none@invalid.domain>
Message-ID: <idtdntvff1@speranza.aioe.org>
Source record: 6377

Art Unwin wrote:

> I am sure you also know that only
> units used by Mawell represent the path
> to maximum efficiency in radiation as well as
> the ratio of capacitance to inductance must be
> unity.
> Art KB9MZ....xg

Art, You have just mentioned a constraint on antennas that I was not aware of. Specifically "the ratio of capacitance to inductance must be unity".

This is new to me. Please tell me how I go about making capacitance and inductance equal so their ratio can be unity. How do you get the Farads and Henries to cancel out, leaving a dimensionless number.

Can you give me some real world examples?

joe

5078. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 16:12:38 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <76c4ab9f-d2d5-47cc-bc63-1ec1663b0c42@l24g2000vby.googlegroups.com>
Source record: 6378

On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
> Art Unwin wrote:
> > I am sure you also know that only
> > units used by Mawell represent the path
> > to maximum efficiency in radiation as well as
> > the ratio of capacitance to inductance must be
> > unity.
> > Art KB9MZ....xg
>
> Art, You have just mentioned a constraint on antennas that I was not aware
> of. Specifically "the ratio of capacitance to inductance must be unity".
>
> This is new to me. Please tell me how I go about making capacitance and
> inductance equal so their ratio can be unity. How do you get the Farads and
> Henries to cancel out, leaving a dimensionless number.
>
> Can you give me some real world examples?
>
> joe

I will be happy to do so
Root L/C = 1

This means that L/C both of which are loss contributors are removed
from any formulae
Art

5079. Re: What does this mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 16:49:42 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <v2m4g691rr35slm5f5agfgbt0196cn85jh@4ax.com>
Source record: 6379

On Fri, 10 Dec 2010 05:55:15 -0800 (PST), K1TTT <k1ttt@arrl.net>
wrote:

>it is actually more
>correct to call them chokes than baluns since they really just try to
>choke off the current on the shield of the coax at the feed point.

Some balance needs to be returned to this (pun intended). The
expression BalUn is first and foremost found in what this word means
in full: Balance/Unbalanced and THAT is the principle transformation.
Turns ratio may come, but that is variable (2:1, 4:1, 6:1...) to a
design that must first meet the requirement of isolating one side that
is balanced from the other side that is unbalanced.

This is achieved in choking common mode currents - hence the BalUn
must effectively present choking action to meet this principle
transformation.

73's
Richard Clark, KB7QHC

5080. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 17:33:57 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <5t4at7-b4c.ln1@mail.specsol.com>
Source record: 6380

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 10, 5:06 am, j...@specsol.spam.sux.com wrote:
>> Art Unwin <arthurun...@gmail.com> wrote:
>> > To
>> > Jim,Tom, Sux etc
>> > Why are you using different names addreses etc
>> > on the same thread, All of which are talking to each other and using
>> > the same computer to provide the thoughts of you, yourself and other
>> > peoples names in a effort to show a unity of thought. Looking up past
>> > posts of all these people show that a lot of people are using your
>> > computer and talking to each other on the same subject, like talking
>> > to the choir. All of your split personalities are easily reckognizable
>> > when you use them to put down different people on the net.
>> > Stop trying to hide your identity as your character always gives you
>> > away. A fool is a fool which always stays a fool which is his
>> > character that he can't shake. Which one of your split personalities
>> > are you confering with on the subject of antennas
>>
>> This is a new height in your lunacy.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> yeah, he must really be out of meds... starting to get paranoid now.

His dementia is slowly getting worse, but it is definitely getting worse.

It shouldn't be much longer now.

Actually it is rather sad to watch.

--
Jim Pennino

Remove .spam.sux to reply.

5081. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 19:52:55 UTC
From: Ian Jackson <ianREMOVETHISjackson@g3ohx.demon.co.uk>
Message-ID: <QvCPkYKXUoANFwOz@g3ohx.demon.co.uk>
Source record: 6381

In message <4qh3g6914jff3100oqett600h4j36hdq4g@4ax.com>, Richard Clark
<kb7qhc@comcast.net> writes
>On Thu, 9 Dec 2010 19:21:48 -0800 (PST), JIMMIE
><JIMMIEDEE123@YAHOO.COM> wrote:
>
>>I built a wattmeter of sorts around a circuit like that. After tuning
>>up the transmitter to light bulb dummy load I would measure the
>>resistnace of a photo resistor exposed to the light then see how much
>>60Hz AC voltage and current took to light the lamps to the same
>>brillance.
>
>Hi Jimmie,
>
>An excellent example of the concept of a transfer standard. This
>method is one of the oldest and most robust methods of accurate
>measurement. It removes a lot of variables (by, ironically, not
>changing them) that would be exceedingly difficult to determine their
>impact upon an accurate measurement.
>
Do a Google on "Grease Spot Photometer" (back to school physics, over 50
years ago!). Very simple to make, and pretty accurate.
--
Ian

5082. Re: radioamatuer.it

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 19:54:00 UTC
From: sctvguy1 <sctvguy1@invalid.net>
Message-ID: <idu0go$h42$3@news.eternal-september.org>
Source record: 6382

On Thu, 09 Dec 2010 17:53:03 +0000, Wymsey MK111 wrote:

> On 09/12/10 15:46, John Ferrell wrote:
>> On Wed, 8 Dec 2010 01:38:00 -0800 (PST), computer bit
>> <computerbit74@gmail.com> wrote:
>>
>>> visit http://www.radioamateur.it
>> Norton has flagged this as a malicious site.
>>
>> John Ferrell W8CCW
>
> Nothing flagged here - page source looks fine.
>
> Ubuntu says OK :-)

Of course, Windows and Norton are having a fit over things, while Linux simply ignores it and moves on.

5083. Re: radioamatuer.it

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 19:57:29 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E4A8DFDABCB0VeebleFetzer@216.250.188.140>
Source record: 6383

In news:idu0go$h42$3@news.eternal-september.org sctvguy1
<sctvguy1@invalid.net> wrote:

> On Thu, 09 Dec 2010 17:53:03 +0000, Wymsey MK111 wrote:
>
>> On 09/12/10 15:46, John Ferrell wrote:
>>> On Wed, 8 Dec 2010 01:38:00 -0800 (PST), computer bit
>>> <computerbit74@gmail.com> wrote:
>>>
>>>> visit http://www.radioamateur.it
>>> Norton has flagged this as a malicious site.
>>>
>>> John Ferrell W8CCW
>>
>> Nothing flagged here - page source looks fine.
>>
>> Ubuntu says OK :-)
>
> Of course, Windows and Norton are having a fit over things, while
> Linux simply ignores it and moves on.

Windows has nothing to do with it; the problem is all Norton (or rather
Semantec).

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5084. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 20:29:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <b925g6hdia2heoqmdl07df61khsfugp35e@4ax.com>
Source record: 6384

On Fri, 10 Dec 2010 19:52:55 +0000, Ian Jackson
<ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:

>Do a Google on "Grease Spot Photometer" (back to school physics, over 50
>years ago!). Very simple to make, and pretty accurate.

Hi Ian,

A very good suggestion which immediately led me to:
http://www.phy6.org/outreach/edu/greaspot.htm

A variation of this that I calibrated in the lab is an Optical
Pyrometer:
http://www.pyrometer.com/Pyro_Optical.html

Comparison measurements can be very accurate iff what you are
comparing to (aka standard) is known to sufficient accuracy. Both
references provide more than enough to inform the reader with the
essential details.

Slightly more elaborate methods of measuring RF power fall into the
Calorimetric method (actual heat). Hewlett Packard made the ultimate
heat transfer standard - the HP 434A power meter DC to 12GHz!

73's
Richard Clark, KB7QHC

5085. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 20:40:18 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <53519fe2-c8f6-40fd-a40d-3d0f1fe0da14@c2g2000yqc.googlegroups.com>
Source record: 6385

On Dec 10, 4:12 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
>
>
>
> > Art Unwin wrote:
> > > I am sure you also know that only
> > > units used by Mawell represent the path
> > > to maximum efficiency in radiation as well as
> > > the ratio of capacitance to inductance must be
> > > unity.
> > > Art KB9MZ....xg
>
> > Art, You have just mentioned a constraint on antennas that I was not aware
> > of. Specifically "the ratio of capacitance to inductance must be unity".
>
> > This is new to me. Please tell me how I go about making capacitance and
> > inductance equal so their ratio can be unity. How do you get the Farads and
> > Henries to cancel out, leaving a dimensionless number.
>
> > Can you give me some real world examples?
>
> > joe
>
> I will be happy to do so
> Root L/C = 1
>
> This means that L/C both of which are loss contributors are removed
> from any formulae
> Art

neither L nor C contributes any loss in any kind of circuit analysis i
have ever seen.... its always the R that converts the electrical
energy to heat to remove it from doing something useful besides
heating the room.

5086. Re: What does this mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 20:49:28 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <81a7ac74-5a78-4d30-83fb-917a5e5a1eb3@p8g2000vbs.googlegroups.com>
Source record: 6386

On Dec 10, 4:49 pm, Richard Clark <kb7...@comcast.net> wrote:
> On Fri, 10 Dec 2010 05:55:15 -0800 (PST), K1TTT <k1...@arrl.net>
> wrote:
>
> >it is actually more
> >correct to call them chokes than baluns since they really just try to
> >choke off the current on the shield of the coax at the feed point.
>
> Some balance needs to be returned to this (pun intended). The
> expression BalUn is first and foremost found in what this word means
> in full: Balance/Unbalanced and THAT is the principle transformation.
> Turns ratio may come, but that is variable (2:1, 4:1, 6:1...) to a
> design that must first meet the requirement of isolating one side that
> is balanced from the other side that is unbalanced.
>
> This is achieved in choking common mode currents - hence the BalUn
> must effectively present choking action to meet this principle
> transformation.
>
> 73's
> Richard Clark, KB7QHC

here comes the troll statement...

currents are always balanced and there is no transformation. the
currents in a coax are already balanced, on the inside. the action of
the choke is to prevent current from flowing on the outside of the
shield back to the inside at the antenna feed point. this forces the
return path to be the other half of the antenna if all works
properly.

let the balun wars commence!

5087. need antenna!

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 21:40:10 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c94535eb-c1a7-4bd0-afde-e0df6077384a@m11g2000vbs.googlegroups.com>
Source record: 6387

its not too often i am at a loss for a source of an antenna... but
does anyone know where to get a replacement one for an alinco dj-
s11t? it broke off just above the swivel thingy on the back.

5088. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-10 23:46:22 UTC
From: tom <news4792@taring.org>
Message-ID: <4d02bbc9$0$6703$8046368a@newsreader.iphouse.net>
Source record: 6388

On 12/9/2010 11:06 PM, Art Unwin wrote:
> On Dec 9, 10:51 pm, tom<news4...@taring.org> wrote:
>> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>>
>>> To
>>> Jim,Tom, Sux etc
>>> Why are you using different names addreses etc
>>> on the same thread, All of which are talking to each other and using
>>> the same computer to provide the thoughts of you, yourself and other
>>> peoples names in a effort to show a unity of thought. Looking up past
>>> posts of all these people show that a lot of people are using your
>>> computer and talking to each other on the same subject, like talking
>>> to the choir. All of your split personalities are easily reckognizable
>>> when you use them to put down different people on the net.
>>> Stop trying to hide your identity as your character always gives you
>>> away. A fool is a fool which always stays a fool which is his
>>> character that he can't shake. Which one of your split personalities
>>> are you confering with on the subject of antennas
>>
>> Wow.
>>
>> tom
>> K0TAR
>
> yes Tom, not only are you using different identities I would not be
> surprised if it were you
> stuffing the porno on the group also.Hard to stop spamming after you
> start and get away with it

So how did you determine this was occurring?

I'd love to see your evidence. It should be quite amusing.

tom
K0TAR

5089. Re: What does this mean?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 00:46:23 UTC
From: Kickin' Ass and Takin' Names <PopUlist349@hotmail.com>
Message-ID: <98h5g61rlic9qembh3u0bfqbs2b3bo5d9h@4ax.com>
Source record: 6389

On Fri, 10 Dec 2010 04:55:21 -0800 (PST), "carkenord@juno.com"
<carkenord@juno.com> wrote:

>
>I was reading about an Off-Center Fed Dipole (OCFD) antenna.
>
>The following statement was made:
>
>"An effective balun can be made by coiling up coax providing it is
>self-resonate at or very near the operation frequency"
>
>In the above statement, what does "self resonate" mean?
>
>Lee KA0FPJ

It means take the coax feeding your OCF dipole and, at the end where
it attaches to the OCF balun, wind it into a coil about 6 inches in
diameter, 8 turns, tape it together so it doesn't uncoil and run the
rest of the coax to the rig.

Check out this diagram -- the guy calls his a "choke balun" -- 6 turns
of coax, 100 mm diamter turns.
http://www.vk3eg.org/technical/xlwindom/xlwindomhtm.htm

This balun is designed for use with and OCF dipole -- it has a
built-in 1:1 balun -- no need for a coax balun (coax choe) as it's
built into the balun.
http://www.balundesigns.com/servlet/the-75/OCF-balun-4-cln-1/Detail

Here's one guy's decription of how he built an OCF dipole using the
above balun:
http://w4hh.org/station%20antennas.htm

This guy uses 6-7 turns of coax, 6 inch diameter, as a coax
balun/choke.
http://hamradionation.com/document.php?user=ZS1JHG&document_id=206&title=build-your-own-oc
f-dipole-for-40m-to-10m

5090. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 01:09:25 UTC
From: Jim Lux <james.p.lux@jpl.nasa.gov>
Message-ID: <iduj05$p4p$1@news.jpl.nasa.gov>
Source record: 6390

Richard Clark wrote:
> On Fri, 10 Dec 2010 19:52:55 +0000, Ian Jackson
> <ianREMOVETHISjackson@g3ohx.demon.co.uk> wrote:
>
>> Do a Google on "Grease Spot Photometer" (back to school physics, over 50
>> years ago!). Very simple to make, and pretty accurate.
>
> Hi Ian,
>
> A very good suggestion which immediately led me to:
> http://www.phy6.org/outreach/edu/greaspot.htm
>
> A variation of this that I calibrated in the lab is an Optical
> Pyrometer:
> http://www.pyrometer.com/Pyro_Optical.html
>
> Comparison measurements can be very accurate iff what you are
> comparing to (aka standard) is known to sufficient accuracy. Both
> references provide more than enough to inform the reader with the
> essential details.
>
> Slightly more elaborate methods of measuring RF power fall into the
> Calorimetric method (actual heat). Hewlett Packard made the ultimate
> heat transfer standard - the HP 434A power meter DC to 12GHz!
>

I think HP made a number of DC substitution/transfer sorts of power meters
The 434 was unique in using flowing oil and it could directly measure
watts, without needing attenuators (which have their own calibration
issues).

Didn't the 432 used the idea of DC power substituting for RF power to
bring the sum to a fixed temperature? The difference between the 432
and the 434 is that the thing measuring the temperature is also the RF
load in the 432. The 434 just uses the RF as a heater, and relies on
the DC powered heater and RF powered heater being matched.

A NIST Type IV power meter (like those from Arbiter) definitely does DC
power substitution, and uses the HP/Agilent thermistor heads.

Once you get away from "replacement heat" sorts of schemes, you'd be
into the classic calorimeter.. measure the temperature change over time,
and then turn that into energy. You'd calibrate it by putting DC on the
same sensor, essentially measuring the thermal capacity.

The thermocouple heads (8481A, 8482A for instance) work pretty much the same way as the thermistor mounts.. measuring the heat dissipated by the RF power coming in. They're not a substitution measurement though.. The actual sensor changes voltage in response to temperature (with a clever compensation scheme so that overall temperature doesn't affect it)

But these are all basically thermal sensors (as opposed to, say, RF voltmeters, like a diode detector as in a 8481D or 8484A head) and they dissipate the RF power being measured.

> 73's
> Richard Clark, KB7QHC

5091. Re: Ho-made non-inductive resitor WAS: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 06:32:35 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <88p5g6tjdl4no7pipbv2thj35netbtj314@4ax.com>
Source record: 6391

On Fri, 10 Dec 2010 17:09:25 -0800, Jim Lux <james.p.lux@jpl.nasa.gov>
wrote:

>Didn't the 432 used the idea of DC power substituting for RF power to
>bring the sum to a fixed temperature? The difference between the 432
>and the 434 is that the thing measuring the temperature is also the RF
>load in the 432. The 434 just uses the RF as a heater, and relies on
>the DC powered heater and RF powered heater being matched.

Hi Jim,

I worked with a world of different methods of measuring RF power.
Thermistors, Thermocouples (the 8481A, 8482 you identify - refer to HP
Application Note 64-1, "Fundamentals of RF and Microwave Power
Measurements"), and the older technologies of Thermopile, Wollaston
wire, Bolometers (which encompass the same things as those already
mentioned), and Barreters (a variation upon, or exactly the same as
the Wollaston wire - I've seen 10mA fuses used for the same purpose),
diodes certainly (generally for peak power). I have had the occasion
to burn out more than a couple of these.

Those in a bridge configurations (many in fact as the 434 is an
example) are temperature tracking. An excellent description can be
found on page 14 of:
http://www.hpmemory.org/an/pdf/an_64-1a.pdf
for a thermistor bridge that compensates for ambient heat.

"The fundamental premise in using a thermistor for power measurements
is that the RF power absorbed by the thermistor has the same heating
effect on the thermistor as the DC power." This from the HP432A which
has a dual thermistor, dual bridge design.

Pages 18 through 20 describe how heats are separated in a thermocouple
bridge to compensate for ambient. From page 26 is discussion of
diodes.

As for accuracies: "All thermocouple and diode power sensors require a
power reference to absolute power, traceable to the manufacturer or
national standards."

A good remainder of the application note goes into the issues of
accurate determination. Pages 51 and 60 each has a table of all the
various sources of error (rarely considered outside of the Metrology
Lab, but ever present nonetheless). This was standard consideration
and the examples the author offers yields roughly 5% accurate
measurements from the best of instrumentation - an accuracy figure
that I frequently read here as commonly available from the Bird RF

meter (and I have the experience to the matter having calibrated these meters to know that is a fantasy of the first order).

73's
Richard Clark, KB7QHC

5092. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 13:02:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e1380101-59b1-4d95-a562-08449c2f15da@k11g2000vbf.googlegroups.com>
Source record: 6392

On Dec 10, 11:46 pm, tom <news4...@taring.org> wrote:
> On 12/9/2010 11:06 PM, Art Unwin wrote:
>
>
>
> > On Dec 9, 10:51 pm, tom<news4...@taring.org> wrote:
> >> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> >>> To
> >>> Jim,Tom, Sux etc
> >>> Why are you using different names addreses etc
> >>> on the same thread, All of which are talking to each other and using
> >>> the same computer to provide the thoughts of you, yourself and other
> >>> peoples names in a effort to show a unity of thought. Looking up past
> >>> posts of all these people show that a lot of people are using your
> >>> computer and talking to each other on the same subject, like talking
> >>> to the choir. All of your split personalities are easily reckognizable
> >>> when you use them to put down different people on the net.
> >>> Stop trying to hide your identity as your character always gives you
> >>> away. A fool is a fool which always stays a fool which is his
> >>> character that he can't shake. Which one of your split personalities
> >>> are you confering with on the subject of antennas
>
> >> Wow.
>
> >> tom
> >> K0TAR
>
> > yes Tom, not only are you using different identities I would not be
> > surprised if it were you
> > stuffing the porno on the group also.Hard to stop spamming after you
> > start and get away with it
>
> So how did you determine this was occurring?
>
> I'd love to see your evidence. It should be quite amusing.
>
> tom
> K0TAR

thats just the paranoia showing through some more... ask him about his
levitating neutrinos or the tipsy vertical and that should get him
back on track.

5093. double insulation symbol

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 14:19:40 UTC
From: s <ymailus@yahoo.com>
Message-ID: <b066b5c7-7a4d-4f37-a413-482204069477@f20g2000prn.googlegroups.com>
Source record: 6393

i got a desk lamp from ebay like the one in the image link below. the bulb is held up by two adjustable telescopic rods, exactly the same type as you would find on the aerial of a FM radio. they are metal.

i saw the double insulated symbol on the bottom, which go me thinking. how did they get the wiring through these rods double insulated, they are pretty thin. then i examined the rods. they had joints in them. they werent even hollow! there was no wiring. they were the conductors.

a quick check with the meter gave 20V AC. thats how it was designed to light the bulb .

my question is can you have the double insulated symbol on a product with exposed 20V AC conductors?

http://www.flickr.com/photos/31506127@N03/3033028166

5094. Re: double insulation symbol

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 15:57:39 UTC
From: david <none@nospam.com>
Message-ID: <ie071jrje1@news.eternal-september.org>
Source record: 6394

On Sat, 11 Dec 2010 06:19:40 -0800, s rearranged some electrons to say:

> i got a desk lamp from ebay like the one in the image link below. the
> bulb is held up by two adjustable telescopic rods, exactly the same type
> as you would find on the aerial of a FM radio. they are metal.
>
> i saw the double insulated symbol on the bottom, which go me thinking.
> how did they get the wiring through these rods double insulated, they
> are pretty thin. then i examined the rods. they had joints in them. they
> werent even hollow! there was no wiring. they were the conductors.
>
> a quick check with the meter gave 20V AC. thats how it was designed to
> light the bulb .
>
> my question is can you have the double insulated symbol on a product
> with exposed 20V AC conductors?
>
>
>
> http://www.flickr.com/photos/31506127@N03/3033028166

Yes. Google -> SELV

5095. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 16:14:31 UTC
From: joe <none@invalid.domain>
Message-ID: <ie07pr$lb1$1@speranza.aioe.org>
Source record: 6395

Art Unwin wrote:

> On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
>> Art Unwin wrote:
>> > I am sure you also know that only
>> > units used by Mawell represent the path
>> > to maximum efficiency in radiation as well as
>> > the ratio of capacitance to inductance must be
>> > unity.
>> > Art KB9MZ....xg
>>
>> Art, You have just mentioned a constraint on antennas that I was not
>> aware of. Specifically "the ratio of capacitance to inductance must be
>> unity".
>>
>> This is new to me. Please tell me how I go about making capacitance and
>> inductance equal so their ratio can be unity. How do you get the Farads
>> and Henries to cancel out, leaving a dimensionless number.
>>
>> Can you give me some real world examples?
>>
>> joe
>
> I will be happy to do so
> Root L/C = 1
>
> This means that L/C both of which are loss contributors are removed
> from any formulae
> Art

Art,
That does not address the question at all.

How do the Henries in L and the Farads in C cancel to give a dimensionless
number?

A real world example would have numbers and a description the one could
duplicate to better understand what you are syaing.

joe

5096. Re: double insulation symbol

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 16:15:13 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ie082lmjt1@speranza.aioe.org>
Source record: 6396

On 11/12/2010 14:19, s wrote:
> i got a desk lamp from ebay like the one in the image link below. the
> bulb is held up by two adjustable telescopic rods, exactly the same
> type as you would find on the aerial of a FM radio. they are metal.
>
> i saw the double insulated symbol on the bottom, which go me thinking.
> how did they get the wiring through these rods double insulated, they
> are pretty thin. then i examined the rods. they had joints in them.
> they werent even hollow! there was no wiring. they were the
> conductors.
>
> a quick check with the meter gave 20V AC. thats how it was designed
> to light the bulb .
>
> my question is can you have the double insulated symbol on a product
> with exposed 20V AC conductors?
>
>
>
> http://www.flickr.com/photos/31506127@N03/3033028166
>

Very easy, the 20V is supplied from a transformer, (which must meet
the primary/secondary isolation standards).

Jeff

5097. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 16:56:34 UTC
From: frankieNrosie <frankieNrosie.7496698@radiobanter.com>
Message-ID: <frankieNrosie.7496698@radiobanter.com>
Source record: 6397

Cecil Moore;724855 Wrote:
> On Dec 3, 5:17*am, frankieNrosie frankieNrosie.
> 73ed...@radiobanter.com wrote:-
> I'm trying to design a folded dipole antenna-
>
> Please give us some more information. Design frequency? Single-Band?
> 50-ohm source? Local or DX?
> --
> 73, Cecil, www.w5dxp.com

freq=5.8GHz
i'm wanna design multiband antenna, not sure about impedance..

--
frankieNrosie

5098. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:00:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <3gi7g61dq003mmcf2qe1nv7f9n6dg5elda@4ax.com>
Source record: 6398

On Sat, 11 Dec 2010 16:56:34 +0000, frankieNrosie
<frankieNrosie.7496698@radiobanter.com> wrote:

>freq=5.8GHz
>i'm wanna design multiband antenna, not sure about impedance..

If you want one frequency, then it would imply one band.

If you want multiband, then you need to give us the other frequencies.

73's
Richard Clark, KB7QHC

5099. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:09:19 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <0d3b3d9f-8d33-4072-8ba4-2fdf3706179c@j3g2000vbp.googlegroups.com>
Source record: 6399

On Dec 11, 10:14 am, joe <n...@invalid.domain> wrote:
> Art Unwin wrote:
> > On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
> >> Art Unwin wrote:
> >> > I am sure you also know that only
> >> > units used by Mawell represent the path
> >> > to maximum efficiency in radiation as well as
> >> > the ratio of capacitance to inductance must be
> >> > unity.
> >> > Art KB9MZ....xg
>
> >> Art, You have just mentioned a constraint on antennas that I was not
> >> aware of. Specifically "the ratio of capacitance to inductance must be
> >> unity".
>
> >> This is new to me. Please tell me how I go about making capacitance and
> >> inductance equal so their ratio can be unity. How do you get the Farads
> >> and Henries to cancel out, leaving a dimensionless number.
>
> >> Can you give me some real world examples?
>
> >> joe
>
> > I will be happy to do so
> > Root L/C = 1
>
> > This means that L/C both of which are loss contributors are removed
> > from any formulae
> > Art
>
> Art,
> That does not address the question at all.
>
> How do the Henries in L and the Farads in C cancel to give a dimensionless
> number?
>
> A real world example would have numbers and a description the one could
> duplicate to better understand what you are syaing.
>
> joe

Think about it Joe
If you had an equation for efficiency it would be dimensionless.
Typically you would have a portion in that equation that depicts

perfection
and also a portion depicting deviation from perfection.So the second portion points to what creates losses and the first part points to perfection. Now look at root L/C which points to the constitution of that which creates losses.
Now ideally we would like this portion to be 1
which states zero losses, an ideal situation.
Thus we can say the losses involved equals
root L/C which must equal "1" Logic therefore tells you that both L and C are loss leaders whether they be lumped or distributed and therefore not part of the vectors that create
acceleration of charge. Remember for legitimacy all formulae must equal zero for equilibrium and therefore resolves into zero units. Now if you are unaware where root L/C
appears in the study of radiation this is a good time to hit the books to fill that gap.
Best regards
Art Unwin KB9MZ xg

What has been proved so far with this theory?
Particles and not waves
Magnetic fiels removal removes skin depth
Reprosity
The importance of diamagnetics
Vectors of currents, time varying and displacement are the equal and opposite of
gravity and rotation
L and C are loss leaders
Particles/ free electrons, are not the constituent
of the radiating element.
The Standard Forces are resolved by just the two vectors only created by the Big Bang or the
fracture of the original boundary depicted by Newtons law.
And it goes on but hams deny change.

5100. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:20:23 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <6fd02377-0bba-410d-be1f-6a38ea9a8500@fj16g2000vbb.googlegroups.com>
Source record: 6400

On Dec 10, 2:40 pm, K1TTT <k1...@arrl.net> wrote:
> On Dec 10, 4:12 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
>
> > > Art Unwin wrote:
> > > > I am sure you also know that only
> > > > units used by Mawell represent the path
> > > > to maximum efficiency in radiation as well as
> > > > the ratio of capacitance to inductance must be
> > > > unity.
> > > > Art KB9MZ....xg
>
> > > Art, You have just mentioned a constraint on antennas that I was not aware
> > > of. Specifically "the ratio of capacitance to inductance must be unity".
>
> > > This is new to me. Please tell me how I go about making capacitance and
> > > inductance equal so their ratio can be unity. How do you get the Farads and
> > > Henries to cancel out, leaving a dimensionless number.
>
> > > Can you give me some real world examples?
>
> > > joe
>
> > I will be happy to do so
> > Root L/C = 1
>
> > This means that L/C both of which are loss contributors are removed
> > from any formulae
> > Art
>
> neither L nor C contributes any loss in any kind of circuit analysis i
> have ever seen.... its always the R that converts the electrical
> energy to heat to remove it from doing something useful besides
> heating the room.

Silly
Impedance consists of resistance Ra and reactance jxx. You can remove
resistance Ra from an element while the reactance constituent can
still remain.
Thus the impedance remains real.
Don't give up your job just yet!

5101. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:22:17 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <f4j7g69u0m59lqa0ran9k5s0jg5fd3176k@4ax.com>
Source record: 6251

On Thu, 09 Dec 2010 19:31:39 -0600, some gomer wrote:

>> None of them have offered alternative solutions
>> or even addressed the problem so they present no harm to any
>> discussion

A superior alternative solution from the 1940s (edited to length):

Work has been proceeding in order to bring perfection to the
crudely conceived idea that would not only supply inverse reactive
current for use in unilateral phase detractors, but would also be
capable of automatically synchronizing cardinal grammeters.

The main winding is of the normal lotus-o-delta type placed in
panendermic semi-boloid slots in the stator, every seventh conductor
being connected by a nonreversible trem'e pipe to the differential
girdlespring on the 'up' end of the grammeters.

Forty-one manestically spaced grouting brushes were arranged to
feed into the rotor slipstream a mixture of
high S-value phenylhydrobenzamine
and
5% reminative tetryliodohexamine.

Both of these liquids have specific pericosities given by
P = 2.5(C ï¿½ n^6) - 7
where
n is the diathetical evolute of retrograde temperature phase
disposition
and
C is Cholmondeley's annular grillage coefficient.

Initially, n was measured with the aid of a metapolar refractive
pilfrometer ... but up to the present date nothing has been found to
equal the transcendental hopper dadoscope. ... It has been
successfully used for operating nofer trunnions. In addition, whenever
a barescent skor motion is required, it may be employed in conjunction
with a drawn reciprocating dingle arm to reduce sinusoidal
depleneration.

Citation:
Little, Arthur. Technical Description of the Turbo-Encabulator, 24
August 1942, cited in Kagan, Claude (13 May 1992).

73's
Richard Clark, KB7QHC

5102. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:25:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4d723617-a733-4e12-8ee0-7e23c244fae6@o23g2000prh.googlegroups.com>
Source record: 6252

On Dec 11, 7:20 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 10, 2:40 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Dec 10, 4:12 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
>
> > > > Art Unwin wrote:
> > > > > I am sure you also know that only
> > > > > units used by Mawell represent the path
> > > > > to maximum efficiency in radiation as well as
> > > > > the ratio of capacitance to inductance must be
> > > > > unity.
> > > > Art KB9MZ....xg
>
> > > > Art, You have just mentioned a constraint on antennas that I was not aware
> > > > of. Specifically "the ratio of capacitance to inductance must be unity".
>
> > > > This is new to me. Please tell me how I go about making capacitance and
> > > > inductance equal so their ratio can be unity. How do you get the Farads and
> > > > Henries to cancel out, leaving a dimensionless number.
>
> > > > Can you give me some real world examples?
>
> > > > joe
>
> > > I will be happy to do so
> > > Root L/C = 1
>
> > > This means that L/C both of which are loss contributors are removed
> > > from any formulae
> > > Art
>
> > neither L nor C contributes any loss in any kind of circuit analysis i
> > have ever seen.... its always the R that converts the electrical
> > energy to heat to remove it from doing something useful besides
> > heating the room.
>
> Silly
> Impedance consists of resistance Ra and reactance jxx. You can remove
> resistance Ra from an element while the reactance constituent can
> still remain.

> Thus the impedance remains real.
> Don't give up your job just yet!

lets see, you remove the resistance which is the 'real' part of the impedance, which gives you the imaginary reactance part as noted by the 'j' above, and you think its real... probably just as real as your pancake antenna in its faraday cage. you never have explained how my ferromagnetic antenna works without your magical diamagnetic levitating neutrinos.

5103. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:31:30 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <e00e8609-0f29-4fe9-af6f-475185bb61cd@j25g2000vbs.googlegroups.com>
Source record: 6253

```
On Dec 11, 7:02 am, K1TTT <k1...@arrl.net> wrote:
> On Dec 10, 11:46 pm, tom <news4...@taring.org> wrote:
>
>
>
> > On 12/9/2010 11:06 PM, Art Unwin wrote:
>
> > > On Dec 9, 10:51 pm, tom<news4...@taring.org>  wrote:
> > >> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> > >>> To
> > >>> Jim,Tom, Sux etc
> > >>> Why are you using different names addreses etc
> > >>> on the same thread, All of which are talking to each other and using
> > >>> the same computer to provide the thoughts of you, yourself and other
> > >>> peoples names in a effort to show a unity of thought. Looking up past
> > >>> posts of all these people show that a lot of people are using your
> > >>> computer and talking to each other on the same subject, like talking
> > >>> to the choir. All of your split personalities are easily reckognizable
> > >>> when you use them to put down different people on the net.
> > >>> Stop trying to hide your identity as your character always gives you
> > >>> away. A fool is a fool which always stays a fool which is his
> > >>> character that he can't shake. Which one of your split personalities
> > >>> are you confering with on the subject of antennas
>
> > >> Wow.
>
> > >> tom
> > >> K0TAR
>
> > > yes Tom, not only are you using different identities I would not be
> > > surprised if it were you
> > > stuffing the porno on the group also.Hard to stop spamming after you
> > > start and get away with it
>
> > So how did you determine this was occurring?
>
> > I'd love to see your evidence.  It should be quite amusing.
>
> > tom
> > K0TAR
>
> thats just the paranoia showing through some more... ask him about his
> levitating neutrinos or the tipsy vertical and that should get him
```

> back on track.

Silly
Radiation is a vector product of two vectors, gravity and rotation.
The resultant vector cannot be at the same angle as the constituent
vectors there it must be tipped.
Art

5104. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:39:13 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d03d361$0$7321$426a74cc@news.free.fr>
Source record: 6254

On Thu, 09 Dec 2010 11:33:27 -0800, Richard Clark wrote:

>>If the answer is yes, if I understand the schematic well, both of
>>variable capacitors are put one after the other inserted into the line.
>>The big question is how to make the variable inductance? Some wire wired
>>on a ferrite rod? (L ----------- A????) with a selector? Are the number
>>of half-loops means the number of turns?
>
> Making the coil is easy. It is just bare wire. You connect leads
> between various turns in the coil and a switch. A three to five
> position switch will work. You can even wind separate coils and put
> them on the switch so they add up in series as you turn the switch.

OK.

>>> Even there, with a good
>>> switching design you could use the same components to build them too.
>>> (I am thinking of PI configuration, L, and so on).
>>
>>What is the influence of these different configurations?
>
> Some antennas (I am speaking of their wavelength, not style like
> horizontal, vertical, end-fed, or other) are easier to tune with these
> other styles, but the style offered in the link is fairly general
> purpose.

I found a PI network tuner shematic.

Many thanks for the first steps help!

Sébastien.

5105. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 19:41:35 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <75fea166-f93a-4c06-a1f2-22cea8f9fa42@c13g2000prc.googlegroups.com>
Source record: 6255

```
On Dec 11, 7:31 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 11, 7:02 am, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Dec 10, 11:46 pm, tom <news4...@taring.org> wrote:
>
> > > On 12/9/2010 11:06 PM, Art Unwin wrote:
>
> > > > On Dec 9, 10:51 pm, tom<news4...@taring.org>  wrote:
> > > >> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> > > >>> To
> > > >>> Jim,Tom, Sux etc
> > > >>> Why are you using different names addreses etc
> > > >>> on the same thread, All of which are talking to each other and using
> > > >>> the same computer to provide the thoughts of you, yourself and other
> > > >>> peoples names in a effort to show a unity of thought. Looking up past
> > > >>> posts of all these people show that a lot of people are using your
> > > >>> computer and talking to each other on the same subject, like talking
> > > >>> to the choir. All of your split personalities are easily reckognizable
> > > >>> when you use them to put down different people on the net.
> > > >>> Stop trying to hide your identity as your character always gives you
> > > >>> away. A fool is a fool which always stays a fool which is his
> > > >>> character that he can't shake. Which one of your split personalities
> > > >>> are you confering with on the subject of antennas
>
> > > >> Wow.
>
> > > >> tom
> > > >> K0TAR
>
> > > > yes Tom, not only are you using different identities I would not be
> > > > surprised if it were you
> > > > stuffing the porno on the group also.Hard to stop spamming after you
> > > > start and get away with it
>
> > > So how did you determine this was occurring?
>
> > > I'd love to see your evidence.  It should be quite amusing.
>
> > > tom
> > > K0TAR
>
```

> > thats just the paranoia showing through some more... ask him about his
> > levitating neutrinos or the tipsy vertical and that should get him
> > back on track.
>
> Silly
> Radiation is a vector product of two vectors, gravity and rotation.
> The resultant vector cannot be at the same angle as the constituent
> vectors there it must be tipped.
> Art

keep going art... is it tipped at the north pole? how about at the
equator? and does it tip clockwise or counterclockwise in the
southern hemisphere?

5106. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 20:21:18 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f0560cc9-d1ec-4c70-8b02-22025b49703e@y31g2000vbt.googlegroups.com>
Source record: 6256

On Dec 11, 1:41 pm, K1TTT <k1...@arrl.net> wrote:
> On Dec 11, 7:31 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 11, 7:02 am, K1TTT <k1...@arrl.net> wrote:
>
> > > On Dec 10, 11:46 pm, tom <news4...@taring.org> wrote:
>
> > > > On 12/9/2010 11:06 PM, Art Unwin wrote:
>
> > > > > On Dec 9, 10:51 pm, tom<news4...@taring.org> wrote:
> > > > >> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> > > > >>> To
> > > > >>> Jim,Tom, Sux etc
> > > > >>> Why are you using different names addreses etc
> > > > >>> on the same thread, All of which are talking to each other and using
> > > > >>> the same computer to provide the thoughts of you, yourself and other
> > > > >>> peoples names in a effort to show a unity of thought. Looking up past
> > > > >>> posts of all these people show that a lot of people are using your
> > > > >>> computer and talking to each other on the same subject, like talking
> > > > >>> to the choir. All of your split personalities are easily reckognizable
> > > > >>> when you use them to put down different people on the net.
> > > > >>> Stop trying to hide your identity as your character always gives you
> > > > >>> away. A fool is a fool which always stays a fool which is his
> > > > >>> character that he can't shake. Which one of your split personalities
> > > > >>> are you confering with on the subject of antennas
>
> > > > >> Wow.
>
> > > > >> tom
> > > > >> K0TAR
>
> > > > > yes Tom, not only are you using different identities I would not be
> > > > > surprised if it were you
> > > > > stuffing the porno on the group also.Hard to stop spamming after you
> > > > > start and get away with it
>
> > > > So how did you determine this was occurring?
>
> > > > I'd love to see your evidence. It should be quite amusing.
>
> > > > tom

> > > > K0TAR
>
> > > thats just the paranoia showing through some more... ask him about his
> > > levitating neutrinos or the tipsy vertical and that should get him
> > > back on track.
>
> > Silly
> > Radiation is a vector product of two vectors, gravity and rotation.
> > The resultant vector cannot be at the same angle as the constituent
> > vectors there it must be tipped.
> > Art
>
> keep going art... is it tipped at the north pole? how about at the
> equator? and does it tip clockwise or counterclockwise in the
> southern hemisphere?

Why ask me? You are a consumate rejectionist.
Put it to test by placing a vertical at an angle
on a antenna optomizer program and see if it corrects the model to the
vertical. You could possibly reject all antenna computer programs on
that basis. As far as reactance is concerned it is real! That is why
we have the term "impedance"
Art

5107. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 20:57:50 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <04622231-6ba0-4094-a156-241858d32aef@g26g2000vbi.googlegroups.com>
Source record: 6257

On Dec 11, 2:21 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 11, 1:41 pm, K1TTT <k1...@arrl.net> wrote:
>
>
>
> > On Dec 11, 7:31 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 11, 7:02 am, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Dec 10, 11:46 pm, tom <news4...@taring.org> wrote:
>
> > > > > On 12/9/2010 11:06 PM, Art Unwin wrote:
>
> > > > > > On Dec 9, 10:51 pm, tom<news4...@taring.org> wrote:
> > > > > >> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> > > > > >>> To
> > > > > >>> Jim,Tom, Sux etc
> > > > > >>> Why are you using different names addreses etc
> > > > > >>> on the same thread, All of which are talking to each other and using
> > > > > >>> the same computer to provide the thoughts of you, yourself and other
> > > > > >>> peoples names in a effort to show a unity of thought. Looking up past
> > > > > >>> posts of all these people show that a lot of people are using your
> > > > > >>> computer and talking to each other on the same subject, like talking
> > > > > >>> to the choir. All of your split personalities are easily reckognizable
> > > > > >>> when you use them to put down different people on the net.
> > > > > >>> Stop trying to hide your identity as your character always gives you
> > > > > >>> away. A fool is a fool which always stays a fool which is his
> > > > > >>> character that he can't shake. Which one of your split personalities
> > > > > >>> are you confering with on the subject of antennas
>
> > > > > >> Wow.
>
> > > > > >> tom
> > > > > >> K0TAR
>
> > > > > > yes Tom, not only are you using different identities I would not be
> > > > > > surprised if it were you
> > > > > > stuffing the porno on the group also.Hard to stop spamming after you
> > > > > > start and get away with it
>
> > > > > So how did you determine this was occurring?
>
> > > > > I'd love to see your evidence. It should be quite amusing.

>
> > > > > tom
> > > > > K0TAR
>
> > > > thats just the paranoia showing through some more... ask him about his
> > > > levitating neutrinos or the tipsy vertical and that should get him
> > > > back on track.
>
> > > Silly
> > > Radiation is a vector product of two vectors, gravity and rotation.
> > > The resultant vector cannot be at the same angle as the constituent
> > > vectors there it must be tipped.
> > > Art
>
> > keep going art... is it tipped at the north pole? how about at the
> > equator? and does it tip clockwise or counterclockwise in the
> > southern hemisphere?
>
> Why ask me? You are a consumate rejectionist.
> Put it to test by placing a vertical at an angle
> on a antenna optomizer program and see if it corrects the model to the
> vertical. You could possibly reject all antenna computer programs on
> that basis. As far as reactance is concerned it is real! That is why
> we have the term "impedance"
> Art

I was born in the docklands of London UK The naysayers or
rejectionists are all American. Could this be another case where
America imposes itself on science is to be viewed thru out the World?
Or are there no hams outside America using the same power of
communication (!.5 Kw) such they are forced to stand inline (and
behind)?

5108. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 22:27:39 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <daf15e44-a3a3-458a-8e10-c5a24fcda568@fj16g2000vbb.googlegroups.com>
Source record: 6258

On Dec 11, 8:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 11, 2:21 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 11, 1:41 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > On Dec 11, 7:31 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Dec 11, 7:02 am, K1TTT <k1...@arrl.net> wrote:
>
> > > > > On Dec 10, 11:46 pm, tom <news4...@taring.org> wrote:
>
> > > > > > On 12/9/2010 11:06 PM, Art Unwin wrote:
>
> > > > > > > On Dec 9, 10:51 pm, tom<news4...@taring.org> wrote:
> > > > > > > > On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> > > > > > > > > To
> > > > > > > > > Jim,Tom, Sux etc
> > > > > > > > > Why are you using different names addreses etc
> > > > > > > > > on the same thread, All of which are talking to each other and using
> > > > > > > > > the same computer to provide the thoughts of you, yourself and other
> > > > > > > > > peoples names in a effort to show a unity of thought. Looking up past
> > > > > > > > > posts of all these people show that a lot of people are using your
> > > > > > > > > computer and talking to each other on the same subject, like talking
> > > > > > > > > to the choir. All of your split personalities are easily reckognizable
> > > > > > > > > when you use them to put down different people on the net.
> > > > > > > > > Stop trying to hide your identity as your character always gives you
> > > > > > > > > away. A fool is a fool which always stays a fool which is his
> > > > > > > > > character that he can't shake. Which one of your split personalities
> > > > > > > > > are you confering with on the subject of antennas
>
> > > > > > > > Wow.
>
> > > > > > > > tom
> > > > > > > > K0TAR
>
> > > > > > > yes Tom, not only are you using different identities I would not be
> > > > > > > surprised if it were you
> > > > > > > stuffing the porno on the group also.Hard to stop spamming after you
> > > > > > > start and get away with it
>
> > > > > > So how did you determine this was occurring?

> > > > > > I'd love to see your evidence. It should be quite amusing.
> > > > > > tom
> > > > > > K0TAR
> > > > > > thats just the paranoia showing through some more... ask him about his
> > > > > > levitating neutrinos or the tipsy vertical and that should get him
> > > > > > back on track.
> > > > > Silly
> > > > > Radiation is a vector product of two vectors, gravity and rotation.
> > > > > The resultant vector cannot be at the same angle as the constituent
> > > > > vectors there it must be tipped.
> > > > > Art
> > > keep going art... is it tipped at the north pole? how about at the
> > > equator? and does it tip clockwise or counterclockwise in the
> > > southern hemisphere?
> > Why ask me? You are a consumate rejectionist.
> > Put it to test by placing a vertical at an angle
> > on a antenna optomizer program and see if it corrects the model to the
> > vertical. You could possibly reject all antenna computer programs on
> > that basis. As far as reactance is concerned it is real! That is why
> > we have the term "impedance"
> > Art
> I was born in the docklands of London UK The naysayers or
> rejectionists are all American. Could this be another case where
> America imposes itself on science is to be viewed thru out the World?
> Or are there no hams outside America using the same power of
> communication (!.5 Kw) such they are forced to stand inline (and
> behind)?

yep, all us real americans are suppressing your scientific genius so
that no one can ever make use of it! not that anyone with half a
brain would ever try.

5109. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 23:24:16 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <f41b9549-d770-4af2-ac2c-797facbcc1a4@s4g2000yql.googlegroups.com>
Source record: 6259

On Dec 11, 4:27 pm, K1TTT <k1...@arrl.net> wrote:
> On Dec 11, 8:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 11, 2:21 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 11, 1:41 pm, K1TTT <k1...@arrl.net> wrote:
>
> > > > On Dec 11, 7:31 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > > On Dec 11, 7:02 am, K1TTT <k1...@arrl.net> wrote:
>
> > > > > > On Dec 10, 11:46 pm, tom <news4...@taring.org> wrote:
>
> > > > > > > On 12/9/2010 11:06 PM, Art Unwin wrote:
>
> > > > > > > > On Dec 9, 10:51 pm, tom<news4...@taring.org> wrote:
> > > > > > > > >> On 12/9/2010 10:21 PM, Art Unwin wrote:>
>
> > > > > > > > >>> To
> > > > > > > > >>> Jim,Tom, Sux etc
> > > > > > > > >>> Why are you using different names addreses etc
> > > > > > > > >>> on the same thread, All of which are talking to each other and using
> > > > > > > > >>> the same computer to provide the thoughts of you, yourself and other
> > > > > > > > >>> peoples names in a effort to show a unity of thought. Looking up past
> > > > > > > > >>> posts of all these people show that a lot of people are using your
> > > > > > > > >>> computer and talking to each other on the same subject, like talking
> > > > > > > > >>> to the choir. All of your split personalities are easily reckognizable
> > > > > > > > >>> when you use them to put down different people on the net.
> > > > > > > > >>> Stop trying to hide your identity as your character always gives you
> > > > > > > > >>> away. A fool is a fool which always stays a fool which is his
> > > > > > > > >>> character that he can't shake. Which one of your split personalities
> > > > > > > > >>> are you confering with on the subject of antennas
>
> > > > > > > > >> Wow.
>
> > > > > > > > >> tom
> > > > > > > > >> K0TAR
>
> > > > > > > > > yes Tom, not only are you using different identities I would not be
> > > > > > > > > surprised if it were you
> > > > > > > > > stuffing the porno on the group also.Hard to stop spamming after you
> > > > > > > > > start and get away with it

>
> > > > > > > So how did you determine this was occurring?
>
> > > > > > > I'd love to see your evidence. It should be quite amusing.
>
> > > > > > > tom
> > > > > > > K0TAR
>
> > > > > > thats just the paranoia showing through some more... ask him about his
> > > > > > levitating neutrinos or the tipsy vertical and that should get him
> > > > > > back on track.
>
> > > > > Silly
> > > > > Radiation is a vector product of two vectors, gravity and rotation.
> > > > > The resultant vector cannot be at the same angle as the constituent
> > > > > vectors there it must be tipped.
> > > > > Art
>
> > > > keep going art... is it tipped at the north pole? how about at the
> > > > equator? and does it tip clockwise or counterclockwise in the
> > > > southern hemisphere?
>
> > > Why ask me? You are a consumate rejectionist.
> > > Put it to test by placing a vertical at an angle
> > > on a antenna optomizer program and see if it corrects the model to the
> > > vertical. You could possibly reject all antenna computer programs on
> > > that basis. As far as reactance is concerned it is real! That is why
> > > we have the term "impedance"
> > > Art
>
> > I was born in the docklands of London UK The naysayers or
> > rejectionists are all American. Could this be another case where
> > America imposes itself on science is to be viewed thru out the World?
> > Or are there no hams outside America using the same power of
> > communication (!.5 Kw) such they are forced to stand inline (and
> > behind)?
>
> yep, all us real americans are suppressing your scientific genius so
> that no one can ever make use of it! not that anyone with half a
> brain would ever try.

Hold it, hold it
I am not a alien anymore.
I still have my draft card as I did not burn it.
Of course, America is heading to be a poor country so we will not be
able to afford the usual wars so I wont need the card any more.
Now for the half of a brain!!!! You are seriously over estimating your
ability according to your postings.
Your buddy
Art

5110. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 23:28:18 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d040912$0$28991$426a74cc@news.free.fr>
Source record: 6260

Hello,

On Fri, 10 Dec 2010 06:15:51 -0800, Wimpie wrote:

>
> it may result in worse
> reception because of overloading electronic circuits in your receiver.

OK for that.

> If your balcony has a metal fence (that may be connected to rebar also),
> you can use this as a ground provision for a wire antenna of about 5…
> 10m.

I didn't test that until now. I will.

> Adding a 9:1 transformer (outside, directly below the antenna) will
> increase antenna output at the lower bands. This does not automatically
> mean that your S/N ratio increases also.
>
> Portable receivers may experience overload. A preselector may help.
> www.tetech.nl/divers/SimplePreselector2.jpg shows an (old) example.

I better see what could be a home made tuner. Seems quite easy to
build :))

> This one tunes from 3.3 to 26 MHz. By changing the crocodile clips, you
> can perform some matching to get more output from the antenna, and
> change the bandwidth of the preselection.

The crocodile clips can be replaced by a selector. Am I OK on that?

> For the lower bands (AM broadcast) a loop may have advantage.

> Figure 2(a) in
> http://www.compliance-club.com/archive/old_archive/030718.htm shows the
> construction of a loop out of coaxial cable. These types of loops have
> built-in balanced to coaxial transition. A square or circle of about 1m
> (diameter) is a good start for the AM BC band.

It is called a shielded loop. Am I wrong?

> Be careful with (expensive) loop antennas. If you can't get reception
> with a simple well-constructed (tuned) loop because of local
> interference (noise), the most expensive loop will not change that.

For now, I tried a lot of different things... The best result were on
loops.

A big loop (1.6mx4 = 6.4 meters), one turn, with an air variable capacitor + an inside loop connected to the coaxial cable seems to give better ways to give something to eat to my receiver. Sometimes my air capacitor was not powerful enough, in the lower bands if I remember well... To improve that I will have to add a fixed capacitor (lets say 300pF) in parallel (to be bypassed) or more depending on the band I am listening to. For now I am just experimenting (with some simple wire), but I think I will build a more solid one...

A big loop (1.6mx4 = 6.4 meters), one turn, with the the universal balun from Wellbrook. Don't know why, but, it gives very good results, far better than a long wire in my flat, or a short wire on my balcony... At this time it seems there is a Ham Contest in Italia... I can get them fully on 80m :) LSB/CW/RTTY... Well I live in South of France, so it is easier for me :)))

But the first solution seems more efficient. Need to do further investigations....

Sebastien.

5111. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-11 23:52:56 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <ie1308$t9c$1@news.eternal-september.org>
Source record: 6261

"Art Unwin" wrote about his "tipped vertical" belief:
>Put it to test by placing a vertical at an angle on a antenna
>optomizer program and see if it corrects the model to the
>vertical.

Art:

1) Only YOU are the one espousing this belief.

2) Computer programs don't give the correct answer if the model is invalid, and/or its results are misunderstood by the user of that program.

3) Real-world, measured results may or may not support calculated results.

If your beliefs correspond to real-world performance, then YOU (and others) will be able to prove that using scientifically accurate methodologies in such real-world measurements. That result has been claimed by nobody, so far.

As this is YOUR peculiar belief, YOU should be willing to prove that it is true in the real world.

And if you are unable to do that, Art, perhaps you might see the wisdom in refraining to state and defend such a belief.

RF

5112. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 00:21:29 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <tr48g6hktv0iodjb9j2gaduseg2eepudto@4ax.com>
Source record: 6262

On 11 Dec 2010 23:28:18 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>For now, I tried a lot of different things... The best result were on
>loops.

Hi Sebastien,

This is a good lesson.

>A big loop (1.6mx4 = 6.4 meters), one turn, with an air variable
>capacitor + an inside loop connected to the coaxial cable seems to give
>better ways to give something to eat to my receiver.

This is an excellent antenna for BCB and Tropical Bands.

>Sometimes my air
>capacitor was not powerful enough, in the lower bands if I remember
>well... To improve that I will have to add a fixed capacitor (lets say
>300pF) in parallel (to be bypassed) or more depending on the band I am
>listening to.

This is a great solution.

>For now I am just experimenting (with some simple wire),
>but I think I will build a more solid one...
>
>A big loop (1.6mx4 = 6.4 meters), one turn, with the the universal balun
>from Wellbrook. Don't know why, but, it gives very good results, far
>better than a long wire in my flat, or a short wire on my balcony... At
>this time it seems there is a Ham Contest in Italia... I can get them
>fully on 80m :) LSB/CW/RTTY... Well I live in South of France, so it is
>easier for me :)))

The reason why this antenna performs so well is that it incorporates
the tuning function in the large loop - the smaller loop does the
matching. In other words, the large loop wire and the capacitor will
reject signals that could overpower your radio and create AGC that
reduces its sensitivity. It is, in effect, a tuner as we have already
discussed. It also happens to be your antenna too.

>But the first solution seems more efficient. Need to do further
>investigations....

One point to consider, this large loop will not perform the same when
its diameter is large when compared to the wavelength you are tuning
to. Your longwire with tuner will probably be better in the 50M band
and higher. However, experimentation may prove different, especially
if you can tip the loop over (or change its angle to earth).

73's
Richard Clark, KB7QHC

5113. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 00:28:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <15010f26-303e-4632-a010-b8f7bcdb6049@v12g2000vbx.googlegroups.com>
Source record: 6263

On Dec 11, 5:57 pm, n...@wt.net wrote:
> On Dec 11, 2:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > I was born in the docklands of London UK The naysayers or
> > rejectionists are all American. Could this be another case where
> > America imposes itself on science is to be viewed thru out the World?
> > Or are there no hams outside America using the same power of
> > communication (!.5 Kw) such they are forced to stand inline (and
> > behind)?
>
> If one uses a manly antenna, there is no need to run
> 1500 watts. Of course, with your usual designs, I can
> see how an amp could be helpful.. Or at least until the
> moment where your design erupts into flames due to the
> massive RF horsepower being fed to it.
>
> Of course, you could extend the available working time by
> installing your design into a 55 gal drum of mineral oil. :|
> Myself, I have a couple of amps. One is a manly Henry
> console. But I rarely use them anymore. I really don't
> need them, unless I just want to be a radio bully.
> I run efficient antennas, and shun dummy loads on sticks.
>
> BTW, I was born a poor black child, directly across the
> street from where a man named Kennedy was pronounced
> dead 7 years later. After hitching about the country for a
> while, I ended up working at a gas station that had defective
> cans.
> But then I invented the Optigrab, and the rest of my
> renaissance man existence is pretty much history.

Excellent, now share with the others how you were able to shoot me
down on my antenna theory that I am sharing with all. I want the
theory to be probed so I can rethink any errors
and put it right. Others are very anxious to shoot me down and would
just love your explanation as they do not have anything to work around
up to now
We now have been joined by another hyena
who was a radio engineer and is expressing his shock at the idea of a
tilted vertical, please help him out. When you have a vertical antenna
used for defensive purposes you really can't live with a" hole" in the
donut pattern. You must tilt it to close that hole in your defences so

that you have true omni pattern protection.
Regards
Art
Regards
Art

5114. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 01:14:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <5d1e839b-2221-4546-9f4c-191608154374@p38g2000vbn.googlegroups.com>
Source record: 6264

On Dec 11, 6:53 pm, n...@wt.net wrote:
> On Dec 11, 6:28 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 11, 5:57 pm, n...@wt.net wrote:
>
> > > On Dec 11, 2:57 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > I was born in the docklands of London UK The naysayers or
> > > > rejectionists are all American. Could this be another case where
> > > > America imposes itself on science is to be viewed thru out the World?
> > > > Or are there no hams outside America using the same power of
> > > > communication (!.5 Kw) such they are forced to stand inline (and
> > > > behind)?
>
> > > If one uses a manly antenna, there is no need to run
> > > 1500 watts. Of course, with your usual designs, I can
> > > see how an amp could be helpful.. Or at least until the
> > > moment where your design erupts into flames due to the
> > > massive RF horsepower being fed to it.
>
> > > Of course, you could extend the available working time by
> > > installing your design into a 55 gal drum of mineral oil. :|
> > > Myself, I have a couple of amps. One is a manly Henry
> > > console. But I rarely use them anymore. I really don't
> > > need them, unless I just want to be a radio bully.
> > > I run efficient antennas, and shun dummy loads on sticks.
>
> > > BTW, I was born a poor black child, directly across the
> > > street from where a man named Kennedy was pronounced
> > > dead 7 years later. After hitching about the country for a
> > > while, I ended up working at a gas station that had defective
> > > cans.
> > > But then I invented the Optigrab, and the rest of my
> > > renaissance man existence is pretty much history.
>
> > Excellent, now share with the others how you were able to shoot me
> > down on my antenna theory that I am sharing with all. I want the
> > theory to be probed so I can rethink any errors
> > and put it right. Others are very anxious to shoot me down and would
> > just love your explanation as they do not have anything to work around
> > up to now
> > We now have been joined by another hyena

> > who was a radio engineer and is expressing his shock at the idea of a
> > tilted vertical, please help him out. When you have a vertical antenna
> > used for defensive purposes you really can't live with a" hole" in the
> > donut pattern. You must tilt it to close that hole in your defences so
> > that you have true omni pattern protection.
> > Regards
> > Art
> > Regards
> > Art
>
> You need to get with the modeling program.
> Note this design.http://home.comcast.net/~disk200/wow.jpg
> Now tell me, what is wrong with this picture?
> A modeling program spit this out. So it must
> surely illustrate reality as we know it. Right?
>
> BTW, I wouldn't presume to tell an actual trained
> RF engineer his business. Not that there is any
> obvious need to, from what I see...
> But as a retired mechanical engineer with signs
> of advancing dementia , I suppose that gives you a
> leg up, and an obvious wormhole to reality as we
> don't know it... :/
>
> BTW, my 40+ dbi gain seems to be superior to
> your generated spectacles of advanced mal-modeling.
> Should I file a patent?

Strueth, so now computer programs are so difficult to use correctly
that they are worthless
A sailor came on the net a couple of weeks to show his ship with all
the antennas tilted so we have moved beyond the 20 th century tho many
of the sailboat are fighting the reasonability of doing that ! Many
old hams are convinced that "all is known" about antennas because
their era have found nothing that sheds new light and are content with
reading how to solder connections and discuss the meanings of a swr
readout. Now we have a new generation coming along and all are adament
they will all line up and sign on to the
lead provided by the present dying generation.

5115. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 02:04:41 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <1cb8g618m644mduraj56scram5gopkdbip@4ax.com>
Source record: 6265

Thanks, Owen.

Those look great but are too much money for me.

Joe

On Wed, 01 Dec 2010 20:46:39 GMT, Owen Duffy <none@no.where> wrote:

>justme <jbleaux@gmail.com> wrote in
>news:i0n1d69u7it6006ho9506n06cf097i7j6s@4ax.com:
>
>> Hi, Folks.
>>
>> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>> ladder line spreaders of about 4 or 5 inches wide. Wood in any
>> configuration will not do. PVC pipe will not do. Welding rod would
>> do but it is expensive.
>>
>> I was thinking of Fiberglas tape, twisted and put in place and then
>> resin applied but that is very cumbersome.
>
>These might not be regarded as cheap, but they are designed for purpose:
>http://www.tet-emtron.com/product-p/te-450sp.htm . They are not 4 to 5
>inches wide, the seller claims about 450 ohms using 2mm diameter bare wire.
>
>If you used insulated wire, Zo would be a little higher (eg 1mm conductor
>would give somewhere between 500 and 600 ohms).
>
>Owen

5116. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 02:06:31 UTC
From: justme <jbleaux@gmail.com>
Message-ID: <7eb8g6hlv5ue5fh5mem93gpc5qk71o3m3s@4ax.com>
Source record: 6266

Hey, Jimmie, that is what I thought about making.

Where did you get the fiberglass rope and how much was/is it?

Joe

On Thu, 9 Dec 2010 08:10:15 -0800 (PST), JIMMIE
<JIMMIEDEE123@YAHOO.COM> wrote:

>On Nov 2, 10:56ï¿½pm, justme <jble...@gmail.com> wrote:
>> Hi, Folks.
>>
>> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
>> ladder line spreaders of about 4 or 5 inches wide. ï¿½ Wood in any
>> configuration will not do. ï¿½PVC pipe will not do. ï¿½Welding rod would
>> do but it is expensive.
>>
>> I was thinking of Fiberglas tape, twisted and put in place and then
>> resin applied but that is very cumbersome.
>>
>> Any ideas out there?
>>
>> Thank you.
>
>I came by some glass rope (believe it was used for making fireproof
>curtains) I saturated it in resin to make some fiberglass rods. I
>would think other types of rope impregnated with resin may work, Ive
>seen burlap successfully used with resin so I am thinking hemp rope
>may work.
>
>Jimmie

5117. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 02:20:43 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7432132a-d9ce-461d-8e12-2ccdfb4e1111@k25g2000vbl.googlegroups.com>
Source record: 6267

On Dec 11, 7:39 pm, n...@wt.net wrote:
> On Dec 11, 7:14 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > Strueth, so now computer programs are so difficult to use correctly
> > that they are worthless
>
> What is a Strueth? Does it involve apples? Sounds
> like some new kind of desert..
>
> > A sailor came on the net a couple of weeks to show his ship with all
> > the antennas tilted so we have moved beyond the 20 th century tho many
> > of the sailboat are fighting the reasonability of doing that !
>
> I've never owned a sail boat. But if I did, you can be
> sure I would have the manliest antennas possible for
> the available room.
>
> > Many
> > old hams are convinced that "all is known" about antennas because
> > their era have found nothing that sheds new light and are content with
> > reading how to solder connections and discuss the meanings of a swr
> > readout.
>
> Being as you are a much older ham than I am, I'm not
> sure what to make of this statement. I learned how to
> solder 40 years ago. And the meanings of the readouts
> of SWR meters bores me. I have several of them. And
> they are all boring. Even the ones with lit up meters
> and little blinky things.
>
> >Now we have a new generation coming along and all are adament
> > they will all line up and sign on to the
> > lead provided by the present dying generation.
>
> I suspect they will. Make no mistake, not all is known
> about antennas. But that fact does not make your pseudo
> science gibberish become truth.
> The problem with you, is you never do any actual testing
> to see if your theories hold water.
> You never build or demonstrate any antennas that take
> advantage of your theories.
> So you are like a dog that chases it's tail, while

> barking at the moon that looms brightly overhead.
>
> I could call you an outright fraud, but I actually think
> you believe all the nonsense you conjure up.
> So being as I'm not the type to kick someone when
> they are down, I just view you as a pretty good
> comedy show.
>
> BTW, it's not my job to do your work for you.
> So if you really want me to expend much effort
> to debate your claims, I will require money.
> A check for $5000.00 mailed to my address,
> "good on QRZ", might provide me the neccesary
> motivation to take this much farther.
> And I consider that letting you off cheap.
> I have much better things to do than pollute
> my mind pondering silly pseudo science theories
> with a geriatric old fart.

So what is your problem with the viewing of old theory and the efforts in generating a possible new approach? What is your problem with somebody other than yourself suggesting a new approach?
Years ago the hyenas on this thread denied that the boundary approach also leads to
Maxwells equations and we are not talking magnetics.A doctrate guy from MIT showed the math to support me but it was to late, he and now I are continually trashed for generating falsities with respect to ham radio. But for why?
Is there a fear that the self appointed experts
on the group may well be over estimating their thinking processes? Does it really matter that a proposal is provided that the experts want washed away? Experts can provide points that are debatable that will uproot faulty theorems so why do they feel forced to abandon true and tried methods of debate? State Farm has created a home for over a thousand teckies from overseas stating that what is available in this country is not equipped to do the job? Have we placed the old methods of debate and the approach to science while others advance?
Can we continue to deny that we are not the leading nation anymore while we are on this downward slope. You state that despite not obtaining a high school certificate you, a black boy, made it anyway and thus are able to deny all that you dislike shows a possible passage for Americas hopes, Think about it. Why are the
self ap,rized experts so determined that a new theory,, if correct, could take hold? What does the future hold if we try to continue the practices of the past which are responsible for our present position? What is the route you would like your grandchildren to take? Follow your path or strive for the new with curiosity. Industry today in America is asking for something better so good times can come back. Think about it! Is the example being set by this group sufficient for the future.

So back to the beginning, why does this group deny the extension to a Gaussin boundary in the form of a time variant current equals Maxwells equation? What good are these denials achieving by the actions of spam and insults?
Best regards
Art Unwin KB9MZ....xg

5118. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 02:49:14 UTC
From: tom <news4792@taring.org>
Message-ID: <4d043828$0$87581$8046368a@newsreader.iphouse.net>
Source record: 6268

On 12/11/2010 8:20 PM, Art Unwin wrote:
> and tried methods of debate? State Farm has created a home for over a
> thousand teckies from overseas stating that what is available in this
> country is not equipped to do the job?

What in the hell are you talking about? You often inject nonsense
sentences into your rants. What is their purpose? Are you thinking
that we will be thrown off balance by them? If that's the intent, it fails.

tom
K0TAR

5119. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 03:04:43 UTC
From: joe <none@domain.invalid>
Message-ID: <ie1drurok1@speranza.aioe.org>
Source record: 6269

Art Unwin wrote:
>
> Think about it Joe
> If you had an equation for efficiency it would be dimensionless.

It depends upon how efficiency is measured. My more efficient car gets 30 MPG, My less efficient car gets 15 MPG. Any equation defining efficiency in terms of miles per gallon does not have a dimensionless result.

A meaningful measure of the efficiency of a transmitting antenna may relate to field strength per watt input, which is not dimensionless.

What is your equation?

> Typically you would have a portion in that equation that depicts
> perfection
> and also a portion depicting deviation from perfection.So the second
> portion points to what creates losses and the first part points to
> perfection.

OK, but what equation are you using for an antenna that has those portions and where does L/C fit?

Now look at root L/C which points to the constitution of
> that which creates losses.
> Now ideally we would like this portion to be 1
> which states zero losses, an ideal situation.

Without providing your equation, we don't know how L/C fits. From what you say it is just some term out of nowhere.

> Thus we can say the losses involved equals
> root L/C which must equal "1" Logic therefore tells you that both L
> and C are loss leaders whether they be lumped or distributed and
> therefore not part of the vectors that create
> acceleration of charge.

How do L and C contribute to loss? Since current and voltage for each is out of phase, the power lost is 0. How do you reconcile this discrepancy with your position?

Remember for legitimacy all formulae must
> equal zero for equilibrium and therefore resolves into zero units. Now
> if you are unaware where root L/C
> appears in the study of radiation this is a good time to hit the books
> to fill that gap.

The books don't reflect your views. I'm trying to understand your position, not some book.

> Best regards
> Art Unwin KB9MZ xg
>

5120. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 03:11:09 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <7d7ed945-dd4d-4edc-aab4-573da2284ed4@y3g2000vbm.googlegroups.com>
Source record: 6270

On Dec 11, 8:49 pm, tom <news4...@taring.org> wrote:
> On 12/11/2010 8:20 PM, Art Unwin wrote:
>
> > and tried methods of debate? State Farm has created a home for over a
> > thousand teckies from overseas stating that what is available in this
> > country is not equipped to do the job?
>
> What in the hell are you talking about? You often inject nonsense
> sentences into your rants. What is their purpose? Are you thinking
> that we will be thrown off balance by them? If that's the intent, it fails.
>
> tom
> K0TAR
Jim
You can deny the truth in what is stated above.
Your present position on science provides enough proof. Anybody can
view the archives
of "tom" "Jim" and others that you assume to see what manner of man
you are by your various accusations.
They can judge all your identities on their own without my help.
You too may have made it on your own without the required
education ,and deserve congratulations. But do you want others to
follow that same path and finish up just like you? What are your
motives with respect to your denials ? Would it not be better to
discuss antennas where one can learn and enjoy others?
Art

5121. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 03:55:26 UTC
From: tom <news4792@taring.org>
Message-ID: <4d0447a8$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6271

On 12/11/2010 9:11 PM, Art Unwin wrote:
> motives with respect to your denials ? Would it not be better to
> discuss antennas where one can learn and enjoy others?
> Art

But you don't discuss antennas. Ever. You discuss physics that you
have made up.

tom
K0TAR

5122. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 04:00:56 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <0fbb5737-6a48-4dfc-92dd-34260a0f15dd@t35g2000yqj.googlegroups.com>
Source record: 6272

On Dec 11, 9:04 pm, joe <n...@domain.invalid> wrote:
> Art Unwin wrote:
>
> > Think about it Joe
> > If you had an equation for efficiency it would be dimensionless.
>
> It depends upon how efficiency is measured. My more efficient car gets
> 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> efficiency in terms of miles per gallon does not have a dimensionless
> result.
>
> A meaningful measure of the efficiency of a transmitting antenna may
> relate to field strength per watt input, which is not dimensionless.
>
> What is your equation?
>
> > Typically you would have a portion in that equation that depicts
> > perfection
> > and also a portion depicting deviation from perfection.So the second
> > portion points to what creates losses and the first part points to
> > perfection.
>
> OK, but what equation are you using for an antenna that has those
> portions and where does L/C fit?
>
> Now look at root L/C which points to the constitution of
>
> > that which creates losses.
> > Now ideally we would like this portion to be 1
> > which states zero losses, an ideal situation.
>
> Without providing your equation, we don't know how L/C fits. From what
> you say it is just some term out of nowhere.
>
> > Thus we can say the losses involved equals
> > root L/C which must equal "1" Logic therefore tells you that both L
> > and C are loss leaders whether they be lumped or distributed and
> > therefore not part of the vectors that create
> > acceleration of charge.
>
> How do L and C contribute to loss? Since current and voltage for each is
> out of phase, the power lost is 0. How do you reconcile this discrepancy
> with your position?
>

> Remember for legitimacy all formulae must
>
> > equal zero for equilibrium and therefore resolves into zero units. Now
> > if you are unaware where root L/C
> > appears in the study of radiation this is a good time to hit the books
> > to fill that gap.
>
> The books don't reflect your views. I'm trying to understand your
> position, not some book.
>
> > Best regards
> > Art Unwin KB9MZ xg

Tom. I don't trust you because of your prior posts but I am following
the norm where homework is for copying from the screen before
dismissal. As far as research goes their are many discussions
available that give support to my position so you have an avenue
to research for yourself without denial of mine.
If what you say is true regarding L and C then there is indeed a
problem. Provide a situation
where both inductors and capacitance do not provide losses and is
instrumental in creating propagation and I don't mind you providing an
excerpt from a book as to what is understood
as to how the losses incurred are part and parcel of the resultant
forces. Why not quote a formula on efficiency where the inefficiency
is not applied as a simple number but instead supplies the constituent
values that make up that number. I don't mind you quoting from the
books the same as I am doing. Think about it Tom, a capacitor
conserves energy and you know that an inductor provides a magnetic
field
by retaining half of what was supplied, Thus no amount of elements can
account for the disposition of all the power supplied.
Please note that I am not running away while missiles are being
thrown. I am stubborn ,and I am staying, and will respond, and I
certainly will not run away! I do thank you in your pursuit but in the
absence of believing me your answers will come from researching what I
state.
Why not start in stating what you do believe about my research ?
Gauss and Maxwell
Particles not waves
The actions of being diamagnetic
Levitation
Surface flow of current external to the radiator
and so on IN ORDER from my given description.
I need to see what base you are operating from
and what you do accept so I can build upon it.
I will stay with you. If you don't care about what I propose then take
leave of the thread because it lacks importance to you.
Best regards
Art

Regard
Art

5123. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 04:30:48 UTC
From: tom <news4792@taring.org>
Message-ID: <4d044ff1$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6273

On 12/11/2010 10:00 PM, Art Unwin wrote:
> On Dec 11, 9:04 pm, joe<n...@domain.invalid> wrote:
>> Art Unwin wrote:
>>
>>> Think about it Joe
>>> If you had an equation for efficiency it would be dimensionless.
>>
>> It depends upon how efficiency is measured. My more efficient car gets
>> 30 MPG, My less efficient car gets 15 MPG. Any equation defining
>> efficiency in terms of miles per gallon does not have a dimensionless
>> result.
>>
>> A meaningful measure of the efficiency of a transmitting antenna may
>> relate to field strength per watt input, which is not dimensionless.
>>
>> What is your equation?
>>
>>> Typically you would have a portion in that equation that depicts
>>> perfection
>>> and also a portion depicting deviation from perfection.So the second
>>> portion points to what creates losses and the first part points to
>>> perfection.
>>
>> OK, but what equation are you using for an antenna that has those
>> portions and where does L/C fit?
>>
>> Now look at root L/C which points to the constitution of
>>
>>> that which creates losses.
>>> Now ideally we would like this portion to be 1
>>> which states zero losses, an ideal situation.
>>
>> Without providing your equation, we don't know how L/C fits. From what
>> you say it is just some term out of nowhere.
>>
>>> Thus we can say the losses involved equals
>>> root L/C which must equal "1" Logic therefore tells you that both L
>>> and C are loss leaders whether they be lumped or distributed and
>>> therefore not part of the vectors that create
>>> acceleration of charge.
>>
>> How do L and C contribute to loss? Since current and voltage for each is
>> out of phase, the power lost is 0. How do you reconcile this discrepancy
>> with your position?

>>
>> Remember for legitimacy all formulae must
>>
>>> equal zero for equilibrium and therefore resolves into zero units. Now
>>> if you are unaware where root L/C
>>> appears in the study of radiation this is a good time to hit the books
>>> to fill that gap.
>>
>> The books don't reflect your views. I'm trying to understand your
>> position, not some book.
>>
>>> Best regards
>>> Art Unwin KB9MZ xg
>
> Tom. I don't trust you because of your prior posts but I am following

He responded to me! I am honored. I guess. But alas, it wasn't me.

Again, WOW!

tom
K0TAR

5124. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 04:33:39 UTC
From: tom <news4792@taring.org>
Message-ID: <4d04509c$0$6699$8046368a@newsreader.iphouse.net>
Source record: 6274

On 12/11/2010 10:00 PM, Art Unwin wrote:
<nonsense>

Hey Art.

Do you know what a header is?

It's how you tell where things that show up here came from.

tom
K0TAR

5125. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 06:23:58 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6aq8g69h8n2bl0qieqkrph1nbts201k5ng@4ax.com>
Source record: 6275

On Sat, 11 Dec 2010 17:39:11 -0800 (PST), nm5k@wt.net wrote:

>> Strueth, so now computer programs are so difficult to use correctly
>> that they are worthless
>
>What is a Strueth?

It's olde English for God's Truth, just as Zounds is olde English for
God's Wounds. ....probably from the storm scene in the last act of
King Lear.

73's
Richard Clark, KB7QHC

5126. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 06:26:29 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <lh6et7-t1t.ln1@mail.specsol.com>
Source record: 6276

joe <none@domain.invalid> wrote:
> Art Unwin wrote:
>>
>> Think about it Joe
>> If you had an equation for efficiency it would be dimensionless.
>
> It depends upon how efficiency is measured. My more efficient car gets
> 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> efficiency in terms of miles per gallon does not have a dimensionless
> result.

That isn't "efficiency", which is what is applies to antennas and it is
ALWAY a dimenionless number.

What you are talking about is "fuel efficiency", a different thing entirely.

The efficiency of a car is the useful energy output divided by the energy
in the fuel.

A modern gasoline automobile engine has an efficiency of around 35%, the
remaining 65% is mostly lost as heat in the exhaust.

--
Jim Pennino

Remove .spam.sux to reply.

5127. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 12:09:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a8b42a97-6f1f-466f-8e5f-2c628e7c14fb@l8g2000yqh.googlegroups.com>
Source record: 6277

```
On Dec 12, 4:00 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 11, 9:04 pm, joe <n...@domain.invalid> wrote:
>
>
>
> > Art Unwin wrote:
>
> > > Think about it Joe
> > > If you had an equation for efficiency it would be dimensionless.
>
> > It depends upon how efficiency is measured. My more efficient car gets
> > 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> > efficiency in terms of miles per gallon does not have a dimensionless
> > result.
>
> > A meaningful  measure of the efficiency of a transmitting antenna may
> > relate to field strength per watt input, which is not dimensionless.
>
> > What is your equation?
>
> > > Typically you would have a portion in that equation that depicts
> > > perfection
> > > and also a portion depicting deviation from perfection.So the second
> > > portion points to what creates losses and the first part points to
> > > perfection.
>
> > OK, but what equation are you using for an antenna that has those
> > portions and where does L/C fit?
>
> > Now look at root L/C which points to the constitution of
>
> > > that which creates losses.
> > > Now ideally we would like this portion to be 1
> > > which states zero losses, an ideal situation.
>
> > Without providing your equation, we don't know how L/C fits. From what
> > you say it is just some term out of nowhere.
>
> > > Thus we can say the losses involved equals
> > > root L/C which must equal "1" Logic therefore tells you that both L
> > > and C are loss leaders whether they be lumped or distributed and
> > > therefore not part of the vectors that create
> > > acceleration of charge.
>
```

> > How do L and C contribute to loss? Since current and voltage for each is
> > out of phase, the power lost is 0. How do you reconcile this discrepancy
> > with your position?
>
> >   Remember for legitimacy all formulae must
>
> > > equal zero for equilibrium and therefore resolves into zero units. Now
> > > if you are unaware where root L/C
> > > appears in the study of radiation this is a good time to hit the books
> > > to fill that gap.
>
> > The books don't reflect your views. I'm trying to understand your
> > position, not some book.
>
> > > Best regards
> > > Art Unwin KB9MZ xg
>
> Tom. I don't trust you because of your prior posts but I am following
> the norm where homework is for copying from the screen before
> dismissal. As far as research goes their are many discussions
> available that give support to my position so you have an avenue
> to research for yourself without denial of mine.
> If what you say is true regarding L and C then there is indeed a
> problem. Provide a situation
> where both inductors and capacitance do not provide losses and is
> instrumental in creating propagation and I don't mind you providing an
> excerpt from a book as to what is understood
> as to how the losses incurred are part and parcel of the resultant
> forces. Why not quote a formula on efficiency where the inefficiency
> is not applied as a simple number but instead supplies the constituent
> values that make up that number. I don't mind you quoting from the
> books the same as I am doing. Think about it Tom, a capacitor
> conserves energy and you know that an inductor provides a magnetic
> field
> by retaining half of what was supplied, Thus no amount of elements can
> account for the disposition of all the power supplied.
> Please note that I am not running away while missiles are being
> thrown. I am stubborn ,and I am staying, and will respond, and I
> certainly will not run away! I do thank you in your pursuit but in the
> absence of believing me your answers will come from researching what I
> state.
> Why not start in stating what you do believe about my research ?
> Gauss and Maxwell
> Particles not waves
> The actions of being diamagnetic
> Levitation
> Surface flow of current external to the radiator
> and so on IN ORDER from my given description.
> I need to see what base you are operating from
> and what you do accept so I can build upon it.

> I will stay with you. If you don't care about what I propose then take
> leave of the thread because it lacks importance to you.
> Best regards
> Art
> Regard
> Art

great, keep spewing more technobafflegab, the wx is bad here and i
could use a few good laughs!

i would like to see you get your mit buddy back here again, i think he
split when he saw how loony your theory really was and when you didn't
really understand his explanation of Gauss and Maxwell... which as i
have pointed out, with references, already are dynamic and result in
wave propagation not magical levitating diamagnetic solar neutrinos
flying off your pickup stick patented antenna.

5128. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 12:18:11 UTC
From: frankieNrosie <frankieNrosie.74ab819@radiobanter.com>
Message-ID: <frankieNrosie.74ab819@radiobanter.com>
Source record: 6283

Richard Clark;725514 Wrote:
> On Sat, 11 Dec 2010 16:56:34 +0000, frankieNrosie
> frankieNrosie.7496698@radiobanter.com wrote:
> -
> freq=5.8GHz
> i'm wanna design multiband antenna, not sure about impedance..-
>
> If you want one frequency, then it would imply one band.
>
> If you want multiband, then you need to give us the other frequencies.
>
> 73's
> Richard Clark, KB7QHC

the other freq, not specific yet..
i use the diode as the switch to reconfigure the freq..later on i will
upload the figure of proposed antenna

--
frankieNrosie

5129. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 12:34:34 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e265c546-4b85-4bd1-a60c-8939dc2adbe0@fu15g2000vbb.googlegroups.com>
Source record: 6278

On Dec 12, 4:00 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 11, 9:04 pm, joe <n...@domain.invalid> wrote:
>
>
>
> > Art Unwin wrote:
>
> > > Think about it Joe
> > > If you had an equation for efficiency it would be dimensionless.
>
> > It depends upon how efficiency is measured. My more efficient car gets
> > 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> > efficiency in terms of miles per gallon does not have a dimensionless
> > result.
>
> > A meaningful measure of the efficiency of a transmitting antenna may
> > relate to field strength per watt input, which is not dimensionless.
>
> > What is your equation?
>
> > > Typically you would have a portion in that equation that depicts
> > > perfection
> > > and also a portion depicting deviation from perfection.So the second
> > > portion points to what creates losses and the first part points to
> > > perfection.
>
> > OK, but what equation are you using for an antenna that has those
> > portions and where does L/C fit?
>
> > Now look at root L/C which points to the constitution of
>
> > > that which creates losses.
> > > Now ideally we would like this portion to be 1
> > > which states zero losses, an ideal situation.
>
> > Without providing your equation, we don't know how L/C fits. From what
> > you say it is just some term out of nowhere.
>
> > > Thus we can say the losses involved equals
> > > root L/C which must equal "1" Logic therefore tells you that both L
> > > and C are loss leaders whether they be lumped or distributed and
> > > therefore not part of the vectors that create
> > > acceleration of charge.
>

> > How do L and C contribute to loss? Since current and voltage for each is
> > out of phase, the power lost is 0. How do you reconcile this discrepancy
> > with your position?
>
> >   Remember for legitimacy all formulae must
>
> > > equal zero for equilibrium and therefore resolves into zero units. Now
> > > if you are unaware where root L/C
> > > appears in the study of radiation this is a good time to hit the books
> > > to fill that gap.
>
> > The books don't reflect your views. I'm trying to understand your
> > position, not some book.
>
> > > Best regards
> > > Art Unwin KB9MZ xg
>
> Tom. I don't trust you because of your prior posts but I am following
> the norm where homework is for copying from the screen before
> dismissal. As far as research goes their are many discussions
> available that give support to my position so you have an avenue
> to research for yourself without denial of mine.
> If what you say is true regarding L and C then there is indeed a
> problem. Provide a situation
> where both inductors and capacitance do not provide losses and is
> instrumental in creating propagation and I don't mind you providing an
> excerpt from a book as to what is understood
> as to how the losses incurred are part and parcel of the resultant
> forces. Why not quote a formula on efficiency where the inefficiency
> is not applied as a simple number but instead supplies the constituent
> values that make up that number. I don't mind you quoting from the
> books the same as I am doing. Think about it Tom, a capacitor
> conserves energy and you know that an inductor provides a magnetic
> field
> by retaining half of what was supplied, Thus no amount of elements can
> account for the disposition of all the power supplied.
> Please note that I am not running away while missiles are being
> thrown. I am stubborn ,and I am staying, and will respond, and I
> certainly will not run away! I do thank you in your pursuit but in the
> absence of believing me your answers will come from researching what I
> state.
> Why not start in stating what you do believe about my research ?
> Gauss and Maxwell
> Particles not waves
> The actions of being diamagnetic
> Levitation
> Surface flow of current external to the radiator
> and so on IN ORDER from my given description.
> I need to see what base you are operating from
> and what you do accept so I can build upon it.

> I will stay with you. If you don't care about what I propose then take
> leave of the thread because it lacks importance to you.
> Best regards
> Art
> Regard
> Art

great, keep spewing more technobafflegab, the wx is bad here and i
could use a few good laughs!

i would like to see you get your mit buddy back here again, i think he
split when he saw how loony your theory really was and when you didn't
really understand his explanation of Gauss and Maxwell... which as i
have pointed out, with references, already are dynamic and result in
wave propagation not magical levitating diamagnetic solar neutrinos
flying off your pickup stick patented antenna.

5130. Re: Balcony Antenna for Shortwave Listening

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 13:24:30 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <e04baa3f-c313-4fc8-b6aa-67def759a828@z19g2000yqb.googlegroups.com>
Source record: 6279

On 12 dic, 00:28, Sébastien MEDARD <t...@tut.com> wrote:
> Hello,
>
> On Fri, 10 Dec 2010 06:15:51 -0800, Wimpie wrote:
>
> > it may result in worse
> > reception because of overloading electronic circuits in your receiver.
>
> OK for that.
>
> > If your balcony has a metal fence (that may be connected to rebar also),
> > you can use this as a ground provision for a wire antenna of about 5…
> > 10m.
>
> I didn't test that until now. I will.
>
> > Adding a 9:1 transformer (outside, directly below the antenna) will
> > increase antenna output at the lower bands. This does not automatically
> > mean that your S/N ratio increases also.
>
> > Portable receivers may experience overload. A preselector may help.
> >www.tetech.nl/divers/SimplePreselector2.jpg shows an (old) example.
>
> I better see what could be a home made tuner. Seems quite easy to
> build :))
>
> > This one tunes from 3.3 to 26 MHz. By changing the crocodile clips, you
> > can perform some matching to get more output from the antenna, and
> > change the bandwidth of the preselection.
>
> The crocodile clips can be replaced by a selector. Am I OK on that?

Correct, you can use two selectors instead of the clips.

>
> > For the lower bands (AM broadcast) a loop may have advantage.
> > Figure 2(a) in
> >http://www.compliance-club.com/archive/old_archive/030718.htmshows the
> > construction of a loop out of coaxial cable. These types of loops have
> > built-in balanced to coaxial transition. A square or circle of about 1m
> > (diameter) is a good start for the AM BC band.
>
> It is called a shielded loop. Am I wrong?

Correct. To have the balun function, the cut in the shield must be
opposite to the position where the feeder leaves the loop.

>
> > Be careful with (expensive) loop antennas. If you can't get reception
> > with a simple well-constructed (tuned) loop because of local
> > interference (noise), the most expensive loop will not change that.
>
> For now, I tried a lot of different things... The best result were on
> loops.
>
> A big loop (1.6mx4 = 6.4 meters), one turn, with an air variable
> capacitor + an inside loop connected to the coaxial cable seems to give
> better ways to give something to eat to my receiver. Sometimes my air
> capacitor was not powerful enough, in the lower bands if I remember
> well... To improve that I will have to add a fixed capacitor (lets say
> 300pF) in parallel (to be bypassed) or more depending on the band I am
> listening to. For now I am just experimenting (with some simple wire),
> but I think I will build a more solid one...
>
> A big loop (1.6mx4 = 6.4 meters), one turn, with the the universal balun
> from Wellbrook. Don't know why, but, it gives very good results, far
> better than a long wire in my flat, or a short wire on my balcony... At
> this time it seems there is a Ham Contest in Italia... I can get them
> fully on 80m :) LSB/CW/RTTY... Well I live in South of France, so it is
> easier for me :)))

My experience is that at the lower bands (AM BC up to 3.6 MHz), loops
show better S/N ratio. However for the higher bands, performance
becomes similar to dipoles or monopoles. For reception I like the
small loops, as you can rotate them easily. They give less output,
but here tuning (even tuning inside close to the receiver) will
improve output (and noise….).

Regarding the large resonant loop with inside coupling loop, yes that
works well. I have a small one (0.6*0.4m) that tunes on the ham bands
from 3.6 to 30 MHz, it uses additional fixed capacitance for the lower
bands.
Unless you live in a very quiet environment, you can reduce the size
without sacrificing S/N ratio.

>
> But the first solution seems more efficient. Need to do further
> investigations....
>
> Sebastien.

Best regards,

Wim
PA3DJS
www.tetech.nl

5131. SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 13:59:06 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d04d52a$0$3329$426a74cc@news.free.fr>
Source record: 6280

On Sat, 11 Dec 2010 16:21:29 -0800, Richard Clark wrote:

> On 11 Dec 2010 23:28:18 GMT, Sébastien MEDARD <titi@tut.com> wrote:
>
>>For now, I tried a lot of different things... The best result were on
>>loops.
>
> Hi Sebastien,
>
> This is a good lesson.

Thanks. I think I will try long wire again... I don't like to give up without fighting a little bit. But perhaps I will try it outdoor putting my receiver in the car outside any city or in a place where I get some place. So everything about antenna tuners need more investigation.

>>A big loop (1.6mx4 = 6.4 meters), one turn, with an air variable
>>capacitor + an inside loop connected to the coaxial cable seems to give
>>better ways to give something to eat to my receiver.
>
> This is an excellent antenna for BCB and Tropical Bands.

The problem seems to be related to wave propagation... I need to test that a little bit more but... It is easier to receive radio broadcast during the night. I need to know what are the differences between night/day for wave propagation. What should I listen during the night and what I should better listen during daylight...

I need to know a little bit more about digital transmission modes... To be able to recognize digital patterns (on the waterfall display) to be able apply the good settings for decoding... Easy for CW... Easy for RTTY used by HAM... But what is the pattern for Meteo Faxes for example...?

By the way... I searched for good free software to decode meteo faxes... But it seems not easy to find something free and easy to use... Do you know shere I could find something interesting?

>>Sometimes my air
>>capacitor was not powerful enough, in the lower bands if I remember
>>well... To improve that I will have to add a fixed capacitor (lets say
>>300pF) in parallel (to be bypassed) or more depending on the band I am
>>listening to.
>
> This is a great solution.

This is something I found on a website.... When you don't know anything about electronics... Your learning curve is quite flat :)))

>>For now I am just experimenting (with some simple wire), but I think I
>>will build a more solid one...
>>
>>A big loop (1.6mx4 = 6.4 meters), one turn, with the the universal
>>balun from Wellbrook. Don't know why, but, it gives very good results,
>>far better than a long wire in my flat, or a short wire on my balcony...
>>At this time it seems there is a Ham Contest in Italia... I can get them
>>fully on 80m :) LSB/CW/RTTY... Well I live in South of France, so it is
>>easier for me :)))
>
> One point to consider, this large loop will not perform the same when
> its diameter is large when compared to the wavelength you are tuning to.
> Your longwire with tuner will probably be better in the 50M band and
> higher.

I need to make a tuner first... Then I will tell you about it.

> However, experimentation may prove different, especially if you
> can tip the loop over (or change its angle to earth).

Well.... not so easy for now... My "experimentation board" is a big wood shelf with a lot of books on it... Not so easy to flip, rotate or.... But it is well oriented (east-west) :)

My next tries will be on a multiple turns loops. With or without matching loop inside. I will try with simple wire but connection ribbon cables could be a good alternative... (like old hard drive ribbon cable)

I was wondering... It seems loop antennas are a never ending story. As far as I know, it seems there is no book that makes a good overview of the different loop designs, with accessible schematics for preamp or tuning stuff, how to avoid QRMs... There could be a very interesting area both for SWL and HAM...

Perhaps the "Joe Carr's Loop Antenna Handbook" may be interesting, but it is quite expensive and an Amazon reviewer says it is not so interesting... What about the "Joe Carr's Receiving Antenna Handbook" ?

Sebastien.

5132. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 14:01:11 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <oue9g69qtptnhevhjrveiui70c9lvrvcrp@4ax.com>
Source record: 6281

On Sun, 12 Dec 2010 06:26:29 -0000, jimp@specsol.spam.sux.com wrote:

>joe <none@domain.invalid> wrote:
>> Art Unwin wrote:
>>>
>>> Think about it Joe
>>> If you had an equation for efficiency it would be dimensionless.
>>
>> It depends upon how efficiency is measured. My more efficient car gets
>> 30 MPG, My less efficient car gets 15 MPG. Any equation defining
>> efficiency in terms of miles per gallon does not have a dimensionless
>> result.
>
>That isn't "efficiency", which is what is applies to antennas and it is
>ALWAY a dimenionless number.
>
Efficiency is a measure so it must have one or more dimensions to have
relative meaning. The subject doesn't really matter. If Nigel Tufnel
says his antenna has an efficiency of 11 what does the number
represent beyond being one more efficient than ten? One more what?
Without any metadata the value is just a number, it just as well could
be 3.14159265 or 0xBADF00D.

A measure such as SWR might appear to be dimension-less because it is
a calculated value based upon dimensional values.

>What you are talking about is "fuel efficiency", a different thing entirely.
>
It's not really different, units consumed is a measure and units
traveled is a dimension. An attribute of the dimension is city or
highway driving. By adding metadata in the form of additional
dimensions, attributes and hierarchies more meaning can be given to
the measure.

>The efficiency of a car is the useful energy output divided by the energy
>in the fuel.
>
Limited dimensions suggest that 4 passenger vehicle's 40 MPG is more
fuel efficient than a 40 passenger bus getting 8 MPG. Add the
dimension of passengers carried, change the measure to passenger*miles
per gallon, and the bus (320 PMPG) becomes more fuel efficient than
the car (160 PMPG). More metadata provides more meaning to measures
which in turn provides better foundation information for effective
decision making.

In every case dimensions add meaning to the measure. The whole issue with Art's magic antennas is he values their efficiency by presenting measures that have no relative dimensions. The efficiency of his antennas may well be 11. The question remains eleven what?

5133. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 15:27:06 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fd0e9832-df80-45a3-bb46-6cf4668e6587@p11g2000vbn.googlegroups.com>
Source record: 6282

On Dec 12, 2:01 pm, Registered User <n4...@ix.netcom.com> wrote:
> On Sun, 12 Dec 2010 06:26:29 -0000, j...@specsol.spam.sux.com wrote:
> >joe <n...@domain.invalid> wrote:
> >> Art Unwin wrote:
>
> >>> Think about it Joe
> >>> If you had an equation for efficiency it would be dimensionless.
>
> >> It depends upon how efficiency is measured. My more efficient car gets
> >> 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> >> efficiency in terms of miles per gallon does not have a dimensionless
> >> result.
>
> >That isn't "efficiency", which is what is applies to antennas and it is
> >ALWAY a dimenionless number.
>
> Efficiency is a measure so it must have one or more dimensions to have
> relative meaning. The subject doesn't really matter. If Nigel Tufnel
> says his antenna has an efficiency of 11 what does the number
> represent beyond being one more efficient than ten? One more what?
> Without any metadata the value is just a number, it just as well could
> be 3.14159265 or 0xBADF00D.
>
> A measure such as SWR might appear to be dimension-less because it is
> a calculated value based upon dimensional values.
>
> >What you are talking about is "fuel efficiency", a different thing entirely.
>
> It's not really different, units consumed is a measure and units
> traveled is a dimension. An attribute of the dimension is city or
> highway driving. By adding metadata in the form of additional
> dimensions, attributes and hierarchies more meaning can be given to
> the measure.
>
> >The efficiency of a car is the useful energy output divided by the energy
> >in the fuel.
>
> Limited dimensions suggest that 4 passenger vehicle's 40 MPG is more
> fuel efficient than a 40 passenger bus getting 8 MPG. Add the
> dimension of passengers carried, change the measure to passenger*miles
> per gallon, and the bus (320 PMPG) becomes more fuel efficient than
> the car (160 PMPG). More metadata provides more meaning to measures
> which in turn provides better foundation information for effective
> decision making.

>
> In every case dimensions add meaning to the measure. The whole issue
> with Art's magic antennas is he values their efficiency by presenting
> measures that have no relative dimensions. The efficiency of his
> antennas may well be 11. The question remains eleven what?

in art's mind the efficiency of his antennas is 110%

5134. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 17:32:53 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <5jdft7-nq4.ln1@mail.specsol.com>
Source record: 6284

Registered User <n4jvp@ix.netcom.com> wrote:

> Efficiency is a measure so it must have one or more dimensions

Efficiency is a ratio usually expressed as a percentage and has no dimensions.

The efficiency of an antenna is the radiated power divided by the input
power.

Power divided by power has no dimensions.

The efficiency of an engine is the mechanical energy it produces divided by
the thermal energy of the fuel it uses.

Energy divided by energy has no dimensions.

--
Jim Pennino

Remove .spam.sux to reply.

5135. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 17:50:39 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <1d2ag6predl37afhqbmfu8mcfkkjrvdt7q@4ax.com>
Source record: 6285

On Sun, 12 Dec 2010 12:18:11 +0000, frankieNrosie
<frankieNrosie.74ab819@radiobanter.com> wrote:

>> If you want one frequency, then it would imply one band.
>>
>> If you want multiband, then you need to give us the other frequencies.
>
>the other freq, not specific yet..

Then how do you know it is multiband?

Your most specific request is for a folded dipole at one frequency.
From end-to-end it will be slightly less than 1/2 wavelength long at
that frequency.

Now, if you add another frequency, your folded dipole will need to be
1/2 wavelength long at that frequency.

Obviously to be "multiband" your folded dipole cannot be both lengths
at the same time. The requirment for the fold of the folded dipole is
obscure. A fan dipole would work for multiband.

>i use the diode as the switch to reconfigure the freq..later on i will
>upload the figure of proposed antenna

I have not the vaguest idea what that is about. "The diode"?

73's
Richard Clark, KB7QHC

5136. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 18:47:08 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b144d7a0-9bb5-41ff-b677-6e3c64c0413c@k21g2000vbd.googlegroups.com>
Source record: 6286

On Dec 11, 10:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 11, 9:04 pm, joe <n...@domain.invalid> wrote:
>
>
>
> > Art Unwin wrote:
>
> > > Think about it Joe
> > > If you had an equation for efficiency it would be dimensionless.
>
> > It depends upon how efficiency is measured. My more efficient car gets
> > 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> > efficiency in terms of miles per gallon does not have a dimensionless
> > result.
>
> > A meaningful measure of the efficiency of a transmitting antenna may
> > relate to field strength per watt input, which is not dimensionless.
>
> > What is your equation?
>
> > > Typically you would have a portion in that equation that depicts
> > > perfection
> > > and also a portion depicting deviation from perfection.So the second
> > > portion points to what creates losses and the first part points to
> > > perfection.
>
> > OK, but what equation are you using for an antenna that has those
> > portions and where does L/C fit?
>
> > Now look at root L/C which points to the constitution of
>
> > > that which creates losses.
> > > Now ideally we would like this portion to be 1
> > > which states zero losses, an ideal situation.
>
> > Without providing your equation, we don't know how L/C fits. From what
> > you say it is just some term out of nowhere.
>
> > > Thus we can say the losses involved equals
> > > root L/C which must equal "1" Logic therefore tells you that both L
> > > and C are loss leaders whether they be lumped or distributed and
> > > therefore not part of the vectors that create
> > > acceleration of charge.
>

> > How do L and C contribute to loss? Since current and voltage for each is
> > out of phase, the power lost is 0. How do you reconcile this discrepancy
> > with your position?
>
> >   Remember for legitimacy all formulae must
>
> > > equal zero for equilibrium and therefore resolves into zero units. Now
> > > if you are unaware where root L/C
> > > appears in the study of radiation this is a good time to hit the books
> > > to fill that gap.
>
> > The books don't reflect your views. I'm trying to understand your
> > position, not some book.
>
> > > Best regards
> > > Art Unwin KB9MZ xg
>
> Tom. I don't trust you because of your prior posts but I am following
> the norm where homework is for copying from the screen before
> dismissal. As far as research goes their are many discussions
> available that give support to my position so you have an avenue
> to research for yourself without denial of mine.
> If what you say is true regarding L and C then there is indeed a
> problem. Provide a situation
> where both inductors and capacitance do not provide losses and is
> instrumental in creating propagation and I don't mind you providing an
> excerpt from a book as to what is understood
> as to how the losses incurred are part and parcel of the resultant
> forces. Why not quote a formula on efficiency where the inefficiency
> is not applied as a simple number but instead supplies the constituent
> values that make up that number. I don't mind you quoting from the
> books the same as I am doing. Think about it Tom, a capacitor
> conserves energy and you know that an inductor provides a magnetic
> field
> by retaining half of what was supplied, Thus no amount of elements can
> account for the disposition of all the power supplied.
> Please note that I am not running away while missiles are being
> thrown. I am stubborn ,and I am staying, and will respond, and I
> certainly will not run away! I do thank you in your pursuit but in the
> absence of believing me your answers will come from researching what I
> state.
> Why not start in stating what you do believe about my research ?
> Gauss and Maxwell
> Particles not waves
> The actions of being diamagnetic
> Levitation
> Surface flow of current external to the radiator
> and so on IN ORDER from my given description.
> I need to see what base you are operating from
> and what you do accept so I can build upon it.

> I will stay with you. If you don't care about what I propose then take
> leave of the thread because it lacks importance to you.
> Best regards
> Art
> Regard
> Art

Joe
I have to apologize with respect to my stance on root L/C which is a
constant with respect to critical damping in R L C circuitry. For the
life of me I cannot retrace my thinking in the matter or my line of
thought, so that line of debate is just not on. However, if current
removes itself from an element to travel in a medium on the surface
and under a enclosing skin of particles
we have removed unwanted resistances from the equation as the
particles are in equilibrium
and their accelleration is now measurable. At the same time the medium
supplies a path for a ground vector.
Again I apologize for the path I led you
Regards
Art

5137. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 19:32:16 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <06f5486c-4331-457f-bbef-870a3e7165f9@q18g2000vbm.googlegroups.com>
Source record: 6287

On Dec 12, 12:47 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 11, 10:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 11, 9:04 pm, joe <n...@domain.invalid> wrote:
>
> > > Art Unwin wrote:
>
> > > > Think about it Joe
> > > > If you had an equation for efficiency it would be dimensionless.
>
> > > It depends upon how efficiency is measured. My more efficient car gets
> > > 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> > > efficiency in terms of miles per gallon does not have a dimensionless
> > > result.
>
> > > A meaningful measure of the efficiency of a transmitting antenna may
> > > relate to field strength per watt input, which is not dimensionless.
>
> > > What is your equation?
>
> > > > Typically you would have a portion in that equation that depicts
> > > > perfection
> > > > and also a portion depicting deviation from perfection.So the second
> > > > portion points to what creates losses and the first part points to
> > > > perfection.
>
> > > OK, but what equation are you using for an antenna that has those
> > > portions and where does L/C fit?
>
> > > Now look at root L/C which points to the constitution of
>
> > > > that which creates losses.
> > > > Now ideally we would like this portion to be 1
> > > > which states zero losses, an ideal situation.
>
> > > Without providing your equation, we don't know how L/C fits. From what
> > > you say it is just some term out of nowhere.
>
> > > > Thus we can say the losses involved equals
> > > > root L/C which must equal "1" Logic therefore tells you that both L
> > > > and C are loss leaders whether they be lumped or distributed and
> > > > therefore not part of the vectors that create

> > > > acceleration of charge.
>
> > > How do L and C contribute to loss? Since current and voltage for each is
> > > out of phase, the power lost is 0. How do you reconcile this discrepancy
> > > with your position?
>
> > >   Remember for legitimacy all formulae must
>
> > > > equal zero for equilibrium and therefore resolves into zero units. Now
> > > > if you are unaware where root L/C
> > > > appears in the study of radiation this is a good time to hit the books
> > > > to fill that gap.
>
> > > The books don't reflect your views. I'm trying to understand your
> > > position, not some book.
>
> > > > Best regards
> > > > Art Unwin KB9MZ xg
>
> > Tom. I don't trust you because of your prior posts but I am following
> > the norm where homework is for copying from the screen before
> > dismissal. As far as research goes their are many discussions
> > available that give support to my position so you have an avenue
> > to research for yourself without denial of mine.
> > If what you say is true regarding L and C then there is indeed a
> > problem. Provide a situation
> > where both inductors and capacitance do not provide losses and is
> > instrumental in creating propagation and I don't mind you providing an
> > excerpt from a book as to what is understood
> > as to how the losses incurred are part and parcel of the resultant
> > forces. Why not quote a formula on efficiency where the inefficiency
> > is not applied as a simple number but instead supplies the constituent
> > values that make up that number. I don't mind you quoting from the
> > books the same as I am doing. Think about it Tom, a capacitor
> > conserves energy and you know that an inductor provides a magnetic
> > field
> > by retaining half of what was supplied, Thus no amount of elements can
> > account for the disposition of all the power supplied.
> > Please note that I am not running away while missiles are being
> > thrown. I am stubborn ,and I am staying, and will respond, and I
> > certainly will not run away! I do thank you in your pursuit but in the
> > absence of believing me your answers will come from researching what I
> > state.
> > Why not start in stating what you do believe about my research ?
> > Gauss and Maxwell
> > Particles not waves
> > The actions of being diamagnetic
> > Levitation
> > Surface flow of current external to the radiator
> > and so on IN ORDER from my given description.

> > I need to see what base you are operating from
> > and what you do accept so I can build upon it.
> > I will stay with you. If you don't care about what I propose then take
> > leave of the thread because it lacks importance to you.
> > Best regards
> > Art
> > Regard
> > Art
>
> Joe
> I have to apologize with respect to my stance on root L/C which is a
> constant with respect to critical damping in R L C circuitry. For the
> life of me I cannot retrace my thinking in the matter or my line of
> thought, so that line of debate is just not on. However, if current
> removes itself from an element to travel in a medium on the surface
> and under a enclosing skin of particles
> we have removed unwanted resistances from the equation as the
> particles are in equilibrium
> and their accelleration is now measurable. At the same time the medium
> supplies a path for a ground vector.
> Again I apologize for the path I led you
> Regards
> Art

The following aproach is not necessarily what I had in mind but root
L.C. is directly involved
in attaining oscillation for a given frequency and thus involved in
the resistance implied in the generation of oscillation required for
radiation.
It is this resistance that represents the other resistance involved
other than radiation resistance and removes itself from the element
to the medium between the entrapped element and the particles thus
leaving the radiation resistance on its own for the generation of
charge. A small amount of resistance will remain in the element in the
form of recoil from the levitating vector but it is extremely small.
I also see this resistance as the spoiler for perpetual motion of a
pendulum but that is departing from the subject at hand.
and can be neglected.
Art

5138. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 19:43:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0a38f6a0-cdfe-4dfb-b6fc-582212b3d85e@v12g2000vbx.googlegroups.com>
Source record: 6288

On Dec 12, 7:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 12, 12:47 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 11, 10:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 11, 9:04 pm, joe <n...@domain.invalid> wrote:
>
> > > > Art Unwin wrote:
>
> > > > > Think about it Joe
> > > > > If you had an equation for efficiency it would be dimensionless.
>
> > > > It depends upon how efficiency is measured. My more efficient car gets
> > > > 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> > > > efficiency in terms of miles per gallon does not have a dimensionless
> > > > result.
>
> > > > A meaningful measure of the efficiency of a transmitting antenna may
> > > > relate to field strength per watt input, which is not dimensionless.
>
> > > > What is your equation?
>
> > > > > Typically you would have a portion in that equation that depicts
> > > > > perfection
> > > > > and also a portion depicting deviation from perfection.So the second
> > > > > portion points to what creates losses and the first part points to
> > > > > perfection.
>
> > > > OK, but what equation are you using for an antenna that has those
> > > > portions and where does L/C fit?
>
> > > > Now look at root L/C which points to the constitution of
>
> > > > > that which creates losses.
> > > > > Now ideally we would like this portion to be 1
> > > > > which states zero losses, an ideal situation.
>
> > > > Without providing your equation, we don't know how L/C fits. From what
> > > > you say it is just some term out of nowhere.
>
> > > > > Thus we can say the losses involved equals
> > > > > root L/C which must equal "1" Logic therefore tells you that both L

> > > > > and C are loss leaders whether they be lumped or distributed and
> > > > > therefore not part of the vectors that create
> > > > > acceleration of charge.
>
> > > > How do L and C contribute to loss? Since current and voltage for each is
> > > > out of phase, the power lost is 0. How do you reconcile this discrepancy
> > > > with your position?
>
> > > >   Remember for legitimacy all formulae must
>
> > > > > equal zero for equilibrium and therefore resolves into zero units. Now
> > > > > if you are unaware where root L/C
> > > > > appears in the study of radiation this is a good time to hit the books
> > > > > to fill that gap.
>
> > > > The books don't reflect your views. I'm trying to understand your
> > > > position, not some book.
>
> > > > > Best regards
> > > > > Art Unwin KB9MZ xg
>
> > > Tom. I don't trust you because of your prior posts but I am following
> > > the norm where homework is for copying from the screen before
> > > dismissal. As far as research goes their are many discussions
> > > available that give support to my position so you have an avenue
> > > to research for yourself without denial of mine.
> > > If what you say is true regarding L and C then there is indeed a
> > > problem. Provide a situation
> > > where both inductors and capacitance do not provide losses and is
> > > instrumental in creating propagation and I don't mind you providing an
> > > excerpt from a book as to what is understood
> > > as to how the losses incurred are part and parcel of the resultant
> > > forces. Why not quote a formula on efficiency where the inefficiency
> > > is not applied as a simple number but instead supplies the constituent
> > > values that make up that number. I don't mind you quoting from the
> > > books the same as I am doing. Think about it Tom, a capacitor
> > > conserves energy and you know that an inductor provides a magnetic
> > > field
> > > by retaining half of what was supplied, Thus no amount of elements can
> > > account for the disposition of all the power supplied.
> > > Please note that I am not running away while missiles are being
> > > thrown. I am stubborn ,and I am staying, and will respond, and I
> > > certainly will not run away! I do thank you in your pursuit but in the
> > > absence of believing me your answers will come from researching what I
> > > state.
> > > Why not start in stating what you do believe about my research ?
> > > Gauss and Maxwell
> > > Particles not waves
> > > The actions of being diamagnetic
> > > Levitation

> > > Surface flow of current external to the radiator
> > > and so on IN ORDER from my given description.
> > > I need to see what base you are operating from
> > > and what you do accept so I can build upon it.
> > > I will stay with you. If you don't care about what I propose then take
> > > leave of the thread because it lacks importance to you.
> > > Best regards
> > > Art
> > > Regard
> > > Art
>
> > Joe
> > I have to apologize with respect to my stance on root L/C which is a
> > constant with respect to critical damping in R L C circuitry. For the
> > life of me I cannot retrace my thinking in the matter or my line of
> > thought, so that line of debate is just not on. However, if current
> > removes itself from an element to travel in a medium on the surface
> > and under a enclosing skin of particles
> > we have removed unwanted resistances from the equation as the
> > particles are in equilibrium
> > and their accelleration is now measurable. At the same time the medium
> > supplies a path for a ground vector.
> > Again I apologize for the path I led you
> > Regards
> > Art
>
> The following aproach is not necessarily what I had in mind but root
> L.C. is directly involved
> in attaining oscillation for a given frequency and thus involved in
> the resistance implied in the generation of oscillation required for
> radiation.
> It is this resistance that represents the other resistance involved
> other than radiation resistance and removes itself from the element
> to the medium between the entrapped element and the particles thus
> leaving the radiation resistance on its own for the generation of
> charge. A small amount of resistance will remain in the element in the
> form of recoil from the levitating vector but it is extremely small.
> I also see this resistance as the spoiler for perpetual motion of a
> pendulum but that is departing from the subject at hand.
> and can be neglected.
> Art

don't worry we already neglect everything you say.

5139. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 20:25:59 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <6u2ag69osh00ug7ut26bq8d3bh8nm1m70s@4ax.com>
Source record: 6289

On 12 Dec 2010 13:59:06 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>The problem seems to be related to wave propagation... I need to test
>that a little bit more but... It is easier to receive radio broadcast
>during the night. I need to know what are the differences between night/
>day for wave propagation. What should I listen during the night and what
>I should better listen during daylight...

Hi Sï¿½bastien,

What you are talking about is common to DXing. Get yourself a globe
of the world. Light it up with an artificial "sun." The edge of the
dark/light should be half way between you and the transmitter you want
to hear. So, during the late day, your best signals are probably from
Eastern Europe, Turkey, and Asia. During the early-to-late night,
your best signals are probably from the Americas. During the late
afternoon to early evening you best signals are from the south or the
north.

>I need to know a little bit more about digital transmission modes... To
>be able to recognize digital patterns (on the waterfall display) to be
>able apply the good settings for decoding... Easy for CW... Easy for RTTY
>used by HAM... But what is the pattern for Meteo Faxes for example...?

When I used to teach RTTY there were only two tones. If modem
technology is any indication, that number has been raised and phase is
important.

>By the way... I searched for good free software to decode meteo faxes...
>But it seems not easy to find something free and easy to use... Do you
>know shere I could find something interesting?

Nope.

>My next tries will be on a multiple turns loops. With or without matching
>loop inside. I will try with simple wire but connection ribbon cables
>could be a good alternative... (like old hard drive ribbon cable)

This will reveal the "Law of Diminishing Returns" (the more you add,
the less you get back).

>I was wondering... It seems loop antennas are a never ending story. As
>far as I know, it seems there is no book that makes a good overview of
>the different loop designs, with accessible schematics for preamp or
>tuning stuff, how to avoid QRMs... There could be a very interesting area
>both for SWL and HAM...

Oh, I am sure there are many such books gathering dust on shelves.
Loops have been around for more than a century, and if they were such
a good idea, then everyone would be using them.

Well, at one time they were a good idea, and EVERYONE used them - when
we had transistor pocket radios with analog tuning. The ferrite
antenna was the king of antennas for the vast majority of radio
owners. Before the transistor radio and ferrites, every table radio
had a flat pancake loop antenna in the back of the radio behind all
the glowing tubes.

Oddly enough, no radios in this age have either of these antennas
anymore, and they still seem to pick up stations.

So, there you have a century of technical perspective on the topic.

>Perhaps the "Joe Carr's Loop Antenna Handbook" may be interesting, but it
>is quite expensive and an Amazon reviewer says it is not so
>interesting... What about the "Joe Carr's Receiving Antenna Handbook" ?

He is a respected author. I always look at the bad Amazon reviews to
see if something is terribly wrong with the product or terribly wrong
with the customer. Quite often the customer is disappointed because
that customer is stupid. If I encounter a smart customer that is
disappointed, I can well imagine all the good comments are not very
reliable.

The thing about all these -um- books is that many of them serve up old
wives' tales about low noise and other magical characteristics.
Remember the lessons of a century worth of experience with loop
antennas within an inch of the guts of any radio. That worked fine
for a billion radios and radios were not bought if they were "noisy."

The real science of low noise is found in the distance to the source.
Quite often it is your neighbor's aquarium heater that is noisy (the
most often complained of source of noise reported here). Your loop
sits in your shack and that aquarium is 10 Meters away. You switch to
your longwire that runs to the fence and the aquarium is 1 meter away.
Do I have to work out the math on that? Is the loop quieter because
of its magic design - or simply because it is 10 times further away
(20dB) from the noise?

We get writers here who pound the table because their magic loop in
the shack is noisy and their long wire 10M away in the back yard is
quiet. They have to be told to turn off the flourescent light in the
shack if they want their magic loop to work.
(Their magic loop low score on Amazon) = (stupid.)

73's
Richard Clark, KB7QHC

5140. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 21:28:32 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <a70b7086-83f7-46b9-9e97-e0732e058edc@r29g2000yqj.googlegroups.com>
Source record: 6290

```
On Dec 12, 1:43 pm, K1TTT <k1...@arrl.net> wrote:
> On Dec 12, 7:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
>
>
> > On Dec 12, 12:47 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > On Dec 11, 10:00 pm, Art Unwin <arthurun...@gmail.com> wrote:
>
> > > > On Dec 11, 9:04 pm, joe <n...@domain.invalid> wrote:
>
> > > > > Art Unwin wrote:
>
> > > > > > Think about it Joe
> > > > > > If you had an equation for efficiency it would be dimensionless.
>
> > > > > It depends upon how efficiency is measured. My more efficient car gets
> > > > > 30 MPG, My less efficient car gets 15 MPG. Any equation defining
> > > > > efficiency in terms of miles per gallon does not have a dimensionless
> > > > > result.
>
> > > > > A meaningful  measure of the efficiency of a transmitting antenna may
> > > > > relate to field strength per watt input, which is not dimensionless.
>
> > > > > What is your equation?
>
> > > > > > Typically you would have a portion in that equation that depicts
> > > > > > perfection
> > > > > > and also a portion depicting deviation from perfection.So the second
> > > > > > portion points to what creates losses and the first part points to
> > > > > > perfection.
>
> > > > > OK, but what equation are you using for an antenna that has those
> > > > > portions and where does L/C fit?
>
> > > > > Now look at root L/C which points to the constitution of
>
> > > > > > that which creates losses.
> > > > > > Now ideally we would like this portion to be 1
> > > > > > which states zero losses, an ideal situation.
>
> > > > > Without providing your equation, we don't know how L/C fits. From what
> > > > > you say it is just some term out of nowhere.
>
```

> > > > > > Thus we can say the losses involved equals
> > > > > > root L/C which must equal "1" Logic therefore tells you that both L
> > > > > > and C are loss leaders whether they be lumped or distributed and
> > > > > > therefore not part of the vectors that create
> > > > > > acceleration of charge.
>
> > > > > How do L and C contribute to loss? Since current and voltage for each is
> > > > > out of phase, the power lost is 0. How do you reconcile this discrepancy
> > > > > with your position?
>
> > > > >   Remember for legitimacy all formulae must
>
> > > > > > equal zero for equilibrium and therefore resolves into zero units. Now
> > > > > > if you are unaware where root L/C
> > > > > > appears in the study of radiation this is a good time to hit the books
> > > > > > to fill that gap.
>
> > > > > The books don't reflect your views. I'm trying to understand your
> > > > > position, not some book.
>
> > > > > > Best regards
> > > > > > Art Unwin KB9MZ xg
>
> > > > Tom. I don't trust you because of your prior posts but I am following
> > > > the norm where homework is for copying from the screen before
> > > > dismissal. As far as research goes their are many discussions
> > > > available that give support to my position so you have an avenue
> > > > to research for yourself without denial of mine.
> > > > If what you say is true regarding L and C then there is indeed a
> > > > problem. Provide a situation
> > > > where both inductors and capacitance do not provide losses and is
> > > > instrumental in creating propagation and I don't mind you providing an
> > > > excerpt from a book as to what is understood
> > > > as to how the losses incurred are part and parcel of the resultant
> > > > forces. Why not quote a formula on efficiency where the inefficiency
> > > > is not applied as a simple number but instead supplies the constituent
> > > > values that make up that number. I don't mind you quoting from the
> > > > books the same as I am doing. Think about it Tom, a capacitor
> > > > conserves energy and you know that an inductor provides a magnetic
> > > > field
> > > > by retaining half of what was supplied, Thus no amount of elements can
> > > > account for the disposition of all the power supplied.
> > > > Please note that I am not running away while missiles are being
> > > > thrown. I am stubborn ,and I am staying, and will respond, and I
> > > > certainly will not run away! I do thank you in your pursuit but in the
> > > > absence of believing me your answers will come from researching what I
> > > > state.
> > > > Why not start in stating what you do believe about my research ?
> > > > Gauss and Maxwell
> > > > Particles not waves

> > > > The actions of being diamagnetic
> > > > Levitation
> > > > Surface flow of current external to the radiator
> > > > and so on IN ORDER from my given description.
> > > > I need to see what base you are operating from
> > > > and what you do accept so I can build upon it.
> > > > I will stay with you. If you don't care about what I propose then take
> > > > leave of the thread because it lacks importance to you.
> > > > Best regards
> > > > Art
> > > > Regard
> > > > Art
>
> > > Joe
> > > I have to apologize with respect to my stance on root L/C which is a
> > > constant with respect to critical damping in R L C circuitry. For the
> > > life of me I cannot retrace my thinking in the matter or my line of
> > > thought, so that line of debate is just not on. However, if current
> > > removes itself from an element to travel in a medium on the surface
> > > and under a enclosing skin of particles
> > > we have removed unwanted resistances from the equation as the
> > > particles are in equilibrium
> > > and their accelleration is now measurable. At the same time the medium
> > > supplies a path for a ground vector.
> > > Again I apologize for the path I led you
> > > Regards
> > > Art
>
> > The following aproach is not necessarily what I had in mind but root
> > L.C. is directly involved
> > in attaining oscillation for a given frequency and thus involved in
> > the resistance implied in the generation of oscillation required for
> > radiation.
> > It is this resistance that represents the other resistance involved
> > other than radiation resistance and removes itself from the element
> > to the medium between the entrapped element and the particles thus
> > leaving the radiation resistance on its own for the generation of
> > charge. A small amount of resistance will remain in the element in the
> > form of recoil from the levitating vector but it is extremely small.
> > I also see this resistance as the spoiler for perpetual motion of a
> > pendulum but that is departing from the subject at hand.
> > and can be neglected.
> > Art
>
> don't worry we already neglect everything you say.

Well it is interesting to note that the oscillation of a radiater
inplanted the notion of a wave as the eye follows the change in
amplitude which led to the assumption that the medium entered after
leaving the radiator was the Aether of which the product of surface

wave came about.
Ofcource the medium entered is between the radiator and particle skin where one sees the optical effect on water. It is also interesting to note that element oscillations create a coefficient of discharge on current flow per Bernolli which creates our old friend of Eddy currents such that the two vectors of gravity and rotation continue to survive and where the separation of these two vectors produce light on collisions, but that is speculation on how equilibrium is restored
So as Einstein surmised, we followed the route of the two standard vectors or one depending on how you see it using boundary laws, from the containment of the Universe to light emmited from same. It is worthy of note that the helical twist model which represents the beginning of life is also represents the Standard Model as does the "curls" evident on a sea shell artifacts which simulates the equilibrium nature of the pancake antenna and that radiation can be explained by a "point action" (MoM) which also suggest that size or appature does not represent the path to maximum radiation ala the spiral or helical antenna in equilibrium.
Kraus was so close but the requirement of equilibrium (closed circuit) under boundary laws which he neglected brought him back to Earth.
A final note on the extension of Gauss
to the Maxwell equation. As for Einstein he correctly predicted the presence of the STD Model to radiation itself. A Genius no less

I came across a science dictionary of sorts by Eric Weinstein, the Nobel prize winner, which is the only reference that I have come across that verifies my explanation of the Gauss extension that everybody denies.
So if you are still rigid with respect to "waves":
you now have another person to rally against.
Regards to all
Art Unwin KB9MZ.....xg

5141. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 22:49:39 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <tigag6t5sagsqdlrbrtp1s3mv4almi8dns@4ax.com>
Source record: 6291

On Sun, 12 Dec 2010 17:32:53 -0000, jimp@specsol.spam.sux.com wrote:

>Registered User <n4jvp@ix.netcom.com> wrote:
>
>> Efficiency is a measure so it must have one or more dimensions
>
>Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>
>The efficiency of an antenna is the radiated power divided by the input
>power.

There are two dimensions in the calculation, radiated power and input power. Although the units of measure associated with the dimensional data may cancel the dimensional metadata doesn't.

80% is just a number where as 80% antenna efficiency provides meaning through the metadata. That metadata can also be properly expressed in terms of dimensions, the ratio of radiated power to input power is 80%. The units of measure may cancel but the dimensional metadata remains.

>
>Power divided by power has no dimensions.
>
>The efficiency of an engine is the mechanical energy it produces divided by
>the thermal energy of the fuel it uses.
>
>Energy divided by energy has no dimensions.

In both examples there are two dimensional values; the numerator and the denominator but the dimensional data as expressed contains no metadata. As a result the calculated measure is just a number with no meaning. Without metadata to describe the dimensional values, how can one determine which energy or power value is the numerator and which is the denominator? Energy divided by energy means it's a ratio so which is correct A/B or B/A? Until dimensional metadata is assigned the formula and its result have absolutely no meaning.

Don't confuse dimensions and dimensional metadata with units of measure. Dimensions contain data and the attributes of that data with UOM being a possible attribute. The descriptive value of the dimensional metadata remains even if the UOMs cancel in a calculation e.g. the ratio of radiated power to input power, no units just metadata. Without the metadata we're back to power divided by power yielding a meaningless number.

5142. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-12 23:11:40 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <3560ab1b-4a91-474e-87ff-268122e1ac01@m35g2000vbn.googlegroups.com>
Source record: 6292

On Dec 12, 4:49 pm, Registered User <n4...@ix.netcom.com> wrote:
> On Sun, 12 Dec 2010 17:32:53 -0000, j...@specsol.spam.sux.com wrote:
> >Registered User <n4...@ix.netcom.com> wrote:
>
> >> Efficiency is a measure so it must have one or more dimensions
>
> >Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>
> >The efficiency of an antenna is the radiated power divided by the input
> >power.
>
> There are two dimensions in the calculation, radiated power and input
> power. Although the units of measure associated with the dimensional
> data may cancel the dimensional metadata doesn't.
>
> 80% is just a number where as 80% antenna efficiency provides meaning
> through the metadata. That metadata can also be properly expressed in
> terms of dimensions, the ratio of radiated power to input power is
> 80%. The units of measure may cancel but the dimensional metadata
> remains.
>
>
>
> >Power divided by power has no dimensions.
>
> >The efficiency of an engine is the mechanical energy it produces divided by
> >the thermal energy of the fuel it uses.
>
> >Energy divided by energy has no dimensions.
>
> In both examples there are two dimensional values; the numerator and
> the denominator but the dimensional data as expressed contains no
> metadata. As a result the calculated measure is just a number with no
> meaning. Without metadata to describe the dimensional values, how can
> one determine which energy or power value is the numerator and which
> is the denominator? Energy divided by energy means it's a ratio so
> which is correct A/B or B/A? Until dimensional metadata is assigned
> the formula and its result have absolutely no meaning.
>
> Don't confuse dimensions and dimensional metadata with units of
> measure. Dimensions contain data and the attributes of that data with
> UOM being a possible attribute. The descriptive value of the
> dimensional metadata remains even if the UOMs cancel in a calculation
> e.g. the ratio of radiated power to input power, no units just

> metadata. Without the metadata we're back to power divided by power
> yielding a meaningless number.

I apologize in providing a 'ratio' as a meaningless number and thank
you for the research undertaken by you to alert the group of my
meaningless error useage. I have assumed, wrongly, that percentage
was digital
sampling process to obtain productive and a non productive ratio
digital comparison or ratio in the base form of 100. If you have some
metadata to spare I request that you insert them for the record such
that the theme "baffle gab" is carried on for future readers. I also
request that you share your particular expertise in this matter with
other groups recognizing we all will be the true loosers if you decide
to depart
but I for one is willing to provide the hardship presented by your
absence for the good of all.
Regards
Art

5143. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 00:13:10 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <m15gt7-lu7.ln1@mail.specsol.com>
Source record: 6293

Registered User <n4jvp@ix.netcom.com> wrote:
> On Sun, 12 Dec 2010 17:32:53 -0000, jimp@specsol.spam.sux.com wrote:
>
>>Registered User <n4jvp@ix.netcom.com> wrote:
>>
>>> Efficiency is a measure so it must have one or more dimensions
>>
>>Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>>
>>The efficiency of an antenna is the radiated power divided by the input
>>power.
>
> There are two dimensions in the calculation, radiated power and input
> power. Although the units of measure associated with the dimensional
> data may cancel the dimensional metadata doesn't.

x power/ y power = x/y

The units cancel to form a dimensionles, unitless, ratio.

This is grade school math.

The phrase "dimensional metadata" is meaningless babble.

--
Jim Pennino

Remove .spam.sux to reply.

5144. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 00:17:20 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <jmnag6ds6fctgpcrd6ud09q42dij5opu4l@4ax.com>
Source record: 6294

On Sun, 12 Dec 2010 15:11:40 -0800 (PST), Art Unwin
<arthurunwin@gmail.com> wrote:

>
>I apologize in providing a 'ratio' as a meaningless number and thank
>you for the research undertaken by you to alert the group of my
>meaningless error useage. I have assumed, wrongly, that percentage
>was digital
>sampling process

sampling of what?

> to obtain productive and a non productive ratio

ratio of what to what?

>digital comparison

digital comparison of what to what?

>or ratio in the base form of 100.

ration of what to what measured in what?

> If you have some
>metadata to spare I request that you insert them for the record such
>that the theme "baffle gab" is carried on for future readers. I also
>request that you share your particular expertise in this matter with
>other groups recognizing we all will be the true loosers if you decide
>to depart
>but I for one is willing to provide the hardship presented by your
>absence for the good of all.

Nothing you have written in this post makes sense but that should be
expected.

AFA metadata goes it is invaluable in data analysis applications
including antenna modeling programs. Every variable has its own
dimension containing potential values. Each combination of dimension
variables produces a measure known as a fact. Changing a single
dimensional value can change the value of the fact.

If one is modeling an antenna and changes the value of height above
ground, the calculated value of the measure will change. Height above
ground is only one of the many dimensional values used in the
calculation of the measure.

This all seems relevant because you question antenna modeling applications' calculations and how they are made.

I'll go back to lurking after I stretch so I can be looser. Enter OLAP or analysis cube for more information on metadata and its use in analysis applications.

5145. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 01:44:54 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <529590c2-236b-44ba-bec3-8e2e783d0839@l8g2000yqh.googlegroups.com>
Source record: 6295

On Dec 12, 6:17 pm, Registered User <n4...@ix.netcom.com> wrote:
> On Sun, 12 Dec 2010 15:11:40 -0800 (PST), Art Unwin
>
> <arthurun...@gmail.com> wrote:
>
> >I apologize in providing a 'ratio' as a meaningless number and thank
> >you for the research undertaken by you to alert the group of my
> >meaningless error useage. I have assumed, wrongly, that percentage
> >was digital
> >sampling process
>
> sampling of what?
>
> > to obtain productive and a non productive ratio
>
> ratio of what to what?
>
> >digital comparison
>
> digital comparison of what to what?
>
> >or ratio in the base form of 100.
>
> ration of what to what measured in what?
>
> > If you have some
> >metadata to spare I request that you insert them for the record such
> >that the theme "baffle gab" is carried on for future readers. I also
> >request that you share your particular expertise in this matter with
> >other groups recognizing we all will be the true loosers if you decide
> >to depart
> >but I for one is willing to provide the hardship presented by your
> >absence for the good of all.
>
> Nothing you have written in this post makes sense but that should be
> expected.
>
> AFA metadata goes it is invaluable in data analysis applications
> including antenna modeling programs. Every variable has its own
> dimension containing potential values. Each combination of dimension
> variables produces a measure known as a fact. Changing a single
> dimensional value can change the value of the fact.
>
> If one is modeling an antenna and changes the value of height above

> ground, the calculated value of the measure will change. Height above
> ground is only one of the many dimensional values used in the
> calculation of the measure.
>
> This all seems relevant because you question antenna modeling
> applications' calculations and how they are made.
>
> I'll go back to lurking after I stretch so I can be looser. Enter OLAP
> or analysis cube for more information on metadata and its use in
> analysis applications.

Metadata is just a expanded project for archival analysis. It is not
intended to revise language
in various countries so scientific works and patent will not be
withdrawn by non conformance with the program by being termed
"meaningless" with respect to the new project.
The project has had numorous changes and revisions and certainly has
not yet arrived in its final form in libraries and archival uses in
computer programs There are no plans as yet to announce that most
scientific data is to be revised or declared illegal , patents
overturned etc Or the institution of such projects where computer
language will be taught in schools as a globalization of the new
speech or verbal communication of the day in the way Fortran was once
considered since thinkers of the computer era are still in a state of
flux as to what should be imposed and who has the authority to change.
There will be many enforcement programmers milling around to spread
virus regarding the program but generally these self appointed
programmers and the like are just trying to impose a new regime on the
public at hand via the imposition
of expansion regulations in a global fashion

5146. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 02:06:12 UTC
From: david <none@nospam.com>
Message-ID: <ie3v2k$59v$1@news.eternal-september.org>
Source record: 6296

On Sun, 12 Dec 2010 13:28:32 -0800, Art Unwin rearranged some electrons to say:

> Well it is interesting to note that the oscillation of a radiater
> inplanted the notion of a wave as the eye follows the change in
> amplitude which led to the assumption that the medium entered after
> leaving the radiator was the Aether of which the product of surface wave
> came about.

I think Art has been replaced by a random word generator.

5147. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 12:17:55 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <213ced4b-368b-4f37-ab6e-24654a0a6f44@y23g2000yqd.googlegroups.com>
Source record: 6297

On Dec 13, 2:06 am, david <n...@nospam.com> wrote:
> On Sun, 12 Dec 2010 13:28:32 -0800, Art Unwin rearranged some electrons to
> say:
>
> > Well it is interesting to note that the oscillation of a radiater
> > inplanted the notion of a wave as the eye follows the change in
> > amplitude which led to the assumption that the medium entered after
> > leaving the radiator was the Aether of which the product of surface wave
> > came about.
>
> I think Art has been replaced by a random word generator.

no, that is classic art... pseudo random bafflegab that bears no
relation to the question that was posed and wanders off into unrelated
topics. the result of too much googling combined with lack of
knowledge and a need to explain the universe so he feels important.

5148. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 13:34:39 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <aq5cg6dkc351b5ogrjf4ajqdavvn2qspck@4ax.com>
Source record: 6298

On Mon, 13 Dec 2010 00:13:10 -0000, jimp@specsol.spam.sux.com wrote:

>Registered User <n4jvp@ix.netcom.com> wrote:
>> On Sun, 12 Dec 2010 17:32:53 -0000, jimp@specsol.spam.sux.com wrote:
>>
>>>Registered User <n4jvp@ix.netcom.com> wrote:
>>>
>>>> Efficiency is a measure so it must have one or more dimensions
>>>
>>>Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>>>
>>>The efficiency of an antenna is the radiated power divided by the input
>>>power.
>>
>> There are two dimensions in the calculation, radiated power and input
>> power. Although the units of measure associated with the dimensional
>> data may cancel the dimensional metadata doesn't.
>
>x power/ y power = x/y
>
>The units cancel to form a dimensionles, unitless, ratio.
>
>This is grade school math.
>
unitless yes and in the example given no metadata is provided. The
result of the calculation is just a meaningless number.

What of the equation :
x units of radiated power / y units of input power
The units cancel but the metadata doesn't. The result is a number that
describes the ratio of radiated power to input power.

>The phrase "dimensional metadata" is meaningless babble.

You can call it meaningless babble but in its simplest form
dimensional metadata provides meaning and additional information to
raw data. You have used dimensional metadata in this thread and
unknowningly use it every day. The phrase "80% antenna efficiency"
contains both a unitless number and dimensional metadata. In this case
the metadata describes the dimensional calculation used to produce the
result. Remove the dimensional metadata and the phrase becomes "80%".
The latter has no context and conveys no meaningful information
because it represents a ratio of two unknowns. It could be a ratio
representing antenna efficiency or the price of apples compared to the
price of oranges. Raw data without metadata is meaningless babble.

5149. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 18:02:55 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <fn3it7-2pf.ln1@mail.specsol.com>
Source record: 6299

Registered User <n4jvp@ix.netcom.com> wrote:
> On Mon, 13 Dec 2010 00:13:10 -0000, jimp@specsol.spam.sux.com wrote:
>
>>Registered User <n4jvp@ix.netcom.com> wrote:
>>> On Sun, 12 Dec 2010 17:32:53 -0000, jimp@specsol.spam.sux.com wrote:
>>>
>>>>Registered User <n4jvp@ix.netcom.com> wrote:
>>>>
>>>>> Efficiency is a measure so it must have one or more dimensions
>>>>
>>>>Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>>>>
>>>>The efficiency of an antenna is the radiated power divided by the input
>>>>power.
>>>
>>> There are two dimensions in the calculation, radiated power and input
>>> power. Although the units of measure associated with the dimensional
>>> data may cancel the dimensional metadata doesn't.
>>
>>x power/ y power = x/y
>>
>>The units cancel to form a dimensionles, unitless, ratio.
>>
>>This is grade school math.
>>
> unitless yes and in the example given no metadata is provided. The
> result of the calculation is just a meaningless number.
>
> What of the equation :
> x units of radiated power / y units of input power
> The units cancel but the metadata doesn't. The result is a number that
> describes the ratio of radiated power to input power.

2 watt / 10 watt = 0.2

No "metadata".

If the 2 watts is the radiated power of an antenna and the 10 watts is the
input power, the antenna efficiency is 0.2 or 20% since efficiency is normally
expressed as a percentage.

If the 2 watts is the output power of some circuit and the 10 watts is the
input power, the circuit has a gain of 0.2 or -7db.

If the input energy to a heat engine is 10 joules and the output energy is
2 joules, the efficiency of the engine is:

100 * (2 joule / 10 joule) = 20%

--
Jim Pennino

Remove .spam.sux to reply.

5150. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 18:29:24 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <495it7-2pf.ln1@mail.specsol.com>
Source record: 6300

Registered User <n4jvp@ix.netcom.com> wrote:

> You can call it meaningless babble but in its simplest form
> dimensional metadata provides meaning and additional information to
> raw data.

Yes, meaningless babble.

The phrase "antenna efficiency is 80%" says everything you need to know.

The phrase "engine efficiency is 35%" says everything yoy need to know.

And if antennas is the topic to begin with, the phrase "efficiency is 80%"
says everything you need to know.

No "dimensional metadata" required.

--
Jim Pennino

Remove .spam.sux to reply.

5151. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 19:14:19 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <27rcg6pvv2kn2sp46m1vjm1td080dv68rn@4ax.com>
Source record: 6301

On Mon, 13 Dec 2010 08:34:39 -0500, Registered User
<n4jvp@ix.netcom.com> wrote:

>The phrase "80% antenna efficiency"
>contains both a unitless number and dimensional metadata.

Actually, it doesn't - you are filling in the blanks with presumption.
Given that "efficiency" has been hijacked, the phrase above could as
easily relate to wind load. 80% survival rate at 100 mph. I could
well anticipate the counter-argument that "antenna efficiency" as you
intend it is power based, and I would counter-counter that power
delivered to the end user is far below 80% by 6 to 9 orders of
magnitude. There is nothing efficient about 79.999999% of the power
warming clouds and worms. HOWEVER, if the intended recipient receives
even that miniscule power with full quieting, then it is in fact 100%
efficient. In that regard, 80% and 100% as figures become meaningless
when they are both applied to the same statement of efficiency.

>In this case
>the metadata describes the dimensional calculation used to produce the
>result. Remove the dimensional metadata and the phrase becomes "80%".

No, efficiency in engineering terms has always been well understood
and does not embrace this adornment. In an earlier posting I've seen
the distinction of miles-per-gallon and passenger-miles-per-gallon
stretched over the argument to fit it to efficiency. No, these two
comparisons (and what you largely characterize as the need to include
Metadata) are "figure of merit" measures. FOM is also dimensionless
but demands the Metadata you speak of.

FOM could easily lead you into a very energy (the engineering
consideration) inefficient solution (due to social or economic
considerations, eg. passenger-miles-per-gallon).

73's
Richard Clark, KB7QHC

5152. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 19:32:24 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <1iqcg6taotibkjfstvjeipo42asq2vl7t0@4ax.com>
Source record: 6302

On Mon, 13 Dec 2010 18:02:55 -0000, jimp@specsol.spam.sux.com wrote:

>Registered User <n4jvp@ix.netcom.com> wrote:
>> On Mon, 13 Dec 2010 00:13:10 -0000, jimp@specsol.spam.sux.com wrote:
>>
>>>Registered User <n4jvp@ix.netcom.com> wrote:
>>>> On Sun, 12 Dec 2010 17:32:53 -0000, jimp@specsol.spam.sux.com wrote:
>>>>
>>>>>Registered User <n4jvp@ix.netcom.com> wrote:
>>>>>
>>>>>> Efficiency is a measure so it must have one or more dimensions
>>>>>
>>>>>Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>>>>>
>>>>>The efficiency of an antenna is the radiated power divided by the input
>>>>>power.
>>>>
>>>> There are two dimensions in the calculation, radiated power and input
>>>> power. Although the units of measure associated with the dimensional
>>>> data may cancel the dimensional metadata doesn't.
>>>
>>>x power/ y power = x/y
>>>
>>>The units cancel to form a dimensionles, unitless, ratio.
>>>
>>>This is grade school math.
>>>
>> unitless yes and in the example given no metadata is provided. The
>> result of the calculation is just a meaningless number.
>>
>> What of the equation :
>> x units of radiated power / y units of input power
>> The units cancel but the metadata doesn't. The result is a number that
>> describes the ratio of radiated power to input power.
>
>2 watt / 10 watt = 0.2
>
>No "metadata".
>
Yes no metadata beyond the UOM and when the UOMs cancel the result is
a bare number. Twenty percent of what?

>If the 2 watts is the radiated power of an antenna and the 10 watts is the
>input power, the antenna efficiency is 0.2 or 20% since efficiency is normally
>expressed as a percentage.

Now you're adding metadata to provide information about what the 0.2
or 20% means.

>If the 2 watts is the output power of some circuit and the 10 watts is the
>input power, the circuit has a gain of 0.2 or -7db.
>
>If the input energy to a heat engine is 10 joules and the output energy is
>2 joules, the efficiency of the engine is:
>
>100 * (2 joule / 10 joule) = 20%

A selected calculated expression provides a ratio which resolved to a
value of three-tenths. Which of the three previously shown
expressions, if any, was selected to produced the result 0.3?

A - antenna efficiency
B - engine efficiency
C - circuit efficiency
D - none of the above

It's a simple question with no metadata provided about the calculated
expression arguments and no metadata associated with the result. In a
nutshell, no metadata what so ever. If metadata is unimportant then
there should be no problem answering the question.

5153. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 19:42:33 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <d04e665b-2f8a-4a5e-9e91-61bffd3b85f4@r19g2000prm.googlegroups.com>
Source record: 6303

On Dec 13, 7:32 pm, Registered User <n4...@ix.netcom.com> wrote:
> On Mon, 13 Dec 2010 18:02:55 -0000, j...@specsol.spam.sux.com wrote:
> >Registered User <n4...@ix.netcom.com> wrote:
> >> On Mon, 13 Dec 2010 00:13:10 -0000, j...@specsol.spam.sux.com wrote:
>
> >>>Registered User <n4...@ix.netcom.com> wrote:
> >>>> On Sun, 12 Dec 2010 17:32:53 -0000, j...@specsol.spam.sux.com wrote:
>
> >>>>>Registered User <n4...@ix.netcom.com> wrote:
>
> >>>>>> Efficiency is a measure so it must have one or more dimensions
>
> >>>>>Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>
> >>>>>The efficiency of an antenna is the radiated power divided by the input
> >>>>>power.
>
> >>>> There are two dimensions in the calculation, radiated power and input
> >>>> power. Although the units of measure associated with the dimensional
> >>>> data may cancel the dimensional metadata doesn't.
>
> >>>x power/ y power = x/y
>
> >>>The units cancel to form a dimensionles, unitless, ratio.
>
> >>>This is grade school math.
>
> >> unitless yes and in the example given no metadata is provided. The
> >> result of the calculation is just a meaningless number.
>
> >> What of the equation :
> >>   x units of radiated power / y units of input power
> >> The units cancel but the metadata doesn't. The result is a number that
> >> describes the ratio of radiated power to input power.
>
> >2 watt / 10 watt = 0.2
>
> >No "metadata".
>
> Yes no metadata beyond the UOM and when the UOMs cancel the result is
> a bare number. Twenty percent of what?
>
> >If the 2 watts is the radiated power of an antenna and the 10 watts is the
> >input power, the antenna efficiency is 0.2 or 20% since efficiency is normally

> >expressed as a percentage.
>
> Now you're adding metadata to provide information about what the 0.2
> or 20% means.
>
> >If the 2 watts is the output power of some circuit and the 10 watts is the
> >input power, the circuit has a gain of 0.2 or -7db.
>
> >If the input energy to a heat engine is 10 joules and the output energy is
> >2 joules, the efficiency of the engine is:
>
> >100 * (2 joule / 10 joule) = 20%
>
> A selected calculated expression provides a ratio which resolved to a
> value of three-tenths. Which of the three previously shown
> expressions, if any, was selected to produced the result 0.3?
>
> A - antenna efficiency
> B - engine efficiency
> C - circuit efficiency
> D - none of the above
>
> It's a simple question with no metadata provided about the calculated
> expression arguments and no metadata associated with the result. In a
> nutshell, no metadata what so ever. If metadata is unimportant then
> there should be no problem answering the question.

the answer is 42

5154. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 19:51:07 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <b2ait7-3mg.ln1@mail.specsol.com>
Source record: 6304

```
Registered User <n4jvp@ix.netcom.com> wrote:
> On Mon, 13 Dec 2010 18:02:55 -0000, jimp@specsol.spam.sux.com wrote:
>
>>Registered User <n4jvp@ix.netcom.com> wrote:
>>> On Mon, 13 Dec 2010 00:13:10 -0000, jimp@specsol.spam.sux.com wrote:
>>>
>>>>Registered User <n4jvp@ix.netcom.com> wrote:
>>>>> On Sun, 12 Dec 2010 17:32:53 -0000, jimp@specsol.spam.sux.com wrote:
>>>>>
>>>>>>Registered User <n4jvp@ix.netcom.com> wrote:
>>>>>>
>>>>>>> Efficiency is a measure so it must have one or more dimensions
>>>>>>
>>>>>>Efficiency is a ratio usually expressed as a percentage and has no dimensions.
>>>>>>
>>>>>>The efficiency of an antenna is the radiated power divided by the input
>>>>>>power.
>>>>>
>>>>> There are two dimensions in the calculation, radiated power and input
>>>>> power. Although the units of measure associated with the dimensional
>>>>> data may cancel the dimensional metadata doesn't.
>>>>
>>>>x power/ y power = x/y
>>>>
>>>>The units cancel to form a dimensionles, unitless, ratio.
>>>>
>>>>This is grade school math.
>>>>
>>> unitless yes and in the example given no metadata is provided. The
>>> result of the calculation is just a meaningless number.
>>>
>>> What of the equation :
>>> x units of radiated power / y units of input power
>>> The units cancel but the metadata doesn't. The result is a number that
>>> describes the ratio of radiated power to input power.
>>
>>2 watt / 10 watt = 0.2
>>
>>No "metadata".
>>
> Yes no metadata beyond the UOM and when the UOMs cancel the result is
> a bare number. Twenty percent of what?

Have you the slightest clue what the word "context" means?
```

"Antenna efficiency is 20%" has all the information required and if the discussion is about antennas, "efficiency is 20%" has all the information required.

--
Jim Pennino

Remove .spam.sux to reply.

5155. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 21:01:30 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d0689aa$0$6280$426a74cc@news.free.fr>
Source record: 6305

On Sun, 12 Dec 2010 12:25:59 -0800, Richard Clark wrote:

> On 12 Dec 2010 13:59:06 GMT, Sébastien MEDARD <titi@tut.com> wrote:
>
> What you are talking about is common to DXing. Get yourself a globe of
> the world. Light it up with an artificial "sun." The edge of the
> dark/light should be half way between you and the transmitter you want
> to hear. So, during the late day, your best signals are probably from
> Eastern Europe, Turkey, and Asia. During the early-to-late night, your
> best signals are probably from the Americas. During the late afternoon
> to early evening you best signals are from the south or the north.

I understand better what is the purpose of this kind of map (on SDR-Radio.com software for example). Where you can see an OM, you are pretty sure to see this kind of map.

>>I need to know a little bit more about digital transmission modes... To
>>be able to recognize digital patterns (on the waterfall display) to be
>>able apply the good settings for decoding... Easy for CW... Easy for
>>RTTY used by HAM... But what is the pattern for Meteo Faxes for
>>example...?
>
> When I used to teach RTTY there were only two tones.

The reason why they call you OM ? :))

>>By the way... I searched for good free software to decode meteo faxes...
>>But it seems not easy to find something free and easy to use... Do you
>>know shere I could find something interesting?
>
> Nope.

OK. I will try that later... For now I get some problems to use Linrad with the SDR-IQ... Painful to boot on windows every time I want to listen to shortwaves... And using a virtual system is not very efficient on my old computer...

>>My next tries will be on a multiple turns loops. With or without
>>matching loop inside. I will try with simple wire but connection ribbon
>>cables could be a good alternative... (like old hard drive ribbon cable)
>
> This will reveal the "Law of Diminishing Returns" (the more you add, the
> less you get back).

Interesting. What would be the best ratio?

>>I was wondering... It seems loop antennas are a never ending story.
>
> So, there you have a century of technical perspective on the topic.

:))

>>Perhaps the "Joe Carr's Loop Antenna Handbook" may be interesting, but
>>it is quite expensive and an Amazon reviewer says it is not so
>>interesting... What about the "Joe Carr's Receiving Antenna Handbook" ?
>
> He is a respected author. I always look at the bad Amazon reviews to
> see if something is terribly wrong with the product or terribly wrong
> with the customer. Quite often the customer is disappointed because
> that customer is stupid. If I encounter a smart customer that is
> disappointed, I can well imagine all the good comments are not very
> reliable.

I will try to find one when they are cheaper.

> The thing about all these -um- books is that many of them serve up old
> wives' tales about low noise and other magical characteristics. Remember
> the lessons of a century worth of experience with loop antennas within
> an inch of the guts of any radio. That worked fine for a billion radios
> and radios were not bought if they were "noisy."

OK. But today we probably ask more to radios than yesterday, no?

> The real science of low noise is found in the distance to the source.

Lapalisse would have said exactly the same thing. He would have said that
the real science of good reception is found in the distance to the source
too :))

> Is the loop quieter because of its
> magic design - or simply because it is 10 times further away (20dB) from
> the noise?

OK for that.

> We get writers here who pound the table because their magic loop in the
> shack is noisy and their long wire 10M away in the back yard is quiet.
> They have to be told to turn off the flourescent light in the shack if
> they want their magic loop to work.
> (Their magic loop low score on Amazon) = (stupid.)

Lesson one = learned.

Thanks.

Sebastien.

5156. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-13 23:38:20 UTC
From: nm5k@wt.net
Message-ID: <a9fe049d-a75d-4064-ad62-2b2e7554fe2a@j32g2000prh.googlegroups.com>
Source record: 6306

On Dec 13, 3:01 pm, Sébastien MEDARD <t...@tut.com> wrote:

>
> > We get writers here who pound the table because their magic loop in the
> > shack is noisy and their long wire 10M away in the back yard is quiet.
> > They have to be told to turn off the flourescent light in the shack if
> > they want their magic loop to work.
> >   (Their magic loop low score on Amazon) = (stupid.)
>
> Lesson one = learned.
>
> Thanks.
>
> Sebastien.

One thing handy about a small loop is you can turn it to
null out the offending noise. Like Richard says, there is no
magical quality which provides lower noise vs any other
antenna. The real benefit is being about to turn it, usually
while in the listening position. If the loop is well balanced,
the nulls are quite sharp and deep and in many cases you
could make that nasty noise source vanish. You can also
turn it to receive multiple stations that are on the same
frequency. You null the one you want to get rid of.
But these type of loops are best suited for the low bands.
LW, MW are where they are best suited. You get much
better nulls off a ground wave signal, than you do one
that is propagated via skywave. So they tend to work
better at nulls in the daytime vs at night. At night, you
get a mix of ground and sky wave, and the nulls are not
as deep. In the day, I can make most ground wave
signals totally vanish by nulling them out.
These can be used in the SW bands, but don't expect
the deep nulls, being as most all SW will come via sky wave.
For general SWL, you are usually better off with the various
wire antennas. Random wires, dipoles, etc..
But I recommend a small loop for MW if you want the
ability to null noise or undesired stations.
Most of mine, I build from PVC tubing for the frames.
I have one in this room that is a diamond, 42 inches
per side. It's on a stand which allows it to rotate, and
it stands almost as tall as the ceiling. But they don't
have to be that big. I've got another round one that is
about 16 inches across, and it works very well too.
Just a tad less signal than the big one. But the s/n

ratio is much the same for the majority of the stations
listened to.
http://home.comcast.net/~nm5k/loop5.jpg
This is my usual favored method for building a low cost
MW loop. The hardest part to come by these days is
the variable cap. I dig them out of old radios, and old
analog tuning stereo receivers. Those are some of
the best ones to use, as they often have several
gangs which can be wired in parallel for more
capacitance, or deleted for less. For the upper
tuning ranges of the loop, it's best to delete most
of the gangs, and use one of the very small ones
by itself.
That way you get a smaller value, and will increase
the upper tuning range, vs just turning all the gangs
in parallel to the minimum setting. So I use switches
to do this quickly.
But if you can't find any old radios to acquire the
variable caps, you can buy them online from a few
places. I wouldn't use one any less than a dual
365pf BC cap. You can wire the two gangs together
for 730 pf. With careful loop turn design, you can
usually cover the whole MW BC band with one of
those. But I prefer the ones out of old stereo receivers.
They are even better, and can give a wider tuning
range. I think the one on my big loop has four or
five gangs, some being small and useful for upper
end tuning, if the other larger gangs are switched out.

5157. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 00:06:51 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <8kbdg618dtf4vre0c6hh415s8ikqsd1s5s@4ax.com>
Source record: 6307

On 13 Dec 2010 21:01:30 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>I understand better what is the purpose of this kind of map (on SDR-
>Radio.com software for example). Where you can see an OM, you are pretty
>sure to see this kind of map.

Hi Sï¿½bastien,

If you mean the "gray line" map - yes.

>> When I used to teach RTTY there were only two tones.
>
>The reason why they call you OM ? :))

Touchï¿½

>> This will reveal the "Law of Diminishing Returns" (the more you add, the
>> less you get back).
>
>Interesting. What would be the best ratio?

You mean the best number of turns? Depending upon band, maybe as many
as 6 to 10. One is good enough. There are many options to balance.
One correspondent here, years ago (silent key), wrote extensively on
this subject - google this group (or the internet) for Reg Edwards,
G4FGQ. For instance, google the keywords in:

RJELOOP1 *
Performance of Transceiving, single-turn, magloop antennas of various
regular shapes.

RJELOOP2 *
Performance of Transceiving, single-turn, magloop antennas of
rectangular shape.

RJELOOP3 *
Analysis of receiving, multi-turn, square, loop (or frame) antennas,
ELF to HF.

>I will try to find one when they are cheaper.

Try:
http://www.bookfinder.com/search/?author=&title=Joe+Carr%27s+Receiving+Antenna+Handbook&lang=en&isbn=&submit=Begin+search&new_used=*&destination=us&currency=USD&mode=basic&st=sr&ac=qr

>OK. But today we probably ask more to radios than yesterday, no?

No, probably less. Being an OM, (40 years ago) I also taught classes
for repair and maintenance of Collins' famous receiver, the R-390.
EVEN NOW (40 years later), this is probably the best receiver for its
price (and even two to three times its price).

>> The real science of low noise is found in the distance to the source.
>
>Lapalisse would have said exactly the same thing. He would have said that
>the real science of good reception is found in the distance to the source
>too :))

So, my comment was a lapalissade? Certainly.

73's
Richard Clark, KB7QHC

5158. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 00:31:49 UTC
From: tom <news4792@taring.org>
Message-ID: <4d06baf4$0$87582$8046368a@newsreader.iphouse.net>
Source record: 6308

On 12/12/2010 7:44 PM, Art Unwin wrote:
<snip>
>
> Metadata is just a expanded project for archival analysis. It is not
> intended to revise language
> in various countries so scientific works and patent will not be
> withdrawn by non conformance with the program by being termed
> "meaningless" with respect to the new project.
> The project has had numorous changes and revisions and certainly has
> not yet arrived in its final form in libraries and archival uses in
> computer programs There are no plans as yet to announce that most
> scientific data is to be revised or declared illegal , patents
> overturned etc Or the institution of such projects where computer
> language will be taught in schools as a globalization of the new
> speech or verbal communication of the day in the way Fortran was once
> considered since thinkers of the computer era are still in a state of
> flux as to what should be imposed and who has the authority to change.
> There will be many enforcement programmers milling around to spread
> virus regarding the program but generally these self appointed
> programmers and the like are just trying to impose a new regime on the
> public at hand via the imposition
> of expansion regulations in a global fashion

Folks, I think he's about due for a week or 3 disappearance again. The
white coated men can't be far away.

tom
K0TAR

5159. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 00:41:02 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8c48fb26-e22a-4f3e-96a0-3a0765db7f31@p1g2000yqm.googlegroups.com>
Source record: 6309

On Dec 14, 12:31 am, tom <news4...@taring.org> wrote:
> On 12/12/2010 7:44 PM, Art Unwin wrote:
> <snip>
>
>
>
>
>
> > Metadata is just a expanded project for archival analysis. It is not
> > intended to revise language
> > in various countries so scientific works and patent will not be
> > withdrawn by non conformance with the program by being termed
> > "meaningless" with respect to the new project.
> > The project has had numorous changes and revisions and certainly has
> > not yet arrived in its final form in libraries and archival uses in
> > computer programs There are no plans as yet to announce that most
> > scientific data is to be revised or declared illegal , patents
> > overturned etc Or the institution of such projects where computer
> > language will be taught in schools as a globalization of the new
> > speech or verbal communication of the day in the way Fortran was once
> > considered since thinkers of the computer era are still in a state of
> > flux as to what should be imposed and who has the authority to change.
> > There will be many enforcement programmers milling around to spread
> > virus regarding the program but generally these self appointed
> > programmers and the like are just trying to impose a new regime on the
> > public at hand via the imposition
> > of expansion regulations in a global fashion
>
> Folks, I think he's about due for a week or 3 disappearance again. The
> white coated men can't be far away.
>
> tom
> K0TAR

yeah, that's pretty far over the top even for art.

5160. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 02:38:19 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <pnbdg6dkag33lli89vvab3o8qt9ufn246s@4ax.com>
Source record: 6310

On Mon, 13 Dec 2010 11:14:19 -0800, Richard Clark <kb7qhc@comcast.net>
wrote:

>On Mon, 13 Dec 2010 08:34:39 -0500, Registered User
><n4jvp@ix.netcom.com> wrote:
>
>>The phrase "80% antenna efficiency"
>>contains both a unitless number and dimensional metadata.
>
>Actually, it doesn't - you are filling in the blanks with presumption.
>Given that "efficiency" has been hijacked, the phrase above could as
>easily relate to wind load.

Precisely why metadata is so important to describe data.The generic
term 'antenna efficiency' does not provide enough metadata to describe
the true meaning of the measure. Some additional metadata turns the
potentially ambiguous "80% antenna efficiency" into "the antenna's
radiated power divided by its input power results in a percentage of
80%"

> 80% survival rate at 100 mph. I could
>well anticipate the counter-argument that "antenna efficiency" as you
>intend it is power based, and I would counter-counter that power
>delivered to the end user is far below 80% by 6 to 9 orders of
>magnitude. There is nothing efficient about 79.999999% of the power
>warming clouds and worms. HOWEVER, if the intended recipient receives
>even that miniscule power with full quieting, then it is in fact 100%
>efficient. In that regard, 80% and 100% as figures become meaningless
>when they are both applied to the same statement of efficiency.
>
>>In this case
>>the metadata describes the dimensional calculation used to produce the
>>result. Remove the dimensional metadata and the phrase becomes "80%".
>
>No, efficiency in engineering terms has always been well understood
>and does not embrace this adornment.

There are many different expressions that calculate efficiency, so
wouldn't the adornment be the context aka metadata which describes the
expression used to calculate the result? If I write "80% efficiency"on
a piece of paper and hand it to an engineer, how can the engineer know
what is 80% efficient without any metadata being provided?

> In an earlier posting I've seen
>the distinction of miles-per-gallon and passenger-miles-per-gallon
>stretched over the argument to fit it to efficiency. No, these two

>comparisons (and what you largely characterize as the need to include
>Metadata) are "figure of merit" measures. FOM is also dimensionless
>but demands the Metadata you speak of.
>
The last sentence tells me you get it. 80% is a FOM with no UOM so for
the value to have meaning metadata must be provided.

>FOM could easily lead you into a very energy (the engineering
>consideration) inefficient solution (due to social or economic
>considerations, eg. passenger-miles-per-gallon).
>

The whole purpose of data analysis is to aid in effective decision
making. Pretty much every decision requires some sort of trade-off.
By analyzing and reporting upon the expression results that different
combinations of dimension values provide, more information can be
provided the decision makers. The decision makers are the ones who
specify what data they wish to view (both dimensional data and the
results of multi-dimensional expressions) and the ways they wish to
view that data. All that information is placed in a multi-dimensional
cube. The decision makers can slice and dice the cube data into how
they want to view the data and determine relative FOMs for multiple
scenarios. Their questions are which scenario model is most suitable
and does the most suitable scenario provide a valid solution for the
problem.

AFA the passenger-miles-per-gallon calculation, the decision makers
could decide that more information is needed in terms of greater
granularity. Changing the granularity to stop-by-stop and providing
associated passenger and fuel consumption statistics will deliver more
information. The decision makers could also ask for data that
provides social and economic information. The multidimensional PMPG
expression could be changed to include the social and economic data.
More data and metadata provides more information.

The form of desired social and economic data and how it is to be used
in expressions is something the decision makers must determine. All
the information about required cube dimensions, attributes,
hierarchies, expressions, etc, are determined by the decision makers.
Those who build and load the structure have little say in the matter,
the decision makers decide what data and metadata is useful for their
analysis.

An image of a simple multi-dimensional cube can be seen at
http://books.google.com/books?id=AFC4IbrEJuAC&lpg=PA21&dq=Delivering%20Business%20Intellig
ence%20with%20MSSQL%202008&pg=PA34#v=onepage&q&f=false
or
http://tinyurl.com/337m42z

Each dimensional intersection uses the same multi-dimensional
expression (MDX) to provide a result. The UOM at each intersection is
the same (dollars) but the results differ because different sets of

dimensional arguments are used in the MDX. The amount $3,156,834 is raw data but the cube tells us it represents total sales for the Mythic World product in 2005. That metadata must be used to describe the result if that value is to be used away from the cube.

Change that cube's dimensions and the values they contain to be antenna-related, add a few more antenna-related dimensions and attributes, create some expressions that use dimension values to provide appropriate measures and the structure could be used for antenna analysis.

5161. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 04:58:30 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <m9qdg6trhmah4sd598dqvdo98fuu2uj1dt@4ax.com>
Source record: 6311

On Mon, 13 Dec 2010 18:29:24 -0000, jimp@specsol.spam.sux.com wrote:

>Registered User <n4jvp@ix.netcom.com> wrote:
>
>> You can call it meaningless babble but in its simplest form
>> dimensional metadata provides meaning and additional information to
>> raw data.
>
>Yes, meaningless babble.
>
>The phrase "antenna efficiency is 80%" says everything you need to know.
>
The phrase "antenna efficiency" is non-dimensional metadata
and to quote Mr. Clark
-quote-
Given that "efficiency" has been hijacked, the phrase above could as
easily relate to wind load.
-end quote-

>The phrase "engine efficiency is 35%" says everything yoy need to know.
>
You assume that engine efficiency is only and always measured in terms
of energy efficiency. Engine efficiency can mean different things to
different people. There are other expression which are also used to
calculate engine efficiency including fuel economy, power-to-weight
ratio, and power-to-displacement ratio. The respective UOMs for those
measures can be expressed as miles per gallon, hp/lb. and hp/cid. For
these calculated measures "engine efficiency is 35%" is not suitable
result.

>And if antennas is the topic to begin with, the phrase "efficiency is 80%"
>says everything you need to know.
>
>No "dimensional metadata" required.

Non-dimensional metadata (antennas) is provided as the topic and the
result contains non-dimensional metadata (efficiency) as well. As Mr.
Clark pointed out "antenna efficiency" is a potentially ambiguous
phrase. Such ambiguity can be eliminated by using dimensional metadata
e.g. antenna efficiency calculated as the ratio of power radiated to
input power. With the measure qualified as such an individual reading
a summarized report doesn't have to be party to yesterday's discussion
or know the exact expression used in the calculation or infer meaning
from ambiguous metadata such as "antenna efficiency". The phrase "80%
antenna efficiency calculated as the ratio of power radiated to input

power" explicitly provides the proper meaning to the calculated result.

5162. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 06:19:32 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ksejt7-pnl.ln1@mail.specsol.com>
Source record: 6312

Registered User <n4jvp@ix.netcom.com> wrote:
> On Mon, 13 Dec 2010 18:29:24 -0000, jimp@specsol.spam.sux.com wrote:
>
>>Registered User <n4jvp@ix.netcom.com> wrote:
>>
>>> You can call it meaningless babble but in its simplest form
>>> dimensional metadata provides meaning and additional information to
>>> raw data.
>>
>>Yes, meaningless babble.
>>
>>The phrase "antenna efficiency is 80%" says everything you need to know.
>>
> The phrase "antenna efficiency" is non-dimensional metadata
> and to quote Mr. Clark
> -quote-
> Given that "efficiency" has been hijacked, the phrase above could as
> easily relate to wind load.
> -end quote-
>
>>The phrase "engine efficiency is 35%" says everything yoy need to know.
>>
> You assume that engine efficiency is only and always measured in terms
> of energy efficiency.

Of course it is, that is basic physics and the definition.

Other things are other things and have qualifiers, especially if they use
the word "efficiency", otherwise it is just ignorant babble.

<snip babble>

>>And if antennas is the topic to begin with, the phrase "efficiency is 80%"
>>says everything you need to know.
>>
>>No "dimensional metadata" required.
>
> Non-dimensional metadata (antennas) is provided as the topic and the
> result contains non-dimensional metadata (efficiency) as well.

The phrase in question is "dimensional metadata" and now you are switching
the subject to "non-dimensional metadata".

> As Mr.
> Clark pointed out "antenna efficiency" is a potentially ambiguous
> phrase. Such ambiguity can be eliminated by using dimensional metadata

> e.g. antenna efficiency calculated as the ratio of power radiated to
> input power.

The definition of antenna efficiency is the "ratio of power radiated to
input power", so stating that is redundant.

<snip more babble>

I suppose you argue with writers of recipes when they say "add 1 cup of milk"
saying they should say "pour milk into a measuring cup, that is a cup used for
measuring liquids, until the milk level, that is the level in the measuring
cup, reaches the mark on the measuring that denotes the meauring cup contains
1 fluid cup, in this case the milk, then pour the contents of the measuring
cup into..".

--
Jim Pennino

Remove .spam.sux to reply.

5163. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 06:26:02 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <q8fjt7-pnl.ln1@mail.specsol.com>
Source record: 6313

Registered User <n4jvp@ix.netcom.com> wrote:

> Precisely why metadata is so important to describe data.The generic
> term 'antenna efficiency' does not provide enough metadata to describe
> the true meaning of the measure.

Only if you are an ignorant twit that doesn't understand the definition
of "antenna efficiency" and has to have the definition spelled out to
him each and every time.

<snip babble>

> There are many different expressions that calculate efficiency, so
> wouldn't the adornment be the context aka metadata which describes the
> expression used to calculate the result? If I write "80% efficiency"on
> a piece of paper and hand it to an engineer, how can the engineer know
> what is 80% efficient without any metadata being provided?

The engineer would use the context under which the number was provided.

If there were no context the engineer would be justified in concluding that
you were a babbling mental case.

<snip long winded, grandiose babble>

--
Jim Pennino

Remove .spam.sux to reply.

5164. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 11:02:35 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <fn2eg6logfmeqeqo03rpnjidovo2a043mj@4ax.com>
Source record: 6314

On Mon, 13 Dec 2010 19:51:07 -0000, jimp@specsol.spam.sux.com wrote:
>
>Have you the slightest clue what the word "context" means?
>
Absolutely, yes I do. In turn I will ask do you know what metadata is?
Both dimensional and non-dimensional metadata provide context.
Non-dimensional metadata doesn't always provide the complete context.
Dimensional metadata provides greater context because it conveys more
detailed and specific information.

>"Antenna efficiency is 20%" has all the information required and if the
>discussion is about antennas, "efficiency is 20%" has all the information
>required.

When data gets shared among multiple parties it is important that a
ubiquitous language is used to describe the data and its meaning.
Antenna efficiency can be measured in different ways so the phrase
"antenna efficiency is 20%" can mean different things to different
people. All it takes is one person to ask how antenna efficiency is
calculated and it will become evident that context of "antenna
efficiency is 20%" does not provide all the information required.

When the result's context includes dimensional metadata such as "20%
antenna efficiency calculated as the ratio of power radiated to input
power" the meaning of the result and how it was calculated both are
self-evident. Everyone knows what the result means because the
dimensional metadata provides an exact definition. A mere ten words of
dimensional metadata adds succinct clarity to the result. What makes
such clarity unnecessary and/or undesirable?

5165. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 13:37:25 UTC
From: nm5k@wt.net
Message-ID: <36051144-34b0-49ee-94a5-f3b284fe9f05@o14g2000prn.googlegroups.com>
Source record: 6315

On Dec 14, 5:02 am, Registered User <n4...@ix.netcom.com> wrote:

>
> When data gets shared among multiple parties it is important that a
> ubiquitous language is used to describe the data and its meaning.
> Antenna efficiency can be measured in different ways so the phrase
> "antenna efficiency is 20%" can mean different things to different
> people. All it takes is one person to ask how antenna efficiency is
> calculated and it will become evident that context of "antenna
> efficiency is 20%" does not provide all the information required.

Sure it does. Antenna efficiency is only calculated one way,
so there is no need to add extra "metadata".
Like one said, it's redundant. In the real world, most will
calculate the efficiency of the antenna system as a whole.
Not just the radiating element/s. Even a very small dipole
vs wavelength will radiate nearly all power that is applied to it.
The trick is actually getting the power to it without it turning to
heat.
So most will calculate the whole system, otherwise it's
fairly pointless. But the efficiency of even a whole system is
still calculated the same way, and no extra "metadata" is
required to calculate. It's still the ratio between the output of the
transmitter, vs the RF actually radiated. It's been that way
since they invented dirt, so who needs metadata? I sure don't.

I'm starting to think it must be a full moon...
It's been getting pretty silly around here lately.. :/

5166. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 16:54:40 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <g3kkt7-keq.ln1@mail.specsol.com>
Source record: 6316

Registered User <n4jvp@ix.netcom.com> wrote:
> On Mon, 13 Dec 2010 19:51:07 -0000, jimp@specsol.spam.sux.com wrote:
>>
>>Have you the slightest clue what the word "context" means?
>>
> Absolutely, yes I do. In turn I will ask do you know what metadata is?

Yes, and I also know what ice cream is, both of which are irrelevant to
the discussion.

> Both dimensional and non-dimensional metadata provide context.
> Non-dimensional metadata doesn't always provide the complete context.
> Dimensional metadata provides greater context because it conveys more
> detailed and specific information.

Only an ignorant, anal retentive git would think that basic terminology has
to be defined each and every time it is used.

>>"Antenna efficiency is 20%" has all the information required and if the
>>discussion is about antennas, "efficiency is 20%" has all the information
>>required.
>
> When data gets shared among multiple parties it is important that a
> ubiquitous language is used to describe the data and its meaning.

The term "antenna efficiency" has a unique and unambigous definition and
can be found in any textbook on electromagnetics.

<snip long winded babble>

--
Jim Pennino

Remove .spam.sux to reply.

5167. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 17:17:40 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cd3844f8-6c5a-4de3-8055-ddd293af8fef@o4g2000yqd.googlegroups.com>
Source record: 6317

On 13 dic, 22:01, Sébastien MEDARD <t...@tut.com> wrote:
> On Sun, 12 Dec 2010 12:25:59 -0800, Richard Clark wrote:
> > On 12 Dec 2010 13:59:06 GMT, Sébastien MEDARD <t...@tut.com> wrote:
>
> > What you are talking about is common to DXing. Get yourself a globe of
> > the world. Light it up with an artificial "sun." The edge of the
> > dark/light should be half way between you and the transmitter you want
> > to hear. So, during the late day, your best signals are probably from
> > Eastern Europe, Turkey, and Asia. During the early-to-late night, your
> > best signals are probably from the Americas. During the late afternoon
> > to early evening you best signals are from the south or the north.
>
> I understand better what is the purpose of this kind of map (on SDR-
> Radio.com software for example). Where you can see an OM, you are pretty
> sure to see this kind of map.
>
> >>I need to know a little bit more about digital transmission modes... To
> >>be able to recognize digital patterns (on the waterfall display) to be
> >>able apply the good settings for decoding... Easy for CW... Easy for
> >>RTTY used by HAM... But what is the pattern for Meteo Faxes for
> >>example...?
>
> > When I used to teach RTTY there were only two tones.
>
> The reason why they call you OM ? :))
>
> >>By the way... I searched for good free software to decode meteo faxes...
> >>But it seems not easy to find something free and easy to use... Do you
> >>know shere I could find something interesting?
>
> > Nope.
>
> OK. I will try that later... For now I get some problems to use Linrad
> with the SDR-IQ... Painful to boot on windows every time I want to listen
> to shortwaves... And using a virtual system is not very efficient on my
> old computer...
>
> >>My next tries will be on a multiple turns loops. With or without
> >>matching loop inside. I will try with simple wire but connection ribbon
> >>cables could be a good alternative... (like old hard drive ribbon cable)
>
> > This will reveal the "Law of Diminishing Returns" (the more you add, the
> > less you get back).
>

> Interesting. What would be the best ratio?
>
> >>I was wondering... It seems loop antennas are a never ending story.
>
> > So, there you have a century of technical perspective on the topic.
>
> :))
>
> >>Perhaps the "Joe Carr's Loop Antenna Handbook" may be interesting, but
> >>it is quite expensive and an Amazon reviewer says it is not so
> >>interesting... What about the "Joe Carr's Receiving Antenna Handbook" ?
>
> > He is a respected author. I always look at the bad Amazon reviews to
> > see if something is terribly wrong with the product or terribly wrong
> > with the customer. Quite often the customer is disappointed because
> > that customer is stupid. If I encounter a smart customer that is
> > disappointed, I can well imagine all the good comments are not very
> > reliable.
>
> I will try to find one when they are cheaper.
>
> > The thing about all these -um- books is that many of them serve up old
> > wives' tales about low noise and other magical characteristics. Remember
> > the lessons of a century worth of experience with loop antennas within
> > an inch of the guts of any radio. That worked fine for a billion radios
> > and radios were not bought if they were "noisy."
>
> OK. But today we probably ask more to radios than yesterday, no?
>
> > The real science of low noise is found in the distance to the source.
>
> Lapalisse would have said exactly the same thing. He would have said that
> the real science of good reception is found in the distance to the source
> too :))
>
> > Is the loop quieter because of its
> > magic design - or simply because it is 10 times further away (20dB) from
> > the noise?
>
> OK for that.
>
> > We get writers here who pound the table because their magic loop in the
> > shack is noisy and their long wire 10M away in the back yard is quiet.
> > They have to be told to turn off the flourescent light in the shack if
> > they want their magic loop to work.
> >   (Their magic loop low score on Amazon) = (stupid.)
>
> Lesson one = learned.
>
> Thanks.

>
> Sebastien.

Hello Sébastien,

Regarding tuning, loops and (long) wires.

You probably locate your antenna far away from noise sources. Mostly this is not where your receiver is.

In case of tuned loops, you have to go outside for each significant frequency change. This is one of the reasons that I want my preselection / tuning adjacent to the receiver.

Loops aren't magic things. A wire from your balcony to a tree or other tie point may give better S/N ratio then the best (expensive) loop on your balcony.

Best matching isn't required for reception at HF, just sufficient signal. In case of a PI tuning / preselector device, you need to adjust two capacitors in case of major frequency change. In my opinion a single capacitor device is more pleasant to use.

(deep) Nulls in the radiation pattern at low frequency (AM BC and below) are the main benefit of the loop if you are willing to change the orientation frequently when tuning across the bands. At increasing frequency, the nulls are less pronounced because of propagation issues. Off course a small horizontally oriented dipole has also figure-of-eight radiation pattern, but polarization isn't good for AM BC and lower.

For experimentation / comparison, I used a 1m diameter non-tuned loop in the attic with preselection / tuning adjacent to the receiver. In most cases a 5 m outdoor wire with same preselector and receiver gives similar or better S/N ratio. This may be because of the attic has mains wiring and I didn't want to go to the attic for reorientation of the loop.

If you want to experiment with some long wire (unbalanced) antennas, make sure to have a ground (counterpoise) provision outside; otherwise your coaxial cable will be part of the antenna. This may result in more interference from indoor sources.

Whether or not you have sufficient signal from your antenna is easy to check. Listen to a known station. Tune your preselector to maximum signal. Now tune to a free frequency close to your station's frequency so that you hear noise. Remove the antenna, the audio noise should be less now.

If you use a tapped coil preselector (like the one in my link), and have sufficient noise from the antenna, you may even change the taps. The preselector will give more insertion loss, but it will be more selective also. This can be of use when you have strong signals in your neighborhood. Because of portability, I frequently use an AOR

AR8200. Without preselection, such a wide band receiver is useless
with an external antenna.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely

5168. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 18:22:09 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <fb622733-ab5e-4376-a259-2207827acd4f@m37g2000vbn.googlegroups.com>
Source record: 6318

On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> Registered User <n4...@ix.netcom.com> wrote:
> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >>Have you the slightest clue what the word "context" means?
>
> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> Yes, and I also know what ice cream is, both of which are irrelevant to
> the discussion.
>
> > Both dimensional and non-dimensional metadata provide context.
> > Non-dimensional metadata doesn't always provide the complete context.
> > Dimensional metadata provides greater context because it conveys more
> > detailed and specific information.
>
> Only an ignorant, anal retentive git would think that basic terminology has
> to be defined each and every time it is used.
>
> >>"Antenna efficiency is 20%" has all the information required and if the
> >>discussion is about antennas, "efficiency is 20%" has all the information
> >>required.
>
> > When data gets shared among multiple parties it is important that a
> > ubiquitous language is used to describe the data and its meaning.
>
> The term "antenna efficiency" has a unique and unambigous definition and
> can be found in any textbook on electromagnetics.

really? i don't see either 'efficiency' or 'antenna efficiency' in
either my 2nd edition of jackson's classical electrodynamics, or
ramo,whinnery, and van duzer's fields and waves in communication
electronics... if you know where those terms might be defined in
either of those please let me know, maybe the indexes aren't complete
or something.

5169. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 18:24:14 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <0scfg61g6pdv9jp18bh8cvuuotvu7g36l7@4ax.com>
Source record: 6319

On Tue, 14 Dec 2010 05:37:25 -0800 (PST), nm5k@wt.net wrote:

>On Dec 14, 5:02ï¿½am, Registered User <n4...@ix.netcom.com> wrote:
>
>>
>> When data gets shared among multiple parties it is important that a
>> ubiquitous language is used to describe the data and its meaning.
>> Antenna efficiency can be measured in different ways so the phrase
>> "antenna efficiency is 20%" can mean different things to different
>> people. All it takes is one person to ask how antenna efficiency is
>> calculated and it will become evident that context of "antenna
>> efficiency is 20%" does not provide all the information required.
>
>Sure it does. Antenna efficiency is only calculated one way,
>so there is no need to add extra "metadata".

Funny thing, when working parabolic antennas antenna efficiency and
aperture efficiency are used interchangeably.

5170. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 18:27:03 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <34980b83-d5c6-4892-bba5-99b5f59d95f8@j3g2000vbi.googlegroups.com>
Source record: 6320

On Dec 14, 10:54 am, j...@specsol.spam.sux.com wrote:
> Registered User <n4...@ix.netcom.com> wrote:
> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >>Have you the slightest clue what the word "context" means?
>
> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> Yes, and I also know what ice cream is, both of which are irrelevant to
> the discussion.
>
> > Both dimensional and non-dimensional metadata provide context.
> > Non-dimensional metadata doesn't always provide the complete context.
> > Dimensional metadata provides greater context because it conveys more
> > detailed and specific information.
>
> Only an ignorant, anal retentive git would think that basic terminology has
> to be defined each and every time it is used.
>
> >>"Antenna efficiency is 20%" has all the information required and if the
> >>discussion is about antennas, "efficiency is 20%" has all the information
> >>required.
>
> > When data gets shared among multiple parties it is important that a
> > ubiquitous language is used to describe the data and its meaning.
>
> The term "antenna efficiency" has a unique and unambigous definition and
> can be found in any textbook on electromagnetics.
>
> <snip long winded babble>
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

Gentlemen
This metadata project is only about substituting a machine for a human
being. Human beings have a brain and it is not necessary to overload a
brain with information that the brain does not require to function.

5171. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 18:41:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <7bqkt7-o7r.ln1@mail.specsol.com>
Source record: 6322

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
>> Registered User <n4...@ix.netcom.com> wrote:
>> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >>Have you the slightest clue what the word "context" means?
>>
>> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>>
>> Yes, and I also know what ice cream is, both of which are irrelevant to
>> the discussion.
>>
>> > Both dimensional and non-dimensional metadata provide context.
>> > Non-dimensional metadata doesn't always provide the complete context.
>> > Dimensional metadata provides greater context because it conveys more
>> > detailed and specific information.
>>
>> Only an ignorant, anal retentive git would think that basic terminology has
>> to be defined each and every time it is used.
>>
>> >>"Antenna efficiency is 20%" has all the information required and if the
>> >>discussion is about antennas, "efficiency is 20%" has all the information
>> >>required.
>>
>> > When data gets shared among multiple parties it is important that a
>> > ubiquitous language is used to describe the data and its meaning.
>>
>> The term "antenna efficiency" has a unique and unambigous definition and
>> can be found in any textbook on electromagnetics.
>
> really? i don't see either 'efficiency' or 'antenna efficiency' in
> either my 2nd edition of jackson's classical electrodynamics, or
> ramo,whinnery, and van duzer's fields and waves in communication
> electronics... if you know where those terms might be defined in
> either of those please let me know, maybe the indexes aren't complete
> or something.

So change "any textbook" to "many textbooks".

--
Jim Pennino

Remove .spam.sux to reply.

5172. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 18:43:26 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <efqkt7-o7r.ln1@mail.specsol.com>
Source record: 6321

Registered User <n4jvp@ix.netcom.com> wrote:
> On Tue, 14 Dec 2010 05:37:25 -0800 (PST), nm5k@wt.net wrote:
>
>>On Dec 14, 5:02 am, Registered User <n4...@ix.netcom.com> wrote:
>>
>>>
>>> When data gets shared among multiple parties it is important that a
>>> ubiquitous language is used to describe the data and its meaning.
>>> Antenna efficiency can be measured in different ways so the phrase
>>> "antenna efficiency is 20%" can mean different things to different
>>> people. All it takes is one person to ask how antenna efficiency is
>>> calculated and it will become evident that context of "antenna
>>> efficiency is 20%" does not provide all the information required.
>>
>>Sure it does. Antenna efficiency is only calculated one way,
>>so there is no need to add extra "metadata".
>
> Funny thing, when working parabolic antennas antenna efficiency and
> aperture efficiency are used interchangeably.

Regisered User and some other guy arrive at a gas station at the same time.

Other guy: "Fill'er up."

Regisered User: "Remove the gas cap, that is the covering device on the gas tank, that is the tank, which is an enclosure, which holds the gasoline for this car, that is a private passenger vehicle, and dispense gasoline from your pump, that is the mechanism that dispenses gasoline, into the tank, that is the tank intended to hold gasoline, until the fluid, in this case gasoline, level, which is the fluid air, which is 78.1% nitorgen, 20.9% oxygen, 0.9% argon and less than .1% other trace gases, interface, which forms because we are on a planet with positive gravity, reaches the top, that is the uppper most part, of the gasoline tank which holds the gasoline."

This is followed by a 20 minute dissertation on which way to turn the gas cap to get it on and off, an explanation of how the percentages of the various gasses than make up air are measured, the origin and history of the gallon, and the value of the dollar relative to a loaf of bread in 1937.

--
Jim Pennino

Remove .spam.sux to reply.

5173. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 19:47:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <efa6ba1d-931a-415c-9fe6-6115b4faf2bc@15g2000vbz.googlegroups.com>
Source record: 6323

On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> Registered User <n4...@ix.netcom.com> wrote:
> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >>Have you the slightest clue what the word "context" means?
>
> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> Yes, and I also know what ice cream is, both of which are irrelevant to
> the discussion.
>
> > Both dimensional and non-dimensional metadata provide context.
> > Non-dimensional metadata doesn't always provide the complete context.
> > Dimensional metadata provides greater context because it conveys more
> > detailed and specific information.
>
> Only an ignorant, anal retentive git would think that basic terminology has
> to be defined each and every time it is used.
>
> >>"Antenna efficiency is 20%" has all the information required and if the
> >>discussion is about antennas, "efficiency is 20%" has all the information
> >>required.
>
> > When data gets shared among multiple parties it is important that a
> > ubiquitous language is used to describe the data and its meaning.
>
> The term "antenna efficiency" has a unique and unambigous definition and
> can be found in any textbook on electromagnetics.

really? i don't see either 'efficiency' or 'antenna efficiency' in
either my 2nd edition of jackson's classical electrodynamics, or
ramo,whinnery, and van duzer's fields and waves in communication
electronics... if you know where those terms might be defined in
either of those please let me know, maybe the indexes aren't complete
or something.

5174. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 20:06:00 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a08a9ac8-5e05-4914-b21f-c4eebb28406a@u3g2000vbj.googlegroups.com>
Source record: 6324

```
On Dec 14, 6:41 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> >> Registered User <n4...@ix.netcom.com> wrote:
> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >>Have you the slightest clue what the word "context" means?
>
> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> >> Yes, and I also know what ice cream is, both of which are irrelevant to
> >> the discussion.
>
> >> > Both dimensional and non-dimensional metadata provide context.
> >> > Non-dimensional metadata doesn't always provide the complete context.
> >> > Dimensional metadata provides greater context because it conveys more
> >> > detailed and specific information.
>
> >> Only an ignorant, anal retentive git would think that basic terminology has
> >> to be defined each and every time it is used.
>
> >> >>"Antenna efficiency is 20%" has all the information required and if the
> >> >>discussion is about antennas, "efficiency is 20%" has all the information
> >> >>required.
>
> >> > When data gets shared among multiple parties it is important that a
> >> > ubiquitous language is used to describe the data and its meaning.
>
> >> The term "antenna efficiency" has a unique and unambigous definition and
> >> can be found in any textbook on electromagnetics.
>
> > really?  i don't see either 'efficiency' or 'antenna efficiency' in
> > either my 2nd edition of jackson's classical electrodynamics, or
> > ramo,whinnery, and van duzer's fields and waves in communication
> > electronics... if you know where those terms might be defined in
> > either of those please let me know, maybe the indexes aren't complete
> > or something.
>
> So change "any textbook" to "many textbooks".
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.
```

well, i kept looking.. arrl antenna book doesn't have it, but mine is rather old maybe more recent ones have it.

aha! found efficiency in the ieee handbook of antenna design... but it has subtopics:
aperture
beam
cassegrain
cross-polar
depolarisation in offset reflectors
illumination
offset antennas
polarisation
radiation

now exactly which definition do you consider the 'unique and unambiguous' one??

5175. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 20:10:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3ivkt7-4sr.ln1@mail.specsol.com>
Source record: 6326

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
>> Registered User <n4...@ix.netcom.com> wrote:
>> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >>Have you the slightest clue what the word "context" means?
>>
>> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>>
>> Yes, and I also know what ice cream is, both of which are irrelevant to
>> the discussion.
>>
>> > Both dimensional and non-dimensional metadata provide context.
>> > Non-dimensional metadata doesn't always provide the complete context.
>> > Dimensional metadata provides greater context because it conveys more
>> > detailed and specific information.
>>
>> Only an ignorant, anal retentive git would think that basic terminology has
>> to be defined each and every time it is used.
>>
>> >>"Antenna efficiency is 20%" has all the information required and if the
>> >>discussion is about antennas, "efficiency is 20%" has all the information
>> >>required.
>>
>> > When data gets shared among multiple parties it is important that a
>> > ubiquitous language is used to describe the data and its meaning.
>>
>> The term "antenna efficiency" has a unique and unambigous definition and
>> can be found in any textbook on electromagnetics.
>
> really? i don't see either 'efficiency' or 'antenna efficiency' in
> either my 2nd edition of jackson's classical electrodynamics, or
> ramo,whinnery, and van duzer's fields and waves in communication
> electronics... if you know where those terms might be defined in
> either of those please let me know, maybe the indexes aren't complete
> or something.

First book I pick up, Electromagnetics by Kraus and Carver.

So change "any textbook" to "many textbooks".

--
Jim Pennino

Remove .spam.sux to reply.

5176. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 20:15:00 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <n3ffg6t4l619att9lskdmh35dv47fdujtj@4ax.com>
Source record: 6325

On Mon, 13 Dec 2010 21:38:19 -0500, Registered User
<n4jvp@ix.netcom.com> wrote:

>>>The phrase "80% antenna efficiency"
>>>contains both a unitless number and dimensional metadata.
>>
>>Actually, it doesn't - you are filling in the blanks with presumption.
>>Given that "efficiency" has been hijacked, the phrase above could as
>>easily relate to wind load.
>
>Precisely why metadata is so important to describe data.

So, by this you agree that your original metadata was not useful. As
for it being "dimensional" there was nothing dimensional expressed nor
offered by you afterward in further elaboration.

>The whole purpose of data analysis is to aid in effective decision
>making.

Metadata is useful in Figure of Merit and such is the entirety of your
argument.

Unfortunately, the only thing revealed here is that your metadata is a
portmanteau word covering an infinite regression of refining
statements. We would be better served in consideration of the Figure
of Merit side of the discussion where many could easily discard a lot
of metadata deadwood.

That is the practice of engineering.

Compounding unfortune, Art is incapable of providing weighted values
to make progress in any discussion. There is no Figure of Merit
consideration, there is only the combinatorial explosion of
possibilities. That has lead us through the dimensions of 180 meter
wavelengths to the sub nanometer relativistic effects of nuclear
physics - all treated with equal importance such that practicality has
been debased.

This is the Art of science fiction, metaphysics, or religion.

73's
Richard Clark, KB7QHC

5177. Re: Folded Dipole Antenna

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 20:25:16 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <q8kfg6ll862k41mvjcghtsndgu2bmfh4tk@4ax.com>
Source record: 6327

On Tue, 14 Dec 2010 06:19:35 +0000, frankieNrosie
<frankieNrosie.74d06b8@radiobanter.com> wrote:

>> i use the diode as the switch to reconfigure the freq..later on i will
>> upload the figure of proposed antenna-
>>
>> I have not the vaguest idea what that is about. "The diode"?

>diode is use as a switch to vary the length of the driven element..
>so, if i got many length of the driven element, thus i'll have many
>freq..
>do u understand me?

I understand what you write, but not why you choose this arrangement.
I can guess many configurations, but your goal is obscure.

Inventive to say the least.

Conventional antenna design already has passive solutions for your
active element requirement and they stand the chance of reducing the
risks inherent in putting a diode into an antenna structure for
switching its length.

73's
Richard Clark, KB7QHC

5178. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 20:26:56 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <gh0lt7-l0s.ln1@mail.specsol.com>
Source record: 6329

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 14, 6:41 pm, j...@specsol.spam.sux.com wrote:
>> K1TTT <k1...@arrl.net> wrote:
>> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
>> >> Registered User <n4...@ix.netcom.com> wrote:
>> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >> >>Have you the slightest clue what the word "context" means?
>>
>> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>>
>> >> Yes, and I also know what ice cream is, both of which are irrelevant to
>> >> the discussion.
>>
>> >> > Both dimensional and non-dimensional metadata provide context.
>> >> > Non-dimensional metadata doesn't always provide the complete context.
>> >> > Dimensional metadata provides greater context because it conveys more
>> >> > detailed and specific information.
>>
>> >> Only an ignorant, anal retentive git would think that basic terminology has
>> >> to be defined each and every time it is used.
>>
>> >> >>"Antenna efficiency is 20%" has all the information required and if the
>> >> >>discussion is about antennas, "efficiency is 20%" has all the information
>> >> >>required.
>>
>> >> > When data gets shared among multiple parties it is important that a
>> >> > ubiquitous language is used to describe the data and its meaning.
>>
>> >> The term "antenna efficiency" has a unique and unambigous definition and
>> >> can be found in any textbook on electromagnetics.
>>
>> > really? i don't see either 'efficiency' or 'antenna efficiency' in
>> > either my 2nd edition of jackson's classical electrodynamics, or
>> > ramo,whinnery, and van duzer's fields and waves in communication
>> > electronics... if you know where those terms might be defined in
>> > either of those please let me know, maybe the indexes aren't complete
>> > or something.
>>
>> So change "any textbook" to "many textbooks".
>>
>> --
>> Jim Pennino
>>

>> Remove .spam.sux to reply.
>
> well, i kept looking.. arrl antenna book doesn't have it, but mine is
> rather old maybe more recent ones have it.
>
> aha! found efficiency in the ieee handbook of antenna design... but
> it has subtopics:
> aperture
> beam
> cassegrain
> cross-polar
> depolarisation in offset reflectors
> illumination
> offset antennas
> polarisation
> radiation
>
> now exactly which definition do you consider the 'unique and
> unambiguous' one??

The one that one normally means when not using a qualifier, radiation.

--
Jim Pennino

Remove .spam.sux to reply.

5179. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 20:28:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <a3fb7881-bb9c-4e73-a4a6-46a429eb134a@k30g2000vbn.googlegroups.com>
Source record: 6328

On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> >> Registered User <n4...@ix.netcom.com> wrote:
> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >>Have you the slightest clue what the word "context" means?
>
> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> >> Yes, and I also know what ice cream is, both of which are irrelevant to
> >> the discussion.
>
> >> > Both dimensional and non-dimensional metadata provide context.
> >> > Non-dimensional metadata doesn't always provide the complete context.
> >> > Dimensional metadata provides greater context because it conveys more
> >> > detailed and specific information.
>
> >> Only an ignorant, anal retentive git would think that basic terminology has
> >> to be defined each and every time it is used.
>
> >> >>"Antenna efficiency is 20%" has all the information required and if the
> >> >>discussion is about antennas, "efficiency is 20%" has all the information
> >> >>required.
>
> >> > When data gets shared among multiple parties it is important that a
> >> > ubiquitous language is used to describe the data and its meaning.
>
> >> The term "antenna efficiency" has a unique and unambigous definition and
> >> can be found in any textbook on electromagnetics.
>
> > really? i don't see either 'efficiency' or 'antenna efficiency' in
> > either my 2nd edition of jackson's classical electrodynamics, or
> > ramo,whinnery, and van duzer's fields and waves in communication
> > electronics... if you know where those terms might be defined in
> > either of those please let me know, maybe the indexes aren't complete
> > or something.
>
> First book I pick up, Electromagnetics by Kraus and Carver.
>
> So change "any textbook" to "many textbooks".
>
> --
> Jim Pennino

>
> Remove .spam.sux to reply.

but your basic point still fails... the definition of efficiency is not universal, unique, nor unambiguous since it is not in ALL textbooks, nor is it a simple single definition, as my list of qualifiers in the ieee handbook illustrates.... oh, and those many definitions are not just restating the same thing, they are VERY different definitions depending on the aspect of the antenna you are studying.

5180. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 20:53:14 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <q22lt7-05s.ln1@mail.specsol.com>
Source record: 6330

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
>> K1TTT <k1...@arrl.net> wrote:
>> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
>> >> Registered User <n4...@ix.netcom.com> wrote:
>> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >> >>Have you the slightest clue what the word "context" means?
>>
>> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>>
>> >> Yes, and I also know what ice cream is, both of which are irrelevant to
>> >> the discussion.
>>
>> >> > Both dimensional and non-dimensional metadata provide context.
>> >> > Non-dimensional metadata doesn't always provide the complete context.
>> >> > Dimensional metadata provides greater context because it conveys more
>> >> > detailed and specific information.
>>
>> >> Only an ignorant, anal retentive git would think that basic terminology has
>> >> to be defined each and every time it is used.
>>
>> >> >>"Antenna efficiency is 20%" has all the information required and if the
>> >> >>discussion is about antennas, "efficiency is 20%" has all the information
>> >> >>required.
>>
>> >> > When data gets shared among multiple parties it is important that a
>> >> > ubiquitous language is used to describe the data and its meaning.
>>
>> >> The term "antenna efficiency" has a unique and unambigous definition and
>> >> can be found in any textbook on electromagnetics.
>>
>> > really? i don't see either 'efficiency' or 'antenna efficiency' in
>> > either my 2nd edition of jackson's classical electrodynamics, or
>> > ramo,whinnery, and van duzer's fields and waves in communication
>> > electronics... if you know where those terms might be defined in
>> > either of those please let me know, maybe the indexes aren't complete
>> > or something.
>>
>> First book I pick up, Electromagnetics by Kraus and Carver.
>>
>> So change "any textbook" to "many textbooks".
>>
>> --

>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> but your basic point still fails... the definition of efficiency is
> not universal, unique, nor unambiguous since it is not in ALL
> textbooks, nor is it a simple single definition, as my list of
> qualifiers in the ieee handbook illustrates.... oh, and those many
> definitions are not just restating the same thing, they are VERY
> different definitions depending on the aspect of the antenna you are
> studying.

The fact that it is not in all textbooks is irrelvant.

Not everything is in all textbooks of any kind.

There are many scientific and engineering terms that can have qualifiers
to denote specificity.

And in most every case there is a qualified term that is in most common
use and is commonly used without the qualifier.

Every engineer I know when discusssing antennas in general that say "antenna
efficieny" mean "antenna radiation efficiency".

The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
to "antenna radiation efficiency".

For most of the links of the 7,000,000 or so when you search for "antenna
efficieny" you come to a link that refers to "antenna radiation efficiency".

--
Jim Pennino

Remove .spam.sux to reply.

5181. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 21:07:17 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4221d561-0fb0-4333-b337-1f2c7cbb84ce@m35g2000vbn.googlegroups.com>
Source record: 6331

```
On Dec 14, 8:53 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
> >> K1TTT <k1...@arrl.net> wrote:
> >> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> >> >> Registered User <n4...@ix.netcom.com> wrote:
> >> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >> >>Have you the slightest clue what the word "context" means?
>
> >> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> >> >> Yes, and I also know what ice cream is, both of which are irrelevant to
> >> >> the discussion.
>
> >> >> > Both dimensional and non-dimensional metadata provide context.
> >> >> > Non-dimensional metadata doesn't always provide the complete context.
> >> >> > Dimensional metadata provides greater context because it conveys more
> >> >> > detailed and specific information.
>
> >> >> Only an ignorant, anal retentive git would think that basic terminology has
> >> >> to be defined each and every time it is used.
>
> >> >> >>"Antenna efficiency is 20%" has all the information required and if the
> >> >> >>discussion is about antennas, "efficiency is 20%" has all the information
> >> >> >>required.
>
> >> >> > When data gets shared among multiple parties it is important that a
> >> >> > ubiquitous language is used to describe the data and its meaning.
>
> >> >> The term "antenna efficiency" has a unique and unambigous definition and
> >> >> can be found in any textbook on electromagnetics.
>
> >> > really?  i don't see either 'efficiency' or 'antenna efficiency' in
> >> > either my 2nd edition of jackson's classical electrodynamics, or
> >> > ramo,whinnery, and van duzer's fields and waves in communication
> >> > electronics... if you know where those terms might be defined in
> >> > either of those please let me know, maybe the indexes aren't complete
> >> > or something.
>
> >> First book I pick up, Electromagnetics by Kraus and Carver.
>
> >> So change "any textbook" to "many textbooks".
>
```

> >> --
> >> Jim Pennino
>
> >> Remove .spam.sux to reply.
>
> > but your basic point still fails... the definition of efficiency is
> > not universal, unique, nor unambiguous since it is not in ALL
> > textbooks, nor is it a simple single definition, as my list of
> > qualifiers in the ieee handbook illustrates.... oh, and those many
> > definitions are not just restating the same thing, they are VERY
> > different definitions depending on the aspect of the antenna you are
> > studying.
>
> The fact that it is not in all textbooks is irrelvant.
>
> Not everything is in all textbooks of any kind.
>
> There are many scientific and engineering terms that can have qualifiers
> to denote specificity.
>
> And in most every case there is a qualified term that is in most common
> use and is commonly used without the qualifier.
>
> Every engineer I know when discusssing antennas in general that say "antenna
> efficieny" mean "antenna radiation efficiency".
>
> The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
> to "antenna radiation efficiency".
>
> For most of the links of the 7,000,000 or so when you search for "antenna
> efficieny" you come to a link that refers to "antenna radiation efficiency".
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

ah, so you have performed a contextual statistical analysis on 7M
links in the last half hour... thats pretty good processing. what you
got for a computer there?

5182. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 21:25:22 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <2v3lt7-6fs.ln1@mail.specsol.com>
Source record: 6332

```
K1TTT <k1ttt@arrl.net> wrote:
> On Dec 14, 8:53 pm, j...@specsol.spam.sux.com wrote:
>> K1TTT <k1...@arrl.net> wrote:
>> > On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
>> >> K1TTT <k1...@arrl.net> wrote:
>> >> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
>> >> >> Registered User <n4...@ix.netcom.com> wrote:
>> >> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >> >> >>Have you the slightest clue what the word "context" means?
>>
>> >> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>>
>> >> >> Yes, and I also know what ice cream is, both of which are irrelevant to
>> >> >> the discussion.
>>
>> >> >> > Both dimensional and non-dimensional metadata provide context.
>> >> >> > Non-dimensional metadata doesn't always provide the complete context.
>> >> >> > Dimensional metadata provides greater context because it conveys more
>> >> >> > detailed and specific information.
>>
>> >> >> Only an ignorant, anal retentive git would think that basic terminology has
>> >> >> to be defined each and every time it is used.
>>
>> >> >> >>"Antenna efficiency is 20%" has all the information required and if the
>> >> >> >>discussion is about antennas, "efficiency is 20%" has all the information
>> >> >> >>required.
>>
>> >> >> > When data gets shared among multiple parties it is important that a
>> >> >> > ubiquitous language is used to describe the data and its meaning.
>>
>> >> >> The term "antenna efficiency" has a unique and unambigous definition and
>> >> >> can be found in any textbook on electromagnetics.
>>
>> >> > really?  i don't see either 'efficiency' or 'antenna efficiency' in
>> >> > either my 2nd edition of jackson's classical electrodynamics, or
>> >> > ramo,whinnery, and van duzer's fields and waves in communication
>> >> > electronics... if you know where those terms might be defined in
>> >> > either of those please let me know, maybe the indexes aren't complete
>> >> > or something.
>>
>> >> First book I pick up, Electromagnetics by Kraus and Carver.
>>
>> >> So change "any textbook" to "many textbooks".
```

>>
>> >> --
>> >> Jim Pennino
>>
>> >> Remove .spam.sux to reply.
>>
>> > but your basic point still fails... the definition of efficiency is
>> > not universal, unique, nor unambiguous since it is not in ALL
>> > textbooks, nor is it a simple single definition, as my list of
>> > qualifiers in the ieee handbook illustrates.... oh, and those many
>> > definitions are not just restating the same thing, they are VERY
>> > different definitions depending on the aspect of the antenna you are
>> > studying.
>>
>> The fact that it is not in all textbooks is irrelvant.
>>
>> Not everything is in all textbooks of any kind.
>>
>> There are many scientific and engineering terms that can have qualifiers
>> to denote specificity.
>>
>> And in most every case there is a qualified term that is in most common
>> use and is commonly used without the qualifier.
>>
>> Every engineer I know when discusssing antennas in general that say "antenna
>> efficieny" mean "antenna radiation efficiency".
>>
>> The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
>> to "antenna radiation efficiency".
>>
>> For most of the links of the 7,000,000 or so when you search for "antenna
>> efficieny" you come to a link that refers to "antenna radiation efficiency".
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> ah, so you have performed a contextual statistical analysis on 7M
> links in the last half hour... thats pretty good processing. what you
> got for a computer there?

No, I looked at the first four and all of them were referring to "antenna
radiation efficiency".

Then I scanned the summaries that Google gives for the first page of hits
and found that all but one referred to "antenna radiation efficiency".

The one exception was on a page about satellite calculations and they
were referring to "antenna aperature efficieny", as would be expected from
the context.

--
Jim Pennino

Remove .spam.sux to reply.

5183. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 21:58:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <5e93937e-1720-414a-b168-b43b9ed85da5@15g2000vbz.googlegroups.com>
Source record: 6333

```
On Dec 14, 9:25 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 14, 8:53 pm, j...@specsol.spam.sux.com wrote:
> >> K1TTT <k1...@arrl.net> wrote:
> >> > On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
> >> >> K1TTT <k1...@arrl.net> wrote:
> >> >> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> >> >> >> Registered User <n4...@ix.netcom.com> wrote:
> >> >> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >> >> >>Have you the slightest clue what the word "context" means?
>
> >> >> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> >> >> >> Yes, and I also know what ice cream is, both of which are irrelevant to
> >> >> >> the discussion.
>
> >> >> >> > Both dimensional and non-dimensional metadata provide context.
> >> >> >> > Non-dimensional metadata doesn't always provide the complete context.
> >> >> >> > Dimensional metadata provides greater context because it conveys more
> >> >> >> > detailed and specific information.
>
> >> >> >> Only an ignorant, anal retentive git would think that basic terminology has
> >> >> >> to be defined each and every time it is used.
>
> >> >> >> >"Antenna efficiency is 20%" has all the information required and if the
> >> >> >> >discussion is about antennas, "efficiency is 20%" has all the information
> >> >> >> >required.
>
> >> >> >> > When data gets shared among multiple parties it is important that a
> >> >> >> > ubiquitous language is used to describe the data and its meaning.
>
> >> >> >> The term "antenna efficiency" has a unique and unambigous definition and
> >> >> >> can be found in any textbook on electromagnetics.
>
> >> >> > really?  i don't see either 'efficiency' or 'antenna efficiency' in
> >> >> > either my 2nd edition of jackson's classical electrodynamics, or
> >> >> > ramo,whinnery, and van duzer's fields and waves in communication
> >> >> > electronics... if you know where those terms might be defined in
> >> >> > either of those please let me know, maybe the indexes aren't complete
> >> >> > or something.
>
> >> >> First book I pick up, Electromagnetics by Kraus and Carver.
>
```

> >> >> So change "any textbook" to "many textbooks".
>
> >> >> --
> >> >> Jim Pennino
>
> >> >> Remove .spam.sux to reply.
>
> >> > but your basic point still fails... the definition of efficiency is
> >> > not universal, unique, nor unambiguous since it is not in ALL
> >> > textbooks, nor is it a simple single definition, as my list of
> >> > qualifiers in the ieee handbook illustrates.... oh, and those many
> >> > definitions are not just restating the same thing, they are VERY
> >> > different definitions depending on the aspect of the antenna you are
> >> > studying.
>
> >> The fact that it is not in all textbooks is irrelvant.
>
> >> Not everything is in all textbooks of any kind.
>
> >> There are many scientific and engineering terms that can have qualifiers
> >> to denote specificity.
>
> >> And in most every case there is a qualified term that is in most common
> >> use and is commonly used without the qualifier.
>
> >> Every engineer I know when discusssing antennas in general that say "antenna
> >> efficieny" mean "antenna radiation efficiency".
>
> >> The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
> >> to "antenna radiation efficiency".
>
> >> For most of the links of the 7,000,000 or so when you search for "antenna
> >> efficieny" you come to a link that refers to "antenna radiation efficiency".
>
> >> --
> >> Jim Pennino
>
> >> Remove .spam.sux to reply.
>
> > ah, so you have performed a contextual statistical analysis on 7M
> > links in the last half hour... thats pretty good processing. what you
> > got for a computer there?
>
> No, I looked at the first four and all of them were referring to "antenna
> radiation efficiency".
>
> Then I scanned the summaries that Google gives for the first page of hits
> and found that all but one referred to "antenna radiation efficiency".
>
> The one exception was on a page about satellite calculations and they

> were referring to "antenna aperature efficieny", as would be expected from
> the context.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

oh, so from skimming a dozen links and only finding one who's apparent reference wasn't what you were looking for that makes 'most' of the other 7M fit your definition also. i know that polling works for politicians to declare that they are going to win by only asking a few hundred out of millions, but at least they don't just ask the first few people they meet on the street and assume that they represent the rest of the country.

5184. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 22:36:54 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <658lt7-5vs.ln1@mail.specsol.com>
Source record: 6334

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 14, 9:25 pm, j...@specsol.spam.sux.com wrote:
>> K1TTT <k1...@arrl.net> wrote:
>> > On Dec 14, 8:53 pm, j...@specsol.spam.sux.com wrote:
>> >> K1TTT <k1...@arrl.net> wrote:
>> >> > On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
>> >> >> K1TTT <k1...@arrl.net> wrote:
>> >> >> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
>> >> >> >> Registered User <n4...@ix.netcom.com> wrote:
>> >> >> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >> >> >> >>Have you the slightest clue what the word "context" means?
>>
>> >> >> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>>
>> >> >> >> Yes, and I also know what ice cream is, both of which are irrelevant to
>> >> >> >> the discussion.
>>
>> >> >> >> > Both dimensional and non-dimensional metadata provide context.
>> >> >> >> > Non-dimensional metadata doesn't always provide the complete context.
>> >> >> >> > Dimensional metadata provides greater context because it conveys more
>> >> >> >> > detailed and specific information.
>>
>> >> >> >> Only an ignorant, anal retentive git would think that basic terminology has
>> >> >> >> to be defined each and every time it is used.
>>
>> >> >> >> >>"Antenna efficiency is 20%" has all the information required and if the
>> >> >> >> >>discussion is about antennas, "efficiency is 20%" has all the information
>> >> >> >> >>required.
>>
>> >> >> >> > When data gets shared among multiple parties it is important that a
>> >> >> >> > ubiquitous language is used to describe the data and its meaning.
>>
>> >> >> >> The term "antenna efficiency" has a unique and unambigous definition and
>> >> >> >> can be found in any textbook on electromagnetics.
>>
>> >> >> > really? i don't see either 'efficiency' or 'antenna efficiency' in
>> >> >> > either my 2nd edition of jackson's classical electrodynamics, or
>> >> >> > ramo,whinnery, and van duzer's fields and waves in communication
>> >> >> > electronics... if you know where those terms might be defined in
>> >> >> > either of those please let me know, maybe the indexes aren't complete
>> >> >> > or something.
>>
>> >> >> First book I pick up, Electromagnetics by Kraus and Carver.

>>
>> >> >> So change "any textbook" to "many textbooks".
>>
>> >> >> --
>> >> >> Jim Pennino
>>
>> >> >> Remove .spam.sux to reply.
>>
>> >> > but your basic point still fails... the definition of efficiency is
>> >> > not universal, unique, nor unambiguous since it is not in ALL
>> >> > textbooks, nor is it a simple single definition, as my list of
>> >> > qualifiers in the ieee handbook illustrates.... oh, and those many
>> >> > definitions are not just restating the same thing, they are VERY
>> >> > different definitions depending on the aspect of the antenna you are
>> >> > studying.
>>
>> >> The fact that it is not in all textbooks is irrelvant.
>>
>> >> Not everything is in all textbooks of any kind.
>>
>> >> There are many scientific and engineering terms that can have qualifiers
>> >> to denote specificity.
>>
>> >> And in most every case there is a qualified term that is in most common
>> >> use and is commonly used without the qualifier.
>>
>> >> Every engineer I know when discusssing antennas in general that say "antenna
>> >> efficieny" mean "antenna radiation efficiency".
>>
>> >> The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
>> >> to "antenna radiation efficiency".
>>
>> >> For most of the links of the 7,000,000 or so when you search for "antenna
>> >> efficieny" you come to a link that refers to "antenna radiation efficiency".
>>
>> >> --
>> >> Jim Pennino
>>
>> >> Remove .spam.sux to reply.
>>
>> > ah, so you have performed a contextual statistical analysis on 7M
>> > links in the last half hour... thats pretty good processing. what you
>> > got for a computer there?
>>
>> No, I looked at the first four and all of them were referring to "antenna
>> radiation efficiency".
>>
>> Then I scanned the summaries that Google gives for the first page of hits
>> and found that all but one referred to "antenna radiation efficiency".
>>

>> The one exception was on a page about satellite calculations and they
>> were referring to "antenna aperature efficieny", as would be expected from
>> the context.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> oh, so from skimming a dozen links and only finding one who's apparent
> reference wasn't what you were looking for that makes 'most' of the
> other 7M fit your definition also.

It is called statistical sampling and is most appropriate for Google as
the links returned are ordered by relevance.

I do note you have nothing to say about the other two statements; what, no
nits to pick there?

--
Jim Pennino

Remove .spam.sux to reply.

5185. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 23:12:50 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4ed1ff63-be35-4cbc-be29-f54a589ece04@e20g2000vbn.googlegroups.com>
Source record: 6335

```
On Dec 14, 10:36 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 14, 9:25 pm, j...@specsol.spam.sux.com wrote:
> >> K1TTT <k1...@arrl.net> wrote:
> >> > On Dec 14, 8:53 pm, j...@specsol.spam.sux.com wrote:
> >> >> K1TTT <k1...@arrl.net> wrote:
> >> >> > On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
> >> >> >> K1TTT <k1...@arrl.net> wrote:
> >> >> >> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> >> >> >> >> Registered User <n4...@ix.netcom.com> wrote:
> >> >> >> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >> >> >> >>Have you the slightest clue what the word "context" means?
>
> >> >> >> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> >> >> >> >> Yes, and I also know what ice cream is, both of which are irrelevant to
> >> >> >> >> the discussion.
>
> >> >> >> >> > Both dimensional and non-dimensional metadata provide context.
> >> >> >> >> > Non-dimensional metadata doesn't always provide the complete context.
> >> >> >> >> > Dimensional metadata provides greater context because it conveys more
> >> >> >> >> > detailed and specific information.
>
> >> >> >> >> Only an ignorant, anal retentive git would think that basic terminology has
> >> >> >> >> to be defined each and every time it is used.
>
> >> >> >> >> >"Antenna efficiency is 20%" has all the information required and if the
> >> >> >> >> >discussion is about antennas, "efficiency is 20%" has all the information
> >> >> >> >> >required.
>
> >> >> >> >> > When data gets shared among multiple parties it is important that a
> >> >> >> >> > ubiquitous language is used to describe the data and its meaning.
>
> >> >> >> >> The term "antenna efficiency" has a unique and unambigous definition and
> >> >> >> >> can be found in any textbook on electromagnetics.
>
> >> >> >> > really?  i don't see either 'efficiency' or 'antenna efficiency' in
> >> >> >> > either my 2nd edition of jackson's classical electrodynamics, or
> >> >> >> > ramo,whinnery, and van duzer's fields and waves in communication
> >> >> >> > electronics... if you know where those terms might be defined in
> >> >> >> > either of those please let me know, maybe the indexes aren't complete
> >> >> >> > or something.
>
```

> >> >> >> First book I pick up, Electromagnetics by Kraus and Carver.
>
> >> >> >> So change "any textbook" to "many textbooks".
>
> >> >> >> --
> >> >> >> Jim Pennino
>
> >> >> >> Remove .spam.sux to reply.
>
> >> >> > but your basic point still fails... the definition of efficiency is
> >> >> > not universal, unique, nor unambiguous since it is not in ALL
> >> >> > textbooks, nor is it a simple single definition, as my list of
> >> >> > qualifiers in the ieee handbook illustrates.... oh, and those many
> >> >> > definitions are not just restating the same thing, they are VERY
> >> >> > different definitions depending on the aspect of the antenna you are
> >> >> > studying.
>
> >> >> The fact that it is not in all textbooks is irrelvant.
>
> >> >> Not everything is in all textbooks of any kind.
>
> >> >> There are many scientific and engineering terms that can have qualifiers
> >> >> to denote specificity.
>
> >> >> And in most every case there is a qualified term that is in most common
> >> >> use and is commonly used without the qualifier.
>
> >> >> Every engineer I know when discusssing antennas in general that say "antenna
> >> >> efficieny" mean "antenna radiation efficiency".
>
> >> >> The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
> >> >> to "antenna radiation efficiency".
>
> >> >> For most of the links of the 7,000,000 or so when you search for "antenna
> >> >> efficieny" you come to a link that refers to "antenna radiation efficiency".
>
> >> >> --
> >> >> Jim Pennino
>
> >> >> Remove .spam.sux to reply.
>
> >> > ah, so you have performed a contextual statistical analysis on 7M
> >> > links in the last half hour... thats pretty good processing. what you
> >> > got for a computer there?
>
> >> No, I looked at the first four and all of them were referring to "antenna
> >> radiation efficiency".
>
> >> Then I scanned the summaries that Google gives for the first page of hits
> >> and found that all but one referred to "antenna radiation efficiency".

>
> >> The one exception was on a page about satellite calculations and they
> >> were referring to "antenna aperature efficieny", as would be expected from
> >> the context.
>
> >> --
> >> Jim Pennino
>
> >> Remove .spam.sux to reply.
>
> > oh, so from skimming a dozen links and only finding one who's apparent
> > reference wasn't what you were looking for that makes 'most' of the
> > other 7M fit your definition also.
>
> It is called statistical sampling and is most appropriate for Google as
> the links returned are ordered by relevance.
>
> I do note you have nothing to say about the other two statements; what, no
> nits to pick there?
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

no, i'm having enough fun with this nit.

5186. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 23:29:39 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <38blt7-83.ln1@mail.specsol.com>
Source record: 6336

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 14, 10:36 pm, j...@specsol.spam.sux.com wrote:
>> K1TTT <k1...@arrl.net> wrote:
>> > On Dec 14, 9:25 pm, j...@specsol.spam.sux.com wrote:
>> >> K1TTT <k1...@arrl.net> wrote:
>> >> > On Dec 14, 8:53 pm, j...@specsol.spam.sux.com wrote:
>> >> >> K1TTT <k1...@arrl.net> wrote:
>> >> >> > On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
>> >> >> >> K1TTT <k1...@arrl.net> wrote:
>> >> >> >> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
>> >> >> >> >> Registered User <n4...@ix.netcom.com> wrote:
>> >> >> >> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >> >> >> >>>Have you the slightest clue what the word "context" means?
>>
>> >> >> >> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>>
>> >> >> >> >> Yes, and I also know what ice cream is, both of which are irrelevant to
>> >> >> >> >> the discussion.
>>
>> >> >> >> >> > Both dimensional and non-dimensional metadata provide context.
>> >> >> >> >> > Non-dimensional metadata doesn't always provide the complete context.
>> >> >> >> >> > Dimensional metadata provides greater context because it conveys more
>> >> >> >> >> > detailed and specific information.
>>
>> >> >> >> >> Only an ignorant, anal retentive git would think that basic terminology has
>> >> >> >> >> to be defined each and every time it is used.
>>
>> >> >> >> >>>"Antenna efficiency is 20%" has all the information required and if the
>> >> >> >> >>>discussion is about antennas, "efficiency is 20%" has all the information
>> >> >> >> >>>required.
>>
>> >> >> >> >> > When data gets shared among multiple parties it is important that a
>> >> >> >> >> > ubiquitous language is used to describe the data and its meaning.
>>
>> >> >> >> >> The term "antenna efficiency" has a unique and unambigous definition and
>> >> >> >> >> can be found in any textbook on electromagnetics.
>>
>> >> >> >> > really? i don't see either 'efficiency' or 'antenna efficiency' in
>> >> >> >> > either my 2nd edition of jackson's classical electrodynamics, or
>> >> >> >> > ramo,whinnery, and van duzer's fields and waves in communication
>> >> >> >> > electronics... if you know where those terms might be defined in
>> >> >> >> > either of those please let me know, maybe the indexes aren't complete
>> >> >> >> > or something.

>>
>> >> >> >> First book I pick up, Electromagnetics by Kraus and Carver.
>>
>> >> >> >> So change "any textbook" to "many textbooks".
>>
>> >> >> >> --
>> >> >> >> Jim Pennino
>>
>> >> >> >> Remove .spam.sux to reply.
>>
>> >> >> > but your basic point still fails... the definition of efficiency is
>> >> >> > not universal, unique, nor unambiguous since it is not in ALL
>> >> >> > textbooks, nor is it a simple single definition, as my list of
>> >> >> > qualifiers in the ieee handbook illustrates.... oh, and those many
>> >> >> > definitions are not just restating the same thing, they are VERY
>> >> >> > different definitions depending on the aspect of the antenna you are
>> >> >> > studying.
>>
>> >> >> The fact that it is not in all textbooks is irrelvant.
>>
>> >> >> Not everything is in all textbooks of any kind.
>>
>> >> >> There are many scientific and engineering terms that can have qualifiers
>> >> >> to denote specificity.
>>
>> >> >> And in most every case there is a qualified term that is in most common
>> >> >> use and is commonly used without the qualifier.
>>
>> >> >> Every engineer I know when discusssing antennas in general that say "antenna
>> >> >> efficieny" mean "antenna radiation efficiency".
>>
>> >> >> The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
>> >> >> to "antenna radiation efficiency".
>>
>> >> >> For most of the links of the 7,000,000 or so when you search for "antenna
>> >> >> efficieny" you come to a link that refers to "antenna radiation efficiency".
>>
>> >> >> --
>> >> >> Jim Pennino
>>
>> >> >> Remove .spam.sux to reply.
>>
>> >> > ah, so you have performed a contextual statistical analysis on 7M
>> >> > links in the last half hour... thats pretty good processing. what you
>> >> > got for a computer there?
>>
>> >> No, I looked at the first four and all of them were referring to "antenna
>> >> radiation efficiency".
>>
>> >> Then I scanned the summaries that Google gives for the first page of hits

>> >> and found that all but one referred to "antenna radiation efficiency".
>>
>> >> The one exception was on a page about satellite calculations and they
>> >> were referring to "antenna aperature efficieny", as would be expected from
>> >> the context.
>>
>> >> --
>> >> Jim Pennino
>>
>> >> Remove .spam.sux to reply.
>>
>> > oh, so from skimming a dozen links and only finding one who's apparent
>> > reference wasn't what you were looking for that makes 'most' of the
>> > other 7M fit your definition also.
>>
>> It is called statistical sampling and is most appropriate for Google as
>> the links returned are ordered by relevance.
>>
>> I do note you have nothing to say about the other two statements; what, no
>> nits to pick there?
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> no, i'm having enough fun with this nit.

Well nit this, as I said Google links are ordered by relevance and starting
on the second page you begin to find links to information about the efficiency
of a specific antenna as opposed to efficiency in general.

If you limit the results to about 57,000 results by putting antenna efficiency
in quotes, it is pretty much all specific to an antenna by the third page.

Yet the first page doesn't change.

--
Jim Pennino

Remove .spam.sux to reply.

5187. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-14 23:34:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <de236330-f107-4087-a598-bf8034348ffb@g26g2000vbz.googlegroups.com>
Source record: 6337

On Dec 14, 11:29 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 14, 10:36 pm, j...@specsol.spam.sux.com wrote:
> >> K1TTT <k1...@arrl.net> wrote:
> >> > On Dec 14, 9:25 pm, j...@specsol.spam.sux.com wrote:
> >> >> K1TTT <k1...@arrl.net> wrote:
> >> >> > On Dec 14, 8:53 pm, j...@specsol.spam.sux.com wrote:
> >> >> >> K1TTT <k1...@arrl.net> wrote:
> >> >> >> > On Dec 14, 8:10 pm, j...@specsol.spam.sux.com wrote:
> >> >> >> >> K1TTT <k1...@arrl.net> wrote:
> >> >> >> >> > On Dec 14, 4:54 pm, j...@specsol.spam.sux.com wrote:
> >> >> >> >> >> Registered User <n4...@ix.netcom.com> wrote:
> >> >> >> >> >> > On Mon, 13 Dec 2010 19:51:07 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >> >> >> >> >>Have you the slightest clue what the word "context" means?
>
> >> >> >> >> >> > Absolutely, yes I do. In turn I will ask do you know what metadata is?
>
> >> >> >> >> >> Yes, and I also know what ice cream is, both of which are irrelevant to
> >> >> >> >> >> the discussion.
>
> >> >> >> >> >> > Both dimensional and non-dimensional metadata provide context.
> >> >> >> >> >> > Non-dimensional metadata doesn't always provide the complete context.
> >> >> >> >> >> > Dimensional metadata provides greater context because it conveys more
> >> >> >> >> >> > detailed and specific information.
>
> >> >> >> >> >> Only an ignorant, anal retentive git would think that basic terminology
has
> >> >> >> >> >> to be defined each and every time it is used.
>
> >> >> >> >> >> >>"Antenna efficiency is 20%" has all the information required and if the
> >> >> >> >> >> >>discussion is about antennas, "efficiency is 20%" has all the
information
> >> >> >> >> >> >>required.
>
> >> >> >> >> >> > When data gets shared among multiple parties it is important that a
> >> >> >> >> >> > ubiquitous language is used to describe the data and its meaning.
>
> >> >> >> >> >> The term "antenna efficiency" has a unique and unambigous definition and
> >> >> >> >> >> can be found in any textbook on electromagnetics.
>
> >> >> >> >> > really? i don't see either 'efficiency' or 'antenna efficiency' in
> >> >> >> >> > either my 2nd edition of jackson's classical electrodynamics, or
> >> >> >> >> > ramo,whinnery, and van duzer's fields and waves in communication

> >> >> >> >> > electronics... if you know where those terms might be defined in
> >> >> >> >> > either of those please let me know, maybe the indexes aren't complete
> >> >> >> >> > or something.
>
> >> >> >> >> First book I pick up, Electromagnetics by Kraus and Carver.
>
> >> >> >> >> So change "any textbook" to "many textbooks".
>
> >> >> >> >> --
> >> >> >> >> Jim Pennino
>
> >> >> >> >> Remove .spam.sux to reply.
>
> >> >> >> > but your basic point still fails... the definition of efficiency is
> >> >> >> > not universal, unique, nor unambiguous since it is not in ALL
> >> >> >> > textbooks, nor is it a simple single definition, as my list of
> >> >> >> > qualifiers in the ieee handbook illustrates.... oh, and those many
> >> >> >> > definitions are not just restating the same thing, they are VERY
> >> >> >> > different definitions depending on the aspect of the antenna you are
> >> >> >> > studying.
>
> >> >> >> The fact that it is not in all textbooks is irrelvant.
>
> >> >> >> Not everything is in all textbooks of any kind.
>
> >> >> >> There are many scientific and engineering terms that can have qualifiers
> >> >> >> to denote specificity.
>
> >> >> >> And in most every case there is a qualified term that is in most common
> >> >> >> use and is commonly used without the qualifier.
>
> >> >> >> Every engineer I know when discusssing antennas in general that say "antenna
> >> >> >> efficieny" mean "antenna radiation efficiency".
>
> >> >> >> The ARRL Antenna Handbook, when talking about "antenna efficieny", refers
> >> >> >> to "antenna radiation efficiency".
>
> >> >> >> For most of the links of the 7,000,000 or so when you search for "antenna
> >> >> >> efficieny" you come to a link that refers to "antenna radiation efficiency".
>
> >> >> >> --
> >> >> >> Jim Pennino
>
> >> >> >> Remove .spam.sux to reply.
>
> >> >> > ah, so you have performed a contextual statistical analysis on 7M
> >> >> > links in the last half hour... thats pretty good processing. what you
> >> >> > got for a computer there?
>
> >> >> No, I looked at the first four and all of them were referring to "antenna

> >> >> radiation efficiency".
>
> >> >> Then I scanned the summaries that Google gives for the first page of hits
> >> >> and found that all but one referred to "antenna radiation efficiency".
>
> >> >> The one exception was on a page about satellite calculations and they
> >> >> were referring to "antenna aperature efficieny", as would be expected from
> >> >> the context.
>
> >> >> --
> >> >> Jim Pennino
>
> >> >> Remove .spam.sux to reply.
>
> >> > oh, so from skimming a dozen links and only finding one who's apparent
> >> > reference wasn't what you were looking for that makes 'most' of the
> >> > other 7M fit your definition also.
>
> >> It is called statistical sampling and is most appropriate for Google as
> >> the links returned are ordered by relevance.
>
> >> I do note you have nothing to say about the other two statements; what, no
> >> nits to pick there?
>
> >> --
> >> Jim Pennino
>
> >> Remove .spam.sux to reply.
>
> > no, i'm having enough fun with this nit.
>
> Well nit this, as I said Google links are ordered by relevance and starting
> on the second page you begin to find links to information about the efficiency
> of a specific antenna as opposed to efficiency in general.
>
> If you limit the results to about 57,000 results by putting antenna efficiency
> in quotes, it is pretty much all specific to an antenna by the third page.
>
> Yet the first page doesn't change.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

great, now why don't you try some negative searches for the other
specific terms that i quoted from the ieee book and see how many links
show up for them, then compare the relative numbers of links and their
order with the original search... that should keep you busy for a
while.

5188. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 01:06:17 UTC
From: nm5k@wt.net
Message-ID: <7c6dddf6-c0ca-49dc-8faa-36d783e436de@y3g2000vbm.googlegroups.com>
Source record: 6338

On Dec 14, 12:24 pm, Registered User <n4...@ix.netcom.com> wrote:
> On Tue, 14 Dec 2010 05:37:25 -0800 (PST), n...@wt.net wrote:
> >On Dec 14, 5:02 am, Registered User <n4...@ix.netcom.com> wrote:
>
> >> When data gets shared among multiple parties it is important that a
> >> ubiquitous language is used to describe the data and its meaning.
> >> Antenna efficiency can be measured in different ways so the phrase
> >> "antenna efficiency is 20%" can mean different things to different
> >> people. All it takes is one person to ask how antenna efficiency is
> >> calculated and it will become evident that context of "antenna
> >> efficiency is 20%" does not provide all the information required.
>
> >Sure it does. Antenna efficiency is only calculated one way,
> >so there is no need to add extra "metadata".
>
> Funny thing, when working parabolic antennas antenna efficiency and
> aperture efficiency are used interchangeably.

I find that a funny thing, since they define two different things.
They are not the same thing, and should not be confused,
intermingled, or even paired up on the same date to go watch
Star Wars at the midnight movies.
If I were to refer to aperture efficiency, I would call it aperture
efficiency, effective aperture, or maybe even antenna effective
area, but not antenna efficiency.

5189. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 01:20:11 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <bnhlt7-421.ln1@mail.specsol.com>
Source record: 6339

K1TTT <k1ttt@arrl.net> wrote:

>
> great, now why don't you try some negative searches for the other
> specific terms that i quoted from the ieee book and see how many links
> show up for them, then compare the relative numbers of links and their
> order with the original search... that should keep you busy for a
> while.

It took about 10 seconds to cut and paste.

11,000 results with 7 out of 10 of the top results identical.

It appears your efficiency in attempting to deride what I've said is deficient.

--
Jim Pennino

Remove .spam.sux to reply.

5190. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 03:47:39 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <b7e7cf52-985c-496e-a87f-6f74bd536c40@i18g2000yqn.googlegroups.com>
Source record: 6340

On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
> Art Unwin wrote:
> > I am sure you also know that only
> > units used by Mawell represent the path
> > to maximum efficiency in radiation as well as
> > the ratio of capacitance to inductance must be
> > unity.
> > Art KB9MZ....xg
>
> Art, You have just mentioned a constraint on antennas that I was not aware
> of. Specifically "the ratio of capacitance to inductance must be unity".
>
> This is new to me. Please tell me how I go about making capacitance and
> inductance equal so their ratio can be unity. How do you get the Farads and
> Henries to cancel out, leaving a dimensionless number.
>
> Can you give me some real world examples?
>
> joe

Joe,
a better insight to my thinking that may help
When a member has little or no reactance via cancellation you can use
V=I.R.
When R becomes exceedingly small the member reaches a critical point
and will oscillate
When this happens current increases dramatically which therefore
increases radiation. If you view the current curve on a dipole the
current is of cyclic form whereas in the case where critical
resistance is reached
the current flow is of a very high value pulse which also drops fairly
rapidly until it reaches a low point before it gets to the end of a
period.
When the element oscillates it has become a mechanical movement BELOW
the current path
and as can be seen by comparing to water flow
the raggednes in terms of cross sectional area of flow has createrd
eddy currents which in electrical terms is equal to displacement
current
as it is the creation of displacement current.or coefficient of
discharge
This states why magnetics as used in non equilibrium structures such
as the Yagi cannot be as efficient as a Meander form which achieves
higher current which propels or provides for radiation..

What propelled the notion of waves instead of particles is 1 they ignored Gaussian thrust towards equilibrium and 2 turned to the increase in current because of the mechanical "wave" action which only provides change in amplitude which is not enough to provide an acceleration of charge on a particle resting on
water since that requires two vectors.(I say a resting particle where as it was never clear what the "wave" was lifting or where it came from. This because the force required to remove an electron from its element habitat
required more force than that was available.
(Gravity is termed as the weaker force in the Std model)
The bottom line being, a radiating structure in equilibrium devoid of reactance with low resistance is the only way current over and above that supplied becomes available.
By the way the std yagi is not a closed circuit
as equilibrium requires because the half wave length floats, where as a full wave or "period"
is consistent or in a steady state when "overshoot" occurs. Thus only when it is resonant is it devoid of reactance which limits the bandwidth. In the case of a Meander form
the magnetic field is not present in cyclic form
allowing for surface current flow for extended periods and is not frequency dependant.
As I have stated before, with my antenna current distribution is via a surge with rapid decay which is accepted in RC L circuitry.
Hope that clears things up for you
Regards
Art

5191. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 12:53:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f77dcd5a-62ce-40a1-940e-e7931a3f747f@m20g2000prc.googlegroups.com>
Source record: 6341

On Dec 15, 3:47 am, Art Unwin <arthurun...@gmail.com> wrote:
> On Dec 10, 8:37 am, joe <n...@invalid.domain> wrote:
>
>
>
> > Art Unwin wrote:
> > > I am sure you also know that only
> > > units used by Mawell represent the path
> > > to maximum efficiency in radiation as well as
> > > the ratio of capacitance to inductance must be
> > > unity.
> > > Art KB9MZ....xg
>
> > Art, You have just mentioned a constraint on antennas that I was not aware
> > of. Specifically "the ratio of capacitance to inductance must be unity".
>
> > This is new to me. Please tell me how I go about making capacitance and
> > inductance equal so their ratio can be unity. How do you get the Farads and
> > Henries to cancel out, leaving a dimensionless number.
>
> > Can you give me some real world examples?
>
> > joe
>
> Joe,
> a better insight to my thinking that may help
> When a member has little or no reactance via cancellation you can use
> V=I.R.
> When R becomes exceedingly small the member reaches a critical point
> and will oscillate
> When this happens current increases dramatically which therefore
> increases radiation. If you view the current curve on a dipole the
> current is of cyclic form whereas in the case where critical
> resistance is reached
> the current flow is of a very high value pulse which also drops fairly
> rapidly until it reaches a low point before it gets to the end of a
> period.
> When the element oscillates it has become a mechanical movement BELOW
> the current path
> and as can be seen by comparing to water flow
> the raggednes in terms of cross sectional area of flow has createrd
> eddy currents which in electrical terms is equal to displacement
> current
> as it is the creation of displacement current.or coefficient of

> discharge
> This states why magnetics as used in non equilibrium structures such
> as the Yagi cannot be as efficient as a Meander form which achieves
> higher current which propels or provides for radiation..
> What propelled the notion of waves instead of particles is 1 they
> ignored Gaussian thrust towards equilibrium and 2 turned to the
> increase in current because of the mechanical "wave" action which only
> provides change in amplitude which is not enough to provide an
> acceleration of charge on a particle resting on
> water since that requires two vectors.(I say a resting particle where
> as it was never clear what the "wave" was lifting or where it came
> from. This because the force required to remove an electron from its
> element habitat
> required more force than that was available.
> (Gravity is termed as the weaker force in the Std model)
> The bottom line being, a radiating structure in equilibrium devoid of
> reactance with low resistance is the only way current over and above
> that supplied becomes available.
> By the way the std yagi is not a closed circuit
> as equilibrium requires because the half wave length floats, where as
> a full wave or "period"
> is consistent or in a steady state when "overshoot" occurs. Thus only
> when it is resonant is it devoid of reactance which limits the
> bandwidth. In the case of a Meander form
> the magnetic field is not present in cyclic form
> allowing for surface current flow for extended periods and is not
> frequency dependant.
> As I have stated before, with my antenna current distribution is via a
> surge with rapid decay which is accepted in RC L circuitry.
> Hope that clears things up for you
> Regards
> Art

yup, clear as mud with waves.

5192. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 13:30:25 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <7kghg6l0s42su277ut0riesogiaga42i14@4ax.com>
Source record: 6342

The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993) provides no definition for 'antenna efficiency' per se. A definition is provided for 'antenna efficiency of an aperture-type antenna' in section 2.15 of the document. The definitions are in alphabetical order so the definition describing the ratio of power radiated to input power appears in section 2.308 which is titled 'radiation efficiency' (notice the dimensional metadata).

These citations from IEEE Standard Definitions Terms for Antennas clearly suggest claims of a universal formula and definition for antenna efficiency are incorrect. Not everyone means the same although they use the same name. This is why it is important to define or refer to the definitions that are used.

5193. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 15:29:12 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <8f3nt7-pa7.ln1@mail.specsol.com>
Source record: 6343

Registered User <n4jvp@ix.netcom.com> wrote:
> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
> provides no definition for 'antenna efficiency' per se.

So what?

The term is in common use and can by found in many textbooks on
electromagnetics in general and antennas in particular, several books by
the ARRL as well as on many technical web pages.

--
Jim Pennino

Remove .spam.sux to reply.

5194. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 18:30:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e1829b38-e54f-4914-a1ea-3228e75a98a5@m7g2000vbn.googlegroups.com>
Source record: 6344

On Dec 15, 3:29 pm, j...@specsol.spam.sux.com wrote:
> Registered User <n4...@ix.netcom.com> wrote:
> > The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
> > provides no definition for 'antenna efficiency' per se.
>
> So what?
>
> The term is in common use and can by found in many textbooks on
> electromagnetics in general and antennas in particular, several books by
> the ARRL as well as on many technical web pages.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

so what?

5195. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 20:05:16 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <skjnt7-779.ln1@mail.specsol.com>
Source record: 6346

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 15, 3:29 pm, j...@specsol.spam.sux.com wrote:
>> Registered User <n4...@ix.netcom.com> wrote:
>> > The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
>> > provides no definition for 'antenna efficiency' per se.
>>
>> So what?
>>
>> The term is in common use and can by found in many textbooks on
>> electromagnetics in general and antennas in particular, several books by
>> the ARRL as well as on many technical web pages.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> so what?

So the fact that a particular IEEE standard does not mention a term that
is in common use is irrelevant to the fact that the term is in common use.

--
Jim Pennino

Remove .spam.sux to reply.

5196. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 20:06:03 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <485ig61q6e93pk6b9hfc48d0dvrb0df45i@4ax.com>
Source record: 6345

On Wed, 15 Dec 2010 15:29:12 -0000, jimp@specsol.spam.sux.com wrote:

>Registered User <n4jvp@ix.netcom.com> wrote:
>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
>> provides no definition for 'antenna efficiency' per se.
>
>So what?
>

Prognostication expressed as a blanket statement often fails to consider possible/probable exceptions to the rule. When such blanket statements are shown to be flawed the prognosticator starts back-pedaling as to what was meant and should have been written. Finally the prognosticator decides the blanket statement wasn't all that important to begin with.

The post concerning "a unique and unambigous definition" which "can be found in any textbook on electromagnetics" and subsequent back-pedaling appears to fit that model. Your "So what?" provides the meh.

You took what may be a perfectly valid general rule, tried to convert it to an absolute certainty, and failed. That's so what.

>The term is in common use and can by found in many textbooks on
>electromagnetics in general and antennas in particular, several books by
>the ARRL as well as on many technical web pages.

On Tue, 14 Dec 2010 16:54:40 -0000, jimp@specsol.spam.sux.com wrote:

>The term "antenna efficiency" has a unique and unambigous definition and
>can be found in any textbook on electromagnetics.

5197. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 20:17:03 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d09223e$0$3802$426a34cc@news.free.fr>
Source record: 6347

On Mon, 13 Dec 2010 15:38:20 -0800, nm5k wrote:

> On Dec 13, 3:01 pm, Sébastien MEDARD <t...@tut.com> wrote:
>
> One thing handy about a small loop is you can turn it to null out the
> offending noise.

I should try small loops too.

> You get much
> better nulls off a ground wave signal, than you do one that is
> propagated via skywave. So they tend to work better at nulls in the
> daytime vs at night. At night, you get a mix of ground and sky wave, and
> the nulls are not as deep. In the day, I can make most ground wave
> signals totally vanish by nulling them out.

That's an interesting concept. The difference between ground and sky
waves and the way to use loops. And small loops are easier to make...

> Most of mine, I build from PVC tubing for the frames.

A simple, but good idea. PVC tubing is inexpensive and quite rigid...

> I have one in this room that is a diamond, 42 inches per side.

One meter... It is approximatively what I wanted to do at the beginning.

> It's on a stand
> which allows it to rotate, and it stands almost as tall as the ceiling.

Do you tune it, or not? Is there a small loop inside or not?

> But they don't have to be that big. I've got another round one that is
> about 16 inches across, and it works very well too. Just a tad less
> signal than the big one. But the s/n ratio is much the same for the
> majority of the stations listened to.

I definitively need to test them.

> http://home.comcast.net/~nm5k/loop5.jpg This is my usual favored method
> for building a low cost MW loop. The hardest part to come by these days
> is the variable cap.

I got one and I am searching for others. It seems that variable caps are
one of the center of a lot of things in radio reception :))

I can see on the loop5.jpg image that you connected one wire to the
ground and one wire to both other connections (double gang capacitor) so
that you add the result of both capacitors. Is that correct?

> That way you get a smaller value, and will increase the upper tuning
> range, vs just turning all the gangs in parallel to the minimum setting.
> So I use switches to do this quickly.

Exact. That sounds good.

> But if you can't find any old radios to acquire the variable caps, you
> can buy them online from a few places. I wouldn't use one any less than
> a dual 365pf BC cap. You can wire the two gangs together for 730 pf.

That's the kind I get.

> With careful loop turn design, you can usually cover the whole MW BC
> band with one of those. But I prefer the ones out of old stereo
> receivers. They are even better, and can give a wider tuning range. I
> think the one on my big loop has four or five gangs, some being small
> and useful for upper end tuning, if the other larger gangs are switched
> out.

I found a 500pF + 500pF one too, with a slow motion drive. Another way to drive them slowly is to get a 20cm (10 inches) piece of wood, perforate it on one side to put the capacitor axis into the hole (put some glue, but a smaller hole is better, and push it hard so that the axis enters inside the hole), and you get something that can be tune very precisely with one finger... About the piece of wood, the longer, the higher in precision tuning.

Sebastien.

5198. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 20:49:39 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <38mnt7-li9.ln1@mail.specsol.com>
Source record: 6349

Registered User <n4jvp@ix.netcom.com> wrote:
> On Wed, 15 Dec 2010 15:29:12 -0000, jimp@specsol.spam.sux.com wrote:
>
>>Registered User <n4jvp@ix.netcom.com> wrote:
>>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
>>> provides no definition for 'antenna efficiency' per se.
>>
>>So what?
>>

<snip babble>

> The post concerning "a unique and unambigous definition" which "can be
> found in any textbook on electromagnetics" and subsequent
> back-pedaling appears to fit that model. Your "So what?" provides the
> meh.

Yeah, the "back-pedaling" which consisted of changing "any textbook" to
"many textbooks".

And nowhere did I reference any standard, IEEE, ISO, or any other standards
body.

<snip remaining long winded babble>

--
Jim Pennino

Remove .spam.sux to reply.

5199. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 20:52:22 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d092a86$0$3802$426a34cc@news.free.fr>
Source record: 6348

On Mon, 13 Dec 2010 16:06:51 -0800, Richard Clark wrote:

> On 13 Dec 2010 21:01:30 GMT, Sébastien MEDARD <titi@tut.com> wrote:
>
>>I understand better what is the purpose of this kind of map (on SDR-
>>Radio.com software for example). Where you can see an OM, you are pretty
>>sure to see this kind of map.
>
> Hi Sébastien,
>
> If you mean the "gray line" map - yes.

There should free software displaying this gray line with UTC time, no?

>>> This will reveal the "Law of Diminishing Returns" (the more you add,
>>> the less you get back).
>>
>>Interesting. What would be the best ratio?
>
> You mean the best number of turns?

Economics is interesting too :)

> RJELOOP3 *
> Analysis of receiving, multi-turn, square, loop (or frame) antennas, ELF
> to HF.

Can be find here :
http://www.zerobeat.net/G4FGQ/page3.html#S301

>>I will try to find one when they are cheaper.
>
> Try:
> http://www.bookfinder.com/search/?author=&title=Joe+Carr%27s+Receiving
+Antenna+Handbook&lang=en&isbn=&submit=Begin
+search&new_used=*&destination=us&currency=USD&mode=basic&st=sr&ac=qr

I found the "Receiving Antenna Handbook" quite cheap, but the "Loop
Antenna Handbook" is still expensive. Between $60 to $257... I will try
the cheapest.

>>OK. But today we probably ask more to radios than yesterday, no?
>
> No, probably less. Being an OM, (40 years ago) I also taught classes
> for repair and maintenance of Collins' famous receiver, the R-390. EVEN
> NOW (40 years later), this is probably the best receiver for its price
> (and even two to three times its price).

Do you calculate that in constant dollar from the 50's? :)

I can imagine the teaching class. Everybody with a Collin's in front of him/her... A one year project to restore completely one of this legendary radio. I would like that!

With a good DSP outside (Audio DSP only), can beat every other ones?

It seems not easy to get one, especially in Europe...

>>> The real science of low noise is found in the distance to the source.
>>
>>Lapalisse would have said exactly the same thing. He would have said
>>that the real science of good reception is found in the distance to the
>>source too :))
>
> So, my comment was a lapalissade? Certainly.

You got the picture :)

Sebastien.

5200. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 21:32:23 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d0933e7$0$1323$426a74cc@news.free.fr>
Source record: 6350

On Tue, 14 Dec 2010 09:17:40 -0800, Wimpie wrote:

> Regarding tuning, loops and (long) wires.
>
> You probably locate your antenna far away from noise sources. Mostly
> this is not where your receiver is.

That's a problem, indeed.

> In case of tuned loops, you have to go outside for each significant
> frequency change. This is one of the reasons that I want my
> preselection / tuning adjacent to the receiver.

It seems there is another solution. The varactor diodes seem to act as a variable capacitor driven by their voltage (the capacitance of this kind of diode decreases as the potential is increased).

It seems there are some loop designs with varactor diodes as tuners.

But I don't know what could be the price of a such solution.

> Loops aren't magic things. A wire from your balcony to a tree or other
> tie point may give better S/N ratio then the best (expensive) loop on
> your balcony.

I think so, but there is nothing I can change for that today.

> Best matching isn't required for reception at HF, just sufficient
> signal. In case of a PI tuning / preselector device, you need to adjust
> two capacitors in case of major frequency change. In my opinion a
> single capacitor device is more pleasant to use.

I will try different configurations when I get them.

> If you want to experiment with some long wire (unbalanced) antennas,
> make sure to have a ground (counterpoise) provision outside; otherwise
> your coaxial cable will be part of the antenna. This may result in more
> interference from indoor sources.

Yes, but the place I plan to experiment should be far away from this kind of trouble... I won't be able to get a good ground there.

> If you use a tapped coil preselector (like the one in my link),

Sorry, where is it in your web site?

> and have
> sufficient noise from the antenna, you may even change the taps. The
> preselector will give more insertion loss, but it will be more selective

> also.

How is called this design?

> This can be of use when you have strong signals in your
> neighborhood. Because of portability, I frequently use an AOR AR8200.
> Without preselection, such a wide band receiver is useless with an
> external antenna.

I don't like these receivers... Or they should be used with optoelectronics frequency counters to drive the receiver... But more than that, the screen of these receivers is too small, too few information... I prefer being at home (or in a car) with a laptop computer displaying a beautiful waterfall picture :))

That's the reason why I owned a SDR-IQ. And on upper frequencies, it will keep being useful with an appropriate scanner (if I see a cheap one on the second hand market).

For the moment, I prefer exploring the bands than picking up a frequency in a database (it may change...)

Sebastien.

5201. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 22:06:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <4a454086-d634-476b-9703-f3d90b422cf5@q18g2000vbm.googlegroups.com>
Source record: 6201

On Dec 15, 8:49 pm, j...@specsol.spam.sux.com wrote:
> Registered User <n4...@ix.netcom.com> wrote:
> > On Wed, 15 Dec 2010 15:29:12 -0000, j...@specsol.spam.sux.com wrote:
>
> >>Registered User <n4...@ix.netcom.com> wrote:
> >>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
> >>> provides no definition for 'antenna efficiency' per se.
>
> >>So what?
>
> <snip babble>
>
> > The post concerning "a unique and unambigous definition" which "can be
> > found in any textbook on electromagnetics" and subsequent
> > back-pedaling appears to fit that model. Your "So what?" provides the
> > meh.
>
> Yeah, the "back-pedaling" which consisted of changing "any textbook" to
> "many textbooks".
>
> And nowhere did I reference any standard, IEEE, ISO, or any other standards
> body.

well, maybe you should have... after all, some of us do use things
written by those bodies. some of us help write and test those
standards. and it sure would be nice if we could refer to a standard
way of describing antenna performance.

5202. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 22:16:36 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <992b8b4e-7a78-4a0f-910a-4e793c4b6f79@q18g2000vbk.googlegroups.com>
Source record: 6202

On Dec 15, 8:49 pm, j...@specsol.spam.sux.com wrote:
> Registered User <n4...@ix.netcom.com> wrote:
> > On Wed, 15 Dec 2010 15:29:12 -0000, j...@specsol.spam.sux.com wrote:
>
> >>Registered User <n4...@ix.netcom.com> wrote:
> >>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
> >>> provides no definition for 'antenna efficiency' per se.
>
> >>So what?
>
> <snip babble>
>
> > The post concerning "a unique and unambigous definition" which "can be
> > found in any textbook on electromagnetics" and subsequent
> > back-pedaling appears to fit that model. Your "So what?" provides the
> > meh.
>
> Yeah, the "back-pedaling" which consisted of changing "any textbook" to
> "many textbooks".
>
> And nowhere did I reference any standard, IEEE, ISO, or any other standards
> body.

well, maybe you should have... after all, some of us do use things
written by those bodies. some of us help write and test those
standards. and it sure would be nice if we could refer to a standard
way of describing antenna performance.

5203. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 23:12:35 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <3kunt7-vla.ln1@mail.specsol.com>
Source record: 6204

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 15, 8:49 pm, j...@specsol.spam.sux.com wrote:
>> Registered User <n4...@ix.netcom.com> wrote:
>> > On Wed, 15 Dec 2010 15:29:12 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >>Registered User <n4...@ix.netcom.com> wrote:
>> >>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
>> >>> provides no definition for 'antenna efficiency' per se.
>>
>> >>So what?
>>
>> <snip babble>
>>
>> > The post concerning "a unique and unambigous definition" which "can be
>> > found in any textbook on electromagnetics" and subsequent
>> > back-pedaling appears to fit that model. Your "So what?" provides the
>> > meh.
>>
>> Yeah, the "back-pedaling" which consisted of changing "any textbook" to
>> "many textbooks".
>>
>> And nowhere did I reference any standard, IEEE, ISO, or any other standards
>> body.
>
> well, maybe you should have... after all, some of us do use things
> written by those bodies. some of us help write and test those
> standards. and it sure would be nice if we could refer to a standard
> way of describing antenna performance.

If this is so important to you, I am sure you will be researching all
the electromagnetics textbooks, antenna texbooks, industry and trade
publications, the ARRL, the RSGB, manufacturers, and everyone else with
any interest in antennas to determine the "correct" usage and definition
of the terms in question, and submitting a draft proposal to the IEEE.

--
Jim Pennino

Remove .spam.sux to reply.

5204. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 23:13:33 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <tlunt7-vla.ln1@mail.specsol.com>
Source record: 6203

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 15, 8:49 pm, j...@specsol.spam.sux.com wrote:
>> Registered User <n4...@ix.netcom.com> wrote:
>> > On Wed, 15 Dec 2010 15:29:12 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >>Registered User <n4...@ix.netcom.com> wrote:
>> >>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
>> >>> provides no definition for 'antenna efficiency' per se.
>>
>> >>So what?
>>
>> <snip babble>
>>
>> > The post concerning "a unique and unambigous definition" which "can be
>> > found in any textbook on electromagnetics" and subsequent
>> > back-pedaling appears to fit that model. Your "So what?" provides the
>> > meh.
>>
>> Yeah, the "back-pedaling" which consisted of changing "any textbook" to
>> "many textbooks".
>>
>> And nowhere did I reference any standard, IEEE, ISO, or any other standards
>> body.
>
> well, maybe you should have... after all, some of us do use things
> written by those bodies. some of us help write and test those
> standards. and it sure would be nice if we could refer to a standard
> way of describing antenna performance.

If I were you I would be more concerned why so many of you posts appear
twice.

--
Jim Pennino

Remove .spam.sux to reply.

5205. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 23:35:44 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <ac371a6f-49ad-4be1-9a9b-2fad75c0b2f8@i41g2000vbn.googlegroups.com>
Source record: 6205

On Dec 15, 11:12 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 15, 8:49 pm, j...@specsol.spam.sux.com wrote:
> >> Registered User <n4...@ix.netcom.com> wrote:
> >> > On Wed, 15 Dec 2010 15:29:12 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >>Registered User <n4...@ix.netcom.com> wrote:
> >> >>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
> >> >>> provides no definition for 'antenna efficiency' per se.
>
> >> >>So what?
>
> >> <snip babble>
>
> >> > The post concerning "a unique and unambigous definition" which "can be
> >> > found in any textbook on electromagnetics" and subsequent
> >> > back-pedaling appears to fit that model. Your "So what?" provides the
> >> > meh.
>
> >> Yeah, the "back-pedaling" which consisted of changing "any textbook" to
> >> "many textbooks".
>
> >> And nowhere did I reference any standard, IEEE, ISO, or any other standards
> >> body.
>
> > well, maybe you should have... after all, some of us do use things
> > written by those bodies. some of us help write and test those
> > standards. and it sure would be nice if we could refer to a standard
> > way of describing antenna performance.
>
> If this is so important to you, I am sure you will be researching all
> the electromagnetics textbooks, antenna texbooks, industry and trade
> publications, the ARRL, the RSGB, manufacturers, and everyone else with
> any interest in antennas to determine the "correct" usage and definition
> of the terms in question, and submitting a draft proposal to the IEEE.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

nope, i don't care that much, but you sure seem to be insisting there
is a correct usage when obviously it hasn't ever been really agreed
upon by the right people. so you are the one who should be trying to

get all the worlds authors to agree to define it the same way and get
it into all the text books where its been missing all these years.

5206. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-15 23:40:31 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <kpjig69nvvmifec5u6t0qisrqk6nh9ueq3@4ax.com>
Source record: 6206

On 15 Dec 2010 20:52:22 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>There should free software displaying this gray line with UTC time, no?

Hi Sï¿½bastien,

I'm sure there is - somewhere. GoogleEarth would be an elaborate tool
to accomplish this.

>I found the "Receiving Antenna Handbook" quite cheap, but the "Loop
>Antenna Handbook" is still expensive. Between $60 to $257... I will try
>the cheapest.

Myself, I would not advise spending more than $20. Professional
antenna books barely give more than one section of the first chapter
to its discussion.

>>>OK. But today we probably ask more to radios than yesterday, no?
>>
>> No, probably less. Being an OM, (40 years ago) I also taught classes
>> for repair and maintenance of Collins' famous receiver, the R-390. EVEN
>> NOW (40 years later), this is probably the best receiver for its price
>> (and even two to three times its price).
>
>Do you calculate that in constant dollar from the 50's? :)

Today's cost matched with the price of equivalent performance from an
available vendor.

>I can imagine the teaching class. Everybody with a Collin's in front of
>him/her... A one year project to restore completely one of this legendary
>radio. I would like that!

There were two to a radio. 40 to 30 hours learning the schematic
theory of operation; and troubleshooting and tuning procedures and 30
to 40 hours in front of the radio. The class was 2 weeks long.
Complete restore unnessecary, of course, as the last class had fixed
any problem. No, we had a data bank of known problems, known
solutions, and the time to debug them averaged over at least 100
students for each problem.

>With a good DSP outside (Audio DSP only), can beat every other ones?

Good for filtering, probably tighter than the mechanical filters
(theoretically), but there are many, many other considerations.

>It seems not easy to get one, especially in Europe...

That seems like a very real impediment. And with it weighing in at 85 pounds (40 kilograms), the cost to deliver would add considerably.

>> So, my comment was a lapalissade? Certainly.
>
>You got the picture :)

In technicolor and 3D.

73's
Richard Clark, KB7QHC

5207. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 00:54:55 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <vj4ot7-deb.ln1@mail.specsol.com>
Source record: 6207

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 15, 11:12 pm, j...@specsol.spam.sux.com wrote:
>> K1TTT <k1...@arrl.net> wrote:
>> > On Dec 15, 8:49 pm, j...@specsol.spam.sux.com wrote:
>> >> Registered User <n4...@ix.netcom.com> wrote:
>> >> > On Wed, 15 Dec 2010 15:29:12 -0000, j...@specsol.spam.sux.com wrote:
>>
>> >> >>Registered User <n4...@ix.netcom.com> wrote:
>> >> >>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
>> >> >>> provides no definition for 'antenna efficiency' per se.
>>
>> >> >>So what?
>>
>> >> <snip babble>
>>
>> >> > The post concerning "a unique and unambigous definition" which "can be
>> >> > found in any textbook on electromagnetics" and subsequent
>> >> > back-pedaling appears to fit that model. Your "So what?" provides the
>> >> > meh.
>>
>> >> Yeah, the "back-pedaling" which consisted of changing "any textbook" to
>> >> "many textbooks".
>>
>> >> And nowhere did I reference any standard, IEEE, ISO, or any other standards
>> >> body.
>>
>> > well, maybe you should have... after all, some of us do use things
>> > written by those bodies. some of us help write and test those
>> > standards. and it sure would be nice if we could refer to a standard
>> > way of describing antenna performance.
>>
>> If this is so important to you, I am sure you will be researching all
>> the electromagnetics textbooks, antenna texbooks, industry and trade
>> publications, the ARRL, the RSGB, manufacturers, and everyone else with
>> any interest in antennas to determine the "correct" usage and definition
>> of the terms in question, and submitting a draft proposal to the IEEE.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> nope, i don't care that much, but you sure seem to be insisting there
> is a correct usage when obviously it hasn't ever been really agreed

> upon by the right people. so you are the one who should be trying to
> get all the worlds authors to agree to define it the same way and get
> it into all the text books where its been missing all these years.

So if the IEEE doesn't mention it in some standard everyone else is wrong?

Since there are electromagnetics textbooks, antenna texbooks, ARRL books and web sites that all say the same thing, it appears there is some agreement out there in the real world.

As for what's missing in some selection of books, I'm quite sure that if you do a comparison of every book on a given subject there will be differences in the topics covered.

--
Jim Pennino

Remove .spam.sux to reply.

5208. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 01:03:00 UTC
From: Registered User <n4jvp@ix.netcom.com>
Message-ID: <idiig6pr51ud5g4s2kbo4utt7kv5apjh8u@4ax.com>
Source record: 6208

On Wed, 15 Dec 2010 20:49:39 -0000, jimp@specsol.spam.sux.com wrote:

>Registered User <n4jvp@ix.netcom.com> wrote:
>> On Wed, 15 Dec 2010 15:29:12 -0000, jimp@specsol.spam.sux.com wrote:
>>
>>>Registered User <n4jvp@ix.netcom.com> wrote:
>>>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
>>>> provides no definition for 'antenna efficiency' per se.
>>>
>>>So what?
>>>
>
><snip babble>
>
That would be babble about why making blanket statements without
adequate research is not an effective decision. That is what you did
isn't it? Does everything that questions your highly self-valued input
become babble?

On Tue, 14 Dec 2010 16:54:40 -0000, jimp@specsol.spam.sux.com wrote:

>The term "antenna efficiency" has a unique and unambigous definition and
>can be found in any textbook on electromagnetics.

Speaking of babble, which parts of that statement have been shown to
be true? The balance can truly be considered babble.

>> The post concerning "a unique and unambigous definition" which "can be
>> found in any textbook on electromagnetics" and subsequent
>> back-pedaling appears to fit that model. Your "So what?" provides the
>> meh.
>
>Yeah, the "back-pedaling" which consisted of changing "any textbook" to
>"many textbooks".
>
And let us not overlook how the "a unique and unambigous definition"
became "the term is in common use". Adding conditionals to what was a
statement of absolute certainty does not make the original assertion
any less flawed. That's just woulda, coulda, shoulda revisionism, an
attempt to change the question to make it better fit the known answer.
What makes that path better than the simple admission of having made a
mistake?

>And nowhere did I reference any standard, IEEE, ISO, or any other standards
>body.
>

Yep you made no reference to any standards except for the ones you made up. Now you're making excuses for failing to refer to any other standards before making assertions which turned out to be wrong.. Alibi all you wish but the flaws in your assertion of "a unique and unambigous definition" which "can be found in any textbook on electromagnetics" have been exposed.

><snip remaining long winded babble>

What you call long-winded babble was

- quote -

You took what may be a perfectly valid general rule, tried to convert it to an absolute certainty, and failed. That's so what.

- end quote -

How could those two sentences be made to contain less babble and be made more concise?

Denigrate the messenger all you wish but that will not change the fact your blanket statement was nothing more than an uneducated, unfounded opinion. Please note I refer to the opinion as being uneducated and unfounded not the individual. Whatever your education, skills and experience are, the aggregate is unrelated to the fact you come across in the context of a small person who is rather full of himself. Let me just pat you on the head and say 'you win, you're right because you say so'.

5209. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 01:34:09 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ht6ot7-1pb.ln1@mail.specsol.com>
Source record: 6210

Registered User <n4jvp@ix.netcom.com> wrote:

<snip rambling rehashes, nothing left>

If it is in Electromagnetics by Kraus and Carver, that's good enough for me
as an engineer.

If it is in the ARRL Antenna Handbook, that's good enough for me as a ham.

--
Jim Pennino

Remove .spam.sux to reply.

5210. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 01:35:10 UTC
From: tom <news4792@taring.org>
Message-ID: <4d096ccb$0$87583$8046368a@newsreader.iphouse.net>
Source record: 6209

On 12/14/2010 9:47 PM, Art Unwin wrote:
>>
>> Art, You have just mentioned a constraint on antennas that I was not aware
>> of. Specifically "the ratio of capacitance to inductance must be unity".
>>
>> This is new to me. Please tell me how I go about making capacitance and
>> inductance equal so their ratio can be unity. How do you get the Farads and
>> Henries to cancel out, leaving a dimensionless number.
>>
>> Can you give me some real world examples?
>>
>> joe
>
> Joe,
<Snip large meaningless verbiage>
> Regards
> Art

More concisely stated "No".

tom
K0TAR

5211. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 11:34:56 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <9ddcb10b-fd98-4ce8-a5c0-ad778689d07f@c39g2000yqi.googlegroups.com>
Source record: 6211

On 15 dic, 22:32, Sébastien MEDARD <t...@tut.com> wrote:
> On Tue, 14 Dec 2010 09:17:40 -0800, Wimpie wrote:
> > Regarding tuning, loops and (long) wires.
>
> > You probably locate your antenna far away from noise sources. Mostly
> > this is not where your receiver is.
>
> That's a problem, indeed.
>
> > In case of tuned loops, you have to go outside for each significant
> > frequency change. This is one of the reasons that I want my
> > preselection / tuning adjacent to the receiver.
>
> It seems there is another solution. The varactor diodes seem to act as a
> variable capacitor driven by their voltage (the capacitance of this kind
> of diode decreases as the potential is increased).
>
> It seems there are some loop designs with varactor diodes as tuners.
>
> But I don't know what could be the price of a such solution.

That is an option, as they are frequently used in VHF/UHF systems. The
varactor is a non-linear device, so you may get intermodulation in a
large signal environment. You may use the varactor as fine tuning in
combination with fixed capacitors.

>
> > Loops aren't magic things. A wire from your balcony to a tree or other
> > tie point may give better S/N ratio then the best (expensive) loop on
> > your balcony.
>
> I think so, but there is nothing I can change for that today.
>
> > Best matching isn't required for reception at HF, just sufficient
> > signal. In case of a PI tuning / preselector device, you need to adjust
> > two capacitors in case of major frequency change. In my opinion a
> > single capacitor device is more pleasant to use.
>
> I will try different configurations when I get them.
>
> > If you want to experiment with some long wire (unbalanced) antennas,
> > make sure to have a ground (counterpoise) provision outside; otherwise
> > your coaxial cable will be part of the antenna. This may result in more
> > interference from indoor sources.
>

> Yes, but the place I plan to experiment should be far away from this kind
> of trouble... I won't be able to get a good ground there.

Did you try the balcony fence or other large metallic structure as
floating ground (counterpoise)?

>
> > If you use a tapped coil preselector (like the one in my link),
>
> Sorry, where is it in your web site?

It is the simple thing I referenced earlier
www.tetech.nl/divers/SimplePreselector2.jpg

>
> > and have
> > sufficient noise from the antenna, you may even change the taps. The
> > preselector will give more insertion loss, but it will be more selective
> > also.
>
> How is called this design?

I don't know the name for it, it is just a parallel resonant LC
circuit where the input and output goes via an inductive tap. Moving
the tap changes the coupling between the source/load and the resonant
circuit, hance changing the loaded Q-factor.

>
> > This can be of use when you have strong signals in your
> > neighborhood. Because of portability, I frequently use an AOR AR8200.
> > Without preselection, such a wide band receiver is useless with an
> > external antenna.
>
> I don't like these receivers... Or they should be used with
> optoelectronics frequency counters to drive the receiver... But more than
> that, the screen of these receivers is too small, too few information...
> I prefer being at home (or in a car) with a laptop computer displaying a
> beautiful waterfall picture :))

I fully agree on your statement, as these wide band receivers have
poor large signal performance, and don't have waterfall display....
However sometimes portability is of importance and then they can be
useful.

>
> That's the reason why I owned a SDR-IQ. And on upper frequencies, it will
> keep being useful with an appropriate scanner (if I see a cheap one on
> the second hand market).
>
> For the moment, I prefer exploring the bands than picking up a frequency
> in a database (it may change...)
>
> Sebastien.

Wim
PA3DJS

5212. Common Mode Noise Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 12:14:16 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <iecvqs$g4d$1@news.eternal-september.org>
Source record: 6212

Hello,

Not too sharp with antenna and noise theory, so please bear with me a bit.

If I have a run of coax from a Balun right at my outside receiving only
antenna (well grounded at that point) right to my receiver, is it still
possible to have common-mode noise induced into the coax ?

Say from a PC, Modem, Router near the receiver.

Wouldn't the coax shied prevent this ?
If not, why not ?

Can't picture how an emi source field would/could "get-thru" the coax
shield to the inner conductor.

Thanks,
Bob

5213. Re: Common Mode Noise Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 12:49:59 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <21acc324-977b-46f7-ab7e-77a21d47d80e@d7g2000vbv.googlegroups.com>
Source record: 6213

On Dec 16, 6:14 am, Bob <rgs...@notme.invalid> wrote:
> Can't picture how an emi source field would/could "get-thru" the coax
> shield to the inner conductor.

It doesn't have to. The inner shield and outer shield are shorted
together at the chassis. If noise exists on the chassis, i.e. the
chassis is not really "ground", the result is differential noise on an
unbalanced input. Essentially the same thing happens when SWR meter
readings are affected by common-mode signals during transmit or when
an unbalanced antenna analyzer is connected to balanced feedline
without a choke. A good choke on the coax near the chassis often
reduces the magnitude of the problem in all of the above cases.
--
73, Cecil, w5dxp.com

5214. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 13:33:58 UTC
From: nm5k@wt.net
Message-ID: <cd8e560d-9de0-4201-b055-ac30d7439e28@j25g2000vbs.googlegroups.com>
Source record: 6214

On Dec 15, 2:17 pm, Sébastien MEDARD <t...@tut.com> wrote:

>
> Do you tune it, or not? Is there a small loop inside or not?

Yes for both. The cap is down at the bottom corner, and
I use a separate coupling loop because I'm feeding coax
to the radio. The 42 inch per side loop uses 5 turns on
the main loop. The coupling loop is on the inside, and
maybe 36 or so inches out from center.
Sounds like you are in good shape for caps.
That 500-500 would be good. I'd put a small mini switch
between the two gangs to be able to cut or add the
second gang. That's what I do on mine anyway.
I solder the switches right to the tabs on the cap.
I also have a handful of fixed caps to add if I want to
drop further down into longwave. I don't use them that
often so I just clip them on if needed.
I think my 16 inch round loop has about 12 turns if
I remember right.. It also uses a inner coupling loop.
For me, those loops are mainly for AM-BC, but I do
wander down and listen to the air beacons from time
to time. And the big one covers 160 meters, so I
use it for that sometimes.

5215. From OP: Re: Common Mode Noise Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 13:42:18 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ied500$33j$1@news.eternal-september.org>
Source record: 6215

Hi,

Thanks for help; appreciate it.

I wasn't too clear.

By the "inner shield," I mean the signal carrying innermost (solid)
conductor of the coax.

Guess I am wondering how can emi noise get thru the outer shield and to
the signal carrying conductor. Unless, of course, it's a really poor
outer and leaky outer shield.

Regards, and thanks again,
Bob

On 12/16/2010 7:49 AM, Cecil Moore wrote:
> On Dec 16, 6:14 am, Bob<rgs...@notme.invalid> wrote:
>> Can't picture how an emi source field would/could "get-thru" the coax
>> shield to the inner conductor.
>
> It doesn't have to. The inner shield and outer shield are shorted
> together at the chassis. If noise exists on the chassis, i.e. the
> chassis is not really "ground", the result is differential noise on an
> unbalanced input. Essentially the same thing happens when SWR meter
> readings are affected by common-mode signals during transmit or when
> an unbalanced antenna analyzer is connected to balanced feedline
> without a choke. A good choke on the coax near the chassis often
> reduces the magnitude of the problem in all of the above cases.
> --
> 73, Cecil, w5dxp.com

5216. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 15:22:53 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d0a2ecd$0$22891$426a74cc@news.free.fr>
Source record: 6216

On Thu, 16 Dec 2010 03:34:56 -0800, Wimpie wrote:

>> It seems there are some loop designs with varactor diodes as tuners.
>>
>> But I don't know what could be the price of a such solution.
>
> That is an option, as they are frequently used in VHF/UHF systems. The
> varactor is a non-linear device, so you may get intermodulation in a
> large signal environment. You may use the varactor as fine tuning in
> combination with fixed capacitors.

OK.

>> > If you want to experiment with some long wire (unbalanced) antennas,
>> > make sure to have a ground (counterpoise) provision outside;
>> > otherwise your coaxial cable will be part of the antenna. This may
>> > result in more interference from indoor sources.
>>
>> Yes, but the place I plan to experiment should be far away from this
>> kind of trouble... I won't be able to get a good ground there.

Then I shall use a dipole...

> Did you try the balcony fence or other large metallic structure as
> floating ground (counterpoise)?

Not at this time. This is planned.

>> > If you use a tapped coil preselector (like the one in my link),
>>
>> Sorry, where is it in your web site?
>
> It is the simple thing I referenced earlier
> www.tetech.nl/divers/SimplePreselector2.jpg

Sorry... Yes, your design seems quite simple. But as a beginer, I think i
get some problems to understand how things are connected to the variable
capacitor, I mean I think the way the variable capacitor works is missing
in my information pool...

Based on your photo let say we get :
On the upper side : two connectors
On the lower side : two other connectors

But the upper side connectors are connected to the lower side
connectors... via the capacitor itself. Am I right?

The tap coil preselectors seem quite easy to carry out. You use different connectors on the tap to select the band you want to use.

You get a switch on the upper side that seems to avoid using one gang of the capacitor... But I cannot see of it is connected to the ground or not.

The air capacitor ground is connected to the ground.
On the right side, the tap coil preselectors are connected to the ground too.
There is a tiny capacitor that connects one gang to the ground again.

The central board should be used to avoid both tapped coil preselectors to get an inductive action on the other?

Is this correct? Would it be possible to get the schematic so that I could try to carry it out?

How did you compute the place to put the connectors (number of turns) for the tapped coil connectors?

>> > and have
>> > sufficient noise from the antenna, you may even change the taps. The
>> > preselector will give more insertion loss, but it will be more
>> > selective also.
>>
>> How is called this design?
>
> I don't know the name for it, it is just a parallel resonant LC circuit
> where the input and output goes via an inductive tap. Moving the tap
> changes the coupling between the source/load and the resonant circuit,
> hance changing the loaded Q-factor.

How do you use it? Quite a blind test, no?

>> > This can be of use when you have strong signals in your neighborhood.
>> > Because of portability, I frequently use an AOR AR8200. Without
>> > preselection, such a wide band receiver is useless with an external
>> > antenna.

I have a big QRM (well, I don't know what it is) at 1500 MHz and other smaller ones elsewhere that I cannot switch off :))

Sebastien.

5217. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 15:31:08 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f75e9692-9d8b-4a1b-b720-c0371287d07a@s9g2000vby.googlegroups.com>
Source record: 6217

On Dec 15, 11:13 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 15, 8:49 pm, j...@specsol.spam.sux.com wrote:
> >> Registered User <n4...@ix.netcom.com> wrote:
> >> > On Wed, 15 Dec 2010 15:29:12 -0000, j...@specsol.spam.sux.com wrote:
>
> >> >>Registered User <n4...@ix.netcom.com> wrote:
> >> >>> The IEEE Standard Definitions Terms for Antennas (IEEE Std 145-1993)
> >> >>> provides no definition for 'antenna efficiency' per se.
>
> >> >>So what?
>
> >> <snip babble>
>
> >> > The post concerning "a unique and unambigous definition" which "can be
> >> > found in any textbook on electromagnetics" and subsequent
> >> > back-pedaling appears to fit that model. Your "So what?" provides the
> >> > meh.
>
> >> Yeah, the "back-pedaling" which consisted of changing "any textbook" to
> >> "many textbooks".
>
> >> And nowhere did I reference any standard, IEEE, ISO, or any other standards
> >> body.
>
> > well, maybe you should have... after all, some of us do use things
> > written by those bodies. some of us help write and test those
> > standards. and it sure would be nice if we could refer to a standard
> > way of describing antenna performance.
>
> If I were you I would be more concerned why so many of you posts appear
> twice.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

i think i have figured that out... if i post to the group it takes me
right back to reading messages... and then if i do a refresh it must
try to do the same post it just did since that is how it got to the
current page. i'll try to remember to go back to the message list
first which seems to avoid that problem.

5218. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 16:11:40 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d0a3a3c$0$22891$426a74cc@news.free.fr>
Source record: 6218

Hello,

On Wed, 15 Dec 2010 15:40:31 -0800, Richard Clark wrote:

> On 15 Dec 2010 20:52:22 GMT, Sébastien MEDARD <titi@tut.com> wrote:
>
>>There should free software displaying this gray line with UTC time, no?
>
> I'm sure there is - somewhere. GoogleEarth would be an elaborate tool
> to accomplish this.

Well... In French we say that it is like using backhoes to move a bucket
of sand...

I found some software here :
http://www.ac6v.com/software.htm#GEO

Need to be tested...

>>I found the "Receiving Antenna Handbook" quite cheap, but the "Loop
>>Antenna Handbook" is still expensive. Between $60 to $257... I will try
>>the cheapest.
>
> Myself, I would not advise spending more than $20. Professional antenna
> books barely give more than one section of the first chapter to its
> discussion.

I totally agree, I will see what the seller proposes.

>>I can imagine the teaching class. Everybody with a Collin's in front of
>>him/her... A one year project to restore completely one of this
>>legendary radio. I would like that!
>
> There were two to a radio. 40 to 30 hours learning the schematic theory
> of operation; and troubleshooting and tuning procedures and 30 to 40
> hours in front of the radio. The class was 2 weeks long. Complete
> restore unnecessary, of course, as the last class had fixed any problem.
> No, we had a data bank of known problems, known solutions, and the time
> to debug them averaged over at least 100 students for each problem.

:)

>>With a good DSP outside (Audio DSP only), can beat every other ones?
>
> Good for filtering, probably tighter than the mechanical filters
> (theoretically), but there are many, many other considerations.

I should try to see if there are any OM near the place I live. Could be interesting to see those old boxes.

Well, many thanks for the basic information you gave me.

Now, I need to use it.

Sébastien.

5219. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 17:40:15 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <e9f7938d-b2ca-4fb2-bc9f-e82eeacf663b@t35g2000yqj.googlegroups.com>
Source record: 6219

Hello Sébastien,

This: http://www.tetech.nl/divers/Simple_HF_Preselector1.png will help you. It shows the basic idea of a simple single variable capacitor preselector.

You can use one coil and put two selectors on it, but with two seperate coils the attenuation for out-of-band signals is much better. This is because the individual turns of each coil have low mutual coupling (they don't act as a transformer). As I have sufficient antenna noise, the selectors (in my case clips) are mostly on the lowest position (I don't need matching to get more signal and noise).

For AM BC operation you need more turns (w.r.t. the coils on the photo).

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me in most cases.

5220. Re: Common Mode Noise Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 18:03:47 UTC
From: Nordic Breeds WA4VZQ <wa4vzqNO@SPAMlive.com>
Message-ID: <iedka7srm1@news.eternal-september.org>
Source record: 6220

"Bob" <rgsros@notme.invalid> wrote in message
news:iecvqs$g4d$1@news.eternal-september.org...
> Hello,
>
> Not too sharp with antenna and noise theory, so please bear with me a
> bit.
>
> If I have a run of coax from a Balun right at my outside receiving only
> antenna (well grounded at that point) right to my receiver, is it still
> possible to have common-mode noise induced into the coax ?
>
> Say from a PC, Modem, Router near the receiver.
>
> Wouldn't the coax shied prevent this ?
> If not, why not ?
>
> Can't picture how an emi source field would/could "get-thru" the coax
> shield to the inner conductor.
>
> Thanks,
> Bob

One key point here is that the coaxial cable shield is grounded at two points, at the receiver and at the antenna. You might have what is known as a ground-loop. The best thing to do is to ground the receiver, the computer, the modem, and the router with leads as short as possible, AND TO THE SAME GROUND POINT. Since you have a balanced to unbalanced conversion (Balun) at the antenna, there is no need to ground the coax shield at this point.

Years ago, I had three grounds in my ham shack: the power line ground at the service entrance to the house, the tower ground where I had mounted a rotary coax relay, and a copper cold water pipe running beneath the shack which connected to the buried galvanized water pipe running from the street to the house. I measured from 3 to 15 volts AC between the three grounds. When connecting them together, I measured as much as an amp of current flowing. I bonded everything together at the water pipe and used this as the single point ground to which everything else was grounded.

I agree with Cecil that the noise is probably common mode noise. But the quality of the coax certainly does affect how much signal leaks in or out of a coaxial cable. I haven't bought Radio Shack coax in years, but it used to be very poorly shielded. The braid shield looked more like window screen than it did a solid sheath. This is the reason most CATV providers use flexible coax with two shields: a foil or metalized plastic

shield covered by the braid shield. Special coaxial cables with high leakage are often used in long tunnels to provide FM reception in the tunnel.

73, Barry WA4VZQ

5221. Any compact HF beams worth considering?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 18:36:01 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E50802DC2F6FVeebleFetzer@216.250.188.141>
Source record: 6221

I'm really short of space for antennas, but I think I might be able to get away with one of the small HF beams I see advertised if it could be mounted on a roof-top tripod. Dimensionally, I think a conventional 3-element beam would fit, but I don't think a roof-top mount would be adequate.

Are any of these even worth considering?

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5222. Re: LADDER LINE SPREADERS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 21:22:19 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <f29e959d-fa69-41ea-b4aa-3ad27d39a007@y19g2000prb.googlegroups.com>
Source record: 6222

On Dec 11, 10:06 pm, justme <jble...@gmail.com> wrote:
> Hey, Jimmie, that is what I thought about making.
>
> Where did you get the fiberglass rope and how much was/is it?
>
> Joe
>
> On Thu, 9 Dec 2010 08:10:15 -0800 (PST), JIMMIE
>
>
>
> <JIMMIEDEE...@YAHOO.COM> wrote:
> >On Nov 2, 10:56 pm, justme <jble...@gmail.com> wrote:
> >> Hi, Folks.
>
> >> I need ideas for CHEAP and uv stable, strong, light weight, waterproof
> >> ladder line spreaders of about 4 or 5 inches wide. Wood in any
> >> configuration will not do. PVC pipe will not do. Welding rod would
> >> do but it is expensive.
>
> >> I was thinking of Fiberglas tape, twisted and put in place and then
> >> resin applied but that is very cumbersome.
>
> >> Any ideas out there?
>
> >> Thank you.
>
> >I came by some glass rope (believe it was used for making fireproof
> >curtains) I saturated it in resin to make some fiberglass rods. I
> >would think other types of rope impregnated with resin may work, Ive
> >seen burlap successfully used with resin so I am thinking hemp rope
> >may work.
>
> >Jimmie- Hide quoted text -
>
> - Show quoted text -

I came by it while demolishing a motel. A roll of green rope was in
storage there. Dont know what it would cost if I had to buy it. Hemp
rope is cheap if you can find some that is raw and not impregnated
with oil it should take resin pretty good. Fortunately the kind with
no oil is the cheapest. Ive experimented with rope made of paper,
soaking it with resin also made some rods I believe could be used for
your pupose. I never used them for anything but they I had a couple of

2m lengths outside for 5 or 6 years before disposing of them. I was surprised at how well they held up. Im sure they would have done even better if they had been painted.. Not sure of the cost but it should be very inexpensive. Cost of the resin would be the biggest factor.

Jimmie

5223. Re: antenna physics question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 22:31:40 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <74c65fe1-a2ce-4513-b642-5da2d863cf8d@v12g2000vbx.googlegroups.com>
Source record: 6223

On Nov 28, 9:32 pm, Art Unwin <arthurun...@gmail.com> wrote:
> I have been struggling with this for some time
> so maybe somebody can set me straight.
> We wind a flat plate spiral antenna and we get to a point where the
> center medium becomes saturated with flux.
> Now I add even more coils. What action does that precipitate? I would
> like to think that the Meissner effect (perfect diamagnetism) then
> takes over and swamps the external magnetic field as with a
> superconductor (ie opposite to that of a paramagnetic) The skin
> effect is thus removed allowing the current flow to the surface by
> allowing the atomic structure to relax, and add to the current already
> in place to allow fully efficient radiation as it now lies outside the
> confines of conductor resistance.
> This is my effort in determining what is it that drives the constant
> impedance attributes of a meander type array?
> Regards
> Art

oh, and the answer is R.

5224. Re: From OP: Re: Common Mode Noise Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 22:50:32 UTC
From: Cecil Moore <w5dxp@hotmail.com>
Message-ID: <c8c3f2e0-71fa-4fd9-9364-15ce4f7843fc@n10g2000yqd.googlegroups.com>
Source record: 6224

On Dec 16, 7:42 am, Bob <rgs...@notme.invalid> wrote:
> Guess I am wondering how can emi noise get thru the outer shield and to
> the signal carrying conductor.

Common mode RF signals cannot exist on the inner conductor of an
ideal coax feedline and is forced to the outside of the braid by the
laws of physics. The coax has to be less than ideal for common mode to
exist on the inner conductor. But common mode signals don't have to
make it to the coax inner conductor to cause noise problems in a
single-ended unbalanced receiver circuit. A differential amplifier is
often used in control circuits to minimize common-mode problems. A
link-coupled transformer will accomplish much the same function for
amateur circuits.
--
73, Cecil, w5dxp.com

5225. Re: From OP: Re: Common Mode Noise Question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-16 23:15:25 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <9bcd2eeb-1729-43dd-ba2a-3ed420c01d4f@s4g2000yql.googlegroups.com>
Source record: 6225

On Dec 16, 9:42 am, Bob <rgs...@notme.invalid> wrote:
> Hi,
>
> Thanks for help; appreciate it.
>
> I wasn't too clear.
>
> By the "inner shield," I mean the signal carrying innermost (solid)
> conductor of the coax.
>
> Guess I am wondering how can emi noise get thru the outer shield and to
> the signal carrying conductor. Unless, of course, it's a really poor
> outer and leaky outer shield.
>
> Regards, and thanks again,
> Bob
> ------------------
>
> On 12/16/2010 7:49 AM, Cecil Moore wrote:
>
>
>
> > On Dec 16, 6:14 am, Bob<rgs...@notme.invalid> wrote:
> >> Can't picture how an emi source field would/could "get-thru" the coax
> >> shield to the inner conductor.
>
> > It doesn't have to. The inner shield and outer shield are shorted
> > together at the chassis. If noise exists on the chassis, i.e. the
> > chassis is not really "ground", the result is differential noise on an
> > unbalanced input. Essentially the same thing happens when SWR meter
> > readings are affected by common-mode signals during transmit or when
> > an unbalanced antenna analyzer is connected to balanced feedline
> > without a choke. A good choke on the coax near the chassis often
> > reduces the magnitude of the problem in all of the above cases.
> > --
> > 73, Cecil, w5dxp.com- Hide quoted text -
>
> - Show quoted text -

Lets try the simplest expalnation first. If you are familar with RF
current flowing on the outdside of a coax cable during transmit(often
discussed here) it is the same thing but in reverse.

Jimmie

5226. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 15:28:08 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d0b8187$0$25012$426a74cc@news.free.fr>
Source record: 6226

Hello,

On Thu, 16 Dec 2010 09:40:15 -0800, Wimpie wrote:

> Hello Sébastien,
>
> This: http://www.tetech.nl/divers/Simple_HF_Preselector1.png will help
> you. It shows the basic idea of a simple single variable capacitor
> preselector.

Many thanks. I will try it as soon as possible.

> You can use one coil and put two selectors on it, but with two seperate
> coils the attenuation for out-of-band signals is much better. This is
> because the individual turns of each coil have low mutual coupling (they
> don't act as a transformer). As I have sufficient antenna noise, the
> selectors (in my case clips) are mostly on the lowest position (I don't
> need matching to get more signal and noise).

OK.

> For AM BC operation you need more turns (w.r.t. the coils on the photo).

As I want to use it from 0.5 to 30MHz, what would be size of both coils?
How many turns? What diameter? What would be the value of the C1
capacitor? A lot of questions....

Thanks again.

Sebastien.

5227. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 15:40:03 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d0b8453$0$25012$426a74cc@news.free.fr>
Source record: 6227

Hello,

On Thu, 16 Dec 2010 05:33:58 -0800, nm5k wrote:

> Yes for both. The cap is down at the bottom corner, and I use a separate
> coupling loop because I'm feeding coax to the radio.

I saw a lot of photos where I saw the cap on the top and the coax feeded
to the coupling loop on the bottom. Is doing the other way OK?

> The 42 inch per
> side loop uses 5 turns on the main loop. The coupling loop is on the
> inside, and maybe 36 or so inches out from center. Sounds like you are
> in good shape for caps. That 500-500 would be good.

Great.

> I'd put a small mini
> switch between the two gangs to be able to cut or add the second gang.

Definitively a good idea.

> That's what I do on mine anyway. I solder the switches right to the tabs
> on the cap.

Good advice.

> I also have a handful of fixed caps to add if I want to drop
> further down into longwave. I don't use them that often so I just clip
> them on if needed.

Planned.

The thing that can be done is to use the same base board on the different
loops to be used. Tell me your thoughts.... I was planning to put
everything on a wood board...

> I think my 16 inch round loop has about 12 turns if I
> remember right.. It also uses a inner coupling loop. For me, those loops
> are mainly for AM-BC,

It seems the size of the loop (I didn't play with loop software yet) is
not critical, but is it possible to say that the lower band you want to
listen, the taller loop you should use?

> but I do wander down and listen to the air beacons
> from time to time. And the big one covers 160 meters, so I use it for
> that sometimes.

Well... Sorry for the newbie question.... But what do you mean by beacons?

Sebastien.

5228. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 17:20:48 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <nq6ng6hednh34bm4902rfd887sel7chocj@4ax.com>
Source record: 6228

On 17 Dec 2010 15:28:08 GMT, Sï¿½bastien MEDARD <titi@tut.com> wrote:

>As I want to use it from 0.5 to 30MHz, what would be size of both coils?
>How many turns? What diameter? What would be the value of the C1
>capacitor? A lot of questions....

Hi Sebastien,

Reg Edward's software, that you already have access to, will answer
that far faster than asking here. Reason for that is because of all
the variables that come into play. You can judge for yourself when
you enter them into the program and observe what results are returned.

73's
Richard Clark, KB7QHC

5229. USB Stations ? (a bit OT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 17:44:53 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ieg7is$e0b$1@news.eternal-september.org>
Source record: 6229

Hello,

Wish to check out my receiver/antenna on USB signals.

Having a bit of trouble latching on to any.

Are there any USB stations/transmitters that are more or less always
transmitting, and have a reasonably strong signal ?
Live outside of Boston.

For LSB ?

Thanks, and Happy Holidays,
Bob

5230. Re: USB Stations ? (a bit OT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 17:54:28 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <51cbc364-5383-40b6-a463-f88c56734378@p38g2000vbn.googlegroups.com>
Source record: 6230

On Dec 17, 5:44 pm, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> Wish to check out my receiver/antenna on USB signals.
>
> Having a bit of trouble latching on to any.
>
> Are there any USB stations/transmitters that are more or less always
> transmitting, and have a reasonably strong signal ?
> Live outside of Boston.
>
> For LSB ?
>
> Thanks, and Happy Holidays,
> Bob

for usb try between 14150 and 14350 during the day
for lsb try between 7125 and 7300 just about any time, but especially
at night.

5231. Re: Any compact HF beams worth considering?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 18:09:01 UTC
From: Scotty W7PSK <w7psk@yahoo.com>
Message-ID: <2de165fb-f52b-4a3c-8d49-8c39755e041f@a28g2000prb.googlegroups.com>
Source record: 6231
Body handling: HTML body converted to readable text

On Dec 16, 10:36 am, Bert Hyman wrote:
> I'm really short of space for antennas, but I think I might be able to
> get away with one of the small HF beams I see advertised if it could be
> mounted on a roof-top tripod. Dimensionally, I think a conventional
> 3-element beam would fit, but I don't think a roof-top mount would be
> adequate.
>
> Are any of these even worth considering?
>
> --
> Bert Hyman W0RSB St. Paul, MN b...@iphouse.com

I use a 9ft Glen Martin with an A-4S. Its not a DX Killer but you
will work them.

20-25ft up has it limitations on some DX but its doable.

Scotty W7PSK

5232. Re: USB Stations ? (a bit OT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 18:41:28 UTC
From: Richard Clark <kb7qhc@comcast.net>
Message-ID: <dhbng69t41o3b23tfvgvdi0ck6342or9if@4ax.com>
Source record: 6232

On Fri, 17 Dec 2010 12:44:53 -0500, Bob <rgsros@notme.invalid> wrote:

>Wish to check out my receiver/antenna on USB signals.

Hi Bob,

Tune into international shortwave broadcasts. Even though they are AM, the have both upper and lower sidebands (yes, I know, didactic). Still and all, it will give you some feel for tuning a signal in. For some receivers that can split a band with narrow IF filtering, this is a good way to DX weak AM signals.

73's
Richard Clark, KB7QHC

5233. Re: USB Stations ? (a bit OT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-17 23:40:35 UTC
From: John_A <thatswhen@westnet.com.au>
Message-ID: <IfadnaJxd7Bv0ZDQnZ2dnUVZ8gydnZ2d@westnet.com.au>
Source record: 6239

I wouls suggest finding a "local" weather fax station transmitting on USB,
whear are you located ?
"Bob" <rgsros@notme.invalid> wrote in message
news:ieg7is$e0b$1@news.eternal-september.org...
> Hello,
>
> Wish to check out my receiver/antenna on USB signals.
>
> Having a bit of trouble latching on to any.
>
> Are there any USB stations/transmitters that are more or less always
> transmitting, and have a reasonably strong signal ?
> Live outside of Boston.
>
> For LSB ?
>
> Thanks, and Happy Holidays,
> Bob
>

5234. Re: USB Stations ? (a bit OT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-18 03:10:25 UTC
From: david <none@nospam.com>
Message-ID: <ieh8n1$n7g$1@news.eternal-september.org>
Source record: 6233

On Fri, 17 Dec 2010 12:44:53 -0500, Bob rearranged some electrons to say:

> Hello,
>
> Wish to check out my receiver/antenna on USB signals.
>
> Having a bit of trouble latching on to any.
>
> Are there any USB stations/transmitters that are more or less always
> transmitting, and have a reasonably strong signal ? Live outside of
> Boston.
>
> For LSB ?
>
> Thanks, and Happy Holidays,
> Bob

Try WWV at 10 MHz (or any of the other frequecies they transmit on -
multiples of 5 MHz). It is AM so both sidebands are present.

5235. Re: USB Stations ? (a bit OT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-18 03:22:35 UTC
From: greenpjs@neo.rr.com
Message-ID: <k3aog6lav0l46osb5oer6m04ivqabpumn7@4ax.com>
Source record: 6234

On Sat, 18 Dec 2010 03:10:25 +0000 (UTC), david <none@nospam.com>
wrote:

>On Fri, 17 Dec 2010 12:44:53 -0500, Bob rearranged some electrons to say:
>
>> Hello,
>>
>> Wish to check out my receiver/antenna on USB signals.
>>
>> Having a bit of trouble latching on to any.
>>
>> Are there any USB stations/transmitters that are more or less always
>> transmitting, and have a reasonably strong signal ? Live outside of
>> Boston.
>>
>> For LSB ?
>>
>> Thanks, and Happy Holidays,
>> Bob
>
>Try WWV at 10 MHz (or any of the other frequecies they transmit on -
>multiples of 5 MHz). It is AM so both sidebands are present.
Aviation HF stations are USB. For example, Gander and New York VOLMET
stations on 3485, 6604, 10051, and 13270 MHz

5236. Patch Cable Source ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-18 15:53:14 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <ieildhlte1@news.eternal-september.org>
Source record: 6235

Hello,

Trying to find a source who actually has in stock a coax patch cable.
Looking for a 6 inch length, SMA M on one end, and a BNC M on the other.

Would be using to provide some flexibility between components.

Coax type probably isn't all that important, as it's a receiving only
application up to 50 MHz, and such a short length.

But a "small" cable O.D. dia would be, to provide some flexibility.

Lots and lots of sources on the web, looked at many, but none seem to
stock anything like this.
As the quantity is small, three pieces perhaps, having someone make a
custom cable doesn't make sense.

Is there a consensus perhaps as to which outfits might have something
like this in stock, and specialize in small quantity "stuff" like this,
that I might have missed ?

Thanks,
B.

5237. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-18 16:09:52 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <be39fb67-85a5-4005-85c6-262c2a39395b@g25g2000yqn.googlegroups.com>
Source record: 6236

On 17 dic, 16:28, Sébastien MEDARD <t...@tut.com> wrote:
> Hello,
>
> On Thu, 16 Dec 2010 09:40:15 -0800, Wimpie wrote:
> > Hello Sébastien,
>
> > This: http://www.tetech.nl/divers/Simple_HF_Preselector1.png will help
> > you. It shows the basic idea of a simple single variable capacitor
> > preselector.
>
> Many thanks. I will try it as soon as possible.
>
> > You can use one coil and put two selectors on it, but with two seperate
> > coils the attenuation for out-of-band signals is much better. This is
> > because the individual turns of each coil have low mutual coupling (they
> > don't act as a transformer).   As I have sufficient antenna noise, the
> > selectors (in my case clips) are mostly on the lowest position (I don't
> > need matching to get more signal and noise).
>
> OK.
>
> > For AM BC operation you need more turns (w.r.t. the coils on the photo).
>
> As I want to use it from 0.5 to 30MHz, what would be size of both coils?
> How many turns? What diameter? What would be the value of the C1
> capacitor? A lot of questions....
>
> Thanks again.
>
> Sebastien.

Hello,

Do you have some background in electronics and/or AC circuits (concept
of reactance, impedance, resonance, etc)?

Wim
PA3DJS

5238. Re: Patch Cable Source ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-18 16:44:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <189f3047-7fd7-4661-b967-eb89c6f61e29@32g2000yqz.googlegroups.com>
Source record: 6237

On Dec 18, 3:53 pm, Bob <rgs...@notme.invalid> wrote:
> Hello,
>
> Trying to find a source who actually has in stock a coax patch cable.
> Looking for a 6 inch length, SMA M on one end, and a BNC M on the other.
>
> Would be using to provide some flexibility between components.
>
> Coax type probably isn't all that important, as it's a receiving only
> application up to 50 MHz, and such a short length.
>
> But a "small" cable O.D. dia would be, to provide some flexibility.
>
> Lots and lots of sources on the web, looked at many, but none seem to
> stock anything like this.
> As the quantity is small, three pieces perhaps, having someone make a
> custom cable doesn't make sense.
>
> Is there a consensus perhaps as to which outfits might have something
> like this in stock, and specialize in small quantity "stuff" like this,
> that I might have missed ?
>
> Thanks,
> B.

i don't see one that short, but this place does custom make them
pretty quick:
http://www.aaarfproducts.com/SMACABLEASSEMBLIES.aspx
maybe just buy a 12" sma-sma and add your own bnc's to get 2 cables.

5239. Re: Patch Cable Source ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-18 23:17:20 UTC
From: Nordic Breeds WA4VZQ <wa4vzqNO@SPAMlive.com>
Message-ID: <iejfe3jsq1@news.eternal-september.org>
Source record: 6238

"Bob" <rgsros@notme.invalid> wrote in message
news:ieildhlte1@news.eternal-september.org...
> Hello,
>
> Trying to find a source who actually has in stock a coax patch cable.
> Looking for a 6 inch length, SMA M on one end, and a BNC M on the
> other.
>
> Would be using to provide some flexibility between components.
>
> Coax type probably isn't all that important, as it's a receiving only
> application up to 50 MHz, and such a short length.
>
> But a "small" cable O.D. dia would be, to provide some flexibility.
>
> Lots and lots of sources on the web, looked at many, but none seem to
> stock anything like this.
> As the quantity is small, three pieces perhaps, having someone make a
> custom cable doesn't make sense.
>
> Is there a consensus perhaps as to which outfits might have something
> like this in stock, and specialize in small quantity "stuff" like this,
> that I might have missed ?
>
> Thanks,
> B.

Pasternack Enterprises has BNC-M to SMA-M adapters, and can make cables
with these end connectors using both RG-58C/U and RG-174. Cost will be
in the $25 to $35 range. I have done business with them before and been
very satisfied.

73, Barry WA4VZQ

5240. Re: Patch Cable Source ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-19 02:08:39 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iejpfaitk1@news.eternal-september.org>
Source record: 6240

On 12/18/2010 9:53 AM, Bob wrote:
> Hello,
>
> Trying to find a source who actually has in stock a coax patch cable.
> Looking for a 6 inch length, SMA M on one end, and a BNC M on the other.
>
> Would be using to provide some flexibility between components.
>
> Coax type probably isn't all that important, as it's a receiving only
> application up to 50 MHz, and such a short length.
>
> But a "small" cable O.D. dia would be, to provide some flexibility.
>
> Lots and lots of sources on the web, looked at many, but none seem to
> stock anything like this.
> As the quantity is small, three pieces perhaps, having someone make a
> custom cable doesn't make sense.
>
> Is there a consensus perhaps as to which outfits might have something
> like this in stock, and specialize in small quantity "stuff" like this,
> that I might have missed ?
>
> Thanks,
> B.

Here ya go....

http://www.l-com.com/item.aspx?id=10187

5241. From OP: Re: Patch Cable Source ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-19 12:49:42 UTC
From: Bob <rgsros@notme.invalid>
Message-ID: <iekv15$om8$1@news.eternal-september.org>
Source record: 6241

Thanks Guys for info.

Happy Holidays,
Bob

On 12/18/2010 10:53 AM, Bob wrote:
> Hello,
>
> Trying to find a source who actually has in stock a coax patch cable.
> Looking for a 6 inch length, SMA M on one end, and a BNC M on the other.
>
> Would be using to provide some flexibility between components.
>
> Coax type probably isn't all that important, as it's a receiving only
> application up to 50 MHz, and such a short length.
>
> But a "small" cable O.D. dia would be, to provide some flexibility.
>
> Lots and lots of sources on the web, looked at many, but none seem to
> stock anything like this.
> As the quantity is small, three pieces perhaps, having someone make a
> custom cable doesn't make sense.
>
> Is there a consensus perhaps as to which outfits might have something
> like this in stock, and specialize in small quantity "stuff" like this,
> that I might have missed ?
>
> Thanks,
> B.

5242. Re: Patch Cable Source ?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-19 21:53:11 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <ielusf$1t4$1@news.eternal-september.org>
Source record: 6242

Go to Ebay, do a search on SMA male and take your pick!

I have bought good quality patch cables for less than $us8, exactly like the
one you are looking for.
73
John

"Bob" <rgsros@notme.invalid> wrote in message
news:ieildhlte1@news.eternal-september.org...
> Hello,
>
> Trying to find a source who actually has in stock a coax patch cable.
> Looking for a 6 inch length, SMA M on one end, and a BNC M on the other.
>
> Would be using to provide some flexibility between components.
>
> Coax type probably isn't all that important, as it's a receiving only
> application up to 50 MHz, and such a short length.
>
> But a "small" cable O.D. dia would be, to provide some flexibility.
>
> Lots and lots of sources on the web, looked at many, but none seem to
> stock anything like this.
> As the quantity is small, three pieces perhaps, having someone make a
> custom cable doesn't make sense.
>
> Is there a consensus perhaps as to which outfits might have something like
> this in stock, and specialize in small quantity "stuff" like this, that I
> might have missed ?
>
> Thanks,
> B.

5243. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-19 22:10:10 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d0e82c2$0$27543$426a34cc@news.free.fr>
Source record: 6243

Hello,

On Sat, 18 Dec 2010 08:09:52 -0800, Wimpie wrote:

> Do you have some background in electronics and/or AC circuits (concept
> of reactance, impedance, resonance, etc)?

I should.... But I was better in chemistry :) I should have studied RLC circuits but at this time it was boring... If I had some interest in shortwave listening, I would have been a better student in physics :)

But I should be able to understand :) I think I am going to see if there is any radio club near the place I live. Because I have a lot of questions and English is, as you understood it, not my main spoken language :)

Seb.

5244. Antenna measurements with 8405

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-20 02:37:30 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <iemfhcece1@news.eternal-september.org>
Source record: 6244

Hi -

My frequency of interest is about 434 MHz. I have the following equipment:

HP 8405A vector voltmeter
HP Accessory kit for the above
HP App note AN77-3 (compliments of Wes Stewart)
Fluke 6061A signal generator
Mini-Circuits 40-1000 MHz dual directional coupler.

I'm not sure the info above is really required for this question, but I thought it couldn't hurt.

The question is: I use about an 8-foot piece of coax to go from the output of the directional coupler to the antenna so as to reduce my body and instrument influence. When I follow AN77-3, I do so at the antenna end of the coax. That is, I set up the 8405A with a short at the end of the coax. I figure the coax is only about .8 dB of loss. Is this a valid way of doing the measurement, or must I set up the 8405 with a short on the output of the coupler and characterize the coax and then calculate the answer?

Thanks,
John

5245. Cushcraft, HyGain build quality?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-20 14:29:17 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E5456585D14CVeebleFetzer@216.250.188.141>
Source record: 6245

Can anybody comment on the build quality of their antennas since MFJ
took them over?

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5246. Re: Cushcraft, HyGain build quality?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-20 15:02:09 UTC
From: "T. & D. Gregor, Sr." <tdgsr@verizon.net>
Message-ID: <9erug655a6q8mtvqmlv5jsr1phqq0fkh4r@4ax.com>
Source record: 6246

Hi Bert:

I don't have any empirical evidence one way or the other. However, knowing a bit about manufacturing... I think that I can reliably say that any antenna design prior to the acquisition would in all likelihood be unchanged from the original design parameters.

The other side of that thinking... a new design, post acquisition would be an unknown.

Just my two cents...

Merry Christmas

Tom G, Sr.

On 20 Dec 2010 14:29:17 GMT, Bert Hyman <bert@iphouse.com> wrote:

>Can anybody comment on the build quality of their antennas since MFJ
>took them over?

5247. Re: Cushcraft, HyGain build quality?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-20 15:44:38 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E54631F125DAVeebleFetzer@216.250.188.140>
Source record: 6247

In news:9erug655a6q8mtvqmlv5jsr1phqq0fkh4r@4ax.com "T. & D. Gregor, Sr." <tdgsr@verizon.net> wrote:

>
> Hi Bert:
>
> I don't have any empirical evidence one way or the other. However,
> knowing a bit about manufacturing... I think that I can reliably say
> that any antenna design prior to the acquisition would in all
> likelihood be unchanged from the original design parameters.

I agree that they're unlikely to have changed the design on any of the existing products.

I'm wondering about the quality of the manufactured parts.

Are all the holes in the right place, are the tubes of the correct length, are all the soldered connections actually soldered, etc?

More generally, will the things go together and stay together?

>
> The other side of that thinking... a new design, post acquisition
> would be an unknown.
>
> Just my two cents...
>
> Merry Christmas
>
> Tom G, Sr.
>
>
>
> On 20 Dec 2010 14:29:17 GMT, Bert Hyman <bert@iphouse.com> wrote:
>
>>Can anybody comment on the build quality of their antennas since MFJ
>>took them over?
>
>

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5248. Marine Auto-tuner (any advice? made by MTI Ltd)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-20 18:15:11 UTC
From: Dave Ph <Dave.Ph.7559878@radiobanter.com>
Message-ID: <Dave.Ph.7559878@radiobanter.com>
Source record: 6248

Hi, Any know anything about Marine ATUs?

Trying to get my auto-tuner working again but no info how to get power
to it.

This one is by Marine Technology International Limited and is dated
1996. It has the usual fixed 2182 tune switch for coastguard.

Any experience welcome! Thank you indeed!

Dave

--
Dave Ph

5249. Re: Cushcraft, HyGain build quality?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 01:58:47 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <yYGdnY8O54xNII3QnZ2dnUVZ_jGdnZ2d@earthlink.com>
Source record: 6249

"Edmund H. Ramm" <ehramm@dk3uz.ampr.org> wrote in message
news:ieoo6t$fq8$2@dk3uz.ampr.org...
> In <Xns9E54631F125DAVeebleFetzer@216.250.188.140> Bert Hyman
> <bert@iphouse.com> writes:
>
>> [...]
>> Are all the holes in the right place, are the tubes of the correct
>> length, are all the soldered connections actually soldered, etc?
>> [...]
>
> Properly soldered connections and MFJ amount to an oxymoron.
>
> 73, Eddi ._._.

I hae bought several things from MFJ and think of it as an almost done kit.
Have had to go and resolder a few connections, callibrate a wattmeter,
tighten many screws.

5250. Ground level question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 11:55:38 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <ieq4kb$t4m$1@news.eternal-september.org>
Source record: 6250

Hello,
a big name in the antenna manufacturer say in the brochure of their vertical antenna: "minimum recommended radial requirements: at ground level, 8 radials of 0,1 wl each calculating the lowest operational frequency. Above ground, 2 radial cut for the specific frequency for each band of operation."

Assuming a operational frequency e.g. 7 MHz, at what height from the ground one can consider the antenna mounted "above ground" ??

TIA and 73,

-.-. --.-

5251. Re: Ground level question

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 12:42:42 UTC
From: nm5k@wt.net
Message-ID: <7eec116f-3b08-4de3-94f5-26fdfc04170b@f2g2000vby.googlegroups.com>
Source record: 6151

On Dec 21, 5:55 am, "-.-. --.-" <a...@a.com> wrote:
> Hello,
> a big name in the antenna manufacturer say in the brochure of their vertical
> antenna: "minimum recommended radial requirements: at ground level, 8
> radials of 0,1 wl each calculating the lowest operational frequency. Above
> ground, 2 radial cut for the specific frequency for each band of operation."
>
> Assuming a operational frequency e.g. 7 MHz, at what height from the ground
> one can consider the antenna mounted "above ground" ??
>
> TIA and 73,
>
> -.-. --.-

Almost any height, being as the radials will need to be resonant
to work well. The only difference is the number of radials required
to equal a certain number ground mounted decreases as you
get higher off the ground.
But you have to think in terms of wavelength. What might be fairly
elevated on 10m, which almost be on the ground at 80m.
Say you compare to 120 radials on the ground, which is pretty
much a perfect ground within practical limits.
At 1/8 WL, you might need 60 radials to equal the 120 on the
ground.
At 1/4 WL, you might need 8-10 radials to equal 120 on the
ground.
At 1/2 WL, you can use 3-4 radials to equal 120 on the ground.
On 10m, 1/2 WL is only about 16 feet off the ground.
On 80m, 1/2 WL is about 120 feet off the ground.
In the past I've used a full size quarter wave ground plane on
40m at 36 ft, which is slightly over a 1/4 wave up.
I used four sloping radials. I came to the conclusion that the
system was about equal to a ground mounted system with 60
radials.
Some have speculated that ground planes can be run very low
to the ground with only a few radials, and still be nearly as
efficient as a ground mount with 60-120 radials.
I'm not buying it. There is no free lunch in this regard. :/
If the vertical is elevated, but just barely, count on using
almost as many radials as the ground mount for the same
amount of ground loss. There will be a slight decrease in
the number needed, but not by a large amount.
You will need 1/4 wave radials if elevated. They must be
tuned. Ground mount, it doesn't matter. So you can't

use short .1 WL radials if elevated. Only ground mount can you do that. Elevated, they need to be .25 WL, .75 WL, etc.. They have to be resonant, or otherwise they will be fairly useless.

5252. Re: Cushcraft, HyGain build quality?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 12:59:43 UTC
From: "T. & D. Gregor, Sr." <tdgsr@verizon.net>
Message-ID: <7h81h61pcdmlt0l2m0le3esfk0oqner7m3@4ax.com>
Source record: 6152

Hi (again) Bert:

On 20 Dec 2010 15:44:38 GMT, Bert Hyman <bert@iphouse.com> wrote:

>In news:9erug655a6q8mtvqmlv5jsr1phqq0fkh4r@4ax.com "T. & D. Gregor, Sr."
><tdgsr@verizon.net> wrote:
>
>>
>> Hi Bert:
>>
>> I don't have any empirical evidence one way or the other. However,
>> knowing a bit about manufacturing... I think that I can reliably say
>> that any antenna design prior to the acquisition would in all
>> likelihood be unchanged from the original design parameters.
>
>I agree that they're unlikely to have changed the design on any of the
>existing products.
>
>I'm wondering about the quality of the manufactured parts.

My experience is as follows:

Hygain - Over the years I've owned a number of their products. Build quality was consistently high. With overall fit, feel and finish what one would expect from an old line firm.

ChushCraft - Much smaller sample base. Build quality was fairly high. With overall fit, feel and finish acceptable, though a bit rough around the edges. Good but not great.

>Are all the holes in the right place, are the tubes of the correct
>length, are all the soldered connections actually soldered, etc?

Generally, yes. With the above comments taken in to consideration.

>More generally, will the things go together and stay together?
>

In my experience, yes. No failures over time. Survived high winds and ice loading without catastrophic failure.

>> The other side of that thinking... a new design, post acquisition
>> would be an unknown.
>>
>> Just my two cents...
>>
>> Merry Christmas

>>
>> Tom G, Sr.
>>
73

Tom G, Sr.
>>
>> On 20 Dec 2010 14:29:17 GMT, Bert Hyman <bert@iphouse.com> wrote:
>>
>>>Can anybody comment on the build quality of their antennas since MFJ
>>>took them over?
>>
>>

5253. Versatower 24 meter

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 13:03:24 UTC
From: ON2XXX <find.me@QRZ.com>
Message-ID: <wA1Qo.66560$DC7.56437@newsfe16.ams2>
Source record: 6153

Hi,

does anybody has the exact dimensions of a Versatower 24 m.
I bought a seconhand tower, but I need the exact dimensions and weight for
the truckcompany who'll do the transport.
All plans, schematics are also welcome.

tnx on beforehand,

ON2XXX
Rudi

everything (and more) you always wanted to know about me :
http://www.qrz.com/db/ON2XXX

5254. Re: Marine Auto-tuner (any advice? made by MTI Ltd)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 13:15:58 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <bbabb8ae-eb61-46f8-8351-8134e8661c1b@29g2000yqq.googlegroups.com>
Source record: 6154

On Dec 20, 1:15 pm, Dave Ph <Dave.Ph.7559...@radiobanter.com> wrote:
> Hi, Any know anything about Marine ATUs?
>
> Trying to get my auto-tuner working again but no info how to get power
> to it.
>
> This one is by Marine Technology International Limited and is dated
> 1996. It has the usual fixed 2182 tune switch for coastguard.
>
> Any experience welcome! Thank you indeed!
>
> Dave
>
> --
> Dave Ph

http://www.globalsources.com/manufacturers/Marine-Antenna-Tuner.html

5255. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 16:07:03 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <aed43491-7ee3-4d89-8f0a-983564a4f1b2@l8g2000yqh.googlegroups.com>
Source record: 6155

On 19 dic, 23:10, Sébastien MEDARD <t...@tut.com> wrote:
> Hello,
>
> On Sat, 18 Dec 2010 08:09:52 -0800, Wimpie wrote:
> > Do you have some background in electronics and/or AC circuits (concept
> > of reactance, impedance, resonance, etc)?
>
> I should.... But I was better in chemistry :) I should have studied RLC
> circuits but at this time it was boring... If I had some interest in
> shortwave listening, I would have been a better student in physics :)
>
> But I should be able to understand :) I think I am going to see if there
> is any radio club near the place I live. Because I have a lot of
> questions and English is, as you understood it, not my main spoken
> language :)
>
> Seb.

Hello Sébastien,

I think it is a good thing to contact some people locally.

Besides support with the calculation for the inductors and capacitors,
small "construction errors" can degrade performance of a basically
good design significantly.

Be prepared to get many different answers to the same question!

Yesterday evening I experienced strong increase in mains supply
synchronized interference. After some elimination tests, the
"offender" was a new tiny switching plug-in adapter.

I had to use several ferrite cores to reduce the interference from
<3.3 MHz to >15 MHz to an acceptable level. The volume and weight of
the ferrite cores I used exceeds that of the adapter.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

5256. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 16:42:54 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d10d90e$0$5888$426a74cc@news.free.fr>
Source record: 6156

Hello,

On Tue, 21 Dec 2010 08:07:03 -0800, Wimpie wrote:

> I think it is a good thing to contact some people locally.

I think I am prepared to do that :)

> I had to use several ferrite cores to reduce the interference from <3.3
> MHz to >15 MHz to an acceptable level. The volume and weight of the
> ferrite cores I used exceeds that of the adapter.

About ferrite cores and tapped coils.... I was wondering about
something...

Imagine a tapped coil from a inductance value, let's say "i". what is the
effect of progressively introducing a ferrite core (wand) inside the
tapped coil? Reducing, or increasing "i"?

We were speaking about a Collins receiver. If I read well, it seems to
use this kind of feature. Could be better for experimentation, no?

Sebastien.

p.s. I need to buy something to measure capacitance and inductance (RLC
bridge...).

5257. Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 17:13:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d10e053$0$22805$65785112@news.neostrada.pl>
Source record: 6157

"Well, it's like this. The story starts in 1915, when mankind discovered sidebands. Now possessing this superior understanding of the AM signal, radio scientists began to understand the implications of their discovery. Soon afterwards, our old friends at Bell Labs, who have discovered practically everything, developed a method for removing one of the sidebands of an AM signal but retaining all the essential modulation components. As an expert of that day supposedly said, "both sidebands are saying the same thing" (Goodman, 1948). " From:
http://www.hamradiomarket.com/articles/SSBHistory.htm

I was born after 1915. I am supposing that in that time was possibility to tune to the three different frequences.
Am I right?
S*

5258. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 17:35:07 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <b357u7-1hc.ln1@mail.specsol.com>
Source record: 6158

Szczepan Bialek <sz.bialek@wp.pl> wrote:
> "Well, it's like this. The story starts in 1915, when mankind discovered
> sidebands. Now possessing this superior understanding of the AM signal,
> radio scientists began to understand the implications of their discovery.
> Soon afterwards, our old friends at Bell Labs, who have discovered
> practically everything, developed a method for removing one of the sidebands
> of an AM signal but retaining all the essential modulation components. As an
> expert of that day supposedly said, "both sidebands are saying the same
> thing" (Goodman, 1948). " From:
> http://www.hamradiomarket.com/articles/SSBHistory.htm
>
> I was born after 1915. I am supposing that in that time was possibility to
> tune to the three different frequences.
> Am I right?
> S*

Nope, you are just spouting word salad gibberish as usual.

See:

http://en.wikipedia.org/wiki/Single-sideband_modulation
http://en.wikipedia.org/wiki/Bandwidth_(signal_processing)
http://en.wikipedia.org/wiki/Passband

--
Jim Pennino

Remove .spam.sux to reply.

5259. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 18:14:33 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d10ee8a$0$22806$65785112@news.neostrada.pl>
Source record: 6159

Uďż˝ytkownik <jimp@specsol.spam.sux.com> napisaďż˝ w wiadomoďż˝ci
news:b357u7-1hc.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>> "Well, it's like this. The story starts in 1915, when mankind discovered
>> sidebands. Now possessing this superior understanding of the AM signal,
>> radio scientists began to understand the implications of their discovery.
>> Soon afterwards, our old friends at Bell Labs, who have discovered
>> practically everything, developed a method for removing one of the
>> sidebands
>> of an AM signal but retaining all the essential modulation components. As
>> an
>> expert of that day supposedly said, "both sidebands are saying the same
>> thing" (Goodman, 1948). " From:
>> http://www.hamradiomarket.com/articles/SSBHistory.htm
>>
>> I was born after 1915. I am supposing that in that time was possibility
>> to
>> tune to the three different frequences.
>> Am I right?
>> S*
>
> Nope, you are just spouting word salad gibberish as usual.
>
> See:
>
> http://en.wikipedia.org/wiki/Single-sideband_modulation
> http://en.wikipedia.org/wiki/Bandwidth_(signal_processing)
> http://en.wikipedia.org/wiki/Passband

Here are thy unrestricted signal (upper diagram). It has the three peaks:
http://en.wikipedia.org/wiki/File:Passband_schematic3.png

So in an old radio the same station was in the three places (on the scale)
close to one another.
Am I right?
S*

5260. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 18:26:30 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <m387u7-jtc.ln1@mail.specsol.com>
Source record: 6160

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Here are thy unrestricted signal (upper diagram). It has the three peaks:
> http://en.wikipedia.org/wiki/File:Passband_schematic3.png
>
> So in an old radio the same station was in the three places (on the scale)
> close to one another.
> Am I right?
> S*

Nope, you haven't the slightest bit of understanding of what the term
"passband" means so your question is nonsense.

--
Jim Pennino

Remove .spam.sux to reply.

5261. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 20:12:54 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <597f90ed-217a-4499-a390-2395cdb7aabc@z19g2000yqb.googlegroups.com>
Source record: 6161

On 21 dic, 17:42, Sébastien MEDARD <t...@tut.com> wrote:
> Hello,
>
> On Tue, 21 Dec 2010 08:07:03 -0800, Wimpie wrote:
> > I think it is a good thing to contact some people locally.
>
> I think I am prepared to do that :)
>
> > > I had to use several ferrite cores to reduce the interference from <3.3
> > > MHz to >15 MHz to an acceptable level. The volume and weight of the
> > > ferrite cores I used exceeds that of the adapter.
>
> About ferrite cores and tapped coils.... I was wondering about
> something...
>
> Imagine a tapped coil from a inductance value, let's say "i". what is the
> effect of progressively introducing a ferrite core (wand) inside the
> tapped coil? Reducing, or increasing "i"?
>
> We were speaking about a Collins receiver. If I read well, it seems to
> use this kind of feature. Could be better for experimentation, no?
>
> Sebastien.
>
> p.s. I need to buy something to measure capacitance and inductance (RLC
> bridge...).

Hello Sébastien,

When you put in a ferrite bar of suitable material, the total inductance will increase. The longer and thicker, the more will be the increase of inductance. The actual increase depends on several factors (length/diameter ratio of coil, and to a lesser extend, ferrite magnetic permeability).

When I put 10*150mm^2 ferrite rods (from old vacuum tube AM/FM radios I believe) into my simple single capacitor preselector, the lowest frequency goes down from 3.4 MHz to 1.1 MHz. The 5 m wire outside wire performs equal w.r.t. my small portable indoor loop on AM BC 1476, 1485 kHz (Spanish stations). Of course, loop positioned and oriented for best reception.

When you look into the technical documentation of ferrite producers/ vendors (Ferroxcube, Fairrite, Amidon, TDK, Epcos, Kitagawa, etc), they will show you a graph that relates inductance change ratio versus

coil dimensions and ferrite permeability. Wrong choice of ferrite material will reduce Q-factor significantly.

The effect on a tapped coil in a circuit depends also on where you start pushing the bar into the coil, as the part of the coil closest to the ferrite bar changes inductance first.

Regarding LCR meter, There are some very nice kits around that measures small inductors and capacitors very well:
http://electronics-diy.com/lc_meter.php gives an example.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

5262. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 22:16:35 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <d9ec93b9-c313-4f2b-b125-a1e55d1d3c15@m20g2000prc.googlegroups.com>
Source record: 6162

On Dec 21, 9:13 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "Well, it's like this. The story starts in 1915, when mankind discovered
> sidebands. Now possessing this superior understanding of the AM signal,
> radio scientists began to understand the implications of their discovery.
> Soon afterwards, our old friends at Bell Labs, who have discovered
> practically everything, developed a method for removing one of the sidebands
> of an AM signal but retaining all the essential modulation components. As an
> expert of that day supposedly said, "both sidebands are saying the same
> thing" (Goodman, 1948). " From:http://www.hamradiomarket.com/articles/SSBHistory.htm
>
> I was born after 1915. I am supposing that in that time was possibility to
> tune to the three different frequences.
> Am I right?
> S*

Only three? If the modulation is a complex signal (not just a single
sinusoid), you'll get (ideally) a carrier on a single frequency, and
upper and lower sidebands spanning a range of frequencies. Any decent
spectrum analyzer will easily resolve these components.
Communications receivers with narrow bandwidth, sharp cutoff filters
can also resolve them, of course.

And only "in that time"? You still can: there are plenty of AM
stations broadcasting in the 0.5MHz to 30MHz range (and some outside
that). But in 1915, it may well have been easier to analyze the
signal mathematically than with hardware. The hardware may not have
been very common, but certainly the math identities required were
readily available, as was Fourier analysis.

What if both sidebands are NOT "saying the same thing"? Then, for
instance, you can broadcast stereo in a way that receivers mixing the
two sidebands will still receive an acceptable mono signal.

Cheers,
Tom

5263. Re: Antenna measurements with 8405

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 22:27:27 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <670908d1-d967-41e0-9275-d3fdf44af06d@35g2000prt.googlegroups.com>
Source record: 6163

On Dec 19, 6:37 pm, John - KD5YI <soph...@invalid.org> wrote:
> Hi -
>
> My frequency of interest is about 434 MHz. I have the following equipment:
>
> HP 8405A vector voltmeter
> HP Accessory kit for the above
> HP App note AN77-3 (compliments of Wes Stewart)
> Fluke 6061A signal generator
> Mini-Circuits 40-1000 MHz dual directional coupler.
>
> I'm not sure the info above is really required for this question, but I
> thought it couldn't hurt.
>
> The question is: I use about an 8-foot piece of coax to go from the
> output of the directional coupler to the antenna so as to reduce my body
> and instrument influence. When I follow AN77-3, I do so at the antenna
> end of the coax. That is, I set up the 8405A with a short at the end of
> the coax. I figure the coax is only about .8 dB of loss. Is this a valid
> way of doing the measurement, or must I set up the 8405 with a short on
> the output of the coupler and characterize the coax and then calculate
> the answer?
>
> Thanks,
> John

Hi John,

It's common to calibrate measurements at the end of a piece of line with modern vector network analyzers. The analyzer does much of the work for you: you just put, in sequence, a short, and open and a precision load at the point you want calibrated, and the analyzer does the rest. Obviously loss in the line will reduce the accuracy of measurements: consider the case where the line has infinite attenuation; in that case the signal at the sending end of the line won't change at all for an infinite change in load at the other end of the line. The accuracy degrades monotonically as the line attenuation increases. Unless you're trying to get the absolute best accuracy you can, you probably don't need to worry about 0.8dB loss in the line (1.6dB round trip?). There's an HP ap note (or two or three?) about this. Maybe do a bit of Googling??

If you calibrate with open, short and load, you have the information you need to characterize the line's loss versus frequency and its delay (or phase shift). You don't need to also measure the line

separately. You could view the calibration as having measured the line, in fact.

Cheers,
Tom

5264. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 22:43:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <e9f8cdcb-c79d-414a-ad1e-196f0ba448b8@y23g2000yqd.googlegroups.com>
Source record: 6164

On Dec 21, 6:14 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> U ytkownik <j...@specsol.spam.sux.com> napisa w wiadomo
cinews:b357u7-1hc.ln1@mail.specsol.com...
>
>
>
> > Szczepan Bialek <sz.bia...@wp.pl> wrote:
> >> "Well, it's like this. The story starts in 1915, when mankind discovered
> >> sidebands. Now possessing this superior understanding of the AM signal,
> >> radio scientists began to understand the implications of their discovery.
> >> Soon afterwards, our old friends at Bell Labs, who have discovered
> >> practically everything, developed a method for removing one of the
> >> sidebands
> >> of an AM signal but retaining all the essential modulation components. As
> >> an
> >> expert of that day supposedly said, "both sidebands are saying the same
> >> thing" (Goodman, 1948). " From:
> >>http://www.hamradiomarket.com/articles/SSBHistory.htm
>
> >> I was born after 1915. I am supposing that in that time was possibility
> >> to
> >> tune to the three different frequences.
> >> Am I right?
> >> S*
>
> > Nope, you are just spouting word salad gibberish as usual.
>
> > See:
>
> >http://en.wikipedia.org/wiki/Single-sideband_modulation
> >http://en.wikipedia.org/wiki/Bandwidth_(signal_processing)
> >http://en.wikipedia.org/wiki/Passband
>
> Here are thy unrestricted signal (upper diagram). It has the three
peaks:http://en.wikipedia.org/wiki/File:Passband_schematic3.png
>
> So in an old radio the same station was in the three places (on the scale)
> close to one another.
> Am I right?
> S*

no

5265. Re: Antenna measurements with 8405

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-21 23:23:21 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ierctcinq1@news.eternal-september.org>
Source record: 6165

On 12/21/2010 4:27 PM, K7ITM wrote:
> On Dec 19, 6:37 pm, John - KD5YI<soph...@invalid.org> wrote:
>> Hi -
>>
>> My frequency of interest is about 434 MHz. I have the following equipment:
>>
>> HP 8405A vector voltmeter
>> HP Accessory kit for the above
>> HP App note AN77-3 (compliments of Wes Stewart)
>> Fluke 6061A signal generator
>> Mini-Circuits 40-1000 MHz dual directional coupler.
>>
>> I'm not sure the info above is really required for this question, but I
>> thought it couldn't hurt.
>>
>> The question is: I use about an 8-foot piece of coax to go from the
>> output of the directional coupler to the antenna so as to reduce my body
>> and instrument influence. When I follow AN77-3, I do so at the antenna
>> end of the coax. That is, I set up the 8405A with a short at the end of
>> the coax. I figure the coax is only about .8 dB of loss. Is this a valid
>> way of doing the measurement, or must I set up the 8405 with a short on
>> the output of the coupler and characterize the coax and then calculate
>> the answer?
>>
>> Thanks,
>> John
>
> Hi John,
>
> It's common to calibrate measurements at the end of a piece of line
> with modern vector network analyzers. The analyzer does much of the
> work for you: you just put, in sequence, a short, and open and a
> precision load at the point you want calibrated, and the analyzer does
> the rest. Obviously loss in the line will reduce the accuracy of
> measurements: consider the case where the line has infinite
> attenuation; in that case the signal at the sending end of the line
> won't change at all for an infinite change in load at the other end of
> the line. The accuracy degrades monotonically as the line attenuation
> increases. Unless you're trying to get the absolute best accuracy you
> can, you probably don't need to worry about 0.8dB loss in the line
> (1.6dB round trip?). There's an HP ap note (or two or three?) about
> this. Maybe do a bit of Googling??
>
> If you calibrate with open, short and load, you have the information

> you need to characterize the line's loss versus frequency and its
> delay (or phase shift). You don't need to also measure the line
> separately. You could view the calibration as having measured the
> line, in fact.
>
> Cheers,
> Tom

Many thanks, Tom. That's the answer I was hoping for. I appreciate your help.

Cheers,
John

5266. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 01:41:58 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnih2lr6.1ap.knock_yourself_out@shell.config.com>
Source record: 6166

On Tue, 21 Dec 2010 17:35:07 -0000, jimp@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>> "Well, it's like this. The story starts in 1915, when mankind discovered
>> sidebands. Now possessing this superior understanding of the AM signal,
>> radio scientists began to understand the implications of their discovery.
>> Soon afterwards, our old friends at Bell Labs, who have discovered
>> practically everything, developed a method for removing one of the sidebands
>> of an AM signal but retaining all the essential modulation components. As an
>> expert of that day supposedly said, "both sidebands are saying the same
>> thing" (Goodman, 1948). " From:
>> http://www.hamradiomarket.com/articles/SSBHistory.htm
>>
>> I was born after 1915. I am supposing that in that time was possibility to
>> tune to the three different frequences.
>> Am I right?
>> S*
>
> Nope, you are just spouting word salad gibberish as usual.

Which, in this instance, has squat zilch to do with antennas.

5267. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 08:18:39 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d11b460$0$22793$65785112@news.neostrada.pl>
Source record: 6167

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:e9f8cdcb-c79d-414a-ad1e-196f0ba448b8@y23g2000yqd.googlegroups.com...
On Dec 21, 6:14 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> > Szczepan Bialek <sz.bia...@wp.pl> wrote:
> >> "Well, it's like this. The story starts in 1915, when mankind
> >> discovered
> >> sidebands. Now possessing this superior understanding of the AM signal,
> >> radio scientists began to understand the implications of their
> >> discovery.
> >> Soon afterwards, our old friends at Bell Labs, who have discovered
> >> practically everything, developed a method for removing one of the
> >> sidebands
> >> of an AM signal but retaining all the essential modulation components.
> >> As
> >> an
> >> expert of that day supposedly said, "both sidebands are saying the same
> >> thing" (Goodman, 1948). " From:
> >>http://www.hamradiomarket.com/articles/SSBHistory.htm
>
> >> I was born after 1915. I am supposing that in that time was possibility
> >> to
> >> tune to the three different frequences.
> >> Am I right?

>
>> Here are the unrestricted signal (upper diagram). It has the three peaks:
>> http://en.wikipedia.org/wiki/File:Passband_schematic3.png
>
>> So in an old radio the same station was in the three places (on the
>> scale)
> close to one another.
>> Am I right?

>no

Now my radio use FM. The one station is on the distance circle 1cm.
In 1915 was the same for AM?
S*

5268. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 08:33:10 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d11b7c9$0$22795$65785112@news.neostrada.pl>
Source record: 6168

"K7ITM" <k7itm@msn.com> wrote
news:d9ec93b9-c313-4f2b-b125-a1e55d1d3c15@m20g2000prc.googlegroups.com...
On Dec 21, 9:13 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>> "Well, it's like this. The story starts in 1915, when mankind discovered
> sidebands. Now possessing this superior understanding of the AM signal,
> radio scientists began to understand the implications of their discovery.
> Soon afterwards, our old friends at Bell Labs, who have discovered
> practically everything, developed a method for removing one of the
> sidebands
> of an AM signal but retaining all the essential modulation components. As
> an
> expert of that day supposedly said, "both sidebands are saying the same
> thing" (Goodman, 1948). "
> From:http://www.hamradiomarket.com/articles/SSBHistory.htm
>
>> I was born after 1915. I am supposing that in that time was possibility
>> to
> tune to the three different frequences.
>> Am I right?
> S*

>Only three? If the modulation is a complex signal (not just a single
sinusoid), you'll get (ideally) a carrier on a single frequency, and
upper and lower sidebands spanning a range of frequencies. Any decent
spectrum analyzer will easily resolve these components.

What was in 1915?

>Communications receivers with narrow bandwidth, sharp cutoff filters
can also resolve them, of course.

Have such Author of SSBHistory in 1915?

>And only "in that time"? You still can: there are plenty of AM
stations broadcasting in the 0.5MHz to 30MHz range (and some outside
that). But in 1915, it may well have been easier to analyze the
signal mathematically than with hardware. The hardware may not have
been very common, but certainly the math identities required were
readily available, as was Fourier analysis.

>What if both sidebands are NOT "saying the same thing"? Then, for
instance, you can broadcast stereo in a way that receivers mixing the
two sidebands will still receive an acceptable mono signal.

I am trying to find if that SSB from 1915 were the distance dependent.
S*

5269. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 10:38:54 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ieskfv$ab5$1@speranza.aioe.org>
Source record: 6169

On
>> What if both sidebands are NOT "saying the same thing"? Then, for
> instance, you can broadcast stereo in a way that receivers mixing the
> two sidebands will still receive an acceptable mono signal.
>
> I am trying to find if that SSB from 1915 were the distance dependent.
> S*

Distance from where? You are not making sense.

Jeff

5270. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 11:36:30 UTC
From: david <none@nospam.com>
Message-ID: <iesnrt$sg2$1@news.eternal-september.org>
Source record: 6170

On Wed, 22 Dec 2010 10:38:54 +0000, Jeff rearranged some electrons to say:

> On
>>> What if both sidebands are NOT "saying the same thing"? Then, for
>> instance, you can broadcast stereo in a way that receivers mixing the
>> two sidebands will still receive an acceptable mono signal.
>>
>> I am trying to find if that SSB from 1915 were the distance dependent.
>> S*
>
> Distance from where? You are not making sense.
>
> Jeff

He never does.

5271. Fractal Sleeve for Monopoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 13:13:39 UTC
From: Richard Fry <rfry@adams.net>
Message-ID: <5a16673d-8a3f-4146-9468-8d088968719b@30g2000yql.googlegroups.com>
Source record: 6171

FOR DISCUSSION...

RE: YouTube video on this subject at
http://www.youtube.com/watch?v=QWd0nEXFnrE&feature=player_embedded

The comments in italics were posted on another website, which prompted
my five points that follow. Thought they might be of interest here.

It would be interesting to learn if the results and conclusions shown
in the
YouTube video have been confirmed from complete documentation by
an independent test lab.

> but i have another idea that has come out.might be a game changer
> check this out. i have been researching this and it could be the
> breakthrough we need. a broad band antenna, no loading coil needed,
> double the eirp!

Observations from watching the YouTube video...

1. A 1/4-wave monopole was used in the test. A 1/4-wave monopole is
self-resonant, so no loading coil was necessary. However it would be
necessary
for the electrically short monopoles permitted for unlicensed Part 15
AM, and
would still be needed if the FCC changed 15.219(b) to allow a 30'
"ground"
conductor.

2. A 1/4-wave monopole driven against a perfectly conducting ground
plane such
as shown in this video has a peak system gain of about 5.15 dBi. The
video
shows a resonant gain for that monopole system without the sleeve as
"1 dBi"
referenced to the gain of a log periodic antenna.

However by definition the term dBi means decibels with respect to an
isotropic
radiator, and a log periodic antenna definitely is not an isotropic
radiator.
The gain units used in the video are therefore unconventional, and
need further
definition.

3. The relative field radiated by a conventional 1/4-wave vertical
monopole

driven against a perfectly conducting ground plane always is maximum in the
horizontal plane. Such a system radiates virtually 100% of the matched power
applied to its input terminals.

Therefore the peak gain of that antenna system at resonance cannot be improved
by putting a sleeve of any kind on the monopole.

The sleeve may change the shape of the radiation pattern of the system without
the sleeve, though, which could change the field intensity at the location of
the receiving antenna used in the test. This could account for the ~3 dB
improvement shown in their results when using the sleeve.

4. Nothing is shown in the video about the amount of matched power at the
feedpoint with and without the sleeve. If that is not held constant then the
test will be flawed.

5. The VSWR bandwidth of a monopole may be increased simply by using a larger
cross-section conductor of "non-fractal" construction.

5272. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:06:43 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d123024$0$2437$65785112@news.neostrada.pl>
Source record: 6172

Uďż˝ytkownik <jimp@specsol.spam.sux.com> napisaďż˝ w wiadomoďż˝ci
news:m387u7-jtc.ln1@mail.specsol.com...
> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
>> Here are thy unrestricted signal (upper diagram). It has the three peaks:
>> http://en.wikipedia.org/wiki/File:Passband_schematic3.png
>>
>> So in an old radio the same station was in the three places (on the
>> scale)
>> close to one another.
>> Am I right?
>> S*
>
> Nope, you haven't the slightest bit of understanding of what the term
> "passband" means so your question is nonsense.

"Radio receivers generally include a tunable band-pass filter with a
passband that is wide enough to accommodate the bandwidth of the radio
signal transmitted by a single station."

For me a radio is a box with the knob to rotate.
Now at FM no brakes between stations. At AM are.

What was in 1915?
S*

5273. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:10:00 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1230eb$0$2458$65785112@news.neostrada.pl>
Source record: 6173

Uzytkownik "Jeff" <jeff@jsystems.com> napisal w wiadomosci
news:ieskfv$ab5$1@speranza.aioe.org...
> >>
>> I am trying to find if that SSB from 1915 were the distance dependent.
>> S*
>
> Distance from where? You are not making sense.

From the station.
S*

5274. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:16:07 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ietbon$1a5$1@speranza.aioe.org>
Source record: 6174

>> Nope, you haven't the slightest bit of understanding of what the term
>> "passband" means so your question is nonsense.
>
> "Radio receivers generally include a tunable band-pass filter with a
> passband that is wide enough to accommodate the bandwidth of the radio
> signal transmitted by a single station."

That statement is at best misleading, and in some cases incorrect.

In most receivers any *tunable* filter is MUCH MUCH wider than the
bandwidth required to accommodate the bandwidth of the signal transmitted.

The selectivity being produced by one or more *fixed* frequency filters
which are just wide enough to accommodate the bandwidth of the wanted
signal.

> For me a radio is a box with the knob to rotate.
> Now at FM no brakes between stations. At AM are.
>
> What was in 1915?
> S*
>

In 1915 there were no broadcast stations to speak of so your dial
would be just one large "brake" (sic).

Jeff

5275. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:41:46 UTC
From: Richard Fry <Invalid@Invalid.com>
Message-ID: <ietd8s$dk2$1@news.eternal-september.org>
Source record: 6175

>>> I am trying to find if that SSB from 1915 were the distance dependent.
>>> S*
>>
>> Distance from where? You are not making sense.
>
> From the station.
> S*

Radio waves behaved the same in 1915 as they do now.

The distance to a given field intensity, for the same conditions,
is the same now as it was then.

5276. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:46:31 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ietdhm$5o1$1@speranza.aioe.org>
Source record: 6176

On 22/12/2010 17:10, Szczepan Bialek wrote:
>
> Uzytkownik "Jeff" <jeff@jsystems.com> napisal w wiadomosci
> news:ieskfv$ab5$1@speranza.aioe.org...
>> >>
>>> I am trying to find if that SSB from 1915 were the distance dependent.
>>> S*
>>
>> Distance from where? You are not making sense.
>
> From the station.
> S*
>

If you tell us where you are and which station you are talking about
we might be able to find the distance!!

Jeff

5277. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:54:06 UTC
From: "Geoffrey S. Mendelson" <gsm@mendelson.com>
Message-ID: <slrnih4ejp.8du.gsm@cable.mendelson.com>
Source record: 6177

Richard Fry wrote:
> Radio waves behaved the same in 1915 as they do now.

Well sort of :-)

Before (and during) WWI, anything below 200 meters (over 1.5 mHz) was considered too high in frequency to be useful.

Geoff.

--
Geoffrey S. Mendelson N3OWJ/4X1GM
Those who cannot remember the past are condemned to misquote it.

5278. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:59:16 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ksq9u7-56.ln1@mail.specsol.com>
Source record: 6179

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Użytkownik <jimp@specsol.spam.sux.com> napisał w wiadomości
> news:m387u7-jtc.ln1@mail.specsol.com...
>> Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>>> Here are thy unrestricted signal (upper diagram). It has the three peaks:
>>> http://en.wikipedia.org/wiki/File:Passband_schematic3.png
>>>
>>> So in an old radio the same station was in the three places (on the
>>> scale)
>>> close to one another.
>>> Am I right?
>>> S*
>>
>> Nope, you haven't the slightest bit of understanding of what the term
>> "passband" means so your question is nonsense.
>
> "Radio receivers generally include a tunable band-pass filter with a
> passband that is wide enough to accommodate the bandwidth of the radio
> signal transmitted by a single station."

Oh goody, you can cut and paste from a web site.

Yet you have no clue what the quote means or the implications of having
ommited any mention of the IF stages of a receiver.

> For me a radio is a box with the knob to rotate.
> Now at FM no brakes between stations. At AM are.

Gibberish.

> What was in 1915?
> S*

The battleship HMS Formidable is sunk off Lyme Regis, Dorset, England, by
a German U-Boat.

An earthquake (6.8 in Richter scale) in Avezzano, Italy, kills more than 29,000.

The 1915 locust plague breaks out in Palestine; it continues until October.

The theory of general relativity is formulated.

The first prototype tank is tested for the British Army for the first time.

--
Jim Pennino

Remove .spam.sux to reply.

5279. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 17:59:49 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ltq9u7-56.ln1@mail.specsol.com>
Source record: 6178

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Now my radio use FM. The one station is on the distance circle 1cm.
> In 1915 was the same for AM?
> S*

Gibberish.

--
Jim Pennino

Remove .spam.sux to reply.

5280. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 18:04:22 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <66r9u7-56.ln1@mail.specsol.com>
Source record: 6180

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> I am trying to find if that SSB from 1915 were the distance dependent.
> S*

Babbling gibberish.

SSB was a laboratory curiousity in 1915 and was little more than a set
of equations.

--
Jim Pennino

Remove .spam.sux to reply.

5281. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 18:09:29 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <pfr9u7-56.ln1@mail.specsol.com>
Source record: 6181

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Uzytkownik "Jeff" <jeff@jsystems.com> napisal w wiadomosci
> news:ieskfv$ab5$1@speranza.aioe.org...
>> >>
>>> I am trying to find if that SSB from 1915 were the distance dependent.
>>> S*
>>
>> Distance from where? You are not making sense.
>
> From the station.
> S*

The modulation used has nothing directly to do with the distance a signal
is usefull. That is determined, at a given power and state of the the
ionosphere, mostly by signal to noise ratio which is influenced by the
bandwidth of the modulation method but not by the modulation method itself.

Electomagnetic propagate works the same today as it did in 1915 or even
30,000 BC if anyone had been around with a radio.

You are a babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.

5282. Re: Fractal Sleeve for Monopoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 20:51:41 UTC
From: Art Unwin <arthurunwin@gmail.com>
Message-ID: <49c7c3de-c2a3-4334-8117-d8db2fd03d13@w2g2000yqb.googlegroups.com>
Source record: 6182

On Dec 22, 10:16 am, Bill <k4...@arrl.net> wrote:
> On Dec 22, 8:13 am, Richard Fry <r...@adams.net> wrote:
>
> > FOR DISCUSSION...
>
> > RE: YouTube video on this subject at
> > http://www.youtube.com/watch?v=QWd0nEXFnrE&feature=player_embedded
>
> Was the video narrated by Phil?

I just watched the video one time and it diddn't sound like Chip to me
not that it matters.
He is comparing to a log periodic as it is non frequency dependent.
When he placed a sleeve over the 1/4 wave it was fed I presume by
capacitive coupling not that it really matters tho capacitive coupling
does help with band extension and constant SWR. He first started with
a circular sheet as a radiator over which he placed a second circular
sheet that is perforated or mesh design.
A mesh design when fed acts like a closed circuit helical where the
current applied takes little interest in the vertical connections so
it to is non frequency dependant the same as the
log style antenna. The mesh current flow is a initial spurt of full
current which then degrades to zero when it get back to the starting
point after at least a single wavelength of travel, not a quarter
wave. Ifg the frequency applied is of many wavelengths it will then
display a near constant SWR over a extended frequency of which there
have been many studies available to confirm. Again if their are enough
wavelengths are present it gets to a equilibrium point of resonance
which includes the overshoot of the applied current. I say resonant
because he is not using fractional wavelength dimensions which are all
floating dimensions where a period (full wave) is not. The overshoot
of applied current increases as much as 5 times, so with the increase
in current it is easily seen that as the current goes so does the
radiation. One could turn around the whole experiment as one of a
radiator inside a Faraday cage which is also used as proof of
reciprocity with respect to radiation from a radiater that is in
equilibrium. Thus it is exactly the same as what I have been proposing
for many years which stems from the Gaussian extension to Maxwells
equation.
I have just completed a similar antenna made as a flat solenoid
without a plunger sometimes referred to as a Meander or pancake
antenne.
It is close to 40 inches dia with a hieght of !/2"
My expectations is that when placed inside a faraday shield, an

example of the Gauss extension it will have a resonance of at least 10 metres down to 160 metres with a SWR less than 3: 1 and an applied impedance of 50 ohms.
I was told that I had a patent on this if I paid publishing cost, acceptance fees and to follow maintanance fees which I declined due to the
high costs.
Best regards to all
Art Unwin

5283. Re: SWL for Newbies (was: Balcony Antenna for Shortwave Listening)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-22 22:56:58 UTC
From: Sébastien MEDARD <titi@tut.com>
Message-ID: <4d12823a$0$19742$426a74cc@news.free.fr>
Source record: 6183

Hello,

On Fri, 17 Dec 2010 09:20:48 -0800, Richard Clark wrote:

> Reg Edward's software, that you already have access to, will answer that
> far faster than asking here. Reason for that is because of all the
> variables that come into play. You can judge for yourself when you
> enter them into the program and observe what results are returned.

Tonight and yesterday night I played with my experimentation board
(loop...s on my shelves).

I have a 4 loops (square) web :
1 - 8 turns - 1.5 m /side
2 - 3 turns - 1.0m /side
3 - 1 turn - 0.8m /side
4 - 1 turn- 0.65m /side

Each one is inside the other one.

I used the second to be the matching one from the previous, the firts.
The third, to be the mathcing one of the second, etc.

The resonant one gets a variable air capacitor (I change it every time I
need to go higher....).

Very interesting, indeed.

If I understand well, the loop gets the role of inductance and the
capacitor the role of the capacitance... (Lapalisse...). Matching both
gets the best result for a given frequency. I succeed in making apparent
signals that I was not aware of... With this antenna I can tune in the
frequency from 300 KHz to near 7300 KHz... Completely amazing. That's the
first time I can exactly see (thanks to the waterfall information
display) how it does increase, not only the signal, but what's more
important, the signal/noise ratio. I understand now how this is very
important...

What I can see, is that depending on the size of the loop and the
frequency I am monitoring, the variable capacitor may or may not be very
difficult to use, and the bandwidth lack of noise, narrow or wide...
Interesting to see that it is possible to increase the signal without
increasing a lot the signal/noise ratio (better than nothing :). But you
can't play when the signal is too weak.... :)

I am quite happy. It does not tell anything about the antenna efficiency,
but it helps me understand how it works. I get somebody in my family who
is a physics teacher... I need to ask her information about "RLC

oscillators for newbies" to be able to put some rational things upon my experimentations :)

To do next :
- Try to carry out the tiny preselector from Wim (need to find some coper wire... And need to try to recover some old radio parts to play with.... (get some ferrite rods, low value variable capacitors, etc.)
- Try to get some time, and some place, to play with long wires, dipoles and their related matching systems...

Sebastien.

5284. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 01:04:42 UTC
From: Bill <k4wge@arrl.net>
Message-ID: <49c7e30f-247f-43a2-9c03-b52b037ebfdf@r29g2000yqj.googlegroups.com>
Source record: 6184

On Dec 22, 12:59 pm, j...@specsol.spam.sux.com wrote:
> > What was in 1915?
> > S*
>
> The battleship HMS Formidable is sunk off Lyme Regis, Dorset, England, by
> a German U-Boat.> --
> Jim Pennino

Gallipoli landings.

5285. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 08:15:19 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d13051a$0$2426$65785112@news.neostrada.pl>
Source record: 6185

Uzytkownik "Richard Fry" <Invalid@Invalid.com> napisal w wiadomosci
news:ietd8s$dk2$1@news.eternal-september.org...
>>>> I am trying to find if that SSB from 1915 were the distance dependent.
>>>> S*
>>>
>>> Distance from where? You are not making sense.
>>
>> From the station.
>> S*
> ----------------
>
> Radio waves behaved the same in 1915 as they do now.
>
> The distance to a given field intensity, for the same conditions, is the
> same now as it was then.

Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave

The damped waves pulses are simillar to AM (amplitude of oscillation
decreases/increases with time).

The decreasing/increasing may be sharp or gently.

The old damped waves " transmissions have a wide bandwidth".

Was the bandwith the distance dependent?
S*

5286. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 08:24:51 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d130756$0$2507$65785112@news.neostrada.pl>
Source record: 6186

"Jeff" <jeff@jsystems.com> wrote news:ietbon$1a5$1@speranza.aioe.org...
>
>>> Nope, you haven't the slightest bit of understanding of what the term
>>> "passband" means so your question is nonsense.
>>
>> "Radio receivers generally include a tunable band-pass filter with a
>> passband that is wide enough to accommodate the bandwidth of the radio
>> signal transmitted by a single station."
>
> That statement is at best misleading, and in some cases incorrect.
>
> In most receivers any *tunable* filter is MUCH MUCH wider than the
> bandwidth required to accommodate the bandwidth of the signal transmitted.
>
> The selectivity being produced by one or more *fixed* frequency filters
> which are just wide enough to accommodate the bandwidth of the wanted
> signal.
>
>
>> For me a radio is a box with the knob to rotate.
>> Now at FM no brakes between stations. At AM are.
>>
>> What was in 1915?
>> S*
>>
>
> In 1915 there were no broadcast stations to speak of so your dial would
> be just one large "brake" (sic).

"Well, it's like this. The story starts in 1915, when mankind discovered
sidebands. Now possessing this superior understanding of the AM signal,
radio scientists began to understand the implications of their discovery.
Soon afterwards, our old friends at Bell Labs, who have discovered
practically everything, developed a method for removing one of the sidebands
of an AM signal but retaining all the essential modulation components. As an
expert of that day supposedly said, "both sidebands are saying the same
thing" (Goodman, 1948). " From:
http://www.hamradiomarket.com/articles/SSBHistory.htm

If in 1915 were no broadcast stations to speak tell us what was with the
first station to speak and when it start transmitting.
S*

5287. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 09:56:06 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <iev6bp$qh9$1@speranza.aioe.org>
Source record: 6187

>
>>
>>> For me a radio is a box with the knob to rotate.
>>> Now at FM no brakes between stations. At AM are.
>>>
>>> What was in 1915?
>>> S*
>>>
>>
>> In 1915 there were no broadcast stations to speak of so your dial
>> would be just one large "brake" (sic).
>
> "Well, it's like this. The story starts in 1915, when mankind discovered
> sidebands. Now possessing this superior understanding of the AM signal,
> radio scientists began to understand the implications of their discovery.
> Soon afterwards, our old friends at Bell Labs, who have discovered
> practically everything, developed a method for removing one of the
> sidebands
> of an AM signal but retaining all the essential modulation components.
> As an
> expert of that day supposedly said, "both sidebands are saying the same
> thing" (Goodman, 1948). " From:
> http://www.hamradiomarket.com/articles/SSBHistory.htm
>
> If in 1915 were no broadcast stations to speak tell us what was with the
> first station to speak and when it start transmitting.
> S*
>

The first AM Broadcast station (as opposed to amateur or military) was
in about 1919.

Jeff

5288. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 11:04:42 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <ievacd$55u$1@speranza.aioe.org>
Source record: 6188

> Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave
>
> The damped waves pulses are simillar to AM (amplitude of oscillation
> decreases/increases with time).
>
> The decreasing/increasing may be sharp or gently.
>
> The old damped waves " transmissions have a wide bandwidth".
>
> Was the bandwith the distance dependent?
> S*

Damped waves bear little or no similarity to AM, they are essentially pulses with a very different spectral content.

Being pulses the spectral content is wide, tending to infinite, and yes I suppose that the spectrum received by a distant station will vary depending on distance; the lower level spectral lines that are spaced a long way from the fundamental will be lost below the noise as you get further away or the signal gets weaker due to propagation changes. The more side-bands that you loose the slower will be the rise and fall time of the received pulse.

AM is very different the spectrum is much more contained and only 1 side-band is required to replicate the waned signal.

Jeff

5289. eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 12:30:42 UTC
From: "J. B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <ievfd4$43i$1@ra.nrl.navy.mil>
Source record: 6189

Hello, all. With the wealth of info available on eham.net I'm beginning
to wonder for amateur radio purposes if it's still worth the time to
stay on unmoderated, spam-laden usenet newsgroups. Your time and
comment is appreciated. Sincerely, and 73s from N4GGO,
--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

5290. Re: eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 12:38:54 UTC
From: "-.-. --.-" <a@a.com>
Message-ID: <ievftk$473$1@news.eternal-september.org>
Source record: 6190

"J. B. Wood" <john.wood@nrl.navy.mil> ha scritto nel messaggio
news:ievfd4$43i$1@ra.nrl.navy.mil...
> Hello, all. With the wealth of info available on eham.net I'm beginning
> to wonder for amateur radio purposes if it's still worth the time to stay
> on unmoderated, spam-laden usenet newsgroups. Your time and comment is
> appreciated. Sincerely, and 73s from N4GGO,

Treasures and prepared minds usually are in hard places.

Love read any post on this NG, spam is not a issue.

My 2 cents,
-.-. --.-

5291. Re: eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 14:15:33 UTC
From: Bert Hyman <bert@iphouse.com>
Message-ID: <Xns9E5754043C2BCVeebleFetzer@216.250.188.141>
Source record: 6191

In news:ievfd4$43i$1@ra.nrl.navy.mil "J. B. Wood" <john.wood@nrl.navy.mil>
wrote:

> Hello, all. With the wealth of info available on eham.net I'm beginning
> to wonder for amateur radio purposes if it's still worth the time to
> stay on unmoderated, spam-laden usenet newsgroups. Your time and
> comment is appreciated. Sincerely, and 73s from N4GGO,

A decent news client and news provider and well-populated filter and
killfiles makes reading any newsgroup a much nicer experience.

--
Bert Hyman W0RSB St. Paul, MN bert@iphouse.com

5292. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 17:12:38 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <6hccu7-0a9.ln1@mail.specsol.com>
Source record: 6192

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> If in 1915 were no broadcast stations to speak tell us what was with the
> first station to speak and when it start transmitting.
> S*

There were no broadcasting stations of any kind in 1915.

The first station that could even remotely be called a broadcasting station
was in 1916 and it broadcasted weather reports in morse code.

The first experimental AM broadcast stations started in 1919 and regular AM
broadcasting started in 1920 when all the spark gap morse transmitters
were shut down.

--
Jim Pennino

Remove .spam.sux to reply.

5293. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 17:14:58 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <ilccu7-0a9.ln1@mail.specsol.com>
Source record: 6193

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave
>
> The damped waves pulses are simillar to AM (amplitude of oscillation
> decreases/increases with time).

Only to someone who hasn't a clue what they are talking about.

> The decreasing/increasing may be sharp or gently.
>
> The old damped waves " transmissions have a wide bandwidth".
>
> Was the bandwith the distance dependent?
> S*

Word salad gibberish.

--
Jim Pennino

Remove .spam.sux to reply.

5294. Re: eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 17:49:29 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c5165f59-1617-49f7-bdfa-c5a662cce551@d8g2000yqf.googlegroups.com>
Source record: 6194

```
On Dec 23, 12:30 pm, "J. B. Wood" <john.w...@nrl.navy.mil> wrote:
> Hello, all.  With the wealth of info available on eham.net I'm beginning
> to wonder for amateur radio purposes if it's still worth the time to
> stay on unmoderated, spam-laden usenet newsgroups.  Your time and
> comment is appreciated.  Sincerely, and 73s from N4GGO,
> --
> John Wood (Code 5520)        e-mail: w...@itd.nrl.navy.mil
> Naval Research Laboratory
> 4555 Overlook Avenue, SW
> Washington, DC 20375-5337

what is eham.net?
```

5295. Balun for a yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 21:19:59 UTC
From: VK2KC Gmail <vk2kcjohn@gmail.com>
Message-ID: <if0eej$nd7$1@news.eternal-september.org>
Source record: 6195

Hello,
I am in the process of building a 4 element 2m yagi, centred in 146 Mhz and will be utilising a folded dipole for the driven element.

I came across a commercial folded dipole, fed with coax that had been threaded inside of the driven element. the coax exits through a hole in the centre of the dipole opposite the feed point.
The coax is connected directly to the ends of the dipole, but on closer inspection it is different coax on the feed side to the coax tail, so obviously it is a matching transformer.

Would this be a type of a trombone balun? Assuming it is, then there would be a 1/4 w/l of 75 ohm coax connected to the 50 ohm tail.

Are my assumptions correct?

Has anyone had any experience with this type of matching transformer? I like the look of it as it is certainly tidier that an external 4:1 coax balun.
73
John Vk2KC

5296. Re: Balun for a yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 21:39:49 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <if0ffhsel1@news.eternal-september.org>
Source record: 6196

VK2KC Gmail Inscribed thus:

> Hello,
> I am in the process of building a 4 element 2m yagi, centred in 146
> Mhz and will be utilising a folded dipole for the driven element.
>
> I came across a commercial folded dipole, fed with coax that had been
> threaded inside of the driven element. the coax exits through a hole
> in the centre of the dipole opposite the feed point.
> The coax is connected directly to the ends of the dipole, but on
> closer inspection it is different coax on the feed side to the coax
> tail, so obviously it is a matching transformer.
>
> Would this be a type of a trombone balun? Assuming it is, then there
> would be a 1/4 w/l of 75 ohm coax connected to the 50 ohm tail.
>
> Are my assumptions correct?

More or less :-)

I've tended to prefer a gamma match... its far more flexible in terms
of matching and does the balanced to unbalanced conversion as well.

> Has anyone had any experience with this type of matching transformer?
> I like the look of it as it is certainly tidier that an external 4:1
> coax balun. 73
> John Vk2KC

73's
--
Best Regards:
Baron.

5297. Re: Balun for a yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-23 21:49:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <75453f14-c8f7-46b2-82e2-91d373408397@d8g2000yqf.googlegroups.com>
Source record: 6197

On Dec 23, 9:39 pm, Baron <baron.nos...@linuxmaniac.nospam.net> wrote:
> VK2KC Gmail Inscribed thus:
>
> > Hello,
> > I am in the process of building a 4 element 2m yagi, centred in 146
> > Mhz and will be utilising a folded dipole for the driven element.
>
> > I came across a commercial folded dipole, fed with coax that had been
> > threaded inside of the driven element. the coax exits through a hole
> > in the centre of the dipole opposite the feed point.
> > The coax is connected directly to the ends of the dipole, but on
> > closer inspection it is different coax on the feed side to the coax
> > tail, so obviously it is a matching transformer.
>
> > Would this be a type of a trombone balun? Assuming it is, then there
> > would be a 1/4 w/l of 75 ohm coax connected to the 50 ohm tail.
>
> > Are my assumptions correct?
>
> More or less :-)
>
> I've tended to prefer a gamma match... its far more flexible in terms
> of matching and does the balanced to unbalanced conversion as well.
>
> > Has anyone had any experience with this type of matching transformer?
> > I like the look of it as it is certainly tidier that an external 4:1
> > coax balun. 73
> > John Vk2KC
>
> 73's
> --
> Best Regards:
>   Baron.

A T match with a 1/2 wave phasing line between the two sides of the T
is what Telrex used to use, very simple to build and rugged.

5298. Re: Balun for a yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 01:32:23 UTC
From: Eric R Gray <E_Gray@bigpond.com>
Message-ID: <OKSQo.6047$gM3.5462@viwinnwfe01.internal.bigpond.com>
Source record: 6198

Several years ago I pulled apart a commercial 160MHz yagi antenna as you describe. It had a very thick folded dipole driven element. The 50 ohm coax tail was feed in at the boom through the inner of one side of the folded dipole & was connected to quarter wave length of coax (120/123 ohm from memory) & the other end was connected to the folded dipole feed point (centre to one side & earth to other).

I pulled it apart to have a look because I was interested in how the very wide bandwidth specification of the antenna was achieved (specification covered whole upper VHF commercial band).

Essentially just a quarter wave length matching section of coax from 50 to 300 ohms.& very thick driven element

Best wishes for Christmas to all on the group.

Might find this Christmas YouTube of interest

http://www.youtube.com/watch?v=GkHNNPM7pJA&feature=player_embedded

Regards

Eric R Gray (VK3ZSB)

"VK2KC Gmail" <vk2kcjohn@gmail.com> wrote in message
news:if0eej$nd7$1@news.eternal-september.org...
> Hello,
> I am in the process of building a 4 element 2m yagi, centred in 146 Mhz
> and will be utilising a folded dipole for the driven element.
>
> I came across a commercial folded dipole, fed with coax that had been
> threaded inside of the driven element. the coax exits through a hole in
> the centre of the dipole opposite the feed point.
> The coax is connected directly to the ends of the dipole, but on closer
> inspection it is different coax on the feed side to the coax tail, so
> obviously it is a matching transformer.
>
> Would this be a type of a trombone balun? Assuming it is, then there would
> be a 1/4 w/l of 75 ohm coax connected to the 50 ohm tail.
>
> Are my assumptions correct?
>
> Has anyone had any experience with this type of matching transformer? I
> like the look of it as it is certainly tidier that an external 4:1 coax
> balun.
> 73
> John Vk2KC

>

5299. 4:1 BalUn

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 02:15:44 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <9295da88-b097-4ba2-9034-62223f6fd1f1@p1g2000yqm.googlegroups.com>
Source record: 6199

I want to contruct a 4:1 BalUn but instead of stepping the impedance up from 50 to 200 I want to step it down from 50 to 12.5. Is there any difference in design between the two.

Jimmie

5300. Re: Balun for a yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 02:17:14 UTC
From: Ralph Mowery <rmowery28146@earthlink.net>
Message-ID: <HKidnT5qJdU0n4nQnZ2dnUVZ_judnZ2d@earthlink.com>
Source record: 6200

"Baron" <baron.nospam@linuxmaniac.nospam.net> wrote in message >
> I've tended to prefer a gamma match... its far more flexible in terms
> of matching and does the balanced to unbalanced conversion as well.
>

The gamma match does not seem to be thought of as working very well at vhf and above. Also it defeats some of the purpose of a balun on a beam. The balun is to keep the current in the antenna balanced which the gamma match will not to. This tends to skew the pattern of the antenna if the current is not ballanced on the antenna elements.

5301. Re: Fractal Sleeve for Monopoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 04:15:43 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <3741b673-9c44-4a13-aaa5-239300f1f4ca@w2g2000yqb.googlegroups.com>
Source record: 6101

On Dec 22, 9:13 am, Richard Fry <r...@adams.net> wrote:
> FOR DISCUSSION...
>
> RE: YouTube video on this subject at
> http://www.youtube.com/watch?v=QWd0nEXFnrE&feature=player_embedded
>
> The comments in italics were posted on another website, which prompted
> my five points that follow. Thought they might be of interest here.
>
> It would be interesting to learn if the results and conclusions shown
> in the
> YouTube video have been confirmed from complete documentation by
> an independent test lab.
>
> > but i have another idea that has come out.might be a game changer
> > check this out. i have been researching this and it could be the
> > breakthrough we need. a broad band antenna, no loading coil needed,
> > double the eirp!
>
> Observations from watching the YouTube video...
>
> 1. A 1/4-wave monopole was used in the test. A 1/4-wave monopole is
> self-resonant, so no loading coil was necessary. However it would be
> necessary
> for the electrically short monopoles permitted for unlicensed Part 15
> AM, and
> would still be needed if the FCC changed 15.219(b) to allow a 30'
> "ground"
> conductor.
>
> 2. A 1/4-wave monopole driven against a perfectly conducting ground
> plane such
> as shown in this video has a peak system gain of about 5.15 dBi. The
> video
> shows a resonant gain for that monopole system without the sleeve as
> "1 dBi"
> referenced to the gain of a log periodic antenna.
>
> However by definition the term dBi means decibels with respect to an
> isotropic
> radiator, and a log periodic antenna definitely is not an isotropic
> radiator.
> The gain units used in the video are therefore unconventional, and
> need further

> definition.
>
> 3. The relative field radiated by a conventional 1/4-wave vertical
> monopole
> driven against a perfectly conducting ground plane always is maximum
> in the
> horizontal plane. Such a system radiates virtually 100% of the matched
> power
> applied to its input terminals.
>
> Therefore the peak gain of that antenna system at resonance cannot be
> improved
> by putting a sleeve of any kind on the monopole.
>
> The sleeve may change the shape of the radiation pattern of the system
> without
> the sleeve, though, which could change the field intensity at the
> location of
> the receiving antenna used in the test. This could account for the ~3
> dB
> improvement shown in their results when using the sleeve.
>
> 4. Nothing is shown in the video about the amount of matched power at
> the
> feedpoint with and without the sleeve. If that is not held constant
> then the
> test will be flawed.
>
> 5. The VSWR bandwidth of a monopole may be increased simply by using a
> larger
> cross-section conductor of "non-fractal" construction.

The whole video sounded like a lot of verbal sleight of hand to me.
Its a shame techs and engineers are not secure enough in their
knowledge to recongnize BS when they hear it and report it as such.
"The Emperor's New Antenna".

Jimmie

Jimmie

5302. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 06:50:32 UTC
From: "Sal M. Onella" <sobars@cox.net>
Message-ID: <431aa721-c010-497d-bae3-e7040432efe6@l34g2000pro.googlegroups.com>
Source record: 6102

On Dec 23, 1:56 am, Jeff <j...@jsystems.com> wrote:
> >>> For me a radio is a box with the knob to rotate.
> >>> Now at FM no brakes between stations. At AM are.
>
> >>> What was in 1915?
> >>> S*
>
> >> In 1915 there were no broadcast stations to speak of so your dial
> >> would be just one large "brake" (sic).
>
> > "Well, it's like this. The story starts in 1915, when mankind discovered
> > sidebands. Now possessing this superior understanding of the AM signal,
> > radio scientists began to understand the implications of their discovery.
> > Soon afterwards, our old friends at Bell Labs, who have discovered
> > practically everything, developed a method for removing one of the
> > sidebands
> > of an AM signal but retaining all the essential modulation components.
> > As an
> > expert of that day supposedly said, "both sidebands are saying the same
> > thing" (Goodman, 1948). " From:
> >http://www.hamradiomarket.com/articles/SSBHistory.htm
>
> > If in 1915 were no broadcast stations to speak tell us what was with the
> > first station to speak and when it start transmitting.
> > S*
>
> The first AM Broadcast station (as opposed to amateur or military) was
> in about 1919.
>
> Jeff

KCBS, San Francisco, claims to be the direct lineal descendant of
Charles Herrold's broadcasting, which dates from 1910. However,
Herrold's early work involved broadcasting to amateurs, by his own
admission. http://www.charlesherrold.org/KCBS.html, et al.

KCBS and KDKA, Pittsburgh, have been trading claims and counterclaims
for decades. KDKA went on the air in November, 1920 and supporters of
their claim of "First!" say KCBS doesn't date from the Herrold days,
but rather from 1921, when they got their earliest commercial license,
as KQW. I don't claim to be able to settle it here. Oy!

"Sal"

5303. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 10:45:54 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <if1tl6$m5u$1@speranza.aioe.org>
Source record: 6103

>>> If in 1915 were no broadcast stations to speak tell us what was with the
>>> first station to speak and when it start transmitting.
>>> S*
>>
>> The first AM Broadcast station (as opposed to amateur or military) was
>> in about 1919.
>>
>> Jeff
>
> KCBS, San Francisco, claims to be the direct lineal descendant of
> Charles Herrold's broadcasting, which dates from 1910. However,
> Herrold's early work involved broadcasting to amateurs, by his own
> admission. http://www.charlesherrold.org/KCBS.html, et al.
>
> KCBS and KDKA, Pittsburgh, have been trading claims and counterclaims
> for decades. KDKA went on the air in November, 1920 and supporters of
> their claim of "First!" say KCBS doesn't date from the Herrold days,
> but rather from 1921, when they got their earliest commercial license,
> as KQW. I don't claim to be able to settle it here. Oy!
>
> "Sal"

A year earlier PCGG in Holland started broadcasting on November 6, 1919
and is thought to be the first 'real' broadcast station.

On 15th June 1920 Marconi made their first broadcast to the public from
their works in Chelmsford, but it took until 1921 before there were
regular programmes.

Jeff

5304. GOOD MEDICINE&HOT VIDEOS ,PHOTOS

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 13:07:43 UTC
From: ONLY FOR HOT GUYS <sirisha2862@gmail.com>
Message-ID: <56ac7914-d3e2-4bdc-a711-4174049974cb@c17g2000prm.googlegroups.com>
Source record: 6104

GOOD MEDICINE FOR GOOD HEALTH
ABOUT ANTIBIOTICS
http://onlyforhealth-muni.blogspot.com/2010/12/antibiotics-introduction.html
TYPES OF ANTIBIOTICS
http://onlyforhealth-muni.blogspot.com/2010/12/types-of-antibiotics.html

FOR HOT PHOTOS&VIDEOS
priyamani hot&sexy photos
http://karomasti9.blogspot.com/2010/12/priyamani.html
KATRINA SEXY PHOTOS
http://karomasti9.blogspot.com/2010/12/katrina.html
ANUSHKA HOT PHOTOS
http://karomasti9.blogspot.com/2010/12/anuska.html
BEAUTIFUL AISHWARIYA RAI
http://karomasti9.blogspot.com/2010/12/aiesh.html
TRISHA HOT PHOTOS
http://karomasti9.blogspot.com/2010/11/trisha-hot.html
FOR HOT MASTI
http://karomasti9.blogspot.com/
AMISHAPATEL HOT VIDEOS
http://karomasti9.blogspot.com/search/label/amisha

5305. Re: 4:1 BalUn

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 13:34:52 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <6c3124ff-f1db-47f0-926b-b4afbd226831@j29g2000yqm.googlegroups.com>
Source record: 6105

On 24 dic, 03:15, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> I want to contruct a 4:1 BalUn but instead of stepping the impedance
> up from 50 to 200 I want to step it down from 50 to 12.5. Is there any
> difference in design between the two.
>
> Jimmie

Hello Jimmie,

It depends on the design.

In case of a classical transformer, it will be the same, except that the inductance can be divided by 4. Practically this means you can half the number of turns.

For example if the 200 Ohms side have 8 turns, you can reduce this to 4 and this will be the 50 Ohms side. As current increases (with same power), you may use thicker wire, or use two windings in parallel.

In case of a real transmission line transformer, you may need transmission lines with unpractical low characteristic impedance. Maybe you can provide some details about the type of balun you want to make.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely.

5306. Re: Fractal Sleeve for Monopoles?

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 14:27:59 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <99a4c059-5d7b-4a0b-835c-e7d38bf1a275@j29g2000yqm.googlegroups.com>
Source record: 6106

On 24 dic, 05:15, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Dec 22, 9:13 am, Richard Fry <r...@adams.net> wrote:
>
>
>
> > FOR DISCUSSION...
>
> > RE: YouTube video on this subject at
> > http://www.youtube.com/watch?v=QWd0nEXFnrE&feature=player_embedded
>
> > The comments in italics were posted on another website, which prompted
> > my five points that follow. Thought they might be of interest here.
>
> > It would be interesting to learn if the results and conclusions shown
> > in the
> > YouTube video have been confirmed from complete documentation by
> > an independent test lab.
>
> > > but i have another idea that has come out.might be a game changer
> > > check this out. i have been researching this and it could be the
> > > breakthrough we need. a broad band antenna, no loading coil needed,
> > > double the eirp!
>
> > Observations from watching the YouTube video...
>
> > 1. A 1/4-wave monopole was used in the test. A 1/4-wave monopole is
> > self-resonant, so no loading coil was necessary. However it would be
> > necessary
> > for the electrically short monopoles permitted for unlicensed Part 15
> > AM, and
> > would still be needed if the FCC changed 15.219(b) to allow a 30'
> > "ground"
> > conductor.
>
> > 2. A 1/4-wave monopole driven against a perfectly conducting ground
> > plane such
> > as shown in this video has a peak system gain of about 5.15 dBi. The
> > video
> > shows a resonant gain for that monopole system without the sleeve as
> > "1 dBi"
> > referenced to the gain of a log periodic antenna.
>
> > However by definition the term dBi means decibels with respect to an
> > isotropic

> > radiator, and a log periodic antenna definitely is not an isotropic
> > radiator.
> > The gain units used in the video are therefore unconventional, and
> > need further
> > definition.
>
> > 3. The relative field radiated by a conventional 1/4-wave vertical
> > monopole
> > driven against a perfectly conducting ground plane always is maximum
> > in the
> > horizontal plane. Such a system radiates virtually 100% of the matched
> > power
> > applied to its input terminals.
>
> > Therefore the peak gain of that antenna system at resonance cannot be
> > improved
> > by putting a sleeve of any kind on the monopole.
>
> > The sleeve may change the shape of the radiation pattern of the system
> > without
> > the sleeve, though, which could change the field intensity at the
> > location of
> > the receiving antenna used in the test. This could account for the ~3
> > dB
> > improvement shown in their results when using the sleeve.
>
> > 4. Nothing is shown in the video about the amount of matched power at
> > the
> > feedpoint with and without the sleeve. If that is not held constant
> > then the
> > test will be flawed.
>
> > 5. The VSWR bandwidth of a monopole may be increased simply by using a
> > larger
> > cross-section conductor of "non-fractal" construction.
>
> The whole video sounded like a lot of verbal sleight of hand to me.
> Its a shame techs and engineers are not secure enough in their
> knowledge to recongnize BS when they hear it and report it as such.
> "The Emperor's New Antenna".
>
> Jimmie
>
> Jimmie

Hello Jimmie,

It may not be magic (cheating), but it does not mean that this is the
only solution to get a wide band antenna with reasonable radiation
pattern.

Adding a second (even non-radiating) resonator to a quarter wave whip (or similar structure) does increase the useful bandwidth with a factor 2.5. I used this technique in some commercial UHF designs. "Electrically Small, Superdirective, and Superconducting Antennas" , R.C. Hansen, discusses the resonator technique also.

Adding a third resonator will give slightly more increase of useful bandwidth. Basically it uses the same design techniques as used in broad-banding amplifiers with LC sections. Looking to VSWR versus frequency, it looks like the put the resonator technique in a fractal appearance.

In very wide band applications (> 3:1), you can keep the VSWR within reasonable limits, but a whip-type radiating element may result in a clover radiation pattern. Flared thick structures give better radiation pattern.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me very likely.

5307. Re: Balun for a yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 15:16:10 UTC
From: Baron <baron.nospam@linuxmaniac.nospam.net>
Message-ID: <if2dcb$ao3$1@news.eternal-september.org>
Source record: 6107

Hi Ralph,
Ralph Mowery Inscribed thus:

>
> "Baron" <baron.nospam@linuxmaniac.nospam.net> wrote in message >
>> I've tended to prefer a gamma match... its far more flexible in
>> terms of matching and does the balanced to unbalanced conversion as
>> well.
>>
>
> The gamma match does not seem to be thought of as working very well at
> vhf and above.

I've never had any real problems even at 23cms. Certainly non even with
other feed techniques that I've tried.

> Also it defeats some of the purpose of a balun on a beam.

I agree that it wont necessarily prevent common mode currents on the
co-ax.

> The balun is to keep the current in the antenna balanced which the
> gamma match will not to. This tends to skew the pattern of the
> antenna if the current is not balanced on the antenna elements.

I've not really noticed any problems with pattern skew, though I have no
doubt that it occurs. I suspect that it would be more of a issue with
phased arrays.

OT. Merry Christmas to all. (*)

--
Best Regards:
Baron.

5308. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 16:09:25 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <if2gjpio1@speranza.aioe.org>
Source record: 6108

On 24/12/2010 15:47, Jim Higgins wrote:
> On Thu, 23 Dec 2010 09:56:06 +0000, Jeff<jeff@jsystems.com> wrote:
>
>> The first AM Broadcast station (as opposed to amateur or military)
>> was in about 1919.
>
>
> You might want to look into the work of Reginald Fessenden. He made
> the first entertainment type audio transmissions to a general audience
> in 1906.
> http://en.wikipedia.org/wiki/Reginald_Fessenden
>

As did Marconi and several others, but they certainly could not be
described as a broadcast station, more like experimental demonstrations.

Jeff

5309. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 16:11:46 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <if2go5io2@speranza.aioe.org>
Source record: 6109

On 24/12/2010 15:49, Jim Higgins wrote:
> On Thu, 23 Dec 2010 17:12:38 -0000, jimp@specsol.spam.sux.com wrote:
>
>> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>
>>> If in 1915 were no broadcast stations to speak tell us what was with the
>>> first station to speak and when it start transmitting.
>>> S*
>>
>> There were no broadcasting stations of any kind in 1915.
>>
>> The first station that could even remotely be called a broadcasting station
>> was in 1916 and it broadcasted weather reports in morse code.
>>
>> The first experimental AM broadcast stations started in 1919 and regular AM
>> broadcasting started in 1920 when all the spark gap morse transmitters
>> were shut down.
>
>
> Make that 1906 for the first experimental AM broadcast.
> http://en.wikipedia.org/wiki/Reginald_Fessenden
>

Again you must differentiate between sporadic demonstrations and the
setting up of a station with scheduled programming, which is what the
discussion is about.

Jeff

5310. Christmas present for the group

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 17:24:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <35ed6572-ad92-4852-a036-e07d7f51c074@t35g2000yqj.googlegroups.com>
Source record: 6110

I have just cut the prices on my 25th Anniversary edition of "Building a Super Station". The e-book download is now free, and the DVD and paper copies are $5 cheaper than before... Hopefully none of the reflectors object to this announcement since this removes any income I was getting from them, just one less form to file with income taxes after this year.

Get them at: http://stores.lulu.com/k1ttt

5311. Re: eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 19:15:31 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnih9saj.1tic.knock_yourself_out@shell.config.com>
Source record: 6111

```
On Thu, 23 Dec 2010 09:49:29 -0800 (PST), K1TTT wrote:
> On Dec 23, 12:30ï¿½pm, "J. B. Wood" <john.w...@nrl.navy.mil> wrote:
>> Hello, all. ï¿½With the wealth of info available on eham.net I'm beginning
>> to wonder for amateur radio purposes if it's still worth the time to
>> stay on unmoderated, spam-laden usenet newsgroups. ï¿½Your time and
>> comment is appreciated. ï¿½Sincerely, and 73s from N4GGO,
>
> what is eham.net?

http://lmgtfy.com/?q=eham.net&l=1
```

5312. Re: eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 19:31:25 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8d7f9985-1cbc-4eea-9a2c-7dca9e751523@y23g2000yqd.googlegroups.com>
Source record: 6112

```
On Dec 24, 7:15 pm, Allodoxaphobia <knock_yourself_...@example.net>
wrote:
> On Thu, 23 Dec 2010 09:49:29 -0800 (PST), K1TTT wrote:
> > On Dec 23, 12:30 pm, "J. B. Wood" <john.w...@nrl.navy.mil> wrote:
> >> Hello, all. With the wealth of info available on eham.net I'm beginning
> >> to wonder for amateur radio purposes if it's still worth the time to
> >> stay on unmoderated, spam-laden usenet newsgroups. Your time and
> >> comment is appreciated. Sincerely, and 73s from N4GGO,
>
> > what is eham.net?
>
>  http://lmgtfy.com/?q=eham.net&l=1

well, duh... seems to be the hard way to get there if i really wanted
to... the point is, why bother?
```

5313. Re: eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 20:05:59 UTC
From: No Spam <nospam@nospam.com>
Message-ID: <if2uf7eap1@news.albasani.net>
Source record: 6113

On Thu, 23 Dec 2010 07:30:42 -0500, J. B. Wood wrote:

> Hello, all. With the wealth of info available on eham.net I'm beginning
> to wonder for amateur radio purposes if it's still worth the time to
> stay on unmoderated, spam-laden usenet newsgroups. Your time and
> comment is appreciated. Sincerely, and 73s from N4GGO,

eham sucks
they "moderate" like a communist regime
I was kicked off for trying to resurrect a 1970s model linear that was
made for ham radio but was popular among the CBers of the time. I guess
to be a ham, you must purchase equipment from one of the eham sponsors?

eham is only trolled with a bunch of old dumb hams who have to have their
great grand children or nurse maids turn the computer on for them each
morning so they can go on a destructive rage with everybody young and new
to radio.

5314. Re: eham.net vs. rec.radio.amateur.*

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 20:10:42 UTC
From: Roupert <albertjones@yahoo.com>
Message-ID: <if2uo2eap2@news.albasani.net>
Source record: 6114

On Fri, 24 Dec 2010 19:15:31 +0000, Allodoxaphobia wrote:

> On Thu, 23 Dec 2010 09:49:29 -0800 (PST), K1TTT wrote:
>> On Dec 23, 12:30 pm, "J. B. Wood" <john.w...@nrl.navy.mil> wrote:
>>> Hello, all. With the wealth of info available on eham.net I'm
>>> beginning to wonder for amateur radio purposes if it's still worth the
>>> time to stay on unmoderated, spam-laden usenet newsgroups. Your time
>>> and comment is appreciated. Sincerely, and 73s from N4GGO,
>>
>> what is eham.net?
>
> http://lmgtfy.com/?q=eham.net&l=1

HAHAHA Nice example!

Exactly why one should avoid eham!

The people who frequent there are simply too stupid to understand sarcasm
or anything complicated beyond what's on fox news. A disgrace to amateur
radio.

5315. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 21:21:08 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <4fffu7-6hk.ln1@mail.specsol.com>
Source record: 6115

Jim Higgins <invalid@invalid.invalid> wrote:
> On Thu, 23 Dec 2010 17:12:38 -0000, jimp@specsol.spam.sux.com wrote:
>
>>Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>
>>> If in 1915 were no broadcast stations to speak tell us what was with the
>>> first station to speak and when it start transmitting.
>>> S*
>>
>>There were no broadcasting stations of any kind in 1915.
>>
>>The first station that could even remotely be called a broadcasting station
>>was in 1916 and it broadcasted weather reports in morse code.
>>
>>The first experimental AM broadcast stations started in 1919 and regular AM
>>broadcasting started in 1920 when all the spark gap morse transmitters
>>were shut down.
>
>
> Make that 1906 for the first experimental AM broadcast.
> http://en.wikipedia.org/wiki/Reginald_Fessenden

The operative words are "scheduled" and "public" in this context.

There were lots of one off things done before 1919.

--
Jim Pennino

Remove .spam.sux to reply.

5316. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 22:12:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <50878e8c-c2c9-4d59-81bc-bf50baeb8da8@29g2000yqq.googlegroups.com>
Source record: 6116

On Dec 24, 9:21 pm, j...@specsol.spam.sux.com wrote:
> Jim Higgins <inva...@invalid.invalid> wrote:
> > On Thu, 23 Dec 2010 17:12:38 -0000, j...@specsol.spam.sux.com wrote:
>
> >>Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> >>> If in 1915 were no broadcast stations to speak tell us what was with the
> >>> first station to speak and when it start transmitting.
> >>> S*
>
> >>There were no broadcasting stations of any kind in 1915.
>
> >>The first station that could even remotely be called a broadcasting station
> >>was in 1916 and it broadcasted weather reports in morse code.
>
> >>The first experimental AM broadcast stations started in 1919 and regular AM
> >>broadcasting started in 1920 when all the spark gap morse transmitters
> >>were shut down.
>
> > Make that 1906 for the first experimental AM broadcast.
> >http://en.wikipedia.org/wiki/Reginald_Fessenden
>
> The operative words are "scheduled" and "public" in this context.
>
> There were lots of one off things done before 1919.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

but did distance affect the sidebands???? that is the question,
please keep mr. B on topic!

5317. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-24 23:40:32 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <gknfu7-8gl.ln1@mail.specsol.com>
Source record: 6117

K1TTT <k1ttt@arrl.net> wrote:

> but did distance affect the sidebands???? that is the question,
> please keep mr. B on topic!

This babbling moron has been posting his nonsense for years on the physics and physics.electromagnetic groups.

When I first read his posts years ago I thought his gibberish was because English wasn't his native language but soon came to realize that the issue isn't language, the issue is brain chemistry.

Recently he has moved to the amateur groups, I guess in hopes that the people here won't be as "harsh" as they are in the science groups.

You can give him facts and links all day long, but since he doesn't seem to have more than two synapses that fire properly, he will never understand any response and just continue to babble on.

So there are a few choices to answering his posts:

Don't

Remind him he is a drooling mental case

Respond with some facts that may be of interest to others when he accidently hits on something, such as the history of broadcasting, then remind him he is a drooling mental case

--
Jim Pennino

Remove .spam.sux to reply.

5318. Re: 4:1 BalUn

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 02:33:30 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <9c537f7e-7b6f-452f-802c-1154d5a95ac0@k22g2000yqh.googlegroups.com>
Source record: 6118

On Dec 24, 9:34 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 24 dic, 03:15, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > I want to contruct a 4:1 BalUn but instead of stepping the impedance
> > up from 50 to 200 I want to step it down from 50 to 12.5. Is there any
> > difference in design between the two.
>
> > Jimmie
>
> Hello Jimmie,
>
> It depends on the design.
>
> In case of a classical transformer, it will be the same, except that
> the inductance can be divided by 4. Practically this means you can
> half the number of turns.
>
> For example if the 200 Ohms side have 8 turns, you can reduce this to
> 4 and this will be the 50 Ohms side. As current increases (with same
> power), you may use thicker wire, or use two windings in parallel.
>
> In case of a real transmission line transformer, you may need
> transmission lines with unpractical low characteristic impedance.
> Maybe you can provide some details about the type of balun you want to
> make.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl
> without abc, PM will reach me very likely.

I had thought about the increased current and decided the best way to
compensate for this may be to use a transformer designed for more
power than I had palnned on using As I am only going to be running
100W PEP I figure using a design for 1000W would be more than
sufficent. I had not considered the need for fewer turns. Is this
important?

Jimmie

5319. Re: Balun for a yagi

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 02:40:43 UTC
From: tom <news4792@taring.org>
Message-ID: <4d1559a4$0$87580$8046368a@newsreader.iphouse.net>
Source record: 6119

On 12/24/2010 9:16 AM, Baron wrote:

>> The balun is to keep the current in the antenna balanced which the
>> gamma match will not to. This tends to skew the pattern of the
>> antenna if the current is not balanced on the antenna elements.
>
> I've not really noticed any problems with pattern skew, though I have no
> doubt that it occurs. I suspect that it would be more of a issue with
> phased arrays.
>

Works well enough on EME arrays when I've built them from Cushcraft
Boomer parts kits.

tom
K0TAR

5320. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 10:06:47 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d15c23a$0$2486$65785112@news.neostrada.pl>
Source record: 6120

jimp@specsol.spam.sux.com> wrote news:gknfu7-8gl.ln1@mail.specsol.com...
> K1TTT <k1ttt@arrl.net> wrote:
>
>> but did distance affect the sidebands???? that is the question,
>> please keep mr. B on topic!
>
> This babbling moron has been posting his nonsense for years on the physics
> and physics.electromagnetic groups.
>
> When I first read his posts years ago I thought his gibberish was because
> English wasn't his native language but soon came to realize that the issue
> isn't language, the issue is brain chemistry.
>
> Recently he has moved to the amateur groups, I guess in hopes that the
> people here won't be as "harsh" as they are in the science groups.
>
> You can give him facts and links all day long, but since he doesn't seem
> to have more than two synapses that fire properly, he will never
> understand
> any response and just continue to babble on.
>
> So there are a few choices to answering his posts:
>
> Don't
>
> Remind him he is a drooling mental case
>
> Respond with some facts that may be of interest to others when he
> accidently
> hits on something, such as the history of broadcasting, then remind him he
> is a drooling mental case.

Do not be angry that you do not know if " did distance affect the
sidebands???? ". It is nothing wrong.
The effect is obvious in light of physics laws. Such obvious that fathers of
the radio did not write about this.
Young people can measure it if it is interesting for them.
S*

5321. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 12:32:01 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <cfba49b6-46b4-4dab-bfd2-f226c0b65da1@r29g2000yqj.googlegroups.com>
Source record: 6121

On Dec 25, 10:06 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> j...@specsol.spam.sux.com> wrotenews:gknfu7-8gl.ln1@mail.specsol.com...
>
>
>
> > K1TTT <k1...@arrl.net> wrote:
>
> >> but did distance affect the sidebands???? that is the question,
> >> please keep mr. B on topic!
>
> > This babbling moron has been posting his nonsense for years on the physics
> > and physics.electromagnetic groups.
>
> > When I first read his posts years ago I thought his gibberish was because
> > English wasn't his native language but soon came to realize that the issue
> > isn't language, the issue is brain chemistry.
>
> > Recently he has moved to the amateur groups, I guess in hopes that the
> > people here won't be as "harsh" as they are in the science groups.
>
> > You can give him facts and links all day long, but since he doesn't seem
> > to have more than two synapses that fire properly, he will never
> > understand
> > any response and just continue to babble on.
>
> > So there are a few choices to answering his posts:
>
> > Don't
>
> > Remind him he is a drooling mental case
>
> > Respond with some facts that may be of interest to others when he
> > accidently
> > hits on something, such as the history of broadcasting, then remind him he
> > is a drooling mental case.
>
> Do not be angry that you do not know if " did distance affect the
> sidebands???? ". It is nothing wrong.
> The effect is obvious in light of physics laws. Such obvious that fathers of
> the radio did not write about this.
> Young people can measure it if it is interesting for them.
> S*

distance itself does not affect sidebands.

frequency dependent dispersion in the ionosphere can affect sidebands
and the mark/space tones of rtty differently over short periods
causing differential fading and distortion.

5322. Re: 4:1 BalUn

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 14:02:39 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <f154181e-e47b-41b4-bb4b-313257c60fdf@s5g2000yqm.googlegroups.com>
Source record: 6122

On 25 dic, 03:33, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Dec 24, 9:34 am, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 24 dic, 03:15, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > > I want to contruct a 4:1 BalUn but instead of stepping the impedance
> > > up from 50 to 200 I want to step it down from 50 to 12.5. Is there any
> > > difference in design between the two.
>
> > > Jimmie
>
> > Hello Jimmie,
>
> > It depends on the design.
>
> > In case of a classical transformer, it will be the same, except that
> > the inductance can be divided by 4. Practically this means you can
> > half the number of turns.
>
> > For example if the 200 Ohms side have 8 turns, you can reduce this to
> > 4 and this will be the 50 Ohms side. As current increases (with same
> > power), you may use thicker wire, or use two windings in parallel.
>
> > In case of a real transmission line transformer, you may need
> > transmission lines with unpractical low characteristic impedance.
> > Maybe you can provide some details about the type of balun you want to
> > make.
>
> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
> > without abc, PM will reach me very likely.
>
> I had thought about the increased current and decided the best way to
> compensate for this may be to use a transformer designed for more
> power than I had palnned on using As I am only going to be running
> 100W PEP I figure using a design for 1000W would be more than
> sufficent. I had not considered the need for fewer turns. Is this
> important?
>
> Jimmie

Hello Jimmie,

When you take a transformer type 200 to 50 Ohms balun, the lower frequency limit is determined by the inductance of the 200 Ohms winding (no load connected). This inductance is in parallel with the 200 Ohms source (or load).

When you short-circuit the 50 Ohms side, you will not measure 0 Ohms, but an inductance. This is the leakage inductance due to limited coupling between sec. and prim. winding.

When you use this same balun for a 50 to 12.5 Ohms circuit, the lower frequency limit will decrease. However the upper frequency limit will decrease also, as the leakage inductance is in series with the load.

You can imagine that 150nH (j28 Ohms at 30 MHz) in series with 50 Ohms load is acceptable in many situations, but this same 150nH in series with 12.5 Ohms load may give problems.

Regarding power handling
If you are using your balun with a load with bad VSWR (referenced to 12.5 Ohms), you have to derate power. If the transformer is in a voltage maximum, the core dissipation will increase due to higher flux in it. When the transformer is in a current maximum, wire dissipation will increase.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

5323. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 14:57:39 UTC
From: joe <none@domain.invalid>
Message-ID: <if50fp$39l$1@speranza.aioe.org>
Source record: 6123

K1TTT wrote:
>
> distance itself does not affect sidebands.
>
> frequency dependent dispersion in the ionosphere can affect sidebands
> and the mark/space tones of rtty differently over short periods
> causing differential fading and distortion.

One could also consider selective fading.

5324. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 14:59:38 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <134dde81-ec88-4765-8abc-4836fe5ec94c@s5g2000yqm.googlegroups.com>
Source record: 6124

On Dec 25, 2:57 pm, joe <n...@domain.invalid> wrote:
> K1TTT wrote:
>
> > distance itself does not affect sidebands.
>
> > frequency dependent dispersion in the ionosphere can affect sidebands
> > and the mark/space tones of rtty differently over short periods
> > causing differential fading and distortion.
>
> One could also consider selective fading.

that's just another name for it... i threw in the big words because
i'm sure that mr.b will look them up out of context and find all sorts
of hilarious ways to recombine them.

5325. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 17:27:01 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <54mhu7-a6s.ln1@mail.specsol.com>
Source record: 6125

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Do not be angry that you do not know if " did distance affect the
> sidebands???? ". It is nothing wrong.

It is gibberish; one has nothing to do with the other.

> The effect is obvious in light of physics laws. Such obvious that fathers of
> the radio did not write about this.
> Young people can measure it if it is interesting for them.
> S*

More meaningless gibberish.

--
Jim Pennino

Remove .spam.sux to reply.

5326. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 18:05:55 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d163285$0$2437$65785112@news.neostrada.pl>
Source record: 6126

"K1TTT" <k1ttt@arrl.net> wrote
news:134dde81-ec88-4765-8abc-4836fe5ec94c@s5g2000yqm.googlegroups.com...
On Dec 25, 2:57 pm, joe <n...@domain.invalid> wrote:
> K1TTT wrote:
>
>> > distance itself does not affect sidebands.
>
>> > frequency dependent dispersion in the ionosphere can affect sidebands
> > and the mark/space tones of rtty differently over short periods
> > causing differential fading and distortion.
>
>> One could also consider selective fading.

>that's just another name for it... i threw in the big words because
i'm sure that mr.b will look them up out of context and find all sorts
of hilarious ways to recombine them.

http://dj4br.home.t-link.de/ssb3e.htm
I am sure that the all my questions will be explained with the ionosphere.
The first my question was on the frequency doubling.
But yours selective fading means for me "distance itself does affect
sidebands". So you are very helpfull.

For me all names are clear.
Ampere discovered the electrons and give them name "current elements".
Maxwell used "electric particless". But you all admire Heaviside's fluid
(massles and incompressible). Do you see the difference?
S*

5327. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 19:03:27 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <vorhu7-8ps.ln1@mail.specsol.com>
Source record: 6128

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:134dde81-ec88-4765-8abc-4836fe5ec94c@s5g2000yqm.googlegroups.com...
> On Dec 25, 2:57 pm, joe <n...@domain.invalid> wrote:
>> K1TTT wrote:
>>
>>> > distance itself does not affect sidebands.
>>
>>> > frequency dependent dispersion in the ionosphere can affect sidebands
>> > and the mark/space tones of rtty differently over short periods
>> > causing differential fading and distortion.
>>
>>> One could also consider selective fading.
>
>>that's just another name for it... i threw in the big words because
> i'm sure that mr.b will look them up out of context and find all sorts
> of hilarious ways to recombine them.
>
> http://dj4br.home.t-link.de/ssb3e.htm
> I am sure that the all my questions will be explained with the ionosphere.

Hardly.

At some frequencies the ionosphere is transparent, at some it is reflective,
at some it is absorptive.

And the iononsphere has little to nothing to do with ground wave propagation,
which predominates at AM broadcast frequencies.

But you haven't a clue what any of that means, do you?

> The first my question was on the frequency doubling.
> But yours selective fading means for me "distance itself does affect
> sidebands". So you are very helpfull.

Correct conclusion but for totally wrong reasons, much like noticing ice
cream is cold therefor the sky is blue.

> For me all names are clear.

Babble.

> Ampere discovered the electrons and give them name "current elements".

You are wrong as usual.

Richard Laming came up with the concept, the name was by George Johnstone Stoney, the particle itself was identified by Sir John Joseph Thomson.

> Maxwell used "electric particless". But you all admire Heaviside's fluid
> (massles and incompressible). Do you see the difference?
> S*

More mindless, word salad babble.

--
Jim Pennino

Remove .spam.sux to reply.

5328. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 19:12:11 UTC
From: joe <none@domain.invalid>
Message-ID: <if5fd9$2of$1@speranza.aioe.org>
Source record: 6127

Szczepan Bialek wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:134dde81-ec88-4765-8abc-4836fe5ec94c@s5g2000yqm.googlegroups.com...
> On Dec 25, 2:57 pm, joe <n...@domain.invalid> wrote:
>> K1TTT wrote:
>>
>>> > distance itself does not affect sidebands.
>>
>>> > frequency dependent dispersion in the ionosphere can affect sidebands
>> > and the mark/space tones of rtty differently over short periods
>> > causing differential fading and distortion.
>>
>>> One could also consider selective fading.
>
>> that's just another name for it... i threw in the big words because
> i'm sure that mr.b will look them up out of context and find all sorts
> of hilarious ways to recombine them.
>
> http://dj4br.home.t-link.de/ssb3e.htm
> I am sure that the all my questions will be explained with the
> ionosphere. The first my question was on the frequency doubling.
> But yours selective fading means for me "distance itself does affect
> sidebands". So you are very helpfull.
>

But you fail to recognize that distance ALONE does NOT affect sidebands
differently. It requires something else to be present.

> For me all names are clear.
> Ampere discovered the electrons and give them name "current elements".
> Maxwell used "electric particless". But you all admire Heaviside's fluid
> (massles and incompressible). Do you see the difference?
> S*
>

5329. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-25 23:24:00 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <g1biu7-391.ln1@mail.specsol.com>
Source record: 6129

Jim Higgins <invalid@invalid.invalid> wrote:
> On Fri, 24 Dec 2010 21:21:08 -0000, jimp@specsol.spam.sux.com wrote:
>
>>Jim Higgins <invalid@invalid.invalid> wrote:
>>> On Thu, 23 Dec 2010 17:12:38 -0000, jimp@specsol.spam.sux.com wrote:
>>>
>>>>Szczepan Bialek <sz.bialek@wp.pl> wrote:
>>>>
>>>> If in 1915 were no broadcast stations to speak tell us what was with the
>>>> first station to speak and when it start transmitting.
>>>> S*
>>>>
>>>>There were no broadcasting stations of any kind in 1915.
>>>>
>>>>The first station that could even remotely be called a broadcasting station
>>>>was in 1916 and it broadcasted weather reports in morse code.
>>>>
>>>>The first experimental AM broadcast stations started in 1919 and regular AM
>>>>broadcasting started in 1920 when all the spark gap morse transmitters
>>>>were shut down.
>>>
>>> Make that 1906 for the first experimental AM broadcast.
>>> http://en.wikipedia.org/wiki/Reginald_Fessenden
>>
>>The operative words are "scheduled" and "public" in this context.
>>
>>There were lots of one off things done before 1919.
>
> Yes, but the first one off thing of a kind is still the FIRST one off
> thing of that kind. So make that 1906 for the "first experimental AM
> broadcast station," not 1919.

From http://en.wikipedia.org/wiki/History_of_radio

<begin quotes>
The question of the 'first' publicly-targeted licensed radio station in the
U.S. has more than one answer and depends on semantics. Settlement of this
'first' question may hang largely upon what constitutes 'regular' programming.

It is commonly attributed to KDKA in Pittsburgh, Pennsylvania, which in
October 1920 received its license and went on the air as the first US
licensed commercial broadcasting station. (Their engineer Frank Conrad had
been broadcasting from his own station since 1916.) Technically, KDKA was
the first of several already-extant stations to receive a 'limited commercial'

license.

On February 17, 1919, station 9XM at the University of Wisconsin in Madison broadcast human speech to the public at large. 9XM was first experimentally licensed in 1914, began regular Morse code transmissions in 1916, and its first music broadcast in 1917. Regularly scheduled broadcasts of voice and music began in January 1921. That station is still on the air today as WHA.

On August 20, 1920, at least two months before KDKA, E.W. Scripps's WBL (now WWJ) in Detroit started broadcasting.

There is the history noted above of Charles David Herrold's radio services (eventually KCBS) going back to 1909.
<end quotes>

So first define "broadcasting".

Mine is a station with a license with a target of the general public and a regular schedule.

--
Jim Pennino

Remove .spam.sux to reply.

5330. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-26 09:55:00 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1710f7$0$2498$65785112@news.neostrada.pl>
Source record: 6130

Uzytkownik "joe" <none@domain.invalid> napisal w wiadomosci
news:if5fd9$2of$1@speranza.aioe.org...
> Szczepan Bialek wrote:
>>
>> "K1TTT" <k1ttt@arrl.net> wrote
>> news:134dde81-ec88-4765-8abc-4836fe5ec94c@s5g2000yqm.googlegroups.com...
>> On Dec 25, 2:57 pm, joe <n...@domain.invalid> wrote:
>>> K1TTT wrote:
>>>
>>>> > distance itself does not affect sidebands.
>>>
>>>> > frequency dependent dispersion in the ionosphere can affect sidebands
>>> > and the mark/space tones of rtty differently over short periods
>>> > causing differential fading and distortion.
>>>
>>>> One could also consider selective fading.
>>
>>> that's just another name for it... i threw in the big words because
>> i'm sure that mr.b will look them up out of context and find all sorts
>> of hilarious ways to recombine them.
>>
>> http://dj4br.home.t-link.de/ssb3e.htm
>> I am sure that the all my questions will be explained with the
>> ionosphere. The first my question was on the frequency doubling.
>> But yours selective fading means for me "distance itself does affect
>> sidebands". So you are very helpfull.
>>
>
> But you fail to recognize that distance ALONE does NOT affect sidebands
> differently. It requires something else to be present.

Jim wrote: "At some frequencies the ionosphere is transparent, at some it is
reflective,
at some it is absorptive."

Some of you play with the Moon. Are the sidebands the distance dependent?
The distance is huge and the ionosphere is transparent.
S*

>> For me all names are clear.
>> Ampere discovered the electrons and give them name "current elements".
>> Maxwell used "electric particless". But you all admire Heaviside's fluid
>> (massles and incompressible). Do you see the difference?
>> S*
>>

5331. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-26 10:39:21 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <if760npjr1@speranza.aioe.org>
Source record: 6131

On 25/12/2010 23:24, jimp@specsol.spam.sux.com wrote:
> Jim Higgins<invalid@invalid.invalid> wrote:
>> On Fri, 24 Dec 2010 21:21:08 -0000, jimp@specsol.spam.sux.com wrote:
>>
>>> Jim Higgins<invalid@invalid.invalid> wrote:
>>>> On Thu, 23 Dec 2010 17:12:38 -0000, jimp@specsol.spam.sux.com wrote:
>>>>
>>>>> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>>>>
>>>>>> If in 1915 were no broadcast stations to speak tell us what was with the
>>>>>> first station to speak and when it start transmitting.
>>>>>> S*
>>>>>
>>>>> There were no broadcasting stations of any kind in 1915.
>>>>>
>>>>> The first station that could even remotely be called a broadcasting station
>>>>> was in 1916 and it broadcasted weather reports in morse code.
>>>>>
>>>>> The first experimental AM broadcast stations started in 1919 and regular AM
>>>>> broadcasting started in 1920 when all the spark gap morse transmitters
>>>>> were shut down.
>>>>
>>>>
>>>> Make that 1906 for the first experimental AM broadcast.
>>>> http://en.wikipedia.org/wiki/Reginald_Fessenden
>>>
>>> The operative words are "scheduled" and "public" in this context.
>>>
>>> There were lots of one off things done before 1919.
>>
>> Yes, but the first one off thing of a kind is still the FIRST one off
>> thing of that kind. So make that 1906 for the "first experimental AM
>> broadcast station," not 1919.
>
> From http://en.wikipedia.org/wiki/History_of_radio
>
> <begin quotes>
> The question of the 'first' publicly-targeted licensed radio station in the
> U.S. has more than one answer and depends on semantics. Settlement of this
> 'first' question may hang largely upon what constitutes 'regular' programming.
>
> It is commonly attributed to KDKA in Pittsburgh, Pennsylvania, which in
> October 1920 received its license and went on the air as the first US
> licensed commercial broadcasting station. (Their engineer Frank Conrad had

> been broadcasting from his own station since 1916.) Technically, KDKA was
> the first of several already-extant stations to receive a 'limited commercial'
> license.
>
> On February 17, 1919, station 9XM at the University of Wisconsin in Madison
> broadcast human speech to the public at large. 9XM was first experimentally
> licensed in 1914, began regular Morse code transmissions in 1916, and its
> first music broadcast in 1917. Regularly scheduled broadcasts of voice and
> music began in January 1921. That station is still on the air today as WHA.
>
> On August 20, 1920, at least two months before KDKA, E.W. Scripps's WBL
> (now WWJ) in Detroit started broadcasting.
>
> There is the history noted above of Charles David Herrold's radio services
> (eventually KCBS) going back to 1909.
> <end quotes>
>
> So first define "broadcasting".
>
> Mine is a station with a license with a target of the general public and
> a regular schedule.

But note the start of the quote "<begin quotes>
The question of the 'first' publicly-targeted licensed radio station in
the **U.S.**"

The Dutch beat the US to it!! with regular scheluled programmes from
PCGG starting in November 1919 a year KDKA.

Jeff

5332. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-26 10:45:03 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <if76bd$qm2$1@speranza.aioe.org>
Source record: 6132

On 26/12/2010 09:55, Szczepan Bialek wrote:
>
> Uzytkownik "joe" <none@domain.invalid> napisal w wiadomosci
> news:if5fd9$2of$1@speranza.aioe.org...
>> Szczepan Bialek wrote:
>>>
>>> "K1TTT" <k1ttt@arrl.net> wrote
>>> news:134dde81-ec88-4765-8abc-4836fe5ec94c@s5g2000yqm.googlegroups.com...
>>> On Dec 25, 2:57 pm, joe <n...@domain.invalid> wrote:
>>>> K1TTT wrote:
>>>>
>>>>> > distance itself does not affect sidebands.
>>>>
>>>>> > frequency dependent dispersion in the ionosphere can affect
>>>>> sidebands
>>>> > and the mark/space tones of rtty differently over short periods
>>>> > causing differential fading and distortion.
>>>>
>>>>> One could also consider selective fading.
>>>
>>>> that's just another name for it... i threw in the big words because
>>> i'm sure that mr.b will look them up out of context and find all sorts
>>> of hilarious ways to recombine them.
>>>
>>> http://dj4br.home.t-link.de/ssb3e.htm
>>> I am sure that the all my questions will be explained with the
>>> ionosphere. The first my question was on the frequency doubling.
>>> But yours selective fading means for me "distance itself does affect
>>> sidebands". So you are very helpfull.
>>>
>>
>> But you fail to recognize that distance ALONE does NOT affect
>> sidebands differently. It requires something else to be present.
>

Whilst distance does not affect sidebands per se, it can affect which
sidebands are received, and hence the envelope of a recovered signal.

Consider a pulse train with a spectrum that extends to infinity; the
higher order sidebands when received by a distant station will be below
the noise floor and will not play a part in the recovered pulse train,
so in a way distance has modified the spectrum of the received signal!!

Jeff

5333. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-26 12:43:13 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f3b56a0a-7a53-4913-9e35-f7da3c625cab@39g2000yqa.googlegroups.com>
Source record: 6133

On Dec 26, 9:55 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "joe" <n...@domain.invalid> napisal w
wiadomoscinews:if5fd9$2of$1@speranza.aioe.org...
>
>
>
> > Szczepan Bialek wrote:
>
> >> "K1TTT" <k1...@arrl.net> wrote
> >>news:134dde81-ec88-4765-8abc-4836fe5ec94c@s5g2000yqm.googlegroups.com...
> >> On Dec 25, 2:57 pm, joe <n...@domain.invalid> wrote:
> >>> K1TTT wrote:
>
> >>>> > distance itself does not affect sidebands.
>
> >>>> > frequency dependent dispersion in the ionosphere can affect sidebands
> >>> > and the mark/space tones of rtty differently over short periods
> >>> > causing differential fading and distortion.
>
> >>>> One could also consider selective fading.
>
> >>> that's just another name for it... i threw in the big words because
> >> i'm sure that mr.b will look them up out of context and find all sorts
> >> of hilarious ways to recombine them.
>
> >>http://dj4br.home.t-link.de/ssb3e.htm
> >> I am sure that the all my questions will be explained with the
> >> ionosphere. The first my question was on the frequency doubling.
> >> But yours selective fading means for me "distance itself does affect
> >> sidebands". So you are very helpfull.
>
> > But you fail to recognize that distance ALONE does NOT affect sidebands
> > differently. It requires something else to be present.
> Jim wrote: "At some frequencies the ionosphere is transparent, at some it is
>
> reflective,
> at some it is absorptive."
>
> Some of you play with the Moon. Are the sidebands the distance dependent?
> The distance is huge and the ionosphere is transparent.
> S*

no, the sidebands are NOT distance dependent.

and no, the distance is not huge and the ionosphere is not
transparent.

5334. ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-26 15:07:43 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com>
Source record: 6134
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

Hello,

Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
especially with planar circuits? Is this a NEC based package?

They say you can use a flat strip as basic element (like in the
"planar" commercial SW packages), though they speak of wire segments
in most other documents on their site. They also mention that you can
simulate wire segments in dielectric or magnetic media. This looks
nice for the relative low price.

Best regards,

Wim
PA3DJS
www.tetech.nl

5335. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-26 18:10:42 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <22dku7-9k8.ln1@mail.specsol.com>
Source record: 6136

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Jim wrote: "At some frequencies the ionosphere is transparent, at some it is
> reflective,
> at some it is absorptive."
>
> Some of you play with the Moon. Are the sidebands the distance dependent?
> The distance is huge and the ionosphere is transparent.
> S*

How many times are you going to repeat this nonsense?

Sidebands and distance are not related.

You are a babbling idiot.

--
Jim Pennino

Remove .spam.sux to reply.

5336. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-26 18:13:44 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <o7dku7-9k8.ln1@mail.specsol.com>
Source record: 6135

```
Jeff <jeff@jsystems.com> wrote:
> On 25/12/2010 23:24, jimp@specsol.spam.sux.com wrote:
>> Jim Higgins<invalid@invalid.invalid> wrote:
>>> On Fri, 24 Dec 2010 21:21:08 -0000, jimp@specsol.spam.sux.com wrote:
>>>
>>>> Jim Higgins<invalid@invalid.invalid> wrote:
>>>>> On Thu, 23 Dec 2010 17:12:38 -0000, jimp@specsol.spam.sux.com wrote:
>>>>>
>>>>>> Szczepan Bialek<sz.bialek@wp.pl> wrote:
>>>>>>
>>>>>>> If in 1915 were no broadcast stations to speak tell us what was with the
>>>>>>> first station to speak and when it start transmitting.
>>>>>>> S*
>>>>>>
>>>>>> There were no broadcasting stations of any kind in 1915.
>>>>>>
>>>>>> The first station that could even remotely be called a broadcasting station
>>>>>> was in 1916 and it broadcasted weather reports in morse code.
>>>>>>
>>>>>> The first experimental AM broadcast stations started in 1919 and regular AM
>>>>>> broadcasting started in 1920 when all the spark gap morse transmitters
>>>>>> were shut down.
>>>>>
>>>>>
>>>>> Make that 1906 for the first experimental AM broadcast.
>>>>> http://en.wikipedia.org/wiki/Reginald_Fessenden
>>>>
>>>> The operative words are "scheduled" and "public" in this context.
>>>>
>>>> There were lots of one off things done before 1919.
>>>
>>> Yes, but the first one off thing of a kind is still the FIRST one off
>>> thing of that kind. So make that 1906 for the "first experimental AM
>>> broadcast station," not 1919.
>>
>> From http://en.wikipedia.org/wiki/History_of_radio
>>
>> <begin quotes>
>> The question of the 'first' publicly-targeted licensed radio station in the
>> U.S. has more than one answer and depends on semantics. Settlement of this
>> 'first' question may hang largely upon what constitutes 'regular' programming.
>>
>> It is commonly attributed to KDKA in Pittsburgh, Pennsylvania, which in
>> October 1920 received its license and went on the air as the first US
```

>> licensed commercial broadcasting station. (Their engineer Frank Conrad had
>> been broadcasting from his own station since 1916.) Technically, KDKA was
>> the first of several already-extant stations to receive a 'limited commercial'
>> license.
>>
>> On February 17, 1919, station 9XM at the University of Wisconsin in Madison
>> broadcast human speech to the public at large. 9XM was first experimentally
>> licensed in 1914, began regular Morse code transmissions in 1916, and its
>> first music broadcast in 1917. Regularly scheduled broadcasts of voice and
>> music began in January 1921. That station is still on the air today as WHA.
>>
>> On August 20, 1920, at least two months before KDKA, E.W. Scripps's WBL
>> (now WWJ) in Detroit started broadcasting.
>>
>> There is the history noted above of Charles David Herrold's radio services
>> (eventually KCBS) going back to 1909.
>> <end quotes>
>>
>> So first define "broadcasting".
>>
>> Mine is a station with a license with a target of the general public and
>> a regular schedule.
>
> But note the start of the quote "<begin quotes>
> The question of the 'first' publicly-targeted licensed radio station in
> the **U.S.**"
>
> The Dutch beat the US to it!! with regular scheluled programmes from
> PCGG starting in November 1919 a year KDKA.
>
> Jeff

Which still makes the year 1919.

--
Jim Pennino

Remove .spam.sux to reply.

5337. Re: 4:1 BalUn

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 03:34:38 UTC
From: JIMMIE <JIMMIEDEE123@YAHOO.COM>
Message-ID: <d739348e-5664-4da6-9ce1-cf56ff8e0f35@t35g2000yqj.googlegroups.com>
Source record: 6137

On Dec 25, 10:02 am, Wimpie <wimabc...@tetech.nl> wrote:
> On 25 dic, 03:33, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
>
>
>
>
> > On Dec 24, 9:34 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > On 24 dic, 03:15, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > > > I want to contruct a 4:1 BalUn but instead of stepping the impedance
> > > > up from 50 to 200 I want to step it down from 50 to 12.5. Is there any
> > > > difference in design between the two.
>
> > > > Jimmie
>
> > > Hello Jimmie,
>
> > > It depends on the design.
>
> > > In case of a classical transformer, it will be the same, except that
> > > the inductance can be divided by 4. Practically this means you can
> > > half the number of turns.
>
> > > For example if the 200 Ohms side have 8 turns, you can reduce this to
> > > 4 and this will be the 50 Ohms side. As current increases (with same
> > > power), you may use thicker wire, or use two windings in parallel.
>
> > > In case of a real transmission line transformer, you may need
> > > transmission lines with unpractical low characteristic impedance.
> > > Maybe you can provide some details about the type of balun you want to
> > > make.
>
> > > Best regards,
>
> > > Wim
> > > PA3DJSwww.tetech.nl
> > > without abc, PM will reach me very likely.
>
> > I had thought about the increased current and decided the best way to
> > compensate for this may be to use a transformer designed for more
> > power than I had palnned on using As I am only going to be running
> > 100W PEP I figure using a design for 1000W would be more than

> > sufficent. I had not considered the need for fewer turns. Is this
> > important?
>
> > Jimmie
>
> Hello Jimmie,
>
> When you take a transformer type 200 to 50 Ohms balun, the lower
> frequency limit is determined by the inductance of the 200 Ohms
> winding (no load connected). This inductance is in parallel with the
> 200 Ohms source (or load).
>
> When you short-circuit the 50 Ohms side, you will not measure 0 Ohms,
> but an inductance. This is the leakage inductance due to limited
> coupling between sec. and prim. winding.
>
> When you use this same balun for a 50 to 12.5 Ohms circuit, the lower
> frequency limit will decrease. However the upper frequency limit will
> decrease also, as the leakage inductance is in series with the load.
>
> You can imagine that 150nH (j28 Ohms at 30 MHz) in series with 50 Ohms
> load is acceptable in many situations, but this same 150nH in series
> with 12.5 Ohms load may give problems.
>
> Regarding power handling
> If you are using your balun with a load with bad VSWR (referenced to
> 12.5 Ohms), you have to derate power. If the transformer is in a
> voltage maximum, the core dissipation will increase due to higher flux
> in it. When the transformer is in a current maximum, wire dissipation
> will increase.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl
> without abc, PM will reach me- Hide quoted text -
>
> - Show quoted text -

Thanks, would it be safe to assume that a transformer designed for 1
to 30 Mhz at 1KW could be used as I have discribed without
modification on 40M. I think the load side should be very close to
12.5. VSWR was 4.1:1 when measured with an Anritsu analyzer a few
weeks ago with no balun attatched. Unfortunately I no longer have
access to that piece of test equipment. The best I can presently
manage is a cheap VSWR meter. Its measurement also agrees with the 4:1
mismatch.

Jimmie

Jimmie

5338. Re: 4:1 BalUn

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 10:09:38 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <c9c4c80e-2428-4979-aa2a-bdd681da6e24@o4g2000yqd.googlegroups.com>
Source record: 6138

On 27 dic, 04:34, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
> On Dec 25, 10:02 am, Wimpie <wimabc...@tetech.nl> wrote:
>
>
>
> > On 25 dic, 03:33, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > > On Dec 24, 9:34 am, Wimpie <wimabc...@tetech.nl> wrote:
>
> > > > On 24 dic, 03:15, JIMMIE <JIMMIEDEE...@YAHOO.COM> wrote:
>
> > > > > I want to contruct a 4:1 BalUn but instead of stepping the impedance
> > > > > up from 50 to 200 I want to step it down from 50 to 12.5. Is there any
> > > > > difference in design between the two.
>
> > > > > Jimmie
>
> > > > Hello Jimmie,
>
> > > > It depends on the design.
>
> > > > In case of a classical transformer, it will be the same, except that
> > > > the inductance can be divided by 4. Practically this means you can
> > > > half the number of turns.
>
> > > > For example if the 200 Ohms side have 8 turns, you can reduce this to
> > > > 4 and this will be the 50 Ohms side. As current increases (with same
> > > > power), you may use thicker wire, or use two windings in parallel.
>
> > > > In case of a real transmission line transformer, you may need
> > > > transmission lines with unpractical low characteristic impedance.
> > > > Maybe you can provide some details about the type of balun you want to
> > > > make.
>
> > > > Best regards,
>
> > > > Wim
> > > > PA3DJSwww.tetech.nl
> > > > without abc, PM will reach me very likely.
>
> > > I had thought about the increased current and decided the best way to
> > > compensate for this may be to use a transformer designed for more
> > > power than I had palnned on using As I am only going to be running
> > > 100W PEP I figure using a design for 1000W would be more than

> > > sufficent. I had not considered the need for fewer turns. Is this
> > > important?
>
> > > Jimmie
>
> > Hello Jimmie,
>
> > When you take a transformer type 200 to 50 Ohms balun, the lower
> > frequency limit is determined by the inductance of the 200 Ohms
> > winding (no load connected). This inductance is in parallel with the
> > 200 Ohms source (or load).
>
> > When you short-circuit the 50 Ohms side, you will not measure 0 Ohms,
> > but an inductance. This is the leakage inductance due to limited
> > coupling between sec. and prim. winding.
>
> > When you use this same balun for a 50 to 12.5 Ohms circuit, the lower
> > frequency limit will decrease. However the upper frequency limit will
> > decrease also, as the leakage inductance is in series with the load.
>
> > You can imagine that 150nH (j28 Ohms at 30 MHz) in series with 50 Ohms
> > load is acceptable in many situations, but this same 150nH in series
> > with 12.5 Ohms load may give problems.
>
> > Regarding power handling
> > If you are using your balun with a load with bad VSWR (referenced to
> > 12.5 Ohms), you have to derate power. If the transformer is in a
> > voltage maximum, the core dissipation will increase due to higher flux
> > in it. When the transformer is in a current maximum, wire dissipation
> > will increase.
>
> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
> > without abc, PM will reach me- Hide quoted text -
>
> > - Show quoted text -
>
> Thanks, would it be safe to assume that a transformer designed for 1
> to 30 Mhz at 1KW could be used as I have discribed without
> modification on 40M. I think the load side should be very close to
> 12.5. VSWR was 4.1:1 when measured with an Anritsu analyzer a few
> weeks ago with no balun attatched. Unfortunately I no longer have
> access to that piece of test equipment. The best I can presently
> manage is a cheap VSWR meter. Its measurement also agrees with the 4:1
> mismatch.
>
> Jimmie
>

> Jimmie

Hello Jimmie,

Very likely yes:

1 kW into 50 Ohms results in 4.5A. Your 100W into 12.5 Ohms results in 2.9A. As your voltage is less, the core loss will also be less. From a power standpoint of view, it is safe to use.

In addition, any phase of load VSWR=4 will not harm the balun at 100W input, as the voltage will not exceed the voltage under 50 Ohms load condition at 1 kW.

As it can be used up to 30 MHz, it is likely that the leakage inductance at 7 MHz will not be a problem, in combination with a 12.5 Ohms load.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me

5339. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 10:35:20 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <if9q59rmr1@speranza.aioe.org>
Source record: 6139

>
> "Regular programming" is totally irrelevant to the question of the
> "first experimental AM broadcast station."

It is when the question is about the first regular broadcast station,
not about one off experiments.

>
>> Technically, KDKA was the first of several already-extant stations to receive
>> a 'limited commercial' license.
>
>
> OK, but the original claim wasn't "first limited commercial license;"
> it was "first experimental AM broadcast station."

No, it was about the first 'proper' broadcast station. ie not one-off
demonstrations or experiments. ie one with a published and regular
schedule, and a general audience waiting to listen.

Jeff

5340. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 10:37:13 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <if9q8prmr3@speranza.aioe.org>
Source record: 6140

```
>>> So first define "broadcasting".
>>>
>>> Mine is a station with a license with a target of the general public and
>>> a regular schedule.
>>
>> But note the start of the quote "<begin quotes>
>> The question of the 'first' publicly-targeted licensed radio station in
>> the **U.S.**"
>>
>> The Dutch beat the US to it!! with regular scheluled programmes from
>> PCGG starting in November 1919 a year KDKA.
>>
>> Jeff
>
> Which still makes the year 1919.
>
>

Yes, but not KDKA (in 1920)!

Jeff
```

5341. Using RG58 for antenna element

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 16:46:06 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ifafsgduq1@news.eternal-september.org>
Source record: 6141

What is the effect of the inner conductor if I am using the shield only for one of the elements of an antenna? That is, the inner conductor is connected to nothing but the shield is driven.

Thanks,
John

5342. Re: Using RG58 for antenna element

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 18:32:19 UTC
From: K7ITM <k7itm@msn.com>
Message-ID: <0a424d85-9ed6-4070-8c4b-49f0a6cf715c@g26g2000vbz.googlegroups.com>
Source record: 6142

On Dec 27, 8:46 am, John - KD5YI <soph...@invalid.org> wrote:
> What is the effect of the inner conductor if I am using the shield only
> for one of the elements of an antenna? That is, the inner conductor is
> connected to nothing but the shield is driven.
>
> Thanks,
> John

Antenna current is on the outside of the outer conductor. The effect
of the inner conductor is to add a bit of mechanical strength to the
element. In fact, if you use RG-6 with a copper-clad steel inner
conductor, that inner conductor will add considerably to the tensile
strength of the element, and keep it from stretching so much if it's
under tension. You can connect the inner conductor electrically to
the outer at one or both ends and it won't have any effect (unless it
extends significantly beyond the length of the outer conductor).

Cheers,
Tom

5343. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 19:44:18 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8ns8kiFa3lU1@mid.individual.net>
Source record: 6143
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

"Wimpie" <wimabctel@tetech.nl> wrote in message
news:f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com...
> Hello,
>
> Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> especially with planar circuits? Is this a NEC based package?
>
> They say you can use a flat strip as basic element (like in the
> "planar" commercial SW packages), though they speak of wire segments
> in most other documents on their site. They also mention that you can
> simulate wire segments in dielectric or magnetic media. This looks
> nice for the relative low price.
>
> Best regards,
>
>
> Wim
> PA3DJS
> www.tetech.nl

Hello Wim...

I haven't use it, but I can steer you to where you can get your questions answered.

Go to www.antennex.com , This site is devoted entirely to antennas and related items. Join the antenna discussion list (no charge) and post your question there.

If there is a group that is more aware of what is going on with antennas, I haven't found it. Everything from PhD professors to ex and current professional antenna designers to "just plain hams" (like me).

All the best

Bill Miller
KT4YE

5344. Re: Using RG58 for antenna element

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 21:42:32 UTC
From: Kulin Remailer <remailer@reece.net.au>
Message-ID: <YK5JLKGH40540.2378703704@reece.net.au>
Source record: 6144

> What is the effect of the inner conductor if I am using the shield only
> for one of the elements of an antenna? That is, the inner conductor is
> connected to nothing but the shield is driven.

If you transmit through it make sure you do it at night and have a video
camera on tripod ;-)

5345. Re: Using RG58 for antenna element

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-27 23:27:53 UTC
From: John - KD5YI <sophi.2@invalid.org>
Message-ID: <ifb7dq$2qr$1@news.eternal-september.org>
Source record: 6145

On 12/27/2010 12:32 PM, K7ITM wrote:
> On Dec 27, 8:46 am, John - KD5YI<soph...@invalid.org> wrote:
>> What is the effect of the inner conductor if I am using the shield only
>> for one of the elements of an antenna? That is, the inner conductor is
>> connected to nothing but the shield is driven.
>>
>> Thanks,
>> John
>
> Antenna current is on the outside of the outer conductor. The effect
> of the inner conductor is to add a bit of mechanical strength to the
> element. In fact, if you use RG-6 with a copper-clad steel inner
> conductor, that inner conductor will add considerably to the tensile
> strength of the element, and keep it from stretching so much if it's
> under tension. You can connect the inner conductor electrically to
> the outer at one or both ends and it won't have any effect (unless it
> extends significantly beyond the length of the outer conductor).
>
> Cheers,
> Tom

Thanks for the info, Tom.

Cheers,
John

5346. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 15:52:21 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <lmdpu7-efq.ln1@mail.specsol.com>
Source record: 6147

Jim Higgins <invalid@invalid.invalid> wrote:
> On Mon, 27 Dec 2010 10:35:20 +0000, Jeff <jeff@jsystems.com> wrote:
>
>>>
>>> "Regular programming" is totally irrelevant to the question of the
>>> "first experimental AM broadcast station."
>>
>>It is when the question is about the first regular broadcast station,
>>not about one off experiments.
>>
>>
>>>
>>>> Technically, KDKA was the first of several already-extant stations to receive
>>>> a 'limited commercial' license.
>>>
>>>
>>> OK, but the original claim wasn't "first limited commercial license;"
>>> it was "first experimental AM broadcast station."
>>
>>No, it was about the first 'proper' broadcast station. ie not one-off
>>demonstrations or experiments. ie one with a published and regular
>>schedule, and a general audience waiting to listen.
>
>
> The word "proper" was not a part of it. But then we can't see that
> now because you've deleted the original wording.

Go out and ask 10 or 20 normal people what "broadcast radio" means.

Yes, the arguement is becoming one of semantics, but to most people "broadcast
radio" means radio transmissions for the general public on a regular,
scheduled basis.

--
Jim Pennino

Remove .spam.sux to reply.

5347. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 15:57:19 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <2c5238d7-be78-4a20-b5c1-80d2f0a3b024@k22g2000yqh.googlegroups.com>
Source record: 6146
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 27 dic, 20:44, "Bill Miller" <kt...@yahoo.com> wrote:
> "Wimpie" <wimabc...@tetech.nl> wrote in message
>
> news:f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com...
>
>
>
> > Hello,
>
> > Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> > especially with planar circuits? Is this a NEC based package?
>
> > They say you can use a flat strip as basic element (like in the
> > "planar" commercial SW packages), though they speak of wire segments
> > in most other documents on their site. They also mention that you can
> > simulate wire segments in dielectric or magnetic media. This looks
> > nice for the relative low price.
>
> > Best regards,
>
> > Wim
> > PA3DJS
> >www.tetech.nl
>
> Hello Wim...
>
> I haven't use it, but I can steer you to where you can get your questions
> answered.
>
> Go towww.antennex.com, This site is devoted entirely to antennas and
> related items. Join the antenna discussion list (no charge) and post your
> question there.
>
> If there is a group that is more aware of what is going on with antennas, I
> haven't found it. Everything from PhD professors to ex and current
> professional antenna designers to "just plain hams" (like me).
>
> All the best
>
> Bill Miller
> KT4YE

Hello Bill,

I made a free account for the "guest rooms". I checked several free documents (lots of material from L. B. Cebik (W4RNL)). Nevertheless nothing about "ansof". Maybe somebody with a non-free account can check other parts of the website for ansof.

Best regards and thanks for the info,

Wim
PA3DJS
www.tetech.nl

5348. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 16:45:45 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8nuihoFj0mU1@mid.individual.net>
Source record: 6148
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

"Wimpie" <wimabctel@tetech.nl> wrote in message
news:2c5238d7-be78-4a20-b5c1-80d2f0a3b024@k22g2000yqh.googlegroups.com...
On 27 dic, 20:44, "Bill Miller" <kt...@yahoo.com> wrote:
> "Wimpie" <wimabc...@tetech.nl> wrote in message
>
> news:f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com...
>
>
>
> > Hello,
>
> > Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> > especially with planar circuits? Is this a NEC based package?
>
> > They say you can use a flat strip as basic element (like in the
> > "planar" commercial SW packages), though they speak of wire segments
> > in most other documents on their site. They also mention that you can
> > simulate wire segments in dielectric or magnetic media. This looks
> > nice for the relative low price.
>
> > Best regards,
>
> > Wim
> > PA3DJS
> >www.tetech.nl
>
> Hello Wim...
>
> I haven't use it, but I can steer you to where you can get your questions
> answered.
>
> Go towww.antennex.com, This site is devoted entirely to antennas and
> related items. Join the antenna discussion list (no charge) and post your
> question there.
>
> If there is a group that is more aware of what is going on with antennas,
> I
> haven't found it. Everything from PhD professors to ex and current
> professional antenna designers to "just plain hams" (like me).
>
> All the best
>
> Bill Miller

> KT4YE

Hello Bill,

I made a free account for the "guest rooms". I checked several free documents (lots of material from L. B. Cebik (W4RNL)). Nevertheless nothing about "ansof". Maybe somebody with a non-free account can check other parts of the website for ansof.

Best regards and thanks for the info,

Wim
PA3DJS
www.tetech.nl

Hi Wim...

Sorry. I did not make myself clear. I do not believe there is any useful information on this subject in the antenneX website, nor in Cebik's site. (but there is a TON of other info there!)

From the antenneX website, subscribe to the antenna discussion email list and post your question there. I'll be pretty surprised if you don't get meaningful answers!

All the best,

Bill

5349. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 17:20:17 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com>
Source record: 6149

On Dec 28, 3:52 pm, j...@specsol.spam.sux.com wrote:
> Jim Higgins <inva...@invalid.invalid> wrote:
> > On Mon, 27 Dec 2010 10:35:20 +0000, Jeff <j...@jsystems.com> wrote:
>
> >>> "Regular programming" is totally irrelevant to the question of the
> >>> "first experimental AM broadcast station."
>
> >>It is when the question is about the first regular broadcast station,
> >>not about one off experiments.
>
> >>>> Technically, KDKA was the first of several already-extant stations to receive
> >>>> a 'limited commercial' license.
>
> >>> OK, but the original claim wasn't "first limited commercial license;"
> >>> it was "first experimental AM broadcast station."
>
> >>No, it was about the first 'proper' broadcast station. ie not one-off
> >>demonstrations or experiments. ie one with a published and regular
> >>schedule, and a general audience waiting to listen.
>
> > The word "proper" was not a part of it. But then we can't see that
> > now because you've deleted the original wording.
>
> Go out and ask 10 or 20 normal people what "broadcast radio" means.
>
> Yes, the arguement is becoming one of semantics, but to most people "broadcast
> radio" means radio transmissions for the general public on a regular,
> scheduled basis.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

be sure NOT to ask in here, since we are obviously not normal
people.... i'm more interested in how mr.B thinks sidebands are
distance dependent than what broadcast radio is.

5350. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 17:32:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <0cfd53c9-6685-4e5e-8a53-d1e95598d3a3@k22g2000yqh.googlegroups.com>
Source record: 6150
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On Dec 26, 3:07 pm, Wimpie <wimabc...@tetech.nl> wrote:
> Hello,
>
> Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> especially with planar circuits? Is this a NEC based package?
>
> They say you can use a flat strip as basic element (like in the
> "planar" commercial SW packages), though they speak of wire segments
> in most other documents on their site. They also mention that you can
> simulate wire segments in dielectric or magnetic media. This looks
> nice for the relative low price.
>
> Best regards,
>
> Wim
> PA3DJSwww.tetech.nl

their description doesn't mention NEC:

"The computer code is based on an Electric Field Integral Equation
(EFIE) expressed in the frequency domain. The current distribution on
metallic structures is computed by solving the EFIE using a full-wave
Method of Moments (MoM) formulation with conformal geometry
decomposition. This means that geometry details are modeled by using
conformal segments, which exactly follow the contour of the structure,
instead of the typical approximation with straight wire segments. "

lots of nice words, and plenty of pretty pictures on their site... but
i wonder how well verified it is.

5351. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 17:46:22 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <eckpu7-b9r.ln1@mail.specsol.com>
Source record: 6053

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 28, 3:52 pm, j...@specsol.spam.sux.com wrote:
>> Jim Higgins <inva...@invalid.invalid> wrote:
>> > On Mon, 27 Dec 2010 10:35:20 +0000, Jeff <j...@jsystems.com> wrote:
>>
>> >>> "Regular programming" is totally irrelevant to the question of the
>> >>> "first experimental AM broadcast station."
>>
>> >>It is when the question is about the first regular broadcast station,
>> >>not about one off experiments.
>>
>> >>>> Technically, KDKA was the first of several already-extant stations to receive
>> >>>> a 'limited commercial' license.
>>
>> >>> OK, but the original claim wasn't "first limited commercial license;"
>> >>> it was "first experimental AM broadcast station."
>>
>> >>No, it was about the first 'proper' broadcast station. ie not one-off
>> >>demonstrations or experiments. ie one with a published and regular
>> >>schedule, and a general audience waiting to listen.
>>
>> > The word "proper" was not a part of it. But then we can't see that
>> > now because you've deleted the original wording.
>>
>> Go out and ask 10 or 20 normal people what "broadcast radio" means.
>>
>> Yes, the arguement is becoming one of semantics, but to most people "broadcast
>> radio" means radio transmissions for the general public on a regular,
>> scheduled basis.
>>
>> --
>> Jim Pennino
>>
>> Remove .spam.sux to reply.
>
> be sure NOT to ask in here, since we are obviously not normal
> people.... i'm more interested in how mr.B thinks sidebands are
> distance dependent than what broadcast radio is.

I believe you are laboring under the false impression that mr.B is able to
think.

--
Jim Pennino

Remove .spam.sux to reply.

5352. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 17:47:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1a22b3$0$2484$65785112@news.neostrada.pl>
Source record: 6051

"K1TTT" <k1ttt@arrl.net> wrote
news:cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com...
>
>be sure NOT to ask in here, since we are obviously not normal
people.... i'm more interested in how mr.B thinks sidebands are
distance dependent than what broadcast radio is.

Here you are:

Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave

They are like the AM.

Next look at Mr. Russell's animation:
http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html

He wrote: "a.. The speed of the wave depends on the height of the wave."

The speed of the disturbance in media is the amplitude dependent - it is the
physics law.

So I do not think. I am sure.
I only want you find out proper evidences. It should be interesting to you.
S*

5353. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 18:00:04 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <156e120c-db72-4569-972d-2c3a27078cde@v17g2000yqv.googlegroups.com>
Source record: 6052

On Dec 28, 5:47 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
 wrotenews:cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com...
>
> >be sure NOT to ask in here, since we are obviously not normal
>
> people.... i'm more interested in how mr.B thinks sidebands are
> distance dependent than what broadcast radio is.
>
> Here you are:
>
> Look at the damped waves:http://en.wikipedia.org/wiki/Damped_wave
>
> They are like the AM.
>
> Next look at Mr. Russell's
animation:http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> He wrote: "a.. The speed of the wave depends on the height of the wave."
>
> The speed of the disturbance in media is the amplitude dependent - it is the
> physics law.
>
> So I do not think. I am sure.
> I only want you find out proper evidences. It should be interesting to you.
> S*

electromagnetic waves are not solitons. speed of an em wave is not
amplitude dependent, that is a physics law.

5354. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 18:08:03 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1a2788$0$2438$65785112@news.neostrada.pl>
Source record: 6054

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:156e120c-db72-4569-972d-2c3a27078cde@v17g2000yqv.googlegroups.com...
On Dec 28, 5:47 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
> wrotenews:cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com...
>
>> >be sure NOT to ask in here, since we are obviously not normal
>
>>> people.... i'm more interested in how mr.B thinks sidebands are
> distance dependent than what broadcast radio is.
>
>> Here you are:
>
>> Look at the damped waves:http://en.wikipedia.org/wiki/Damped_wave
>
>> They are like the AM.
>
>> Next look at Mr. Russell's
>> animation:http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
>> He wrote: "a.. The speed of the wave depends on the height of the wave."
>
>> The speed of the disturbance in media is the amplitude dependent - it is
>> the
> physics law.
>
>> So I do not think. I am sure.
>> I only want you find out proper evidences. It should be interesting to
>> you.
> S*

>electromagnetic waves are not solitons. speed of an em wave is not
amplitude dependent, that is a physics law.

Yes. But EM waves are Heaviside's paper waves. In rality are Tesla's waves.
Do not be lazy and look for evidences.
S*

5355. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 18:57:48 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c485393a-5605-48f3-b038-7a0b49500f30@l17g2000yqe.googlegroups.com>
Source record: 6055

On Dec 28, 5:46 pm, j...@specsol.spam.sux.com wrote:
> K1TTT <k1...@arrl.net> wrote:
> > On Dec 28, 3:52 pm, j...@specsol.spam.sux.com wrote:
> >> Jim Higgins <inva...@invalid.invalid> wrote:
> >> > On Mon, 27 Dec 2010 10:35:20 +0000, Jeff <j...@jsystems.com> wrote:
>
> >> >>> "Regular programming" is totally irrelevant to the question of the
> >> >>> "first experimental AM broadcast station."
>
> >> >>It is when the question is about the first regular broadcast station,
> >> >>not about one off experiments.
>
> >> >>>> Technically, KDKA was the first of several already-extant stations to receive
> >> >>>> a 'limited commercial' license.
>
> >> >>> OK, but the original claim wasn't "first limited commercial license;"
> >> >>> it was "first experimental AM broadcast station."
>
> >> >>No, it was about the first 'proper' broadcast station. ie not one-off
> >> >>demonstrations or experiments. ie one with a published and regular
> >> >>schedule, and a general audience waiting to listen.
>
> >> > The word "proper" was not a part of it. But then we can't see that
> >> > now because you've deleted the original wording.
>
> >> Go out and ask 10 or 20 normal people what "broadcast radio" means.
>
> >> Yes, the arguement is becoming one of semantics, but to most people "broadcast
> >> radio" means radio transmissions for the general public on a regular,
> >> scheduled basis.
>
> >> --
> >> Jim Pennino
>
> >> Remove .spam.sux to reply.
>
> > be sure NOT to ask in here, since we are obviously not normal
> > people.... i'm more interested in how mr.B thinks sidebands are
> > distance dependent than what broadcast radio is.
>
> I believe you are laboring under the false impression that mr.B is able to
> think.
>
> --

> Jim Pennino
>
> Remove .spam.sux to reply.

i don't care if he can think, as long as he is mildly amusing.

5356. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 19:00:26 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <11b7f321-abfc-4bb2-bebe-d0b6a90459b5@o4g2000yqd.googlegroups.com>
Source record: 6056

On Dec 28, 6:08 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:156e120c-db72-4569-972d-2c3a27078cde@v17g2000yqv.googlegroups.com...
> On Dec 28, 5:47 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> > "K1TTT" <k1...@arrl.net>
> > wrotenews:cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com...
>
> >> >be sure NOT to ask in here, since we are obviously not normal
>
> >>> people.... i'm more interested in how mr.B thinks sidebands are
> > distance dependent than what broadcast radio is.
>
> >> Here you are:
>
> >> Look at the damped waves:http://en.wikipedia.org/wiki/Damped_wave
>
> >> They are like the AM.
>
> >> Next look at Mr. Russell's
> >> animation:http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> >> He wrote: "a.. The speed of the wave depends on the height of the wave."
>
> >> The speed of the disturbance in media is the amplitude dependent - it is
> >> the
> > physics law.
>
> >> So I do not think. I am sure.
> >> I only want you find out proper evidences. It should be interesting to
> >> you.
> > S*
> >electromagnetic waves are not solitons. speed of an em wave is not
>
> amplitude dependent, that is a physics law.
>
> Yes. But EM waves are Heaviside's paper waves. In rality are Tesla's waves.
> Do not be lazy and look for evidences.
> S*

There is no 'evidences' for that. Maxwell's equations describe EM
waves perfectly well, have been verified by experiments for over 100

years, and work fine for me.

5357. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 20:17:40 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <48tpu7-ugs.ln1@mail.specsol.com>
Source record: 6058

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Here you are:
>
> Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave
>
> They are like the AM.

Only if it is modulation by a triangle wave and WAY over modulated, otherwise,
no, it is not.

> Next look at Mr. Russell's animation:
> http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> He wrote: "a.. The speed of the wave depends on the height of the wave."

So he is another babbling idiot.

> The speed of the disturbance in media is the amplitude dependent - it is the
> physics law.

Nope, not physics in this universe.

> So I do not think.

First thing you've ever said that makes sense.

> I am sure.

You left off the last part of the sentence: "a babbling idiot".

> I only want you find out proper evidences. It should be interesting to you.
> S*

"Interesting" is not a word I would use to describe your posts.

"Laughable", "deluded", and "babbling" come to mind.

--
Jim Pennino

Remove .spam.sux to reply.

5358. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 20:18:20 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <c9tpu7-ugs.ln1@mail.specsol.com>
Source record: 6057

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Yes. But EM waves are Heaviside's paper waves. In rality are Tesla's waves.
> Do not be lazy and look for evidences.
> S*

Babbling word salad meaning nothing.

--
Jim Pennino

Remove .spam.sux to reply.

5359. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-28 21:06:56 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <363488df-6caa-4467-b9b2-142d50d1fb32@s4g2000yql.googlegroups.com>
Source record: 6059

On Dec 28, 8:18 pm, j...@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bia...@wp.pl> wrote:
> > Yes. But EM waves are Heaviside's paper waves. In rality are Tesla's waves.
> > Do not be lazy and look for evidences.
> > S*
>
> Babbling word salad meaning nothing.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

aww, don't be so hard on him. he is much more amusing if you feed him
a bit.

5360. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 09:17:39 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1afcb8$0$2505$65785112@news.neostrada.pl>
Source record: 6060

"K1TTT" <k1ttt@arrl.net> wrote
news:11b7f321-abfc-4bb2-bebe-d0b6a90459b5@o4g2000yqd.googlegroups.com...
On Dec 28, 6:08 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> Yes. But EM waves are Heaviside's paper waves. In rality are Tesla's
>> waves.
> Do not be lazy and look for evidences.
> S*

>There is no 'evidences' for that. Maxwell's equations describe EM
waves perfectly well, have been verified by experiments for over 100
years, and work fine for me.

Biot-Savart and Heaviside made the very simple model. So simple that it was
choosen to teach the math.
Read at 1825:
http://www.fisica.edu.uy/cursos/electromagnetismo/material/A_Brief_History_of_Electromagne
tism.pdf

It is unfortunate that you do not know the electrDYNAMICS by Ampere and
Maxwell.
It should be interesting to you.
Maxwell did not write "Maxwell's equations".
S*

5361. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 11:09:25 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <iff4t8$a0c$1@speranza.aioe.org>
Source record: 6061

On 28/12/2010 17:47, Szczepan Bialek wrote:
>
> "K1TTT" <k1ttt@arrl.net> wrote
> news:cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com...
>>
>> be sure NOT to ask in here, since we are obviously not normal
> people.... i'm more interested in how mr.B thinks sidebands are
> distance dependent than what broadcast radio is.
>
> Here you are:
>
> Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave
>
> They are like the AM.
>
> Next look at Mr. Russell's animation:
> http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> He wrote: "a.. The speed of the wave depends on the height of the wave."
>
> The speed of the disturbance in media is the amplitude dependent - it is
> the physics law.

He was talking about surface waves on water!!!!!

Jeff

5362. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 11:18:40 UTC
From: Jeff <jeff@jsystems.com>
Message-ID: <iff5eibci1@speranza.aioe.org>
Source record: 6062
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 28/12/2010 17:32, K1TTT wrote:
> On Dec 26, 3:07 pm, Wimpie<wimabc...@tetech.nl> wrote:
>> Hello,
>>
>> Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
>> especially with planar circuits? Is this a NEC based package?
>>
>> They say you can use a flat strip as basic element (like in the
>> "planar" commercial SW packages), though they speak of wire segments
>> in most other documents on their site. They also mention that you can
>> simulate wire segments in dielectric or magnetic media. This looks
>> nice for the relative low price.
>>
>> Best regards,
>>
>> Wim
>> PA3DJSwww.tetech.nl
>
> their description doesn't mention NEC:
>
> "The computer code is based on an Electric Field Integral Equation
> (EFIE) expressed in the frequency domain. The current distribution on
> metallic structures is computed by solving the EFIE using a full-wave
> Method of Moments (MoM) formulation with conformal geometry
> decomposition. This means that geometry details are modeled by using
> conformal segments, which exactly follow the contour of the structure,
> instead of the typical approximation with straight wire segments. "
>
> lots of nice words, and plenty of pretty pictures on their site... but
> i wonder how well verified it is.

Something about the whole site seems to ring alarm bells with me, right from the similarity of the name to Ansoft to the Western Union payment option!!

Jeff

5363. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 12:06:51 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <3a05abc2-1b21-40b4-8477-14371c52320d@i18g2000yqn.googlegroups.com>
Source record: 6063

On Dec 29, 9:17 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
wrotenews:11b7f321-abfc-4bb2-bebe-d0b6a90459b5@o4g2000yqd.googlegroups.com...
> On Dec 28, 6:08 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> Yes. But EM waves are Heaviside's paper waves. In rality are Tesla's
> >> waves.
> > Do not be lazy and look for evidences.
> > S*
> >There is no 'evidences' for that. Maxwell's equations describe EM
>
> waves perfectly well, have been verified by experiments for over 100
> years, and work fine for me.
>
> Biot-Savart and Heaviside made the very simple model. So simple that it was
> choosen to teach the math.
> Read at 1825:http://www.fisica.edu.uy/cursos/electromagnetismo/material/A_Brief_Hi...
>
> It is unfortunate that you do not know the electrDYNAMICS by Ampere and
> Maxwell.
> It should be interesting to you.
> Maxwell did not write "Maxwell's equations".
> S*

Maxwell's equations include Ampere's law, Faraday's law, and Gauss's
law... so all the dynamics and statics are included. According to my
history the set of 4 equations was first written by Maxwell in 1863,
though in a different form than they are customarily seen today.

5364. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 12:10:23 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <8276c4a6-a648-4b3b-a161-27ddf99024da@w2g2000yqb.googlegroups.com>
Source record: 6064

On Dec 29, 11:09 am, Jeff <j...@jsystems.com> wrote:
> On 28/12/2010 17:47, Szczepan Bialek wrote:
>
>
>
>
>
> > "K1TTT" <k1...@arrl.net> wrote
> >news:cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com...
>
> >> be sure NOT to ask in here, since we are obviously not normal
> > > people.... i'm more interested in how mr.B thinks sidebands are
> > > distance dependent than what broadcast radio is.
>
> > > Here you are:
>
> > > Look at the damped waves:http://en.wikipedia.org/wiki/Damped_wave
>
> > > They are like the AM.
>
> > > Next look at Mr. Russell's animation:
> > >http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> > > He wrote: "a.. The speed of the wave depends on the height of the wave."
>
> > > The speed of the disturbance in media is the amplitude dependent - it is
> > > the physics law.
>
> He was talking about surface waves on water!!!!!
>
> Jeff

similar, he was referring to an article on solitons which were first
observed on water... but which bear no resemblance to EM waves.

5365. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 12:30:30 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <iff9l7$9hg$1@ra.nrl.navy.mil>
Source record: 6065
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 12/27/2010 02:44 PM, Bill Miller wrote:
> "Wimpie"<wimabctel@tetech.nl> wrote in message
> news:f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com...
>> Hello,
>>
>> Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
>> especially with planar circuits? Is this a NEC based package?
>>
>> They say you can use a flat strip as basic element (like in the
>> "planar" commercial SW packages), though they speak of wire segments
>> in most other documents on their site. They also mention that you can
>> simulate wire segments in dielectric or magnetic media. This looks
>> nice for the relative low price.
>>
>> Best regards,
>>
>>
>> Wim
>> PA3DJS
>> www.tetech.nl
>
> Hello Wim...
>
> I haven't use it, but I can steer you to where you can get your questions
> answered.
>
> Go to www.antennex.com , This site is devoted entirely to antennas and
> related items. Join the antenna discussion list (no charge) and post your
> question there.
>
> If there is a group that is more aware of what is going on with antennas, I
> haven't found it. Everything from PhD professors to ex and current
> professional antenna designers to "just plain hams" (like me).
>
> All the best
>
> Bill Miller
> KT4YE
>
>

Ah, yes, the website that promoted the CFA while simultaneously warping
electromagnetic theory. But then I guess I just "don't understand".

Thanks, but I'll stick with ARRL pubs and ref books by Kraus, Jasik,
Terman, King & Harrison, et al for trusted, practical info on antennas.
73s,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

5366. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 12:34:22 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <c914d643-cdd2-4952-9e79-21263924d576@i18g2000yqn.googlegroups.com>
Source record: 6066
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On Dec 29, 12:30 pm, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 12/27/2010 02:44 PM, Bill Miller wrote:
>
>
>
> > "Wimpie"<wimabc...@tetech.nl> wrote in message
> >news:f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com...
> >> Hello,
>
> >> Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> >> especially with planar circuits? Is this a NEC based package?
>
> >> They say you can use a flat strip as basic element (like in the
> >> "planar" commercial SW packages), though they speak of wire segments
> >> in most other documents on their site. They also mention that you can
> >> simulate wire segments in dielectric or magnetic media. This looks
> >> nice for the relative low price.
>
> >> Best regards,
>
> >> Wim
> >> PA3DJS
> >>www.tetech.nl
>
> > Hello Wim...
>
> > I haven't use it, but I can steer you to where you can get your questions
> > answered.
>
> > Go towww.antennex.com, This site is devoted entirely to antennas and
> > related items. Join the antenna discussion list (no charge) and post your
> > question there.
>
> > If there is a group that is more aware of what is going on with antennas, I
> > haven't found it. Everything from PhD professors to ex and current
> > professional antenna designers to "just plain hams" (like me).
>
> > All the best
>
> > Bill Miller
> > KT4YE
>
> Ah, yes, the website that promoted the CFA while simultaneously warping

> electromagnetic theory. But then I guess I just "don't understand".
> Thanks, but I'll stick with ARRL pubs and ref books by Kraus, Jasik,
> Terman, King & Harrison, et al for trusted, practical info on antennas.
>   73s,
>
> --
> John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
> Naval Research Laboratory
> 4555 Overlook Avenue, SW
> Washington, DC 20375-5337

then what are you doing in here, home of art, mr.b, and in past years,
fracky himself!

5367. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 13:59:09 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <b6a80d74-bdba-4113-a24e-2724c0f218da@s4g2000yql.googlegroups.com>
Source record: 6067
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

Hello David,

On 28 dic, 18:32, K1TTT <k1...@arrl.net> wrote:
> On Dec 26, 3:07 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Hello,
>
> > Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> > especially with planar circuits? Is this a NEC based package?
>
> > They say you can use a flat strip as basic element (like in the
> > "planar" commercial SW packages), though they speak of wire segments
> > in most other documents on their site. They also mention that you can
> > simulate wire segments in dielectric or magnetic media. This looks
> > nice for the relative low price.
>
> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
>
> their description doesn't mention NEC:
>
> "The computer code is based on an Electric Field Integral Equation
> (EFIE) expressed in the frequency domain. The current distribution on
> metallic structures is computed by solving the EFIE using a full-wave
> Method of Moments (MoM) formulation with conformal geometry
> decomposition. This means that geometry details are modeled by using
> conformal segments, which exactly follow the contour of the structure,
> instead of the typical approximation with straight wire segments. "

Your citation was the reason for me to think: "maybe it isn't NEC
based and is able to some other nice things". However when you look to
further info on the site, it looks wire based. If it is capable of
using other basic elements/segments (for example flat strip), I would
expect some examples on their website.

> lots of nice words, and plenty of pretty pictures on their site... but
> i wonder how well verified it is.

Given the info on the web and the responses to my thread, I agree on
your statement.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me in most cases

5368. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 14:01:39 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <ifff03apn1@ra.nrl.navy.mil>
Source record: 6068
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 12/29/2010 07:34 AM, K1TTT wrote:
> then what are you doing in here, home of art, mr.b, and in past years,
> fracky himself!

Because it's entertaining, often thought-provoking and never dull. I have no quarrels with the folks you mention and they can hold whatever views they wish; they are certainly capable of producing workable ham band antennas. The problem is the "procrustean bed" that is often used to "fit" the theory to the antenna design. In the extreme it's the difference between tinkering and hoping for an efficient, practical solution vs. applying good engineering and science in coming up with a viable implementation (which is why I mentioned those reference books in my previous post). Sincerely, and 73s from N4GGO,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337

5369. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 14:13:09 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cd799105-6bc0-430f-9d98-9a409b3ed6d9@y23g2000yqd.googlegroups.com>
Source record: 6069
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 28 dic, 17:45, "Bill Miller" <kt...@yahoo.com> wrote:
> "Wimpie" <wimabc...@tetech.nl> wrote in message
>
> news:2c5238d7-be78-4a20-b5c1-80d2f0a3b024@k22g2000yqh.googlegroups.com...
> On 27 dic, 20:44, "Bill Miller" <kt...@yahoo.com> wrote:
>
>
>
> > "Wimpie" <wimabc...@tetech.nl> wrote in message
>
> >news:f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com...
>
> > > Hello,
>
> > > Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> > > especially with planar circuits? Is this a NEC based package?
>
> > > They say you can use a flat strip as basic element (like in the
> > > "planar" commercial SW packages), though they speak of wire segments
> > > in most other documents on their site. They also mention that you can
> > > simulate wire segments in dielectric or magnetic media. This looks
> > > nice for the relative low price.
>
> > > Best regards,
>
> > > Wim
> > > PA3DJS
> > >www.tetech.nl
>
> > Hello Wim...
>
> > I haven't use it, but I can steer you to where you can get your questions
> > answered.
>
> > Go towww.antennex.com, This site is devoted entirely to antennas and
> > related items. Join the antenna discussion list (no charge) and post your
> > question there.
>
> > If there is a group that is more aware of what is going on with antennas,
> > I
> > haven't found it. Everything from PhD professors to ex and current
> > professional antenna designers to "just plain hams" (like me).
>

> > All the best
>
> > Bill Miller
> > KT4YE
>
> Hello Bill,
>
> I made a free account for the "guest rooms". I checked several free
> documents (lots of material from L. B. Cebik (W4RNL)). Nevertheless
> nothing about "ansof". Maybe somebody with a non-free account can
> check other parts of the website for ansof.
>
> Best regards and thanks for the info,
>
> Wim
> PA3DJSwww.tetech.nl
>
> Hi Wim...
>
> Sorry. I did not make myself clear. I do not believe there is any useful
> information on this subject in the antenneX website, nor in Cebik's site.
> (but there is a TON of other info there!)
>
> From the antenneX website, subscribe to the antenna discussion email list
> and post your question there. I'll be pretty surprised if you don't get
> meaningful answers!
>
> All the best,
>
> Bill

Hello Bill,

You did make yourself fully clear to me with your first reply, thanks
for that. If it is/was useful existing SW, I would expect at least
some info on the antennex site, without the need for creating a new
topic.

I expect that at least some users of antennex also follow this NG and
would respond if they know something about the ansof package.
Therefore I didn't started a new topic yet.

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me in most cases

5370. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 14:40:13 UTC
From: Wimpie <wimabctel@tetech.nl>
Message-ID: <cf6d4bca-0126-4bc2-a3c9-e4561d2f0f20@o14g2000yqe.googlegroups.com>
Source record: 6070
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On 29 dic, 13:30, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 12/27/2010 02:44 PM, Bill Miller wrote:
>
>
>
> > "Wimpie"<wimabc...@tetech.nl> wrote in message
> >news:f71cfadf-a461-4864-a13b-bdc79ba6262e@32g2000yqz.googlegroups.com...
> >> Hello,
>
> >> Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> >> especially with planar circuits? Is this a NEC based package?
>
> >> They say you can use a flat strip as basic element (like in the
> >> "planar" commercial SW packages), though they speak of wire segments
> >> in most other documents on their site. They also mention that you can
> >> simulate wire segments in dielectric or magnetic media. This looks
> >> nice for the relative low price.
>
> >> Best regards,
>
> >> Wim
> >> PA3DJS
> >>www.tetech.nl
>
> > Hello Wim...
>
> > I haven't use it, but I can steer you to where you can get your questions
> > answered.
>
> > Go towww.antennex.com, This site is devoted entirely to antennas and
> > related items. Join the antenna discussion list (no charge) and post your
> > question there.
>
> > If there is a group that is more aware of what is going on with antennas, I
> > haven't found it. Everything from PhD professors to ex and current
> > professional antenna designers to "just plain hams" (like me).
>
> > All the best
>
> > Bill Miller
> > KT4YE
>
> Ah, yes, the website that promoted the CFA while simultaneously warping

> electromagnetic theory. But then I guess I just "don't understand".
> Thanks, but I'll stick with ARRL pubs and ref books by Kraus, Jasik,
> Terman, King & Harrison, et al for trusted, practical info on antennas.
>   73s,
>
> --
> John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
> Naval Research Laboratory
> 4555 Overlook Avenue, SW
> Washington, DC 20375-5337

Hello John,

OT: There is info on EH, CFA and other fancy antennas on antennex, and
many other places. That doesn't make such places useless. I have dug
through many documents on antennex and there is lot's of useful info.

As with all "information", the difficulty is finding out whether the
"information" is useful for one's special situation. Some of my
favourite books: Kraus, Orfanidis, the services textbook of radio
volume 5, antenna engineering handbook (Johnson).

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me in most cases

5371. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 15:33:45 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <992861c0-6418-4995-a72c-738acc191a53@n10g2000yqd.googlegroups.com>
Source record: 6071
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

On Dec 29, 2:01 pm, "J.B. Wood" <john.w...@nrl.navy.mil> wrote:
> On 12/29/2010 07:34 AM, K1TTT wrote:
>
> > then what are you doing in here, home of art, mr.b, and in past years,
> > fracky himself!
>
> Because it's entertaining, often thought-provoking and never dull. I
> have no quarrels with the folks you mention and they can hold whatever
> views they wish; they are certainly capable of producing workable ham
> band antennas. The problem is the "procrustean bed" that is often used
> to "fit" the theory to the antenna design. In the extreme it's the
> difference between tinkering and hoping for an efficient, practical
> solution vs. applying good engineering and science in coming up with a
> viable implementation (which is why I mentioned those reference books in
> my previous post). Sincerely, and 73s from N4GGO,
>
> --
> John Wood (Code 5520)   e-mail: w...@itd.nrl.navy.mil
> Naval Research Laboratory
> 4555 Overlook Avenue, SW
> Washington, DC 20375-5337

thats good, you seem to be here for the right reasons anyway.

5372. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 16:48:51 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <jc5su7-7a7.ln1@mail.specsol.com>
Source record: 6072

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> Biot-Savart and Heaviside made the very simple model. So simple that it was
> choosen to teach the math.
> Read at 1825:
> http://www.fisica.edu.uy/cursos/electromagnetismo/material/A_Brief_History_of_Electromag
netism.pdf
>
> It is unfortunate that you do not know the electrDYNAMICS by Ampere and
> Maxwell.
> It should be interesting to you.
> Maxwell did not write "Maxwell's equations".
> S*

As usual, just a bunch of babbling nonsense.

The only thing interesting thing is the link which you obviously don't
understand.

--
Jim Pennino

Remove .spam.sux to reply.

5373. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 16:56:30 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <uq5su7-7a7.ln1@mail.specsol.com>
Source record: 6073

K1TTT <k1ttt@arrl.net> wrote:
> On Dec 29, 11:09 am, Jeff <j...@jsystems.com> wrote:
>> On 28/12/2010 17:47, Szczepan Bialek wrote:
>>
>>
>>
>>
>>
>> > "K1TTT" <k1...@arrl.net> wrote
>> >news:cb648f23-dc5e-4fbe-8014-ce624314b3a5@o14g2000yqe.googlegroups.com...
>>
>> >> be sure NOT to ask in here, since we are obviously not normal
>> > people.... i'm more interested in how mr.B thinks sidebands are
>> > distance dependent than what broadcast radio is.
>>
>> > Here you are:
>>
>> > Look at the damped waves:http://en.wikipedia.org/wiki/Damped_wave
>>
>> > They are like the AM.
>>
>> > Next look at Mr. Russell's animation:
>> >http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>>
>> > He wrote: "a.. The speed of the wave depends on the height of the wave."
>>
>> > The speed of the disturbance in media is the amplitude dependent - it is
>> > the physics law.
>>
>> He was talking about surface waves on water!!!!!
>>
>> Jeff
>
> similar, he was referring to an article on solitons which were first
> observed on water... but which bear no resemblance to EM waves.

And he hasn't a clue that solitons require a medium to exist while EM does
not.

To him, an EM wave, a sound wave, a water wave, and a female member of the
Navy in 1944 are all the same thing.

--
Jim Pennino

Remove .spam.sux to reply.

5374. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 17:22:01 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1b6e3d$0$2485$65785112@news.neostrada.pl>
Source record: 6074

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:8276c4a6-a648-4b3b-a161-27ddf99024da@w2g2000yqb.googlegroups.com...
On Dec 29, 11:09 am, Jeff <j...@jsystems.com> wrote:
> On 28/12/2010 17:47, Szczepan Bialek wrote:
>
> > Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave
>
> > They are like the AM.
>
> > Next look at Mr. Russell's animation:
> > http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> > He wrote: "a.. The speed of the wave depends on the height of the wave."
>
> > The speed of the disturbance in media is the amplitude dependent - it is
> > the physics law.
>
> He was talking about surface waves on water!!!!!
>
> Jeff

similar, he was referring to an article on solitons which were first
observed on water... but which bear no resemblance to EM waves.

Yes. But it bear resemblance to ELECTRIC waves.
S*

5375. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 17:22:24 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8o192gF8bhU1@mid.individual.net>
Source record: 6075
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

"J.B. Wood" <john.wood@nrl.navy.mil> wrote in message
news:iff9l7$9hg$1@ra.nrl.navy.mil...
<snip>
> Ah, yes, the website that promoted the CFA while simultaneously warping
> electromagnetic theory. But then I guess I just "don't understand".
> Thanks, but I'll stick with ARRL pubs and ref books by Kraus, Jasik,
> Terman, King & Harrison, et al for trusted, practical info on antennas.
> 73s,
>
Well, I was there for most of the CFA "saga," and saw no such "promotion."
Instead, I watched the constant stream of challenges by both Jack Stone --
the publisher, and a host of others (including yours truly) that examined
the CFA from all angles and came to the same conclusion: The CFA is/was a
hoax based on the inventors's lack of understanding of EM theory.

All the best,

Bill Miller

5376. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 17:25:13 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8o197oF99pU1@mid.individual.net>
Source record: 6076
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

"Wimpie" <wimabctel@tetech.nl> wrote in message
news:b6a80d74-bdba-4113-a24e-2724c0f218da@s4g2000yql.googlegroups.com...
Hello David,

On 28 dic, 18:32, K1TTT <k1...@arrl.net> wrote:
> On Dec 26, 3:07 pm, Wimpie <wimabc...@tetech.nl> wrote:
>
> > Hello,
>
> > Does somebody have experience with ANSOF (www.antennasoftware.com.ar),
> > especially with planar circuits? Is this a NEC based package?
>
> > They say you can use a flat strip as basic element (like in the
> > "planar" commercial SW packages), though they speak of wire segments
> > in most other documents on their site. They also mention that you can
> > simulate wire segments in dielectric or magnetic media. This looks
> > nice for the relative low price.
>
> > Best regards,
>
> > Wim
> > PA3DJSwww.tetech.nl
>
> their description doesn't mention NEC:
>
> "The computer code is based on an Electric Field Integral Equation
> (EFIE) expressed in the frequency domain. The current distribution on
> metallic structures is computed by solving the EFIE using a full-wave
> Method of Moments (MoM) formulation with conformal geometry
> decomposition. This means that geometry details are modeled by using
> conformal segments, which exactly follow the contour of the structure,
> instead of the typical approximation with straight wire segments. "

Your citation was the reason for me to think: "maybe it isn't NEC
based and is able to some other nice things". However when you look to
further info on the site, it looks wire based. If it is capable of
using other basic elements/segments (for example flat strip), I would
expect some examples on their website.

> lots of nice words, and plenty of pretty pictures on their site... but
> i wonder how well verified it is.

Given the info on the web and the responses to my thread, I agree on
your statement.

Best regards,

Wim
PA3DJS
www.tetech.nl
without abc, PM will reach me in most cases

OK! I'll post a query myself and report back.

Bill

5377. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 17:25:39 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1b6f16$0$2456$65785112@news.neostrada.pl>
Source record: 6077

Użytkownik <jimp@specsol.spam.sux.com> napisał w wiadomości
news:uq5su7-7a7.ln1@mail.specsol.com...
> >
> To him, an EM wave, a sound wave, a water wave, and a female member of the
> Navy in 1944 are all the same thing.
>
You do not read my posts.
To me an radio wave, a sound wave, a water wave, are all the same thing.
S*

5378. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 17:26:20 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <2798d804-d42c-49a6-828f-00ec20b34f5f@k22g2000yqh.googlegroups.com>
Source record: 6078

On Dec 29, 5:22 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:8276c4a6-a648-4b3b-a161-27ddf99024da@w2g2000yqb.googlegroups.com...
> On Dec 29, 11:09 am, Jeff <j...@jsystems.com> wrote:
>
>
>
> > On 28/12/2010 17:47, Szczepan Bialek wrote:
>
> > > Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave
>
> > > They are like the AM.
>
> > > Next look at Mr. Russell's animation:
> > > http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>
> > > He wrote: "a.. The speed of the wave depends on the height of the wave."
>
> > > The speed of the disturbance in media is the amplitude dependent - it is
> > > the physics law.
>
> > He was talking about surface waves on water!!!!!
>
> > Jeff
>
> similar, he was referring to an article on solitons which were first
> observed on water... but which bear no resemblance to EM waves.
>
> Yes. But it bear resemblance to ELECTRIC waves.
> S*

Give me the equations for an 'electric wave'.

5379. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 18:08:58 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <q2asu7-tr7.ln1@mail.specsol.com>
Source record: 6080

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Użytkownik <jimp@specsol.spam.sux.com> napisał w wiadomości
> news:uq5su7-7a7.ln1@mail.specsol.com...
>> >
>> To him, an EM wave, a sound wave, a water wave, and a female member of the
>> Navy in 1944 are all the same thing.
>>
> You do not read my posts.
> To me an radio wave, a sound wave, a water wave, are all the same thing.
> S*

And you are an idiot for thinking that.

They all share SOME properties, but they are three different things.

--
Jim Pennino

Remove .spam.sux to reply.

5380. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 18:12:27 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1b7a0f$0$2447$65785112@news.neostrada.pl>
Source record: 6079

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:3a05abc2-1b21-40b4-8477-14371c52320d@i18g2000yqn.googlegroups.com...
On Dec 29, 9:17 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>> Biot-Savart and Heaviside made the very simple model. So simple that it
>> was
> choosen to teach the math.
>> Read at 1825:
>> http://www.fisica.edu.uy/cursos/electromagnetismo/material/A_Brief_Hi...
>
>> It is unfortunate that you do not know the electrDYNAMICS by Ampere and
> Maxwell.
>> It should be interesting to you.
>> Maxwell did not write "Maxwell's equations".
> S*

>Maxwell's equations include Ampere's law,

It has name "Amperes law". It is Biot-Savart law with the displacement
current added by Maxwell.

>Faraday's law, and Gauss's
law... so all the dynamics and statics are included. According to my
history the set of 4 equations was first written by Maxwell in 1863,
though in a different form than they are customarily seen today.

See: http://en.wikipedia.org/wiki/Maxwell's_equations

"Maxwell's equations are named after the Scottish physicist and
mathematician James Clerk Maxwell, since they are all found in a four-part
paper, On Physical Lines of Force, which he published between 1861 and 1862.
The mathematical form of the Lorentz force law also appeared in this paper."

" (As noted above, this terminology is not common: Modern references to the
term "Maxwell's equations" refer to the Heaviside restatements.)"

In Maxwell's paper were 20 equations to describe this model:
http://en.wikipedia.org/wiki/File:Molecular_Vortex_Model.jpg

There are the cross section of the magnetic lines of force. They rotate but
nothing is flowing along them. The rotations rotate the plane of light
polarisation inside of the solenoid.

In Heaviside's "restatement" something flow along the lines and they do not
rotate.

Take a glance at: http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
Excelent English. Perfect physics.
S*

5381. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 18:13:03 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <faasu7-tr7.ln1@mail.specsol.com>
Source record: 6081

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
> news:8276c4a6-a648-4b3b-a161-27ddf99024da@w2g2000yqb.googlegroups.com...
> On Dec 29, 11:09 am, Jeff <j...@jsystems.com> wrote:
>> On 28/12/2010 17:47, Szczepan Bialek wrote:
>>
>> > Look at the damped waves: http://en.wikipedia.org/wiki/Damped_wave
>>
>> > They are like the AM.
>>
>> > Next look at Mr. Russell's animation:
>> > http://paws.kettering.edu/~drussell/Demos/Solitons/solitons.html
>>
>> > He wrote: "a.. The speed of the wave depends on the height of the wave."
>>
>> > The speed of the disturbance in media is the amplitude dependent - it is
>> > the physics law.
>>
>> He was talking about surface waves on water!!!!!
>>
>> Jeff
>
> similar, he was referring to an article on solitons which were first
> observed on water... but which bear no resemblance to EM waves.
>
> Yes. But it bear resemblance to ELECTRIC waves.
> S*

This should be good...

Tell us what is an "electric wave" that isn't a part of an "elecromagnetic
wave".

--
Jim Pennino

Remove .spam.sux to reply.

5382. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 18:41:52 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <g0csu7-638.ln1@mail.specsol.com>
Source record: 6082

Szczepan Bialek <sz.bialek@wp.pl> wrote:

> It has name "Amperes law". It is Biot-Savart law with the displacement
> current added by Maxwell.
>
>>Faraday's law, and Gauss's
> law... so all the dynamics and statics are included. According to my
> history the set of 4 equations was first written by Maxwell in 1863,
> though in a different form than they are customarily seen today.
>
> See: http://en.wikipedia.org/wiki/Maxwell's_equations
>
> "Maxwell's equations are named after the Scottish physicist and
> mathematician James Clerk Maxwell, since they are all found in a four-part
> paper, On Physical Lines of Force, which he published between 1861 and 1862.
> The mathematical form of the Lorentz force law also appeared in this paper."

Oh goody, you can cut and paste from a web page.

Too bad you don't know what any of what you quoted means.

> " (As noted above, this terminology is not common: Modern references to the
> term "Maxwell's equations" refer to the Heaviside restatements.)"
>
> In Maxwell's paper were 20 equations to describe this model:
> http://en.wikipedia.org/wiki/File:Molecular_Vortex_Model.jpg
>
> There are the cross section of the magnetic lines of force. They rotate but
> nothing is flowing along them. The rotations rotate the plane of light
> polarisation inside of the solenoid.

Pure, babbling, word salad gibberish.

The Moleculare Vortex Model refers to magnetic fields, not electromagnetic
fields and there is no light of any polarizatin inside a solenoid.

> In Heaviside's "restatement" something flow along the lines and they do not
> rotate.
>
> Take a glance at: http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> Excelent English. Perfect physics.
> S*

What a buffoon.

You haven't a clue what any of your referenced links mean.

--
Jim Pennino

Remove .spam.sux to reply.

5383. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 18:56:27 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <409b1880-702d-4bb3-bec6-963d80018dd4@f8g2000yqd.googlegroups.com>
Source record: 6083

On Dec 29, 6:41 pm, j...@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bia...@wp.pl> wrote:
> > It has name "Amperes law". It is Biot-Savart law with the displacement
> > current added by Maxwell.
>
> >>Faraday's law, and Gauss's
> > law... so all the dynamics and statics are included. According to my
> > history the set of 4 equations was first written by Maxwell in 1863,
> > though in a different form than they are customarily seen today.
>
> > See:http://en.wikipedia.org/wiki/Maxwell's_equations
>
> > "Maxwell's equations are named after the Scottish physicist and
> > mathematician James Clerk Maxwell, since they are all found in a four-part
> > paper, On Physical Lines of Force, which he published between 1861 and 1862.
> > The mathematical form of the Lorentz force law also appeared in this paper."
>
> Oh goody, you can cut and paste from a web page.
>
> Too bad you don't know what any of what you quoted means.
>
> > " (As noted above, this terminology is not common: Modern references to the
> > term "Maxwell's equations" refer to the Heaviside restatements.)"
>
> > In Maxwell's paper were 20 equations to describe this model:
> >http://en.wikipedia.org/wiki/File:Molecular_Vortex_Model.jpg
>
> > There are the cross section of the magnetic lines of force. They rotate but
> > nothing is flowing along them. The rotations rotate the plane of light
> > polarisation inside of the solenoid.
>
> Pure, babbling, word salad gibberish.
>
> The Moleculare Vortex Model refers to magnetic fields, not electromagnetic
> fields and there is no light of any polarizatin inside a solenoid.
>
> > In Heaviside's "restatement" something flow along the lines and they do not
> > rotate.
>
> > Take a glance at:http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> > Excelent English. Perfect physics.
> > S*
>
> What a buffoon.

>
> You haven't a clue what any of your referenced links mean.
>
> --
> Jim Pennino
>
> Remove .spam.sux to reply.

not only that but the reference is an article from a magazine
published years before the completed set of Maxwell's equations were
first published. During those years there were many changes in the
understanding of electricity and magnetism and EM waves... not that
the initial publication of Maxwell's equations completely converted
those who had different viewpoints, obviously aetherists and adherents
to other old and disproved theories still exist despite 150 years of
experiments that have failed to damage Maxwell's equations.

5384. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 19:04:25 UTC
From: Allodoxaphobia <knock_yourself_out@example.net>
Message-ID: <slrnihn1hp.2uqa.knock_yourself_out@shell.config.com>
Source record: 6084

On Wed, 29 Dec 2010 16:56:30 -0000, jimp@specsol.spam.sux.com wrote:
>
> To him, an EM wave, a sound wave, a water wave, and a female member of the
> Navy in 1944 are all the same thing.

You forgot stadium wave.

Please, God, let this Subject: die!

5385. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 19:05:47 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <f40b97d9-6452-49dd-afb6-1c63fb03fe0b@o4g2000yqd.googlegroups.com>
Source record: 6085

On Dec 29, 7:04 pm, Allodoxaphobia <knock_yourself_...@example.net>
wrote:
> On Wed, 29 Dec 2010 16:56:30 -0000, j...@specsol.spam.sux.com wrote:
>
> > To him, an EM wave, a sound wave, a water wave, and a female member of the
> > Navy in 1944 are all the same thing.
>
> You forgot stadium wave.
>
> Please, God, let this Subject: die!

no, keep it going! its still good for at least a few more laughs
before mr.b gives up again.

5386. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-29 19:54:45 UTC
From: "J.B. Wood" <john.wood@nrl.navy.mil>
Message-ID: <ifg3m6fmj1@ra.nrl.navy.mil>
Source record: 6086
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

```
On 12/29/2010 12:22 PM, Bill Miller wrote:
> "J.B. Wood"<john.wood@nrl.navy.mil> wrote in message
> news:iff9l7$9hg$1@ra.nrl.navy.mil...
> <snip>
>> Ah, yes, the website that promoted the CFA while simultaneously warping
>> electromagnetic theory. But then I guess I just "don't understand".
>> Thanks, but I'll stick with ARRL pubs and ref books by Kraus, Jasik,
>> Terman, King& Harrison, et al for trusted, practical info on antennas.
>> 73s,
>>
> Well, I was there for most of the CFA "saga," and saw no such "promotion."
> Instead, I watched the constant stream of challenges by both Jack Stone --
> the publisher, and a host of others (including yours truly) that examined
> the CFA from all angles and came to the same conclusion: The CFA is/was a
> hoax based on the inventors's lack of understanding of EM theory.
>
> All the best,
>
> Bill Miller
>
>
Hello, and yes, IIRC to his credit Mr. Stone did publish (later on) Dr.
John Belrose's "mythbusting" of the CFA. Who at antennex was demanding
performance measurements to substantiate the CFA's proponents' claims?
Did the quantity and duration of those CFA articles on the website
confer legitimacy and promotion? Did Mr. Stone transform from believer
to skeptic? I wonder if antennex is at least in part more about
entertainment and tantalizing pseudo-science rather than reality. Like
a certain TV show starring two Roto-Rooter plumbers "ghost hunting" in
their spare(?) time. Hey, if you can't get valid measurements on your
test equipment just substitute melodramatics. 73s,

--
John Wood (Code 5520) e-mail: wood@itd.nrl.navy.mil
Naval Research Laboratory
4555 Overlook Avenue, SW
Washington, DC 20375-5337
```

5387. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 08:56:11 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1c492e$0$2497$65785112@news.neostrada.pl>
Source record: 6087

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:409b1880-702d-4bb3-bec6-963d80018dd4@f8g2000yqd.googlegroups.com...
On Dec 29, 6:41 pm, j...@specsol.spam.sux.com wrote:
> Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> > In Heaviside's "restatement" something flow along the lines and they do
> > not
> > rotate.
>
> > Take a glance at:
> > http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> > Excelent English. Perfect physics.
> > S*
>
> What a buffoon.
>
> You haven't a clue what any of your referenced links mean.
>
> --
> Jim Pennino
not only that but the reference is an article from a magazine
published years before the completed set of Maxwell's equations were
first published. During those years there were many changes in the
understanding of electricity and magnetism and EM waves... not that
the initial publication of Maxwell's equations completely converted
those who had different viewpoints, obviously aetherists and adherents
to other old and disproved theories still exist despite 150 years of
experiments that have failed to damage Maxwell's equations.

See at this:
http://en.wikipedia.org/wiki/File:Commercial_Solenoid_Dawes_1920.png

There is shown the magnetic flux (Heaviside). Tell me which physical law
produce it (the hand rule is not a physical law).

Now see at Maxwell's model:
http://en.wikipedia.org/wiki/File:Molecular_Vortex_Model.jpg

There the curent in the solenoid physically rotate the magnetic lines of
force.

So " During those years there were many changes in the understanding of
electricity and magnetism" and the hand rule becomes a physical law.
S*

5388. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 13:28:07 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <48aa4b79-1a72-4f71-9fbe-f2de6d42adac@z19g2000yqb.googlegroups.com>
Source record: 6088

On Dec 30, 8:56 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:409b1880-702d-4bb3-bec6-963d80018dd4@f8g2000yqd.googlegroups.com...
> On Dec 29, 6:41 pm, j...@specsol.spam.sux.com wrote:
>
> > Szczepan Bialek <sz.bia...@wp.pl> wrote:
>
> > > In Heaviside's "restatement" something flow along the lines and they do
> > > not
> > > rotate.
>
> > > Take a glance at:
> > >http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> > > Excelent English. Perfect physics.
> > > S*
>
> > What a buffoon.
>
> > You haven't a clue what any of your referenced links mean.
>
> > --
> > Jim Pennino
>
> not only that but the reference is an article from a magazine
> published years before the completed set of Maxwell's equations were
> first published. During those years there were many changes in the
> understanding of electricity and magnetism and EM waves... not that
> the initial publication of Maxwell's equations completely converted
> those who had different viewpoints, obviously aetherists and adherents
> to other old and disproved theories still exist despite 150 years of
> experiments that have failed to damage Maxwell's equations.
>
> See at this:http://en.wikipedia.org/wiki/File:Commercial_Solenoid_Dawes_1920.png
>
> There is shown the magnetic flux (Heaviside). Tell me which physical law
> produce it (the hand rule is not a physical law).
>
> Now see at Maxwell's model:http://en.wikipedia.org/wiki/File:Molecular_Vortex_Model.jpg
>
> There the curent in the solenoid physically rotate the magnetic lines of
> force.
>
> So " During those years there were many changes in the understanding of
> electricity and magnetism" and the hand rule becomes a physical law.

> S*

so you have taken 2 unrelated drawings without the explanatory text to show what?

The 'hand rule' as you call it is not a physical law, it is a convention that is used to easily remember relationships expressed in higher mathematics. There is no magic or physical meaning to it... in fact both 'hand rules' are used depending on how you learned your electronics, as long as you are consistent the provide identical results.

5389. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 15:59:49 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1cac78$0$2506$65785112@news.neostrada.pl>
Source record: 6089

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:48aa4b79-1a72-4f71-9fbe-f2de6d42adac@z19g2000yqb.googlegroups.com...
On Dec 30, 8:56 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>>
>> So " During those years there were many changes in the understanding of
> electricity and magnetism" and the hand rule becomes a physical law.
> S*

>so you have taken 2 unrelated drawings without the explanatory text to
show what?

Maxwell model (page 304):
http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
"Let the vertical circles V and V represent the molecular vortices of which
the line of magnetic force is the axis. V revolves as the hands of a watch,
and V the opposite way."

"We have thus obtained a point of view from which we may regard the relation
of an electric current to its lines of force as analogous to the relation of
a toothed wheel or rack to wheels which it drives."

>The 'hand rule' as you call it is not a physical law, it is a
convention that is used to easily remember relationships expressed in
higher mathematics. There is no magic or physical meaning to it... in
fact both 'hand rules' are used depending on how you learned your
electronics, as long as you are consistent the provide identical
results.

But what kind of force cause the magnetic flux?

In Part IV Maxwell wrote:
"Now it seems natural to suppose that all the direct effects of any cause
which is itself of a longitudinal character, must be them- selves
longitudinal, and that the direct effects of a rotatory cause must be
themselves rotatory. A motion of translation along an axis cannot produce a
rotation about' that axis unless it meets with some special mechanism, like
that of a screw, which con- nects a motion in a given direction along the
axis with a rotation in a given direction round it ; and a motion of
rotation, though it may produce tension along the axis, cannot of itself
produce a current in one direction along the axis rather than the other."

Does Heaviside's mechanism in form of the 'hand rule' "works fine for you."
EM is for kids. Are You?
S*

5390. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 16:20:33 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <00b9c787-60aa-4546-a4d3-7a2015aef902@w17g2000yqh.googlegroups.com>
Source record: 6090

On Dec 30, 3:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:48aa4b79-1a72-4f71-9fbe-f2de6d42adac@z19g2000yqb.googlegroups.com...
> On Dec 30, 8:56 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
> >> So " During those years there were many changes in the understanding of
> > electricity and magnetism" and the hand rule becomes a physical law.
> > S*
> >so you have taken 2 unrelated drawings without the explanatory text to
>
> show what?
>
> Maxwell model (page 304):http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> "Let the vertical circles V and V represent the molecular vortices of which
> the line of magnetic force is the axis. V revolves as the hands of a watch,
> and V the opposite way."
>
> "We have thus obtained a point of view from which we may regard the relation
> of an electric current to its lines of force as analogous to the relation of
> a toothed wheel or rack to wheels which it drives."
>
> >The 'hand rule' as you call it is not a physical law, it is a
>
> convention that is used to easily remember relationships expressed in
> higher mathematics. There is no magic or physical meaning to it... in
> fact both 'hand rules' are used depending on how you learned your
> electronics, as long as you are consistent the provide identical
> results.
>
> But what kind of force cause the magnetic flux?
>
> In Part IV Maxwell wrote:
> "Now it seems natural to suppose that all the direct effects of any cause
> which is itself of a longitudinal character, must be them- selves
> longitudinal, and that the direct effects of a rotatory cause must be
> themselves rotatory. A motion of translation along an axis cannot produce a
> rotation about' that axis unless it meets with some special mechanism, like
> that of a screw, which con- nects a motion in a given direction along the
> axis with a rotation in a given direction round it ; and a motion of
> rotation, though it may produce tension along the axis, cannot of itself
> produce a current in one direction along the axis rather than the other."
>

> Does Heaviside's mechanism in form of the 'hand rule' "works fine for you."
> EM is for kids. Are You?
> S*

EM is for kids?? i take it that you think EM is too simple and you must have a more complicated theory? if that is so then i understand why you are trying to study ancient research, back then there were many competing theories each with separate complicated descriptions about rotations and forces... all of those were made simple when Maxwell combined the essential 4 equations to describe electromagnetic interactions, add in ohms law and the Lorentz force equation and you have everything necessary to describe EM effects... Sometimes simple is best.

5391. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 16:36:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1cb515$0$2436$65785112@news.neostrada.pl>
Source record: 6091

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:00b9c787-60aa-4546-a4d3-7a2015aef902@w17g2000yqh.googlegroups.com...
On Dec 30, 3:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
> >> So " During those years there were many changes in the understanding of
> > electricity and magnetism" and the hand rule becomes a physical law.
> > S*
> >so you have taken 2 unrelated drawings without the explanatory text to
>
> show what?
>
> Maxwell model (page
> 304):http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> "Let the vertical circles V and V represent the molecular vortices of
> which
> the line of magnetic force is the axis. V revolves as the hands of a
> watch,
> and V the opposite way."
>
> "We have thus obtained a point of view from which we may regard the
> relation
> of an electric current to its lines of force as analogous to the relation
> of
> a toothed wheel or rack to wheels which it drives."
>
> >The 'hand rule' as you call it is not a physical law, it is a
>
> convention that is used to easily remember relationships expressed in
> higher mathematics. There is no magic or physical meaning to it... in
> fact both 'hand rules' are used depending on how you learned your
> electronics, as long as you are consistent the provide identical
> results.
>
> But what kind of force cause the magnetic flux?
>
> In Part IV Maxwell wrote:
> "Now it seems natural to suppose that all the direct effects of any cause
> which is itself of a longitudinal character, must be them- selves
> longitudinal, and that the direct effects of a rotatory cause must be
> themselves rotatory. A motion of translation along an axis cannot produce
> a
> rotation about' that axis unless it meets with some special mechanism,
> like
> that of a screw, which con- nects a motion in a given direction along the

> axis with a rotation in a given direction round it ; and a motion of
> rotation, though it may produce tension along the axis, cannot of itself
> produce a current in one direction along the axis rather than the other."
>
> Does Heaviside's mechanism in form of the 'hand rule' "works fine for
> you."
> EM is for kids. Are You?
> S*

>EM is for kids?? i take it that you think EM is too simple and you
must have a more complicated theory?

EM is is a simple version of Maxwell's model.

> if that is so then i understand
why you are trying to study ancient research, back then there were
many competing theories each with separate complicated descriptions
about rotations and forces... all of those were made simple when
Maxwell

It was Heaviside,

>combined the essential 4 equations to describe electromagnetic
interactions, add in ohms law and the Lorentz force equation and you
have everything necessary to describe EM effects... Sometimes simple
is best.

Maxwell's model and EM by Heaviside are not simple.
The most simple and the best is the gas (electron) analogy. All waves are
the same.
S*

5392. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 17:10:03 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <b43d4165-26b1-44ad-905b-f7fbbd350a8f@15g2000vbz.googlegroups.com>
Source record: 6092

On Dec 30, 4:36 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:00b9c787-60aa-4546-a4d3-7a2015aef902@w17g2000yqh.googlegroups.com...
> On Dec 30, 3:59 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
>
>
>
>
>
> > > >> So " During those years there were many changes in the understanding of
> > > > electricity and magnetism" and the hand rule becomes a physical law.
> > > > S*
> > > >so you have taken 2 unrelated drawings without the explanatory text to
>
> > > show what?
>
> > > Maxwell model (page
> > > 304):http://en.wikisource.org/wiki/On_Physical_Lines_of_Force
> > > "Let the vertical circles V and V represent the molecular vortices of
> > > which
> > > the line of magnetic force is the axis. V revolves as the hands of a
> > > watch,
> > > and V the opposite way."
>
> > > "We have thus obtained a point of view from which we may regard the
> > > relation
> > > of an electric current to its lines of force as analogous to the relation
> > > of
> > > a toothed wheel or rack to wheels which it drives."
>
> > > >The 'hand rule' as you call it is not a physical law, it is a
>
> > > convention that is used to easily remember relationships expressed in
> > > higher mathematics. There is no magic or physical meaning to it... in
> > > fact both 'hand rules' are used depending on how you learned your
> > > electronics, as long as you are consistent the provide identical
> > > results.
>
> > > But what kind of force cause the magnetic flux?
>
> > > In Part IV Maxwell wrote:
> > > "Now it seems natural to suppose that all the direct effects of any cause
> > > which is itself of a longitudinal character, must be them- selves
> > > longitudinal, and that the direct effects of a rotatory cause must be

> > themselves rotatory. A motion of translation along an axis cannot produce
> > a
> > rotation about' that axis unless it meets with some special mechanism,
> > like
> > that of a screw, which con- nects a motion in a given direction along the
> > axis with a rotation in a given direction round it ; and a motion of
> > rotation, though it may produce tension along the axis, cannot of itself
> > produce a current in one direction along the axis rather than the other."
>
> > Does Heaviside's mechanism in form of the 'hand rule' "works fine for
> > you."
> > EM is for kids. Are You?
> > S*
> >EM is for kids?? i take it that you think EM is too simple and you
>
> must have a more complicated theory?
>
> EM is is a simple version of Maxwell's model.
>
> > if that is so then i understand
>
> why you are trying to study ancient research, back then there were
> many competing theories each with separate complicated descriptions
> about rotations and forces... all of those were made simple when
> Maxwell
>
> It was Heaviside,
>
> >combined the essential 4 equations to describe electromagnetic
>
> interactions, add in ohms law and the Lorentz force equation and you
> have everything necessary to describe EM effects... Sometimes simple
> is best.
>
> Maxwell's model and EM by Heaviside are not simple.
> The most simple and the best is the gas (electron) analogy. All waves are
> the same.
> S*

analogies are not theories, nor are any good at making predictions.
being able to predict things is required of theories, they must be
able to predict things that can be tested to either prove or disprove
the theory. an analogy is just a story trying to explain one thing as
if it were something else, this unfortunately doesn't work very well.

Maxwell's equations are very simple, that is what is best about them.
They have taken the absolute simplest set of equations necessary to
describe all electro-magnetic phenomena.

5393. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 18:49:34 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1cd443$0$2437$65785112@news.neostrada.pl>
Source record: 6093

Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
news:b43d4165-26b1-44ad-905b-f7fbbd350a8f@15g2000vbz.googlegroups.com...
>
>Maxwell's equations are very simple,

Maxwell wrote 20 equations where were the inertia is and all necessary to
wave propagation in a medium.
They are extremally difficult.

>that is what is best about them.
>They have taken the absolute simplest set of equations necessary to
describe all electro-magnetic phenomena.

The 4 Heaviside equations describe the hydraulic analogy. It is known as EM.
The DC is like the water. The AC of electrons is not.
S*

5394. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 19:06:51 UTC
From: jimp@specsol.spam.sux.com
Message-ID: <br1vu7-nph.ln1@mail.specsol.com>
Source record: 6094

Szczepan Bialek <sz.bialek@wp.pl> wrote:
>
> Uzytkownik "K1TTT" <k1ttt@arrl.net> napisal w wiadomosci
> news:b43d4165-26b1-44ad-905b-f7fbbd350a8f@15g2000vbz.googlegroups.com...
>>
>>Maxwell's equations are very simple,
>
> Maxwell wrote 20 equations where were the inertia is and all necessary to
> wave propagation in a medium.
> They are extremally difficult.
>
>>that is what is best about them.
>>They have taken the absolute simplest set of equations necessary to
> describe all electro-magnetic phenomena.
>
> The 4 Heaviside equations describe the hydraulic analogy. It is known as EM.
> The DC is like the water. The AC of electrons is not.
> S*

All babbling gibberish.

You never did address the question of what it is you think an "electric wave"
is.

--
Jim Pennino

Remove .spam.sux to reply.

5395. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-30 19:20:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <58d8c974-a7c7-486a-b9da-fa8e5893c600@s5g2000yqm.googlegroups.com>
Source record: 6095

On Dec 30, 6:49 pm, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> Uzytkownik "K1TTT" <k1...@arrl.net> napisal w
wiadomoscinews:b43d4165-26b1-44ad-905b-f7fbbd350a8f@15g2000vbz.googlegroups.com...
>
>
>
> >Maxwell's equations are very simple,
>
> Maxwell wrote 20 equations where were the inertia is and all necessary to
> wave propagation in a medium.
> They are extremally difficult.
>
> >that is what is best about them.
> >They have taken the absolute simplest set of equations necessary to
>
> describe all electro-magnetic phenomena.
>
> The 4 Heaviside equations describe the hydraulic analogy. It is known as EM.
> The DC is like the water. The AC of electrons is not.
> S*

no, the 4 Maxwell equations are all that is necessary for propagation
in vacuum or other medium... its in there, you just have to learn how
to solve them properly. if you are seeing bigger sets of equations
for em waves then you are reading something that is outdated.

you never did give the equation for an 'electric wave'... please
provide that.

5396. Re: Wireless at the speed of plasma

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-31 08:19:32 UTC
From: "Helmut Wabnig"
Message-ID: <5g4rh6tn7s50p6rgeb25cude6kodnn3s8t@4ax.com>
Source record: 6096
Cross-posted to: rec.sport.cricket,sci.physics,talk.politics.misc,sci.med,rec.radio.amateur.antenna

On Thu, 30 Dec 2010 19:15:19 -0800, "NSA TORTURE TECHNOLOGY, NEWS and RESEARCH" <TortureTechnologyNResearch@yahoo.com> wrote:

>http://www.newscientist.com/article/mg20827904.600-wireless-at-the-speed-of-plasma.html
>
>Wireless at the speed of plasma
>a.. 13 December 2010 by David Hambling
>a.. Magazine issue 2790
>
>Antennas that use plasma to focus beams of radio waves could bring us
>superfast wireless networks
>
>BEFORE you leave for work in the morning, your smartphone downloads the
>latest episode of a television series. Your drive to work is easy in spite
>of fog, thanks to in-car radar and the intelligent transport software that
>automatically guides you around traffic jams, allowing you to arrive in time
>for a presentation in which high-definition video is streamed flawlessly to
>your tablet computer in real time.
>
>This vision of the future may not be far off, thanks to a new type of
>antenna that makes use of plasma consisting of only electrons. It could
>revolutionise high-speed wireless communications, miniature radar and even
>energy weapons.
>
>Existing directional antennas that transmit high-frequency radio waves
>require expensive materials or precise manufacturing. But the new antenna,
>called Plasma Silicon Antenna, or PSiAN, relies on existing low-cost
>manufacturing techniques developed for silicon chips. It has been developed
>by Plasma Antennas of Winchester, UK.
>
>PSiAN consists of thousands of diodes on a silicon chip. When activated,
>each diode generates a cloud of electrons - the plasma - about 0.1
>millimetres across. At a high enough electron density, each cloud reflects
>high-frequency radio waves like a mirror. By selectively activating diodes,
>the shape of the reflecting area can be changed to focus and steer a beam of
>radio waves. This "beam-forming" capability makes the antennas crucial to
>ultrafast wireless applications, because they can focus a stream of
>high-frequency radio waves that would quickly dissipate using normal
>antennas.
>
>"Beam-forming antennas are the key for enabling next-generation,
>high-data-rate indoor wireless applications," says Anmol Sheth, at Intel
>Labs in Seattle. "Without beam-forming antennas it would be difficult to

>scale to the levels of density of wireless devices we expect to have in
>future homes."
>
>There are two types of plasma antenna: semiconductor or solid-state
>antennas, such as PSiAN, and gas antennas. Both could fit the bill, but
>solid-state antennas are favoured as they are more compact and have no
>moving parts.
>
>That makes them attractive for use in a new generation of ultrafast Wi-Fi,
>known as Wi-Gig. Existing Wi-Fi tops out at 54 megabits of data per second,
>whereas the Wi-Gig standard is expected to go up to between 1 and 7 gigabits
>per second - fast enough to download a television programme in seconds.
>Wi-Gig requires higher radio wave frequencies, though: 60 gigahertz rather
>than the 2.4 GHz used by Wi-Fi. Signals at these frequencies disperse
>rapidly unless they are tightly focused, which is where PSiAN comes in.
>
>Ian Russell, business development director at Plasma Antennas, says that
>PSiAN is small enough to fit inside a cellphone. "Higher frequencies mean
>shorter wavelengths and hence smaller antennas," he says. "The antenna
>actually becomes cheaper at the smaller scales because you need less
>silicon."
>
>The antennas shouldn't raise any health issues, as they are covered by
>existing safety standards. The narrow beam means there is less "overspill"
>of radiation than with existing omnidirectional antennas.
>
>As well as speeding up Wi-Fi, plasma antennas could also allow cars to come
>with low-cost miniature radar systems to help drivers avoid collisions.
>Their millimetre wavelengths could be used to "see" through fog or rain, and
>another set of antennas could listen for real-time updates on traffic and
>road conditions.
>
>The US military is also interested in solid-state plasma antennas, for use
>in a more advanced version of their so-called "pain beam", a weapon called
>the Active Denial System. The ADS heats a person's skin painfully with a
>beam of 64 GHz radio waves. But the current design involves a 2-metre-wide,
>mechanically steered antenna mounted on a large truck. Switching to a small,
>lightweight plasma antenna would allow multiple narrow beams to selectively
>target several individuals at once.
>
>Ted Anderson of Haleakala R&D, based in Brookfield, Massachusetts, has been
>involved in the development of gas plasma antennas for many years. He points
>out that although the solid-state version is compact, it is limited to high
>frequencies, making certain applications tricky. For instance, indoor Wi-Gig
>routers operating at 60 GHz wouldn't be able to penetrate walls. The signal
>would instead have to be reflected off surfaces to reach every room in a
>house.
>
>"Semiconductor plasma antennas will work at only high frequencies, between 1
>GHz and 100 GHz," says Anderson. "Theoretically, we see no upper or lower

>bound to ionised gas antennas in the radio frequency spectrum."
>
>Russell says that PSiAN could be commercially available within two years. At
>present, getting movies and high-quality images on and off our smartphones
>almost certainly means hooking them into a computer. But as the demand for
>such content increases, the only way to break the wire is going to be an
>ultrafast wireless connection. When it comes, it may very well be in the
>form of plasma.
>

Snake oil unless they can produce 1 (one) working example,
which they don't.

All they have is a grey box size of a small car.

w.

5397. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-31 08:30:31 UTC
From: Szczepan Bialek <sz.bialek@wp.pl>
Message-ID: <4d1d94ab$0$2461$65785112@news.neostrada.pl>
Source record: 6097

"K1TTT" <k1ttt@arrl.net> Wrote
news:58d8c974-a7c7-486a-b9da-fa8e5893c600@s5g2000yqm.googlegroups.com...
>
>you never did give the equation for an 'electric wave'... please
provide that.

Write: "electric wave equation" and you have 21 000 in 0.2 s.
Happy New Year.
S*

5398. Re: Sidebands

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-31 13:16:05 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <654e86c1-494b-4c26-b4c6-109506d692ba@t35g2000yqj.googlegroups.com>
Source record: 6098

On Dec 31, 8:30 am, "Szczepan Bialek" <sz.bia...@wp.pl> wrote:
> "K1TTT" <k1...@arrl.net>
Wrotenews:58d8c974-a7c7-486a-b9da-fa8e5893c600@s5g2000yqm.googlegroups.com...
>
> >you never did give the equation for an 'electric wave'... please
>
> provide that.
>
> Write: "electric wave equation" and you have 21 000 in 0.2 s.
> Happy New Year.
> S*

you have a poor search engine, i get 6M hits... and all of them are
either for 'electric field' or 'electromagnetic wave'. provide a
formula or specific reference.

5399. Re: ANSOF antenna software (not ANSOFT)

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-31 15:34:05 UTC
From: Bill Miller <kt4ye@yahoo.com>
Message-ID: <8o6bfgFg3uU1@mid.individual.net>
Source record: 6099
Cross-posted to: rec.radio.amateur.antenna,sci.physics.electromag

"Bill Miller" <kt4ye@yahoo.com> wrote in message
news:8o197oF99pU1@mid.individual.net...
>
>
> OK! I'll post a query myself and report back.
>
> Bill
One of our antenneX group replied that he had tried to get a download of
evaluation software. He was not successful. I'll let you know if anyone else
has input.

All The best,

Bill

5400. Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-31 16:01:13 UTC
From: John Ferrell <jferrell13@triad.rr.com>
Message-ID: <tutrh61ppf1m5frl7fj990vdfe63up0c73@4ax.com>
Source record: 6100

I am helping to install a 135 foot dipole on a hillside for HF activity. The antenna will be at least 45 feet from the ground in any direction. I can believe EZNEC so far as the effects of ground on impedance. but I am at a loss when it comes to considering the patterns on the various bands. The ridge is about 200 feet from the antenna.

This is for a club member who recently upgraded to General Class.

Since the ridge is close to the same height and south of the antenna, I am guessing that the computed charts will be a good representation of the northern half of the antenna. NVIS should not change much. The terrain may work as a reflector for over the pole operation. I am afraid the antenna will be of little use to the south.

I expect we will eventually need to do the best we can with an antenna on the top of the ridge. When the snow melts I will try to climb the ridge for a look-see. It will likely be difficult to install due the dense trees.

Any comments, advice, suggestions etc. are appreciated!
John Ferrell W8CCW

5401. Re: Expectations for 135 foot dipole

Newsgroup: rec.radio.amateur.antenna
Date: 2010-12-31 16:53:32 UTC
From: K1TTT <k1ttt@arrl.net>
Message-ID: <7a724b1b-b5b4-4743-a70b-da5607469086@s4g2000yql.googlegroups.com>
Source record: 6001

On Dec 31, 4:01 pm, John Ferrell <jferrel...@triad.rr.com> wrote:
> I am helping to install a 135 foot dipole on a hillside for HF
> activity. The antenna will be at least 45 feet from the ground in any
> direction. I can believe EZNEC so far as the effects of ground on
> impedance. but I am at a loss when it comes to considering the
> patterns on the various bands. The ridge is about 200 feet from the
> antenna.
>
> This is for a club member who recently upgraded to General Class.
>
> Since the ridge is close to the same height and south of the antenna,
> I am guessing that the computed charts will be a good representation
> of the northern half of the antenna. NVIS should not change much. The
> terrain may work as a reflector for over the pole operation. I am
> afraid the antenna will be of little use to the south.
>
> I expect we will eventually need to do the best we can with an antenna
> on the top of the ridge. When the snow melts I will try to climb the
> ridge for a look-see. It will likely be difficult to install due the
> dense trees.
>
> Any comments, advice, suggestions etc. are appreciated!
> John Ferrell W8CCW

just put it up, hook up a tuner if the radio doesn't have one, and
have fun. you can spend all your time modeling trying to figure out
what it may look like, but if you are limited on how you can install
it you can't really control much anyway. an antenna laying on the
ground works much better than one that is only in your computer!